



Muse Release Notes

28 November 2023

Version 2.8.0.1



Notice

No part of this publication may be reproduced stored in a retrieval system, or transmitted, in any form or by any means, without the prior written permission of MuseGlobal S.A.

Disclaimer

MUSEGLOBAL S.A. MAKES NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE CONTENTS HEREOF AND SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

Trademarks

MUSE IS A REGISTERED TRADEMARK OF MUSEGLOBAL S.A. OTHER PRODUCT NAMES AND SERVICE NAMES ARE THE TRADEMARKS OR REGISTERED TRADEMARKS OF THEIR RESPECTIVE OWNERS AND ARE USED FOR IDENTIFICATION ONLY.

museknowledge.com







Table of Contents

1.0	Changes in Muse 2.8.0.1 Release	47
1.1	New Features:	47
1.1.1	Muse Applications	47
1.1.2	Muse Core and Modules	48
1.1.3	Muse Central Index	48
1.1.4	Muse Admin Bridge (MCAA, MCCA)	49
1.1.5	Muse Control Center	49
1.1.6	Tools and Utilities	49
1.1.7	Muse Web Bridge	50
1.1.8	Apache Tomcat	50
1.2	Bug Fixes:	50
1.2.1	Muse Applications	50
1.2.2	Muse Control Center	50
1.2.3	Muse Core and Modules	50
1.2.4	Muse Admin Bridge (MCAA, MCCA)	51
1.2.5	Tools and Utilities	52
2.0	Changes in Muse 2.8.0.0 Release	53
2.1	New Features:	53
2.1.1	Muse Applications	53
2.1.2	Muse Core and Modules	56
2.1.3	Muse Admin Bridge (MCAA, MCCA)	57
2.1.4	Muse Control Center	59
2.1.5	Muse Setup	59
2.1.6	Tools and Utilities	60



2.1.7 Muse LinkResolver	60
2.1.8 Muse Central Index	60
2.1.9 Muse Statistics Platform	61
2.1.10 Muse Source Factory	62
2.2 Bug Fixes:	62
2.2.1 Muse Applications	62
2.2.2 Muse Core and Modules	63
2.2.3 Muse Web Bridge	63
2.2.4 Muse Admin Bridge (MCAA, MCCS)	64
2.2.5 Muse Control Center	64
2.2.6 Muse Statistics Monitor	65
2.2.7 Muse Setup	65
2.2.8 Muse Central Index	65
3.0 Changes in Muse 2.7.0.4 Build	67
3.1 Bug Fixes:	67
3.1.1 Muse Admin Bridge (MCAA, MCCS)	67
3.2 Known Bugs:	67
3.2.1 Muse Web Bridge	67
4.0 Changes in Muse 2.7.0.3 Build	69
4.1 New Features:	69
4.1.1 Muse Applications	69
4.1.2 Muse Core and Modules	71
4.1.3 Muse Admin Bridge (Administrator, Management, Designer, Sources)	72
4.1.4 Muse Central Index	72
4.2 Bug Fixes:	72



4.2.1 Muse Applications	73
4.2.2 Muse Web Bridge	73
4.2.3 Muse Admin Bridge (Administrator, Management, Sources)	73
4.2.4 Muse Control Center	73
5.0 Changes in Muse 2.7.0.1 Build	75
5.1 New Features:	75
5.1.1 Muse Applications	75
5.1.2 Muse Core and Modules	78
5.1.3 Muse Web Bridge	79
5.1.4 Muse Admin Bridge (Administrator, Management, Designer, Sources)	80
5.1.5 Muse Control Center	81
5.1.6 Muse Authentication and Authorization Service	81
5.1.7 Apache Tomcat	82
5.1.8 Muse Statistics Monitor	82
5.1.9 Muse Source Factory	82
5.1.10 Tools and Utilities	82
5.1.11 Muse Central Index	82
5.2 Bug Fixes:	83
5.2.1 Muse Applications	83
5.2.2 Muse Core and Modules	85
5.2.3 Muse Web Bridge	86
5.2.4 Muse Admin Bridge (Administrator, Management, Sources)	86
5.2.5 Muse Control Center	87
5.2.6 Muse Authentication and	



Authorization Service	87
5.2.7 Muse Statistics Monitor	87
5.2.8 Muse Source Factory	88
5.2.9 Tools and Utilities	88
5.2.10 Muse Central Index	88
6.0 Changes in Muse 2.7.0.0 Release	89
6.1 New Features:	89
6.1.1 Muse Applications	89
6.1.2 Muse Core and Modules	90
6.1.3 Muse Web Bridge	90
6.1.4 Muse Admin Bridge (Administrator, Management, Designer, Sources)	90
6.1.5 Muse Control Center	92
6.1.6 Muse Authentication and Authorization Service	93
6.1.7 Apache Tomcat	93
6.1.8 Muse Statistics Monitor	93
6.1.9 Muse Packages Builder	93
6.1.10 Muse Setup	94
6.1.11 Muse Source Factory	95
6.1.12 Muse Source Package Assistant	95
6.1.13 Muse Connectors Generator	96
6.1.14 Muse Search Query Translator Generator (SQTG)	96
6.1.15 Muse Source Package Testing	96
6.2 Bug Fixes:	97
6.2.1 Muse Applications	97



6.2.2 Muse Core and Modules	97
6.2.3 Muse Web Bridge	99
6.2.4 Muse Admin Bridge (Administrator, Management, Designer, Sources)	99
6.2.5 Muse Control Center	99
6.2.6 Muse Authentication and Authorization Service	100
6.2.7 Muse XML DB Management System	100
6.2.8 Muse Statistics Monitor	100
6.2.9 Muse Packages Builder	101
6.2.10 Muse Setup	101
6.2.11 Muse Source Factory	101
6.2.12 Muse Source Package Assistant	102
6.2.13 Muse Connectors Generator	102
6.2.14 Muse Search Query Translator Generator (SQTG)	102
6.2.15 Muse Source Package Testing	103
6.2.16 Tools and Utilities	104
7.0 Changes in Muse 2.6.0.0 Release	105
7.1 New Features:	105
7.1.1 Muse Applications (Miscellaneous)	105
7.1.2 Muse Core and Modules	106
7.1.3 Muse Web Bridge	108
7.1.4 Muse Admin Bridge (Administrator, Management, Designer, Sources)	108
7.1.5 Muse Control Center	110
7.1.6 Muse Authentication and Authorization Service	112



7.1.7 Muse Statistics Monitor	112
7.1.8 Muse Setup	113
7.1.9 Muse Source Factory	114
7.1.10 Muse Source Package Assistant	114
7.1.11 Muse Search Query Translator Generator (SQTG)	115
7.1.12 Tools and Utilities	115
7.2 Bug Fixes:	115
7.2.1 Muse Applications (Miscellaneous)	115
7.2.2 Muse Core and Modules	116
7.2.3 Muse Web Bridge	116
7.2.4 Muse Admin Bridge (Administrator, Management, Designer, Sources)	116
7.2.5 Muse Control Center	117
7.2.6 Muse XML DB Management System	118
7.2.7 Muse Statistics Monitor	119
7.2.8 Muse Setup	119
7.2.9 Muse Source Factory	120
7.3 Known Bugs:	120
7.3.1 Muse Document Repository	120
7.3.2 Muse Setup	120
8.0 Changes in Muse 2.5.0.0 Release	123
8.1 New Features:	123
8.1.1 Muse Applications (Miscellaneous)	123
8.1.2 Muse Core and Modules	123
8.1.3 Muse Web Bridge	124



8.1.4 Muse Admin Bridge (Administrator, Management, Designer, Sources)	125
8.1.5 Muse Control Center	127
8.1.6 Apache Tomcat Embedded within Muse	129
8.1.7 Muse XML DB Management System	129
8.1.8 Muse Setup	129
8.1.9 Muse Source Factory	130
8.1.10 Tools and Utilities	130
8.2 Bug Fixes:	131
8.2.1 Muse Applications (Miscellaneous)	131
8.2.2 Muse Core and Modules	131
8.2.3 Muse Admin Bridge (Administrator, Management, Designer, Sources)	132
8.2.4 Muse Control Center	132
8.2.5 Apache Tomcat Embedded within Muse	134
8.2.6 Muse Statistics Monitor	134
8.2.7 Muse Setup	134
8.2.8 Muse Source Factory	134
8.3 Known Bugs:	135
8.3.1 Apache Tomcat embedded within Muse	135
9.0 Changes in Muse 2.4.0.0 Release	137
9.1 New Features:	137
9.1.1 Muse Search	137
9.1.2 ICE Server	137
9.1.3 Muse Web Bridge	138
9.1.4 Muse Admin Bridge	138
9.1.5 Muse Control Center	139



9.1.6 Muse Proxy	139
9.1.7 Muse XML DB Management System	139
9.1.8 Muse Statistics Monitor	140
9.1.9 Muse Source Factory	140
9.2 Bug Fixes:	140
9.2.1 Muse Search	140
9.2.2 ICE Server	141
9.2.3 Muse Web Bridge	142
9.2.4 Muse Admin Bridge	142
9.2.5 Muse Control Center	143
9.2.6 Muse Authentication and Authorization Service	143
9.2.7 Muse Proxy	143
9.2.8 Muse XML DB Management System	143
9.2.9 Muse Source Factory	144
9.2.10 Muse Z39.50 Bridge	144
10.0 Changes in Muse 2.3.3.0 Build	145
10.1 New Features:	145
10.1.1 Muse Search	145
10.1.2 ICE Server	145
10.1.3 Muse Web Bridge	146
10.1.4 Muse Admin Bridge	146
10.1.5 Muse Control Center	146
10.1.6 Muse Proxy	146
10.1.7 Muse XML DB Management System	147
10.1.8 Muse Statistics Monitor	147



10.1.9 Muse Source Factory	148
10.1.10 Muse Setup	148
10.2 Bug Fixes:	148
10.2.1 ICE Server	148
10.2.2 Muse Web Bridge	149
10.2.3 Muse Admin Bridge	149
10.2.4 Muse Control Center	150
10.2.5 Muse Authentication and Authorization Service	150
10.2.6 Muse Proxy	150
10.2.7 Muse XML DB Management System	150
10.2.8 Muse Statistics Monitor	150
10.2.9 Muse Source Factory	151
11.0 Changes in Muse 2.3.2.0 Build	153
11.1 New Features:	153
11.1.1 Muse Interfaces	153
11.1.2 ICE Server	153
11.1.3 Muse Web Bridge	154
11.1.4 Muse Admin Bridge	154
11.1.5 Muse Control Center	154
11.1.6 Muse Proxy	154
11.1.7 Muse Setup	154
11.1.8 Muse Source Factory	155
11.2 Bug Fixes:	155
11.2.1 ICE Server	155
11.2.2 Muse Web Bridge	155



11.2.3 Muse Admin Bridge	156
11.2.4 Muse Statistics Monitor	156
11.2.5 Muse Setup	156
11.3 Known Bugs:	156
11.3.1 Muse Setup	156
12.0 Changes in Muse 2.3.1.0 Build	159
12.1 New Features:	159
12.1.1 Muse Applications	159
12.1.2 ICE Server	159
12.1.3 Muse Web Bridge	160
12.1.4 Muse Admin Bridge	160
12.1.5 Muse Control Center	161
12.1.6 Muse Proxy	161
12.1.7 Muse XMLDB Management System	161
12.1.8 Muse Source Factory	161
12.1.9 Muse Builder	162
12.1.10 Muse Connectors Generator	162
12.2 Bug Fixes:	162
12.2.1 Muse Applications	162
12.2.2 ICE Server	163
12.2.3 Muse Admin Bridge	163
12.2.4 Muse Control Center	164
12.2.5 Muse XMLDB Management System	164
12.2.6 Muse Statistics Monitor	165
12.2.7 Muse Source Factory	165



12.2.8 Muse Serial Number Encoder	165
12.3 Known Bugs:	165
12.3.1 ICE Server	165
12.3.2 Muse Admin Bridge	166
13.0 Changes in Muse 2.3.0.2 Build	167
13.1 Bug Fixes:	167
13.1.1 Muse Admin Bridge	167
13.1.2 Muse Control Center	167
13.2 New Features:	167
13.2.1 ICE Server	167
13.2.2 Muse Control Center	167
13.3 Known Bugs:	168
13.3.1 ICE Server	168
13.3.2 Muse Admin Bridge	168
14.0 Changes in Muse 2.3.0.1 Build	169
14.1 Bug Fixes:	169
14.1.1 ICE Server	169
14.1.2 Muse Admin Bridge	169
14.1.3 Muse Source Factory	169
14.2 New Features:	169
14.2.1 Muse Control Center	169
14.2.2 Muse XMLDB Management System	170
14.3 Known Bugs:	170
14.3.1 ICE Server	170
15.0 Changes in Muse 2.3.0.0 Release	171
15.1 New Features:	171



15.1.1 Muse Authentication and Authorization Service	171
15.1.2 ICE Modules	172
15.1.3 Muse Web Bridge	172
15.1.4 Muse Admin Bridge	172
15.1.5 Muse Control Center	173
15.1.6 Muse Proxy Server and Navigation Manager	174
15.1.7 Muse XML DB Management System	174
15.1.8 Muse Statistics Monitor	174
15.1.9 Source Factory	174
15.1.10 Muse Builder	175
15.1.11 Muse Connectors Generator	175
15.1.12 Muse Serial Number Encoder	175
15.1.13 Muse OneBox Bridge	175
15.2 Bug Fixes:	175
15.2.1 Muse Authentication and Authorization Service	175
15.2.2 ICE Modules	176
15.2.3 Muse Web Bridge	176
15.2.4 Muse Admin Bridge	176
15.2.5 Muse Control Center	177
15.2.6 Muse Authentication and Authorization Service	177
15.2.7 Muse Proxy Server and Navigation Manager	177
15.2.8 Muse XML DB Management System	177
15.2.9 Muse Statistics Monitor	178
15.2.10 Source Factory	178



15.2.11 Muse Builder	178
15.2.12 Muse Connectors Generator	178
15.2.13 Muse Serial Number Encoder	179
15.2.14 Muse Web2 Bridge	179
15.3 Known Bugs:	179
15.3.1 ICE Modules	179
15.3.2 Muse Web Bridge	179
15.3.3 Muse Admin Bridge	179
15.3.4 Muse Control Center	180
15.3.5 Muse XML DB Management System	180
16.0 Changes in Muse 2.2.0.0 Release	181
16.1 New Features:	181
16.1.1 Muse Search	181
16.1.2 ICE Server	182
16.1.3 Muse Web Bridge	183
16.1.4 Muse Admin Bridge	183
16.1.5 Muse Control Center	185
16.1.6 Muse Proxy Server and Navigation Manager	185
16.1.7 Muse Statistics Monitor	185
16.1.8 Muse Source Factory	186
16.1.9 Muse Connectors Generator	186
16.1.10 Muse Search Query Translator Generator	187
16.1.11 Muse Serial Number Encoder	187
16.1.12 Muse Web2 Bridge	187
16.2 Bug Fixes:	187



16.2.1 Muse Search	187
16.2.2 ICE Server	189
16.2.3 Muse Web Bridge	190
16.2.4 Muse Admin Bridge	190
16.2.5 Muse Control Center	192
16.2.6 Muse Proxy Server and Navigation Manager	192
16.2.7 Muse XMLDB Management System	193
16.2.8 Muse Statistics Monitor	193
16.2.9 Muse Source Factory	194
16.2.10 Muse Builder	194
16.2.11 Muse Connectors Generator	194
16.3 Known Bugs:	194
16.3.1 ICE Server	194
16.3.2 Muse Admin Bridge	195
16.3.3 Muse Control Center	195
16.3.4 Muse Proxy Server and Navigation Manager	195
17.0 Changes in Muse 2.1.0.2 Build	197
17.1 Bug Fixes:	197
17.1.1 Muse Setup	197
17.1.2 ICE Server	197
17.1.3 ICE Modules	197
17.1.4 Muse Admin Bridge	198
17.1.5 Muse Control Center	198
17.1.6 Muse Proxy Server and Navigation Manager	198
17.1.7 Muse Source Factory	198
17.1.8 Muse Connectors Generator	198



17.1.9 Muse HTTP Server	199
17.2 New Features:	199
17.2.1 Muse Servlet	199
17.2.2 Muse Search	199
17.2.3 Muse Setup	199
17.2.4 ICE Modules	199
17.2.5 Muse Web Bridge	200
17.2.6 Muse Admin Bridge	200
17.2.7 Muse Control Center	200
17.2.8 Muse Control Center	201
17.2.9 Muse Proxy and Navigation Manager	201
17.2.10 Muse XMLDB Management System	201
17.2.11 Muse Source Factory	201
17.2.12 Muse Connectors Generator	201
17.2.13 Muse Serial Number Encoder	202
17.2.14 Muse HTTP Server	202
17.3 Notes:	202
17.3.1 Muse System	202
18.0 Changes in Muse 2.1.0.1 Release	203
18.1 Notes:	203
18.1.1 Muse System	203
19.0 Changes in Muse 2.1.0.0 Release	205
19.1 Bug Fixes:	205
19.1.1 Muse Setup	205
19.1.2 ICE Modules	205
19.1.3 Muse Control Center	205



19.1.4 Muse Source Factory	205
19.1.5 Muse Search Query Translator Generator	205
19.1.6 Muse HTTP Server	206
19.2 New Features:	206
19.2.1 ICE Modules	206
19.2.2 Muse Admin Bridge	206
19.2.3 Muse Search Query Translator Generator	206
20.0 Changes in Muse 2.0.0.3 Release	207
20.1 Bug Fixes:	207
20.1.1 Muse HTTP Server	207
20.2 New Features:	207
20.2.1 ICE Modules	207
20.2.2 Muse Admin Bridge	207
20.2.3 Muse Proxy Server and Navigation Manager	208
20.2.4 Muse Proxy Server and Navigation Manager	208
21.0 Changes in Muse 2.0.0.2 Release	209
21.1 Bug Fixes:	209
21.1.1 Muse Authentication and Authorization Service	209
21.1.2 ICE Server	209
21.1.3 ICE Modules	209
21.1.4 Muse Admin Bridge	209
21.1.5 Muse Proxy Server and Navigation Manager	210
21.1.6 Muse Source Factory	210
21.1.7 Muse Connectors Generator	210



21.1.8 Muse Serial Number Encoder	210
21.1.9 Muse HTTP Server	210
21.2 New Features:	211
21.2.1 Muse Setup	211
21.2.2 ICE Server	211
21.2.3 ICE Modules	211
21.2.4 Muse Admin Bridge	212
21.2.5 Muse Control Center	212
21.2.6 Muse Proxy Server and Navigation Manager	212
21.2.7 Muse Source Factory	212
21.2.8 Muse Builder	213
21.2.9 Muse Connectors Generator	213
21.2.10 Muse SOAP Bridge	213
21.2.11 Muse Serial Number Encoder	213
21.3 Notes:	214
21.3.1 Muse System	214
22.0 Changes in Muse 2.0.0.1 Release	215
22.1 Bug Fixes:	215
22.1.1 Muse Servlet	215
22.1.2 ICE Server	215
22.1.3 ICE Modules	215
22.1.4 Muse Control Center	215
22.1.5 Muse Proxy Server and Navigation Manager	216
22.1.6 Muse Source Factory	216
22.1.7 Muse Serial Number Encoder	216
22.2 New Features:	216



22.2.1 ICE Server	217
22.2.2 ICE Modules	217
22.2.3 Muse Control Center	217
22.2.4 Muse Source Factory	217
22.2.5 Muse Serial Number Encoder	218
22.3 Notes:	218
22.3.1 Muse System	218
23.0 Changes in Muse 2.0.0.0 Release (Developed under 1.2.0.2)	219
23.1 Bug Fixes:	219
23.1.1 Muse System	219
23.1.2 Muse Setup	219
23.1.3 ICE Server	219
23.1.4 ICE Modules	220
23.1.5 Muse Web Bridge	220
23.1.6 Muse Admin Bridge	220
23.1.7 Muse Control Center	220
23.1.8 Muse Proxy Server and Navigation Manager	221
23.1.9 ICE Tools	221
23.1.10 Muse Source Factory	221
23.1.11 Muse Source Factory	221
23.1.12 Muse Connectors Generator	221
23.2 New Features:	221
23.2.1 Muse Authentication and Authorization Service	221
23.2.2 Muse Setup	222
23.2.3 Muse Search	222



23.2.4 ICE Server	222
23.2.5 ICE Modules	223
23.2.6 ICE Scripts	223
23.2.7 Muse Web Bridge	223
23.2.8 Muse Web Bridge	223
23.2.9 Muse Admin Bridge	223
23.2.10 Muse Control Center	224
23.2.11 Muse Control Center	224
23.2.12 Muse XMLDB Management System	224
23.2.13 Muse Statistics Monitor	225
23.2.14 ICE Tools	225
23.2.15 Muse Source Factory	225
23.2.16 Muse Builder	225
23.2.17 Muse Connectors Generator	226
23.2.18 Muse Search Query Translator Generator	226
23.2.19 Muse III Bridge	226
23.2.20 Muse HTTP Server	227
23.2.21 MuseSearch Toolbar	227
23.3 Known Bugs:	227
23.3.1 Muse Builder	227
24.0 Changes in Muse 1.2.0.1 Release	229
24.1 Bug Fixes:	229
24.1.1 Muse Servlet	229
24.1.2 Muse Setup	229
24.1.3 ICE Server	230



24.1.4 ICE Modules	231
24.1.5 Muse Web Bridge	231
24.1.6 Muse Admin Bridge	231
24.1.7 Muse Control Center	231
24.1.8 Muse Control Center	231
24.1.9 Muse Proxy Server and Navigation Manager	232
24.1.10 Muse XMLDB Management System	233
24.1.11 Muse Statistics Monitor	233
24.1.12 ICE Tools	235
24.1.13 Muse Builder	235
24.1.14 Muse Connectors Generator	236
24.1.15 Muse SOAP Bridge	236
24.1.16 Muse SOAP Bridge	236
24.1.17 Muse ENCompass Bridge	237
24.1.18 Muse HTTP Server	237
24.1.19 Muse Brodart Bridge	237
24.1.20 Muse Grokker Bridge	237
24.1.21 Muse Web2 Bridge	238
24.2 New Features:	238
24.2.1 Muse Authentication and Authorization Service	238
24.2.2 Muse Setup	238
24.2.3 ICE Server	239
24.2.4 ICE Modules	240
24.2.5 Muse Web Bridge	241
24.2.6 Muse Proxy Server and Navigation Manager	241



24.2.7 Muse XMLDB Management System	242
24.2.8 Muse Statistics Monitor	242
24.2.9 ICE Tools	243
24.2.10 Muse Source Factory	243
24.2.11 Muse Builder	243
24.2.12 Muse Connectors Generator	243
24.2.13 Muse Z39.50 Bridge	244
24.2.14 Muse Serial Number Encoder	244
24.2.15 Muse Management Console	245
24.2.16 Muse HTTP Server	245
24.2.17 Muse Mandarin Bridge	245
24.2.18 Muse Manuals	245
24.3 Notes:	245
24.3.1 Muse Proxy Server and Navigation Manager	245
24.3.2 All Muse Products	245
24.4 Known Bugs:	246
24.4.1 Muse Web Bridge	246
24.4.2 Muse Statistics Monitor	246
25.0 Changes in Muse 1.2.0.0 Release (Developed under 1.1.3.5)	247
25.1 Bug Fixes:	247
25.1.1 Muse Authentication and Authorization Service	247
25.1.2 Muse Setup	247
25.1.3 Muse Services	248
25.1.4 Muse System	248
25.1.5 ICE Server	248



25.1.6 ICE Modules	249
25.1.7 Muse Web Bridge	250
25.1.8 Muse Admin Bridge	250
25.1.9 Muse Control Center	251
25.1.10 Muse Control Center	251
25.1.11 Muse Proxy Server and Navigation Manager	251
25.1.12 Muse XMLDB Management System	253
25.1.13 Muse Statistics Monitor	253
25.1.14 ICE Tools	253
25.1.15 Muse Builder	254
25.1.16 Muse ENCompass Bridge	254
25.1.17 Muse Enrichment Service	254
25.1.18 Muse Administrator Console	254
25.1.19 Muse HTTP Server	254
25.1.20 Muse OpenURL	255
25.1.21 Muse Manuals	255
25.1.22 Muse Web2 Bridge	255
25.1.23 Muse Brodart Bridge	255
25.2 New Features:	255
25.2.1 Muse Authentication and Authorization Service	255
25.2.2 Muse Setup	256
25.2.3 Muse Search	257
25.2.4 ICE Server	257
25.2.5 ICE Modules	259
25.2.6 Muse Web Bridge	260



25.2.7 Muse Admin Bridge	260
25.2.8 Muse Control Center	261
25.2.9 Muse Control Center	261
25.2.10 Muse Global Authorizing Management System	261
25.2.11 Muse XMLDB Management System	261
25.2.12 Muse Statistics Monitor	261
25.2.13 ICE Tools	261
25.2.14 ICE Tools	262
25.2.15 Muse Builder	262
25.2.16 Muse Serial Number Encoder	263
25.2.17 Muse Serial Number Encoder	263
25.2.18 Muse Web2 Bridge	263
25.2.19 Personal WorkRoom Management System	263
25.2.20 Muse Administrator Console	263
25.2.21 Muse Management Console	264
25.2.22 Muse Designer Console	264
25.2.23 Muse Manuals	264
25.2.24 Muse HTTP Server	264
25.2.25 Muse Brodart Bridge	265
25.2.26 Muse Grokker Bridge	265
25.3 Known Bugs:	265
25.3.1 Muse HTTP Server	265
25.4 Notes:	266
25.4.1 Muse System	266
25.4.2 Muse Search	266



25.4.3 Muse Projects	266
25.4.4 ICE Server	267
25.4.5 ICE Modules	267
25.4.6 Muse Admin Bridge	267
25.4.7 ICE Tools	267
25.4.8 Muse Source Factory	267
25.4.9 Muse HTTP Server	268
25.4.10 Muse Manuals	268
26.0 Changes in Muse 1.1.3.4 Release	269
26.1 Bug Fixes:	269
26.1.1 Muse Authentication and Authorization Service	269
26.1.2 Muse Setup	269
26.1.3 Muse Search	269
26.1.4 ICE Modules	270
26.1.5 Muse Web Bridge	270
26.1.6 Muse Control Center	270
26.1.7 Muse Control Center	270
26.1.8 Muse Proxy Server and Navigation Manager	270
26.1.9 Muse Enrichment Service	272
26.1.10 Muse HTTP Server	272
26.2 New Features:	272
26.2.1 Muse Setup	272
26.2.2 Muse Search	272
26.2.3 ICE Server	272
26.2.4 ICE Modules	273



26.2.5 Muse Control Center	273
26.2.6 Muse Statistics Monitor	273
26.2.7 Personal Profiles Management System	273
26.2.8 Muse Administrator Console	274
26.3 Known Bugs:	274
26.3.1 Muse HTTP Server	274
26.4 Notes:	274
26.4.1 Muse Search	274
27.0 Changes in Muse 1.1.3.3 Release	275
27.1 Bug Fixes:	275
27.1.1 Muse Authentication and Authorization Service	275
27.1.2 Muse Setup	275
27.1.3 ICE Server	276
27.1.4 ICE Modules	276
27.1.5 Muse Web Bridge	276
27.1.6 Muse Control Center	276
27.1.7 Muse Control Center	276
27.1.8 Muse Proxy Server and Navigation Manager	276
27.1.9 ICE Tools	278
27.1.10 Muse SOAP Bridge	278
27.1.11 Muse HTTP Server	278
27.2 New Features:	279
27.2.1 Muse Authentication and Authorization Service	279
27.2.2 Muse Setup	279



27.2.3 Muse Search	280
27.2.4 ICE Server	280
27.2.5 ICE Server	281
27.2.6 ICE Modules	281
27.2.7 Muse Web Bridge	281
27.2.8 Muse Admin Bridge	281
27.2.9 Muse Control Center	281
27.2.10 Muse Proxy Server and Navigation Manager	282
27.2.11 Muse Z39.50 Bridge	282
27.2.12 Muse ENCompass Bridge	282
27.2.13 Muse Serial Number Encoder	282
27.2.14 Muse Web2 Bridge	283
27.2.15 Muse OpenURL	283
27.2.16 Muse Manuals	283
27.2.17 Muse HTTP Server	283
27.3 Known Bugs:	284
27.3.1 Muse HTTP Server	284
27.4 Notes:	284
27.4.1 Muse Setup	284
27.4.2 JavaService	284
27.4.3 Muse Search	284
27.4.4 ICE Server	285
27.4.5 ICE Modules	285
27.4.6 Muse XMLDB Management System	285
27.4.7 Muse Mandarin Bridge	285
27.4.8 Personal Profiles Management	



System	285
27.4.9 All Muse Products	285
27.4.10 Muse Web2 Bridge	285
28.0 Changes in Muse 1.1.3.2 Release	287
28.1 Bug Fixes:	287
28.1.1 Muse Servlet	287
28.1.2 ICE Server	287
28.1.3 Muse Web Bridge	287
28.1.4 Muse Admin Bridge	287
28.1.5 Muse Control Center	287
28.1.6 Muse Control Center	288
28.1.7 Muse Proxy Server and Navigation Manager	288
28.1.8 Muse Builder	288
28.1.9 Muse SOAP Bridge	289
28.1.10 Muse ENCompass Bridge	289
28.1.11 Muse Serial Number Encoder	289
28.1.12 Muse Web2 Bridge	289
28.1.13 Muse HTTP Server	289
28.2 New Features:	290
28.2.1 Muse Authentication and Authorization Service	290
28.2.2 Muse Setup	290
28.2.3 Muse Search	290
28.2.4 ICE Server	290
28.2.5 ICE Modules	291
28.2.6 Muse Web Bridge	291



28.2.7 Muse Admin Bridge	292
28.2.8 Muse Control Center	292
28.2.9 Muse Control Center	292
28.2.10 Muse Proxy Server and Navigation Manager	292
28.2.11 ICE Tools	292
28.2.12 Muse Builder	292
28.2.13 Muse HTTP Server	293
28.2.14 Muse Manuals	293
28.3 Notes:	294
29.0 Changes in Muse 1.1.3.1 Release	295
29.1 Bug Fixes:	295
29.1.1 Muse Setup	295
29.1.2 ICE Modules	295
29.1.3 Muse Admin Bridge	295
29.1.4 Muse Control Center	295
29.1.5 Muse Proxy Server and Navigation Manager	295
29.1.6 Muse Serial Number Encoder	296
29.1.7 Muse HTTP Server	296
29.2 New Features:	296
29.2.1 Muse Search	296
29.2.2 Muse Authentication and Authorization Service	296
29.2.3 Muse Setup	296
29.2.4 ICE Server	297
29.2.5 Muse Web Bridge	297
29.2.6 Muse Control Center	297



29.2.7 Muse Z39.50 Bridge	297
29.2.8 Muse ENCompass Bridge	297
29.2.9 Muse Serial Number Encoder	297
29.2.10 Muse Web2 Bridge	298
29.3 Notes:	298
30.0 Changes in Muse 1.1.3.0 Release	299
30.1 Bug Fixes:	299
30.1.1 ICE Server	299
30.1.2 Muse Proxy Server and Navigation Manager	299
30.2 New Features:	299
30.2.1 Muse Search	299
30.2.2 Muse Authentication and Authorization Service	299
30.2.3 Muse Setup	300
30.2.4 ICE Modules	300
30.2.5 ICE Server	300
30.2.6 Muse Web Bridge	301
30.2.7 Muse Admin Bridge	301
30.2.8 Muse Z39.50 Bridge	301
30.2.9 Muse Serial Number Encoder	301
30.2.10 Muse HTTP Server	301
30.2.11 Muse Manuals	301
30.2.12 Muse Management Console	302
30.3 Notes:	302
31.0 Changes in Muse 1.1.2.9 Release	303
31.1 Bug Fixes:	303



31.1.1 Muse Search	303
31.1.2 Muse Setup	303
31.1.3 Muse Authentication and Authorization Service	303
31.1.4 ICE Modules	303
31.1.5 ICE Server	303
31.1.6 Muse Web Bridge	304
31.1.7 Muse Admin Bridge	304
31.1.8 Muse Proxy Server and Navigation Manager	304
31.1.9 Muse HTTP Server	305
31.2 New Features:	305
31.2.1 Muse Setup	306
31.2.2 Muse Install	306
31.2.3 Muse Authentication and Authorization Service	306
31.2.4 ICE Server	306
31.2.5 ICE Modules	307
31.2.6 Muse Web Bridge	307
31.2.7 Muse Proxy Server and Navigation Manager	307
31.2.8 ICE Tools	308
31.2.9 Muse Z39.50 Bridge	308
31.2.10 Muse ENCompass Bridge	308
31.2.11 Muse OpenURL	308
31.2.12 Muse Web2 Bridge	308
31.3 Notes:	308
32.0 Changes in Muse 1.1.2.8 Release	309
32.1 Bug Fixes:	309



32.1.1 Muse Authentication and Authorization Service	309
32.1.2 Muse Install	309
32.1.3 ICE Modules	309
32.1.4 Muse HTTP Server	309
32.1.5 Muse Enrichment Service	309
32.2 New Features:	310
32.2.1 Muse Search	310
32.2.2 Muse Proxy Server and Navigation Manager	310
32.2.3 Muse ENCompass Bridge	310
32.2.4 Muse OpenURL	310
32.3 Notes:	310
33.0 Changes in Muse 1.1.2.7 Release	311
33.1 Bug Fixes:	311
33.1.1 ICE Modules	311
33.1.2 ICE Server	311
33.2 New Features:	311
33.2.1 Muse Search	311
33.2.2 Muse Authentication and Authorization Service	311
33.2.3 Muse Setup	312
33.2.4 Muse Web Bridge	312
33.2.5 Muse Z39.50 Bridge	312
33.2.6 Muse ENCompass Bridge	312
33.2.7 Muse Web2 Bridge	312
33.2.8 Muse Management Console	312
33.2.9 Muse Enrichment Service	312



33.2.10 Muse OpenURL	313
33.2.11 Muse HTTP Server	313
33.2.12 Muse Manuals	313
33.3 Notes:	313
34.0 Changes in Muse 1.1.2.6 Release	315
34.1 Bug Fixes:	315
34.1.1 ICE Modules	315
34.1.2 ICE Server	315
34.1.3 Muse Proxy Server and Navigation Manager	316
34.2 New Features:	316
34.2.1 Muse Search	316
34.2.2 Muse Search	316
34.2.3 ICE Server	316
34.2.4 ICE Modules	316
34.2.5 Muse Web Bridge	317
34.2.6 Muse Proxy Server and Navigation Manager	317
34.2.7 Muse SOAP Bridge	317
34.2.8 Muse Z39.50 Server	317
34.2.9 Muse Serial Number Encoder	317
34.2.10 Muse HTTP Server	317
34.2.11 Muse Web2 Bridge	318
34.2.12 Muse Management Console	318
34.2.13 Muse Manuals	318
34.2.14 Muse OpenURL	318
35.0 Changes in Muse 1.1.2.5 Release	319
35.1 Bug Fixes:	319



35.1.1 ICE Modules	319
35.1.2 ICE Server	319
35.1.3 Muse Web Bridge	319
35.1.4 Muse Manuals	319
35.2 New Features:	320
35.2.1 Muse Search	320
35.2.2 Muse Search	320
35.2.3 Muse Setup	320
35.2.4 ICE Server	320
35.2.5 ICE Modules	321
35.2.6 ICE Scripts	321
35.2.7 ICE Tools	321
35.2.8 Muse Z39.50 Server	321
35.2.9 Muse Serial Number Encoder	321
35.2.10 Muse Management Console	322
35.2.11 Muse Manuals	322
35.2.12 Muse HTTP Server	322
35.3 Notes:	322
36.0 Changes in Muse 1.1.2.4 Release	323
36.1 Bug Fixes:	323
36.1.1 ICE Server	323
36.1.2 ICE Modules	323
36.1.3 Muse Proxy Server and Navigation Manager	323
36.2 New Features:	324
36.2.1 Muse Search	324
36.2.2 Muse Setup	324



36.2.3 Muse Search	324
36.2.4 ICE Modules	324
36.2.5 Muse Web Bridge	325
36.2.6 Muse Admin Bridge	325
36.2.7 ICE Tools	325
36.2.8 Muse Management Console	325
36.2.9 Muse OpenURL	325
36.2.10 Muse Manuals	325
36.3 Notes:	326
37.0 Changes in Muse 1.1.2.3 Release	327
37.1 Bug Fixes:	327
37.1.1 Muse Search	327
37.1.2 Muse Proxy Server and Navigation Manager	327
37.1.3 Muse Proxy Server and Navigation Manager	327
37.2 New Features:	327
37.2.1 Muse Search	327
37.2.2 Muse Search	328
37.2.3 Muse Web Bridge	328
37.2.4 Muse Management Console	328
38.0 Changes in Muse 1.1.2.2 Release	329
38.1 Bug Fixes:	329
38.1.1 Muse Search	329
38.1.2 Muse Proxy Server and Navigation Manager	329
38.2 New Features:	330
38.2.1 Muse Search	330
38.2.2 Muse Setup	330



38.2.3 ICE Server	330
38.2.4 ICE Scripts	330
38.2.5 Muse Proxy Server and Navigation Manager	330
38.2.6 ICE Tools	331
38.2.7 Muse Manuals	331
38.2.8 Muse Management Console	331
38.3 Notes:	331
38.3.1 Muse Search	331
39.0 Changes in Muse 1.1.2.1 Release	333
39.1 Bug Fixes:	333
39.1.1 Muse Search	333
39.1.2 ICE Server	333
39.1.3 ICE Tools	333
39.2 New Features:	333
39.2.1 Muse Search	333
39.2.2 Muse Search	334
39.2.3 Muse Setup	334
39.2.4 Muse Startup Scripts	334
39.2.5 ICE Server	334
39.2.6 ICE Scripts	334
39.2.7 Muse Web Bridge	334
39.2.8 ICE Tools	334
39.2.9 ICE Tools	335
39.2.10 Muse Manuals	335
39.2.11 Muse Management Console	335
39.3 Notes:	335



39.3.1 Muse Setup	335
39.3.2 Muse Search	336
39.3.3 Muse System	336
40.0 Changes in Muse 1.1.2.0 Release	337
40.1 Bug Fixes:	337
40.1.1 Muse Search	337
40.1.2 ICE Server	337
40.2 New Features:	337
40.2.1 Muse Search	337
40.2.2 Muse Setup	337
40.2.3 Muse Search	338
40.2.4 ICE Server	338
40.2.5 Muse Web Bridge	338
40.2.6 ICE Tools	338
40.2.7 Muse Manuals	338
40.2.8 Muse Management Console	338
40.3 Notes:	338
40.3.1 Muse Search	338
40.3.2 Muse Setup	339
41.0 Changes in Muse 1.1.1.9 Release	341
41.1 Bug Fixes:	341
41.1.1 Muse Search	341
41.1.2 ICE Server	341
41.1.3 Muse Proxy Server and Navigation Manager	341
41.2 New Features:	341
41.2.1 Muse Setup	341



41.2.2 Muse Search	342
41.2.3 ICE Modules	342
41.2.4 ICE Tools	342
41.2.5 Muse Manuals	342
41.3 Notes:	342
41.3.1 Muse Search	342
42.0 Changes in Muse 1.1.1.8 Release	343
42.1 Bug Fixes:	343
42.1.1 Muse Search	343
42.2 New Features:	343
42.2.1 Muse Search	343
42.2.2 Muse Setup	343
42.2.3 ICE Server	343
42.2.4 Muse Manuals	344
42.2.5 Muse Management Console	344
43.0 Changes in Muse 1.1.1.7 Release	345
43.1 Bug Fixes:	345
43.1.1 Muse Setup	345
43.1.2 Muse Search	345
43.1.3 Muse Search	345
43.2 New Features:	345
43.2.1 Muse Search	345
43.2.2 ICE Modules	345
43.2.3 ICE Tools	346
43.2.4 Muse Manuals	346
43.2.5 Muse Management Console	346



43.3 Notes:	346
43.3.1 Muse Search	346
44.0 Changes in Muse 1.1.1.6 Release	347
44.1 Bug Fixes:	347
44.1.1 Muse Setup	347
44.1.2 Muse Search	347
44.1.3 Muse Search	347
44.2 New Features:	347
44.2.1 Muse Application	347
44.2.2 ICE Tools	348
45.0 Changes in Muse 1.1.1.5 Release	349
45.1 Bug Fixes:	349
45.1.1 Muse Search	349
45.1.2 Muse Setup	349
45.1.3 Muse Search	349
45.1.4 Muse Search	349
45.1.5 Muse Management Console	349
45.2 New Features:	350
45.2.1 Muse Search	350
45.2.2 ICE Server	350
45.2.3 Muse Web Bridge	350
45.2.4 Muse Admin Bridge	350
45.2.5 ICE Tools	350
45.3 Notes:	350
46.0 Changes in Muse 1.1.1.4 Release	351
46.1 Bug Fixes:	351



46.1.1 Muse Search	351
46.1.2 Muse Management Console	351
46.2 New Features:	351
46.2.1 Muse Setup	351
46.2.2 ICE Server	351
46.2.3 ICE Tools	352
46.2.4 Muse Management Console	352
46.2.5 Muse Manuals	352
47.0 Changes in Muse 1.1.1.3 Release	353
47.1 Bug Fixes:	353
47.1.1 ICE Tools	353
47.2 New Features:	353
47.2.1 Muse Search	353
47.2.2 Muse Setup	353
47.2.3 ICE Tools	353
47.2.4 Muse Z39.50 Server	354
47.2.5 Muse Management Console	354
47.2.6 Muse Manuals	354
47.3 Notes:	354
48.0 Changes in Muse 1.1.1.2 Release	355
48.1 Bug Fixes:	355
48.1.1 Muse Search	355
48.1.2 Muse Search	355
48.2 New Features:	355
48.2.1 Muse Search	355
48.2.2 Muse Search	355



48.2.3 Muse Setup	356
48.2.4 ICE Server	356
48.2.5 ICE Tools	356
48.2.6 Muse Z39.50 Server	356
48.2.7 Muse Manuals	356
48.2.8 Muse Management Console	356
49.0 Changes in Muse 1.1.1.1 Release	357
49.1 Bug Fixes:	357
49.1.1 Muse Web Bridge	357
49.2 New Features:	357
49.2.1 Muse Search	357
49.2.2 ICE Modules	357
49.2.3 ICE Tools	358
49.2.4 Muse Management Console	358
49.2.5 Muse Manuals	358
50.0 Changes in Muse 1.1.1.0 Release	359
50.1 Bug Fixes:	359
50.1.1 Muse Search	359
50.1.2 ICE Server	359
50.1.3 ICE Modules	359
50.2 New Features:	359
50.2.1 Muse Setup	359
50.2.2 Muse Web Bridge	360
50.2.3 ICE Tools	360
50.2.4 Muse Manuals	360
50.2.5 Muse Management Console	360



51.0	Changes in Muse 1.1.0.9 Release	361
51.1	Bug Fixes:	361
51.1.1	Muse Search	361
51.1.2	ICE Server	361
51.1.3	Muse Web Bridge	361
51.2	New Features:	361
51.2.1	Muse Management Console	361
52.0	Changes in Muse 1.1.0.8 Release	363
52.1	Bug Fixes:	363
52.1.1	ICE Server	363
52.1.2	ICE Modules	363
52.2	New Features:	363
52.2.1	Muse Search	363
52.2.2	Muse Search	364
52.2.3	ICE Modules	364
52.2.4	Muse Manuals	364
52.2.5	Muse Management Console	364
53.0	Changes in Muse 1.1.0.7 Release	365
53.1	Bug Fixes:	365
53.1.1	ICE Modules	365
53.2	New Features:	365
53.2.1	Muse Search	365
53.2.2	Muse Setup	365
53.2.3	ICE Modules	365
53.2.4	Muse Manuals	366
53.3	Known Bugs:	366



53.3.1 ICE Server	366
54.0 Changes in Muse 1.1.0.6 Release	367
54.1 Bug Fixes:	367
54.1.1 Muse Search	367
54.1.2 Muse Setup	367
54.1.3 ICE Modules	367
54.1.4 Muse Web Bridge	367
54.1.5 Muse Management Console	368
54.2 New Features:	368
54.2.1 Muse Manuals	368
54.3 Known Bugs:	368
54.3.1 ICE Server	368
55.0 Changes in Muse 1.1.0.5 Release	369
55.1 Bug Fixes:	369
55.1.1 Muse Search	369
55.1.2 ICE Profiles	369
55.1.3 ICE Modules	369
55.2 New Features:	369
55.2.1 ICE Modules	369
55.3 Known Bugs:	370
55.3.1 ICE Server	370
56.0 Changes in Muse 1.1.0.4 Release	371
56.1 Bug Fixes:	371
56.1.1 Muse Search	371
56.1.2 ICE Server	371
56.1.3 ICE Modules	371



56.1.4 Muse Web Bridge	371
56.1.5 ICE Tools	371
56.2 New Features:	372
56.2.1 Muse Search	372
56.2.2 ICE Modules	372
56.2.3 Muse Web Bridge	372
56.2.4 Muse	372
56.2.5 Muse Management Console	372
56.3 Known Bugs:	372
56.3.1 ICE Server	372
56.4 Notes:	373
57.0 Changes in Muse 1.1.0.3 Release	375
57.1 Bug Fixes:	375
57.1.1 Muse Search	375
57.1.2 Muse Setup	375
57.1.3 ICE Modules	375
57.1.4 Muse Management Console	375
57.2 Known Bugs:	376
57.2.1 Muse Setup	376
57.2.2 ICE Server	376
58.0 Changes in Muse 1.1.0.2 Release	377
58.1 Bug Fixes:	377
58.1.1 Muse Search	377
58.1.2 ICE Modules	377
58.1.3 ICE Tools	377
58.2 New Features:	377



58.2.1 Muse Setup	377
58.2.2 Muse Search	378
58.2.3 ICE Server	378
58.2.4 ICE Modules	378
58.2.5 ICE Tools	378
58.2.6 Muse Manuals	378
58.3 Known Bugs:	378
58.3.1 Muse Setup	378
58.3.2 ICE Server	379
59.0 Changes in Muse 1.1.0.1 Release	381
59.1 New Features:	381
59.1.1 Muse Search	381
59.1.2 Muse Setup	381
59.1.3 ICE Modules	381
59.1.4 Muse Web Bridge	382
59.1.5 ICE Tools	382
59.1.6 Muse Management Console	382
59.1.7 Muse Manuals	382
59.2 Known Bugs:	382
59.2.1 Muse Setup	382
59.2.2 ICE Server	383
59.3 Notes:	383



1.0

Changes in Muse 2.8.0.1 Release

Release Date: 2023.11.28

1.1 New Features:

1.1.1 Muse Applications

- ✎ As protection for very rare cases when the application files do not load for some reason, or session cookies are missing, etc. , the application logon form is presented to start again. But when an external authentication method like SAML is used, the application logon form is not suitable. To deal with such cases, the behavior of the login form is now configurable.
- ✎ For the cases when the MuseKnowledge Application is used embedded into the dedicated Muse Mobile native applications (IOS and Android), the content of the error pages that appear in rare cases of unrecoverable application errors was extended to present explicit instructions for session re-initialization.
- ✎ Currently, when the MuseKnowledge Application is accessed in a browser on a mobile device, a message is displayed to install and use the Muse Mobile native application instead. It was added support for configuring which native mobile application to suggest, to cope with the cases when other native mobile applications exist and embed the MuseKnowledge Application.
- ✎ When no results are retrieved from federated search, a new suggestion was added in the "No results were found." section, to also try the same search in Discover. A link is available to switch to the Discover interface, launching the search. A similar suggestion was added in the Related Queries widget: "Haven't found what you are looking for? Get more results from Discover.", to provide a quick link into the Discover interface, searching with the same query. These new suggestions are displayed only if the Discover feature is enabled.
- ✎ The search results display area was extended to display inline holdings information, if available in the result's metadata. The holding items are displayed in a table format. It applies for results retrieved from library platforms where information about a library item is useful, such as the loan status, barcode, location, branch, etc. Because the holdings metadata varies from one library implementation to another, to optimize the displayed metadata in the result's tile, the list of holding elements to display is configurable.



- ✎ Text2Speech functionality was added to help people with vision impairments. More exactly the results metadata can be read into natural-sounding speech. Controls to start reading a result metadata content were added to each result tile, at any time the reading can be stopped by pressing the pause icon. By default the reading icon is not enabled, the user must enable it from the **Search Options** panel located below the search form, by setting to **Yes** the **Show Speech Controls** radio button. Only a specific set of the results metadata fields is enabled for speech, depending on the content type of the result. For example for a book the following fields are read: the number of the result, its content type, the title, description/abstract, authors, ISBN identifiers.
- ✎ New fields are displayed, if available in the retrieved metadata: Patent number, Inventor, Claims, Series and Part Of.
- ✎ In the Discover home page, Date facet, it is now possible to specify via the MCAA console, the minimum and maximum dates to be displayed.
- ✎ The **Content Type** values (Abstract, Archival Document, Article, Audio, Book, Journal, etc.) from the **Refine your Results** widget from the search results page are now translated when changing the application's interface language.
- ✎ The name of the resource retrieving the result is now displayed in the result's tile footer, separated by the vertical bar from the rest of the elements. Previously the resource name was displayed in the same section but in between parentheses, just after the publisher information.
- ✎ The Anonymous application shipped by default with the setup kit, was re-implemented using newer versions of the Bootstrap and Angular frameworks.

1.1.2 Muse Core and Modules

- ✎ Reviewed the **SOURCE** field from the Muse record, which technically contained the APA style citation representation, to be general and not specific to only journal articles because the citation should be created for all types, not just journals. For this purpose we introduced the **CITATION** field: `DATA:CITATION[@APA]` and `IDR:IDENTIFIER[@qualifier="bibliographicCitation", @scheme="APA"]`. Changes were made in all connectors and the citation parsing utility package.
- ✎ Extended the statistical logging for the Translator modules. The API calls, number of translated characters, source and destination languages, etc. are now logged and can be used for statistical purposes.
- ✎ Implemented statistical logging for the Send Email module. The following statistical information is now available about the emails sent by end users from the search application interface: number of emails sent, number of emails sent with search results as inline text, number of emails sent with results as attached file.
- ✎ The MongoDB driver used by the Muse Central Index connector was upgrade to a newer version to work with the latest database versions.

1.1.3 Muse Central Index

✎



Updated the ingestion from MARC21 files to deal with invalid records that do not have a record terminator as their last byte, as specified by the record length stored in the record leader. The solution implemented was to compare the length of all fields with the length from the directory and fix it when it doesn't match.

- ✎ Added support in the ingester processor to make the citation field configurable, since implementation was done in the core modules to generate the citation information in the **DATA:CITATION** record field.
- ✎ Only the normalized **TYPE** values are indexed to be consistent with the implementation of the type value in the Muse Search application.
- ✎ Ingesters were created for the new Spring DataFlow environment, for different content providers for titles harvesting.
- ✎ A content repository was implemented for storing documents (like PDF files) referred from the ingested metadata. The solution is using the Jackrabbit framework which is already used in Muse. The ingestion process stores the associated files and a unique identifier is generated for referring it for download.

1.1.4 Muse Admin Bridge (MCAA, MCCS)

- ✎ Now it is possible to search for a specific Muse Source Package in all installed Muse Applications. In the resulted listing with the applications in which the searched Source Package was found, it is possible to update its version to the latest one available in Muse Source Factory and to edit it.
- ✎ Added a new main menu item called About and which provides the following features: Serial Number details, Java Virtual Machine information and System Version information.
- ✎ Added a new main menu item for accessing the customer's account from the MuseKnowledge Statistics Platform. The access link is implemented transparently using a HMAC signature.
- ✎ Integrated the Bootstrap framework in the Muse Console for Applications Administration and Muse Console for Customer Support, replacing the old CSS design and classes. Now the MCAA interface is responsive. The legacy consoles are still accessible, but using the lmcaa and lmccs IDs.
- ✎ Improved the sources management with regard to groups, more exactly now a source can be added simultaneously in multiple groups. This is a different more usefull approach than having to edit each group and add the sources.
- ✎ Improved the security for file browse operations for the cases when the Muse installation folder is a symbolic link.

1.1.5 Muse Control Center

- ✎ The FTP task was extended to support file transfers with the Amazon S3 service.

1.1.6 Tools and Utilities



- ✎ Created support for generating the Muse Manuals in HTML format to be published on the website.
- ✎ Created Ant script for uploading the Muse Proxy log files on FTP for generating statistics purposes, which is Operating System independent. More details are available here:
<https://www.edulib.com/uFAQs/how-do-i-send-the-muse-proxy-log-files-for-statistical-analysis/>

1.1.7 Muse Web Bridge

- ✎ Extended the login action to the ICE Core server to send the User-Agent information to be store in the log files, thus reaching the statistic.

1.1.8 Apache Tomcat

- ✎ Upgraded to version 9.0.82.

1.2 Bug Fixes:

1.2.1 Muse Applications

- ✎ In the query input from the search results page, when entering a query longer than the width of the input, the "clear input" (x) icon was overlapping the text. This was corrected.
- ✎ The Ajax requests for the JWT token needed for generating the MuseKnowledge OpenURL link did not treat the **404 Not Found** exceptions. This was fixed and the proper error message is received.

1.2.2 Muse Control Center

- ✎ If configuration options were missing from the `$MUSE_HOME/center/MuseCenter.xml` file, errors were displayed in the browser JavaScript console for the `importTasks` action. The entire JavaScript code was revised to handle all possible errors.

1.2.3 Muse Core and Modules

- ✎ While rotating the log file, a new file could not be created because the old one could not be closed as the flush operation behind close was failing. This was fixed.
- ✎ It was possible for citations to be created by connectors in records with only a date element, or page(s), which was not correct as the most important element - the journal/article title, was missing. It was corrected by making the journal/article title a mandatory element. If missing, the



citation is not created anymore.

- ✧ In extreme concurrency tests it was identified that sometimes the logon process into MusePeer blocks forever. This was caused by the login module closing the **ICEConnect** object (the channel), throwing an uncaught exception. It was corrected.
- ✧ Corrected two bugs at the ICE server level that had to do with reading from the NIO buffer and which manifested in corner case situations, when the **ICE-OUTPUT** message is split over two buffers in the middle of the terminator sequence or in the middle of a multi-byte unicode character.
- ✧ If during the ICE log initialization, for some reason the log file cannot be created/opened – if the file exists but is a directory rather than a regular file, does not exist but cannot be created, or cannot be opened for any other reason e.g. access denied – then the log messages remained stored in memory and never written on the **stderr**, thus eventually leading to **Out Of Memory**. There is no error shown in **stderr** for this either. This was corrected.
- ✧ Corrected a scenario in which the ICEWorkroomCleaner thread (the thread responsible with the workroom cleanup) crashed due to an uncaught exception. The ICEWorkroomCleaner thread must end only when system is shutting down, all possible exceptions must be caught.
- ✧ When CR/LF characters were encountered in search queries, and actually in any ICE command/module, an error was obtained because of the way StreamTokenizer works and the fact that we always sent parameters as a single string in between **ICEInterpreterExtensions**, the arguments are incorrectly parsed in more empty ones and the modules are not receiving what they expect. This was fixed.
- ✧ Properly encode the **DATABASE_NAME** value when being used in the request for the Muse Central Index, by the connector.

1.2.4 Muse Admin Bridge (MCAA, MCCS)

- ✧ When editing the **IN_PROCESS_MODULES** element from **\${APPLICATION_HOME}/profiles/SEARCH.xml**, and adding a new field that did not start with **<IN_PROCESS_MODULES>** (for example **<IN_PROCESS_MODULES2>**), then no error was reported. The same issue is with editing the **COEFFICIENT_KEYS** from **\${APPLICATION_HOME}/profiles/Distill.xml**. This was fixed and a proper JavaScript error is reported.
- ✧ When filtering by "Installed" in "Show only the sources with the following install status:", the sources with "Out of date" status weren't listed. If all sources had the "Out of date" status, nothing was shown. This was corrected, the "Out of date" sources are also displayed when filtering by "Installed".
- ✧ The "Skip To" functionality from the "Sources List" page did not work correctly when entering a text value and another sorting option than the default one (by ID) was selected. This was corrected, the sorting option is set by ID when searching with a text value.
- ✧ In Muse Console for Applications Administration (MCAA), "Edit Source Advanced Configuration" page, when trying to set a HTTPS certificate and clicking "Set" in the "HTTPS Certificates List" panel, the logon page was displayed using with following error: "Action not



specified". This was fixed.

- ✦ When editing the application's name in MCAA and entering a value containing a quote or apostrophe character, an error was generated in the browser JS error console: "Uncaught SyntaxError: missing) after argument list". The entire code was reviewed to escape the FreeMarker variables values when used as strings in JavaScript calls.
- ✦ In the "Upgrade the Application(s)" panel, when uploading the upgrade patch from ftp, in case the "File Location" input was empty, the first Upgrade call finished with an error, which was as expected. However a second attempt in the same conditions will also display the error, but the Ajax call used to provide the progress of the upload, entered in a loop. This was fixed.
- ✦ In the "Application(s) Source Audit" panel, when generating the HTML report including the test statuses, and clicking on a "Local Package Status" icon, an error message was displayed: "Unexpected exception while executing action getTestHistory: name can't be empty". It was corrected.
- ✦ An Access Denied error was obtained in the guru interface in the "Browse Files" functionality, if the Muse installation folder was a symbolic link. This was fixed.
- ✦ Attaching a file in the "Problem Report" page, did not work anymore, an error was displayed in the browser JS console. It was fixed.

1.2.5 Tools and Utilities

- ✦ Fixed a display issue in the testXMLAPI tool which manifested as following: when having many actions opened on the screen, URLs displayed in the Query String textarea were mixed even if the commands were properly executed (URL in the current window got the value of the last added command).



2.0

Changes in Muse 2.8.0.0 Release

Release Date: 2022.04.29

2.1 New Features:

2.1.1 Muse Applications

- ✎ New Discover functionality, which is a pure index search. The content searched by Discover is provided by Muse Central Index, which contains article and title metadata harvested from various publishers. The Discover search comes with all powerful features of the index search such as faceting and full result set availability. And many post-search functions that are also available in the Federated Search page, like viewing and saving the selected records in various formats. The MuseKnowledge Search application is fully configurable, allowing both the Federated Search and Discover, or just Federated Search or just Discover search pages. Enabling, disabling the search features are done through the Muse Console for Applications Administration (MCAA).
- ✎ Create Bibliography items out of search results in various styles: APA, BibTexX, Nature, IEEE, MLA, Chicago, NLM, etc. The generated bibliography elements can be printed or copied for insertion into external documents.
- ✎ Integrated a Document Delivery service workflow with the ReprintsDesk platform at API level. This feature is available only for OneSearch.
- ✎ Added core support for a new configuration element – `FULLTEXT_AVAILABLE` – to manually specify for a Source Package whether it has fulltext or not. This information is useful to control the workflow for integration with a Document Delivery platform.
- ✎ Extended the support for the mobile application for controlling the record images with gestures, rather than buttons (zoom, move).
- ✎ Extended the application's structure to allow specifying the number of results to retrieve for each source configured as a Side Search Widget. These settings are configurable using the Muse Console for Applications Administration (MCAA).
- ✎ Implemented support to specify the widgets display behavior on the various device types (`xs`, `sm`, `md`, `lg`), e.g. whether to display the widget or not.



- ✧ The `passThrough.html` FreeMarker template used in the application load flow was optimised from performance point of view. The performance issue was observed when processing structures in FreeMarker for hundreds of sources.
- ✧ On the name of the source displayed in the result footer section, a link was placed which produces a filtering of the resultset by that source.
- ✧ The number of the selected sources for search is displayed using the existing notification mechanisms in the application.
- ✧ A filtering option was added in the Searched Sources widget to filter out the 0 hits sources. By default the option is checked and only the sources retrieving results are displayed.
- ✧ Virtual Keyboard functionality which allows to input free text without the need of physical keys. It can be used to enter login credentials or search terms and has a layout for each language of the application interface. The Virtual Keyboard is not available for the mobile devices, phones and tablets, which have native keyboards of their own.
- ✧ The following improvements were made for the home widgets: support for translating the "New: Books and Journals" and "Important Links" titles and made the RSS source easier to be configured.
- ✧ Speech to Text functionality feature that allows users to insert text into the inputs of the application just by speaking to a microphone. The spoken text is recognized and it is automatically written in the selected input. This feature is only available on desktop computers (not phones or tablets, which already have this native functionality) and for a small set of inputs, only the ones where users can enter free text, such as search, filtering or help terms.
- ✧ "Did you mean" functionality for the end-user's query is now available. That is caused when Muse is not familiar enough with the terms you have used. It may be assuming a typo on the end-user's part. After the end-user launches the search, if there are misspellings in the query, a corrected one is displayed below the search form with a "Did you mean:" label. Clicking on the suggested query will launch the search with the new terms.
- ✧ Implemented a new post search operation with the selected records in the "Manage your Results" section, namely "Save as CSV". This action will save the selected records into a CSV file that can be opened with any spreadsheet application such as Microsoft Excel, Apache OpenOffice Calc.
- ✧ Implemented the possibility to switch between a Simpler interface view with light functionality and a Richer one with the most complete set of application features that were enabled. A default view (Simpler or Richer) can be set per each application, switching between the views can be done from the "Search Options" panel, "Display Options" section, "View Display" option.
- ✧ The Related Queries widget can be positioned by configuration, either as a side widget or in the main column with the search results, in front of the search results or after. The configuration can be made from the MCAA console.
- ✧ Improved the end-user experience when the relevance sorting is enabled by default. Thus an awareness message is displayed along with controls to stop the process and to display the already retrieved results.
- ✧ Made "General Limiters" location configurable. By default, they are available under "Search Limits" panel, but now they can also display right under the search form.
- ✧ Muse Mobile Application. Changed the record link navigation to be done into a secondary



WebView, and not into the external browser of the system. The new webview allows the navigation back to the main view.

- ✧ All Home page widgets are now fully configurable in terms of content, position and number. All these can be done through the MCAA console, the widget positioning is visually through drag-and-drop.
- ✧ Muse Mobile Application. Implemented a Document Management functionality in the iOS mobile application with the following features: store files with Muse results saved/exported from the MuseKnowledge Search Application; store files shared by third party applications using the builtin OS sharing action; view and manage the stored files.
- ✧ Fully integration with the Muse Identity Manager (IDM) platform for the user personal profile, thus the end-user can access from the application's main menu his personal profile from Muse IDM to edit his account properties.
- ✧ The footprint on disk of the MuseKnowledge Search application was significantly reduced by moving some common files such as JS libraries, CSS files, etc. into a public area from where they are referred. In a Muse environment with many MuseKnowledge Search applications (dozens, hundreds) the disk space usage is much smaller.
- ✧ A new widget was introduced in the MuseKnowledge Search applications in the results page called Images. It is available in the main area, just after the results and pagination display. The new Images widget presents in an images carousel all images from all retrieved records, clicking on any image will open the image viewer where various actions can be performed, like zoom in/out, move, rotate and share on social networks. The image viewer which is also used when clicking on a record image, was improved to cope better with gestures on mobile devices, like two finger pinch zoom. Also sharing the image on social networks was introduced.
- ✧ The Discover service call (`action=discover`) was improved and now its response is based on a static cached file. Previously the response of the request with the "`discover`" action which provides information about the application's installed resources and grouping information, was being generated dynamically, thus server resources were consumed each time. Taking into account that the response for a discover action would be different only when resources are added/removed into/from the MuseKnowledge Search application, we "`cached`" its response. The immediate advantage is that there is no more processing time with the "`discover`" action, thus a better performance when loading all application resources after login.
- ✧ Implemented a WordPress CMS plugin for integration with the Muse Search Application. From authentication point of view, the HMAC authentication is used, all its elements are configurable from the WordPress dashboard.
- ✧ Integrated the spellcheck functionality at the end-user application interface level, with a "Did you mean:" label under the search form.
- ✧ A Live Chat feature was implemented to allow users connecting in real time via chat with a Library representative (operator) for online support. The chat box allows users to ask any questions they may have for clarification about the MuseKnowledge™ Application and its resources. Many Live Chat Platforms can be integrated into the Muse Search Application, the following were tested successfully: Live Helper Chat, LiveChat and Pure Chat.
- ✧ Enhanced the "Email Results" functionality with a new option - "Send to Library". If "Send to Library" option is checked, the email is sent to the Library email address. Users can use this option



if they're having a problem with the search results, availability of subscribed content, or just want to tell us their thoughts about how it's working.

- ✎ Implemented a new feature in the Search Sources panel that allows end-users to make decisions when selecting the sources to search, based on performance and popularity metrics. More exactly, besides sorting alphabetically, there are two other options available in the sort feature of the Search Sources panel:
 - ✎ Fastest Sources. When selecting, the sources are displaying sorted by their performance metrics, from the fastest ones in retrieving results to the slowest one. A graphical representation of their performance is displayed next to each source name, consisting in colored bricks according to the value. It is a strength-style visual indicator. A tooltip is displayed on the graphical bars with the actual performance values, in seconds.
 - ✎ Popular Sources. When selecting, the sources are displaying sorted by their popularity, e.g. by how many record links from the search results were accessed for each source. The end users may navigate more on results of some specific sources. The same visual strength-style representation is displayed next to each source name.
- ✎ Muse Mobile Application. Re-structured the entire mobile application for iOS to separate the branding elements (color scheme, icons, name of the application, labels, descriptions) for an easier rebranding.
- ✎ The mechanism for displaying an OpenURL link for each result was extended to allow the inclusion of the Muse LinkResolver too. Thus to have two linkresolvers displayed for each result.

2.1.2 Muse Core and Modules

- ✎ The Muse Query Grammar was extended to support a parenthesized query inside a search attribute such as `:TITLE (Vaccines AND viruses NOT COVID)`.
- ✎ Introduced a new core service for query spell-checking. Multiple implementations are available: spellcheck against the collection of queries used by the end-users in a Muse system, against imported dictionaries, against a third party service.
- ✎ Introduced the possibility to boost records relevance from records pertaining to some sources with a specified factor.
- ✎ Created the infrastructure for integrating with Document Delivery service workflows. Document Delivery is a service that provides electronic delivery of an article or book chapter (subject to copyright restrictions) which are not part of the institution' subscriptions. Usually the delivery is covered by an existing institution subscription plan at the document delivery platform. Currently the integration was done with the ReprintsDesk platform at API level, but any vendor of document delivery services supporting a similar workflow can be integrated.
- ✎ Improved the performance of the Muse Distill keys, used for terms extraction and refining of the results.



Implemented core support for validating and normalizing the standard identifiers such as ISBN, ISSN and DOI. These operations are automatically done when the Muse records are being formed.

- ✎ Extended the ICE API to allow for the **ICEIEAbort** module to receive a list of instructions IDs in order to stop the running connectors. This was necessary to allow multiple connectors to be stopped simultaneously from the Muse Search Application interface.
- ✎ Improved the progress messages for Distill and Ranking keys to use the value of the **NAME** fields from the configuration files.
- ✎ Implemented query suggestions feature using the embedded Solr service starting from the indexed queries used by the end-users in a Muse system. The entire set of tools was created to deal with queries extraction and indexing on a daily basis. In a multitenant system with end-users from different domains (legal, medical, engineering, etc.) it is possible to make available only the queries used in a specific application.
- ✎ Improved our internal API we use for building connectors for JSON based vendor APIs to handle the cases when the JSON keys and values contain characters that are not valid in a well formed XML document.
- ✎ The json.jar library we use in the connectors for JSON based vendor APIs, was upgraded to its latest version.
- ✎ Added support for specifying the rewriting of the **DISPLAY_URL** value using the **\${PROXY_PREFIX}** metavariable defined on the application's profile. Previously the proxy prefix was added manually.
- ✎ Extended and improved the SQL login module to allows extracting additional user properties, to insert/update the timestamp in the database for login history.
- ✎ Created an enrichment module (Jitterbugkey) for the Muse Central Index. More exactly if enabled into a Muse Search Application, it will enrich the results content with additional metadata from querying Muse Central Index using standard identifiers like ISSN, ISBN, DOI.
- ✎ Created an API for connectors for gRPC (google's Remote Procedure Calls) - <https://grpc.io/>.
- ✎ Added support for URL rewriting for the Jitterbug keys as well. This means that the Jitterbug keys can use the same rewriting mechanisms as the connectors do.
- ✎ Extended the ICE **SCRIPT** module to support mentioning a Source Package jar via the **SET** and **CALL** methods. Previously when calling a Processing Module it was not possible to mention the SPjar, thus calling a module that sits in its own Source Package couldn't be loaded.

2.1.3 Muse Admin Bridge (MCAA, MCCS)

- ✎ Extended the Source Packages configuration screen to support editing multi **URL_REWRITING** fields.
- ✎ Added support for Syntax Highlight when raw editing Login Module Configuration File (for example **LoginModuleHMAC.xml**).
- ✎ Extended MCAA to add support for Syntax Highlight when using "Edit In Process Modules" from Application Search Module.



- ✎ In the MCAA console, "Information" section, the administrator can configure the email settings to be used for the Send Records by Email functionality from within the application. It is now possible to check the edited email settings. To perform this test an email will be sent using email parameters specified in `${APPLICATION_HOME}/profiles/SendMail.xml`.
- ✎ Configuring the Query Translation, Query Spell-check and Related Queries features from MCAA is now possible.
- ✎ The **Update Interface** MCAA action generates the `sources.db` file according to a template speed improvement in Freemarker processing.
- ✎ Editing the `jaas.config` file did not allow adding two LDAP modules. This is now possible.
- ✎ The existing editing mechanism of the `applicationOptions.db` file was extended to allow storing configuration options as arrays.
- ✎ All MuseAdmin actions that process the `sources.db` file were revised to keep order of custom attributes defined in `customGroupAttributes` and `customTargetAttributes` structures.
- ✎ When making configurations in the "Navigation Management" and "Proxy Configuration" sections, various settings were lost from the files updated by these actions. From technical point of view the actions were implemented with the **GET** method, and due to the limitation of the request URL length, the requests were truncated, thus parameters and values were lost. All actions are implemented now with **POST** method.
- ✎ The HMAC login module can now be configured through the MCAA console, it can be added next to the list of existing modules. Its configuration file is fully editable.
- ✎ The main configuration file from the application level (`${APPLICATION_HOME}/profile.xml`) with all settings for the Muse Central Index is now editable through MCAA.
- ✎ The sources group names and descriptions can now be edited and set per language, hence it is possible to have now the group names translated in all interface available languages.
- ✎ Added the name and ID of the application in the footer of all popup windows that open in the context of an application.
- ✎ Implemented support for a raw edit of the Muse Source Packages XML configuration files. A syntax highlight library was used.
- ✎ All fields of a translator module (Application Modules -> Translator Keys) can now be edited in a visually form. Also a raw edit feature of the configuration file was added.
- ✎ Added raw editing features for all modules configuration files (e.g. ILL modules, Dedupe, etc.).
- ✎ The raw editing of the `${APPLICATION_HOME}/profiles/MuseCentralIndex.xml` file uses now a SyntaxHighlight editor.
- ✎ Improvements were made for the checkbox elements to be triggered when clicking the associated labels too.
- ✎ A loader was added into the panel for testing a Muse Source Package (Test Source) to indicate progress.
- ✎ The password for the Global Infobase user is now stored encrypted in the configuration file. The



encryption algorithm can be specified as well.

- ✎ Extended the HTTPS Certificates section to display the validity status (e.g. expired/valid) for each certificate. The about to expire certificates are highlighted.

2.1.4 Muse Control Center

- ✎ Changing the way task files are displayed in case their number is large in the web interface. A dropdown selector is used when number of loaded files exceeds a specified number.
- ✎ Extended the download log file mechanism present in **Ant**, **FTP**, **Log** tasks in order to allow downloading all the associated log files (e.g. **FTPUpload.Log**, **FTPUpload.Log.1**, ..., **FTPUpload.Log.n**) as an archive.
- ✎ Extended the existing **FTP** task in order to upload/download file on SFTP servers using key authentication.
- ✎ To improve the administrator's experience, the following were implemented: allow tasks listing in the default order after a sort operation by **Name**, **Type**, **Status** took place; display an indicator to show the sorting direction after being applied.
- ✎ The tasks in a taskfile can now be visually arranged more quickly by drag-n-drop.
- ✎ Multiple tasks from within a taskfile can be selected and deleted in one action.
- ✎ Added filtering capabilities to narrow down the list of tasks in a task file, to quickly locate a task or set of tasks. The filtering is done by **Name**, **Description**, **Task Type** and **Status**.
- ✎ The refresh mechanism in all pages with active and dynamic content was revised to use AJAX calls to avoid reloading the entire page.
- ✎ New features were implemented for managing the task files: The "Save as" action allows now choosing the destination folder where the ***.tsk** file is saved; The "Load" action provides a file browser feature to locate and load the ***.tsk** file; The "New" action provides the same file browser to create the new task file.
- ✎ Implemented new features for importing and exporting a task file and its dependencies, like **xmt** and **jar** files. This is an important feature as it allows deploying new task files remotely via the web interface.
- ✎ Improved the editing of an **Ant** task by adding a raw edit feature for its XML configuration files.
- ✎ Added support to view in the Muse Control Center interface the log files associated with **Ant** and **FTP** and **Log** tasks.
- ✎ The password for the SMTP access details of the Email task is now encrypted.

2.1.5 Muse Setup

- ✎ Created installation packages using the "install4j" installer builder. Because InstallShield is not maintained anymore for several years, we switched to using "install4j". The "install4j" setup packages are still being tested internally, they are not yet available for customers.



- ✎ Added the necessary support for including in the Muse distribution and setup package the Muse Central Index product.

2.1.6 Tools and Utilities

- ✎ Created an extension for the Muse Statistics Platform to enrich the statistical information with additional data obtained from querying the Muse Global Central Index by standard identifiers such as DOI, ISSN and ISBN.

2.1.7 Muse LinkResolver

- ✎ Muse LinkResolver is a new product, our standalone link resolver application, implementing the OpenURL standard version 0.1. The content on which the links resolver relies is provided by Muse Central Index, the metadata received in the OpenURL request is searched in Muse Central Index. Below are some of the features implemented, the complete release notes are available in the **Muse LinkResolver Release Notes.pdf** document.
- ✎ Implemented support for displaying third party links to external specialized providers, passing the OpenURL parameters received by the linkresolver. Examples: Google Scholar, Clarivate JCR, EigenFactor, etc. Links to other linkresolvers can be created as well.
- ✎ The Muse LinkResolver user interface theme is preserving the same Muse Search Application theme, for a smooth user experience.
- ✎ Extended the user authentication methods by implementing IP authentication. Thus the enduser authentication for Muse LinkResolver can be done based on the browser's IP address. Anonymous authentication can be configured as well, by allowing access from any IP address.
- ✎ Implemented JWT authentication for authenticating the OpenURL requests to Muse LinkResolver. The JWT token is generated when clicking on the Muse LinkResolver links available in the Muse Search Application.

2.1.8 Muse Central Index

- ✎ Extended the structure of the Ingestor CLI to handle other types of commands (like **reindex**, **reset**) than ingest actions. The solution was to rewrite Ant tasks that use Beanshell code (**reindexSource**, **reindexAll**, **resetSource**, **clean**) with plain Java calls like we do for other tasks (for instance **ingestCSVFile**) so that log messages are visible in console or in Muse Control Center.
- ✎ Implemented ISBN value validation and normalization in the ingestion process.
- ✎ Improved the search with identifiers such as ISSN and ISBN to return the exact matches.
- ✎ Extended the Muse Central Index to allow more flexibility when running in multitenant implementations, to be able to specify lists of source identifiers to act as filters for the searches. Thus it is possible now in a multitenant Muse system to have a single index for all tenants and specify lists of source IDs to search for.



- ✎ Started the work of harvesting publisher metadata to grow the Muse Central Index. We started with getting the titles metadata which are provided by each vendor in different ways, mostly by KBART standard.
- ✎ Implemented support for ingesting data from the JATS (Journal Article Tag Suite) format.
- ✎ Implemented Freemarker methods (`normalizeISBN`, `normalizeISSN`) to be used from CSV mapping files to normalize ISBN and ISSN values.
- ✎ Implemented a tool to convert the existing ICERecords stored in MongoDB and containing information about Journals/Books (A to Z records, used in current Muse Central Index) in a new format in order to be used in the new Muse Discover Application.
- ✎ Created a new data model for the database where the records are stored, to be used more efficiently by the new discover application. Also to allow support for filtering on various criteria (like source, created at date, etc.).
- ✎ Ingesting ZIP archives that contain XML files is now possible.
- ✎ A Spring Batch based tool was created for ingesting OAI-PMH RAW records from a given provider into MongoDB instance from Global Repository machine.
- ✎ Developed a tool to process the raw records from a given provider into the final JSON records stored on MongoDB instance of the Global Repository machine. This process will also include records aggregation, depending on the raw records format.
- ✎ It is now possible to re-index records from multiple sources, specified by source IDs.
- ✎ The ingester can now ingest title items with coverage gaps, which span across multiple lines in a KBART file. Thus only one title item is ingested with coverage elements.
- ✎ Extended the mechanism used to search in Muse Central Index to add highlight properties on the retrieved results.
- ✎ Added support for re-indexing updated records in the database. For implementing such a feature it was needed to add timestamp values for each record in the database, like `createdDate` and `lastModifiedDate`.
- ✎ Replaced the Joda-Time implementation used for ISO normalizations in the ingester tool with the native date formatting methods available in Java 8.
- ✎ Extended the ingestion of XML files from `.zip` archives to also support `.gz` and `.tar.gz` formats.

2.1.9 Muse Statistics Platform

- ✎ The Muse Statistics Platform was created as a service for customers and partners for offering usage statistical information. Muse log files are uploaded on daily basis from customers and partners Muse installations and used for generating rich statistical information. Each customer/partner has access details to view the statistics.
- ✎ Added a new dashboard for MuseKnowledge Search for showing the sessions statistics: average, maximum. Where there are multiple servers, they are aggregated per server.



- ✎ Added new dashboards and charts for showing statistical information for an individual user selected from the list or entered manually. The statistics information is about the logins, total time spent, accessed resources, etc. Another dashboard is for showing the users accessing from different, multiple geographies, with the goal of identifying possible compromised accounts.

2.1.10 Muse Source Factory

- ✎ An improvement was made in the Global InfoBase to increase the performance of the actions that obtain the sources status in Muse Admin consoles.

2.2 Bug Fixes:

2.2.1 Muse Applications

- ✎ In case the browser system locales was customized, for example Romanian, after performing searches and checking the Search History section, a loading page was displayed instead of the proper page. This was due to a date format parsing error and it was fixed.
- ✎ The user selection for results deduplication were not preserved when changing the application's page. This was fixed.
- ✎ In the Searched Sources and Progress panels, sorting by source names did not work. This was fixed.
- ✎ The date values were not displayed consistently in all places, for example the locale were not used. All date values are uniformly displayed now and using locale.
- ✎ The language detection and translation of the searched query did not work when the query was from the related queries widget or search history or from clicking on an author name. This was fixed.
- ✎ Removed any use of `findIndex()` constructions since it is not supported by Internet Explorer 11.
- ✎ Removed `eval()` instructions from application's code since they pose a security issue.
- ✎ Not all application input controls (like for example the "My Account" section and "Refine your Results") had detection for Arabic language to change typing orientation. This was corrected.
- ✎ Starting with version 83 the Chrome browser changed the styling for radio and check buttons and for dropdown element. Because the application did not have any styling for these elements, the change affected their display. To correct this we added a default CSS formatting.
- ✎ The Help section on small devices was revised to correctly render the Table of Contents and search form on small devices (`sm` and `xm`).
- ✎ Correctly escape the data entered by the end-user for all input elements from the application, to avoid Freemarker injection.



- ✧ Several optimizations were done with regard to Javascript files loading to improve application loading performance: dropped the Javascript files loading based on settings, minified the Javascript library used for generating citations.
- ✧ When using alternatively both the physical and virtual keyboards for the same input, the final text submitted was incomplete. It was fixed.
- ✧ When sending results by email, the description field did not have the content escaped, thus any HTML tag was interpreted by the email client. This was corrected.

2.2.2 Muse Core and Modules

- ✧ Updated all Muse products to use `log4j2` version 2.17.2 for security reasons.
- ✧ Upgraded to the latest `javax.mail` and `activation` in order to keep up with newer TLS protocols.
- ✧ Correctly escape the special characters in the ICE logger, such as the `^` character which has a special meaning being tokens delimiter.
- ✧ Upgraded the `saxon.jar` library at the ICE level to correct the issue of not being able to display non-BMP characters using the text output method. That is, Unicode surrogate pairs, characters above 65535.
- ✧ The Singleton Pattern from `ISO6393Languages` class used to normalize the Language field was not implemented correctly for a multithread environment. We re-made the implementation and also solved another issue with releasing the resources.
- ✧ The MuseCentralIndex ISR translator used by all MuseCentralIndex Source Packages was not working correctly when using Language limiters. It was updated to translate between the 2 letter code language to the corresponding 3 letter code known by the index.
- ✧ Corrected in the Muse query grammar an ambiguity for a qualified operator vs qualified `KEYWORD`. The qualifier (property) for the operators was introduced to ensure `WITHIN` and `NEAR` can specify distance, as they are ternary operators. However, this conflicted with the qualifiers for the empty attribute (default attribute which is `KEYWORD`).
- ✧ Fixed a bug in the OAI-PMH harvesting flow that generated OutOfMemory for huge number of results.

2.2.3 Muse Web Bridge

- ✧ Fixed the rare case of searching a group of sources where only one or two retrieve results, extremely fast, while all the others are stalling above 5 minutes due to network issues. The JSON based, single page interface was not always presenting the available records, unless stopping the search and clicking on the "All Sources" link or clicking on the source(s) that brought records.
- ✧ The statistical logging was extended to include information about the discover application usage. Now there is statistical information about sessions, searches and queries for the discover application.
- ✧ Implemented core support for sending the discover results by email.



2.2.4 Muse Admin Bridge (MCAA, MCCS)

- ✎ It was reviewed the mechanism used to display the upload progress for patching multiples applications in order to start when clicking on "Upgrade" button and not before.
- ✎ Setting the locale default from "Edit Configuration" section was not working properly because only one option was available in the combobox: en. This was fixed, now all available languages can be selected.
- ✎ On the "Setup and Organize Sources" panel, when using the available filters and changing the application, the filters are taken into account but the filtering section does not show them. We corrected this and the existing filters are displayed correctly.
- ✎ Editing the configuration files for some keys (like for ex. `ICEWebSphereMQWriter`) did not work due to an incompatibility between the existing stylesheets and the newly updated Saxon library. The stylesheets were updated to work with the new Saxon.
- ✎ Corrected the `updateAppTextFile` action to allow writing of files only for users with write permissions, and not for the users with read-only permissions.
- ✎ The "Reset Filters" labels from all "Add" and "Edit" forms were correctly renamed into "Reset". An example where this correction was made is the "Create Application Authority User" section.
- ✎ Filters set in a page were incorrectly kept when switching to a different page. For example when setting some filters in the "Muse Admin Bridge Users" page and changing to "Muse Application Authority Users", the filters were preserved but invalid for the new page. This was corrected.
- ✎ Task filenames containing special characters such as quotes, apostrophe, backslash, etc. generated Javascript errors. The handling of tasks filenames in scripts was reviewed to correctly escape such characters.
- ✎ When updating fields in the Source Configuration panel, Javascript "undefined error" messages were thrown in the browser's console. This was fixed.
- ✎ The lifespan of the serial properties is correctly displayed now in UTC timezone, to be consistent with the other products and serial number related tools.
- ✎ The implementation for the type property of a sources group (e.g. Audio, Video, Encyclopedia, etc.) was revised as it was confusing and with limitations, only one group of type Audio could be created for example.

2.2.5 Muse Control Center

- ✎ Setting up a SFTP connection in the FTP task did not work, it yielded SSL related exceptions. Now it is working.
- ✎ Fixed several CSS/HTML display issues which manifested only in the Firefox browser. For example the button labels were truncated, the description text from text areas had a bigger font size.
- ✎ Fixed the case when Ant Muse Control Center tasks did not display all log messages while running



an Ant task for Ingester to reindex records for a source.

- At Muse Control Center start-up, if one of the loading task files defined in its configuration, was missing or corrupted, the Muse Control Center did not start anymore. This behavior was changed, the Muse Control Center starts now even if one or more loading task files fail to load from any reason.
- The following issues were identified and corrected for the FTP task when connecting to a ProFTPD server: the hour and minute details were lost from the last modified date of the downloaded file(s) and downloading files from the root folder (/) generated errors.
- Refreshing the status of a loaded task file failed with Javascript errors if the name of file contained special characters like comma, space, tab, @. It was fixed.
- The notification window for the session expiry was re-implemented to use the internal JQuery window to avoid the browser popup blocker.
- In the current implementation where the loaded task files are displayed in a dropdown, one could not see anymore which task file was actually running. The running task file is now highlighted in the "Show All" panel.

2.2.6 Muse Statistics Monitor

- In a Data Set Definition, the filters defining a set of logs did not work for a file pattern such as `ICECoreStatistics.log.?`. This was fixed.

2.2.7 Muse Setup

- When running in silent mode (e.g. with `-silent` and `-options` parameters), the Muse Proxy setup hanged at the last panel, on both Windows and Linux. This was fixed.
- The install/uninstall of the Muse Windows services was not working with JVM 1.8 update greater than 292, if the `{MUSE_HOME}` path contained whitespaces. This was fixed.

2.2.8 Muse Central Index

- Fixed the reason why warnings like "Class path contains multiple SLF4J bindings" were displayed when running Ingester commands.
- Index only standardized (ISO8601) dates to avoid incorrect data being indexed. For example we found `null` values, negative values, etc. .
- When running an Ingester process from the Muse Control Center web interface, an error was obtained because of the different versions of the Apache Commons IO library being used in the two projects. The solution was to replace the `IOUtils` calls with our implementation from the Ingester package.
- The code from `MuseCentralIndexUtil` created a new `MongoClient` and a new `SolrClient` for each HTTP request, thus using a huge number of threads. This implementation



was revised according to the documentation and only one client is used now and shared by all.

- ✦ The download mechanism from the ingester tool was updated to support the standard headers. Because the previous implementation did not support the User-Agent header, the download did not work for some vendors.
- ✦ The ingester tool did not handle CSV files that start with a Byte Order Mark (BOM). This is now working.
- ✦ Added the missing library dependencies (like for example `commons-io-2.5.jar`) to the related queries handling tools: Related Queries To Solr and Dictionary To Solr.
- ✦ The ingestion of large XML files was improved from performance point of view. The DOM based implementation was replaced with a better solution based on the SAX parser.
- ✦ Most actions with the Muse Central Index were time consuming. They were reviewed and their execution times was reduced.
- ✦ The ingester tool is now working with MARC files containing CRLF bytes between the records. Previously the ingester process was failing.
- ✦ Corrected the JATS format ingesting for author names in the cases when one of the components (surname or given-name) has an empty value.



3.0

Changes in Muse 2.7.0.4 Build

Release Date: 2019.04.22

3.1 Bug Fixes:

3.1.1 Muse Admin Bridge (MCAA, MCCS)

- Fix email sending in Source Report and Problem Report as this wasn't functional with JDK 1.8 and the new Tomcat 8.5.23. This had to do with the load order of `activation.jar` needed for email. `Activation.jar` classes are part of JDK (since 1.6) but will no longer be part of Java 11. A solution was found to work with JDK 1.8 (the current supported version) and the new Tomcat and still keeping it in `WEB-INF/lib/`, also preparing for the future when it will be again removed from JDK.

3.2 Known Bugs:

3.2.1 Muse Web Bridge

- In the unlikely case of searching a group of sources where only one or two retrieve results, extremely fast, while all the others are stalling above 5 minutes due to network issues, for example, the new JSON based, single page interface may, sometimes, not present the available records, unless stopping the search and clicking on the All Sources link or clicking on the source(s) that brought records.





4.0

Changes in Muse 2.7.0.3 Build

Release Date: 2019.04.17

4.1 New Features:

4.1.1 Muse Applications

- ✎ The static content behind the "New: Books and Journals", "Publishers" and "Important Links" widgets is now completely editable from the Muse Console for Applications Administration.
- ✎ Two new themes, purple and gray/blue, are now available besides the existing ones. These can be configured for the application from the Muse Console for Applications Administration.
- ✎ The "Options" drop-down menu from below the search form was changed to offer an immediate call to action for one of its 3 menu items: "Search Sources", "Search Options", "Search Limits". More exactly any of these 3 items can be configured for direct call to action on the drop-down, with "Search Sources" item displayed by default.
- ✎ The application interface layout can now be configured via the Muse Console for Applications Administration for a 2 or 3 columns display. The default number of columns is 3.
- ✎ "Refine your Results" widget has the option to display the available faceting ("Keywords", "Authors", "Dates", etc.) in accordion components. This display type can be configured from the Muse Console for Applications Administration.
- ✎ Upgraded to FontAwesome 5, which provides the icons used in the application interface, for a more styled and richer experience.
- ✎ The display of the records retrieved from sources was enhanced to include specific fields depending on their content type. Currently only the "Dictionary" type of resources was reviewed, hence the application interface will display specific dictionary fields such as phonetic transcription, pronunciation and other specific elements.
- ✎ The record display was enhanced to provide direct audio, video playback via HTML5 elements and controls.
- ✎ "Refine your Results" extended its visual representation with vertical bars for the "Dates" faceting



option. The filtering action can be triggered by clicking a specific vertical bar corresponding to the desired date value. Also a slider is available for narrowing the dates for filtering the current result set based on the selected interval. Furthermore, the "Dates" filtering options were enhanced with new values: "Last Month", "Last 6 Months", "Last Year".

- ✦ Added 2 new widgets in the Home page: Custom Links and Publishers (with logos, descriptions and links to their products/platforms).
- ✦ Added a new faceting option in the "Refine your Results" widget with label Content Types, for filtering records based on the record type value.
- ✦ Reviewed the implementation of all application notifications. Now a centralized notification dispatcher is used with the possibility of controlling how many notifications to be displayed at the same time.
- ✦ The type of the record (Journal, Book, Abstract, etc.) is now displayed for each record as a label with icon. The type information is taken from Muse record from the IDR/TYPE field, if available.
- ✦ Added end-user notification when new Sources are added into the Application. Because MuseKnowledge Application remembers the end-user preferences in terms of Sources selected for search, the newly added Sources weren't notified in any way, so the end-user was not aware of them, unless he/she would have clicked on the "Restore to Defaults" button from the Sources selection page. To improve the end-user awareness of the newly added Sources, a new notification system was implemented and now the end-user is notified upon accessing the MuseKnowledge Application that new Sources are available, giving the possibility to access the Sources selection page to select them for search.
- ✦ A new functionality was introduced, called "My List", which allows to save selected results from multiple searches into a temporarily list for later handling. The results saved into "My List" are available for the current session and they can be used with the existing actions, such as email, saving them into various formats, etc.
- ✦ For advanced customizations of the MuseKnowledge Application interface, the name of the product and company are now configurable. The footer section is also configurable.
- ✦ A "Titles A to Z" functionality was implemented in the MuseKnowledge Application interface home page. The end-user can browse and search through the available titles and make use of filters to narrow the results. The titles are taken from Muse Central Index where they are ingested based on title lists provided by publishers. When the "Titles A to Z" feature is enabled, the "Our Most Popular Titles" left widget will present the first 10 titles that are most accessed.
- ✦ To comply with the latest regulations in terms of privacy, more exactly Regulation (EU) 2016/679 with regard to processing of personal data, it was added a notification message regarding the use of Cookies in the MuseKnowledge™ Application.
- ✦ In the results page, it was added the functionality to share each record to Social Media. The following platforms are available: Facebook, Twitter and LinkedIn.
- ✦ If ranking is in progress and hence the search will last longer without showing any record, a notification message is displayed also allowing to stop the process and display the records retrieved so far.
- ✦ Improvements were made for the header, footer of the Emails exporting results from the



application. They can now be easily customized to match the customer's requests in terms of branding, naming, copyright information, etc. . The same for the "Save As" action and exported PDF files.

- ✎ Improved the "current" API command which now makes a second server call to ensure there are indeed no results before displaying "No results were found." message on slow networks.
- ✎ The settings for the "Refine your Results" widget (default display, sorting type and sorting direction) were centralized and now configuring their default values is done more easily.
- ✎ In case no results are found for the current search, the "No results were found." message was enhanced to offer search suggestions.
- ✎ Implemented the Session Expiry Notification as an external popup as well, besides the internal popup which may not be visible when in other browser tabs. Improved the mechanism for Session Expiry.
- ✎ In the Search Form it was added the possibility to specify the behavior when searching with more terms: search all words ("All these words") or search as a phrase ("This exact phrase").
- ✎ Upgraded the Angular and Font Awesome libraries to more recent versions, 1.6.9 and 4.7.0 respectively.
- ✎ In the Results Page were added "Up" and "Down" soft buttons to allow users navigate in a page with big height without using the scrollbar of the browser.
- ✎ Re-branded the application with the new [MuseKnowledge™](#) logos. The content of the Contact page was updated as well.
- ✎ Added a new Search Sources selection page which allows a tree-like display of the existing groups. Now groups can be defined on multiple levels, e.g. groups of groups. From practical point of view one can define groups with sources on various criteria (Journals, Books, Engineering, Medical, Springer, etc) and then arrange these groups in larger categories like Type, Subject, Publisher, etc.
- ✎ Added code and new JS file for client custom code/methods. This allows application customizations to be better managed.
- ✎ Display record ISO 6393 Language field for the Full Record Detail option; A Languages faceting option based on the values of the record Language field was introduced.
- ✎ All record links are accessed via form submission and not direct links to avoid middle and/or right mouse click. This caused problems in case the authentication to Muse Proxy is SAML.
- ✎ Added a new, simplified version Search Sources screen. Also now the user is warned if no sources are selected when leaving the Search Sources page.
- ✎ Any errors from the "Save to Disk as PDF" are now output in the browser console. Also the user is not redirected anymore from the application page since the submit of the form downloading the pdf is not done anymore.

4.1.2 Muse Core and Modules

- ✎ The Years distill key was enhanced to return groups of years labels like "Past Month", "Past 6



Months", "Past Year"

- ✎ A new Distill key was created for the record's IDR/TYPE fields. This is needed for a new faceting option in the Refine your Results widget.
- ✎ The Lucene Ranking Key was enhanced to allow support for specifying weight values (boosts).
- ✎ The filtering mechanism was extended to filter in the Topic Trees based on source IDs.
- ✎ Improved the behavior of the Distill terms for a resultset. Now when filtering the resultset per a given source to see only its records, the Distill terms are also filtered, and only the ones specific to the selected source are displayed. Furthermore, when clicking on a Distill term and the refinement is done, the list of search source is also updated.

4.1.3 Muse Admin Bridge (Administrator, Management, Designer, Sources)

- ✎ New features are available in the Muse Console for Applications Administration and Muse Console for Customer Support interfaces and bridge to define custom page header/footer, add multiple images for logo and upload json file for app widgets.
- ✎ Updated the Muse Console for Applications Administration and Muse Console for Customer Support interfaces to allow editing all application features introduced. Now all application functionality can be enabled/disabled and configured from the administration consoles.
- ✎ In the Update Interface section, when editing a MuseKnowledge™ Application, various means were implemented to easily deal with selection of sources and groups based on various criteria: show only groups with 0 sources, select a certain category of checkboxes (eg: erase all side search checks), clear all checks, reset changes, etc.
- ✎ Implemented support for creating sources groups on multiple levels, e.g. groups of groups of sources (categories).
- ✎ Updated the Saxon library to version 6.5.5 and made all stylesheets compatible with this last version.
- ✎ Extended the Muse Admin API and console interfaces in order to manage the cluster and translator keys.

4.1.4 Muse Central Index

- ✎ Added support for title faceting needed for the A to Z functionality.
- ✎ Added support for transliteration for non-Latin alphabet titles for the A to Z functionality.
- ✎ Added support for specifying required fields in the Muse record for the ingestion process. Records that lack the required fields are skipped and a proper message is logged.

4.2 Bug Fixes:



4.2.1 Muse Applications

- ✎ When AUTHOR is the single search attribute and, maybe, when it is the first in the list, the placeholder in the search input box is wrongly displayed. This was fixed.

4.2.2 Muse Web Bridge

- ✎ Race conditions may appear in `action=more` operations in certain conditions. This was fixed.
- ✎ When the Ranking module was used in-search, the `action=current` operations could hang due to a concurrency issue. This was fixed.

4.2.3 Muse Admin Bridge (Administrator, Management, Sources)

- ✎ With the new Tomcat 8 integrated in Muse we experienced some errors in the Muse Console for Applications Administration interface when editing a Source Package profile which was due to a conflict in loading the saxon and xalan libraries, both used for the Muse Admin context. This was fixed.
- ✎ With the new Tomcat 8 integrated in Muse, each time the Muse Console for Applications Administration was accessed for setting up sources (e.g. select an application and go to Setup and Organize Sources), one CPU core was getting to 100%. This was fixed.

4.2.4 Muse Control Center

- ✎ In case of NTP time updates, more events could have been triggered for the same minute launching a scheduled task multiple times. This was fixed.





5.0

Changes in Muse 2.7.0.1 Build

Release Date: 2018.01.15

5.1 New Features:

5.1.1 Muse Applications

- ✎ Corrected the record click functionality as some of its logged entries were incorrect.
- ✎ Implemented the Help functionality. Contextual help is available next to each application feature and it contains information only for the enabled application features.
- ✎ Implemented the possibility to configure records upload into a Learning Management System. For each record exists a specific icon that allows the export into the LMS.
- ✎ Implemented the functionality of increasing/decreasing the font size for the results page.
- ✎ Added quota check mechanism to see if an application has enough local storage space to properly function (disabled by default).
- ✎ Now all URLs are displayed in case a record has multiple URLs of the same type. E.g. more than one PDF URLs.
- ✎ The application uses now its own prefix for local/session storage variables/keys, allowing thus multiple MuseKnowledge based applications to coexist in the same browser with no interferences.
- ✎ Implemented a graphical representation for the Distill terms in the form of a pie.
- ✎ Integrated JavaScript minimisation and now the code is reduced to about 40%. The loading performance is much improved.
- ✎ Rewritten the entire application to use JavaScript objects instead of variables to be able to use native AngularJS features.
- ✎ Added hints in the query input box for the search attributes. For example when selecting the Author search attribute the following hint is displayed: "First Name Last Name, e.g. John Smith".
- ✎ Added a Home page into the application that displays, besides the search form, some additional



information such as a list of statical items, the results of an RSS feed (the RSS source is configurable) and the list of available resources with various display features (A-Z, Z-A), search, etc.

- ✦ Save to disk as MARCXML functionality is now available.
- ✦ A 5 star relevance ranking is now displayed for each record.
- ✦ Records print functionality was implemented.
- ✦ Useful widgets are now available in the application, such as side searches, e.g. widgets showing a configurable number of results from specialized resources such as Dictionary, Wikipedia.
- ✦ A Muse Liferay Portlet was implemented to allow a native integration of the MuseKnowledge™ Search Application with the Liferay portal platform. The portlet is fully configurable, allowing various authentication methods to be configured, such as HMAC and Username/Password.
- ✦ A new Muse Template Application for Federated Search was developed, named MuseKnowledge Foundation. It is a single page application, fully responsive, implemented with latest technologies such as AngularJS, Bootstrap, CSS3 and HTML5. This new application integrates all features of the previous production application (MuseSearch) and many other made possible by the use of the above enumerated technologies. This is the new Muse Search production application.
- ✦ Implemented a Muse application in iOS native code for iOS mobile devices. The application is already available in App Store with the name MuseKnowledge.
- ✦ Implemented a Muse application in Android native code for the mobile devices. The application is already available in Google Play with the name MuseKnowledge.
- ✦ Implemented the export of selected record into the EndNote web reference manager.
- ✦ Implemented the export of selected record into the Mendeley web reference manager and academic social network.
- ✦ Implemented the export of selected record into Dropbox cloud storage as either HTML or Text files.
- ✦ Implemented the main Muse logon page (e.g. http://muse_hostname/muse/) to be fully responsive.
- ✦ The DOI and the DOI URL are now properly displayed in the application interface with specific label.
- ✦ The number of records displayed in the side search widgets is now configurable and can have different values.
- ✦ Added a 5 star relevance display feature for each record in the application's interface.
- ✦ The records display zone was re-sized to have a minimum width such that it displays enough information on smaller screens for the MuseSearch application.
- ✦ The records with full text information were properly marked with a suitable icon.
- ✦ Added a carousel in the MuseSearch application for displaying all images available to the record.
- ✦ The distill mechanism now returns objects instead of JS code which was prone to failures if only 1 error was yielded. Because of just one error all terms were lost.



- ✧ A new implementation for the sources selection panel was made based on the concept of filtering groups. When filtering groups and normal groups are selected for search, only the sources which are common in all groups are selected, e.g. an intersection operation. When only normal groups are selected, the sources selected are the reunion of sources from all selected groups.
- ✧ The MuseMobile application was upgraded to use the latest version of the Freemarker available.
- ✧ Updated the record display for the MuseSearch application to also show the values of the fields 'Reference' and 'Department/Office'.
- ✧ Added support for the 'Select Records to' -> 'Distill' feature to be controllable (enabled/disabled) by a switch in the MuseSearch application.
- ✧ The Searched Sources panel has now dynamic height based on the number of sources in the MuseSearch application. Styling of the sources tree was changed to match the overall style of the application.
- ✧ Added support in the MuseSearch application to display the content of the BODY record field.
- ✧ Added support for providing an XML version of the sources.db file to be used in software integrations to get application interface settings which were not available via the Muse API responses.
- ✧ Implemented query highlight functionality. Now the searched terms are highlighted in the record fields where they appear.
- ✧ Each click on a record URL in the application interface is recorded as statistical information. This is used to improve the relevance of the suggested queries mechanism.
- ✧ Implemented Topics Tree functionality as a jQuery widget that displays as tree the topics extracted from the records using the hierarchical clustering module. The topics can be from a controlled vocabulary, thesaurus or taxonomy service.
- ✧ Upgraded the Freemarker engine in the MuseSearch application to latest version - 2.3.23.
- ✧ The help was updated to cover the Expert Search functionality as well. This was done in the MuseSearch application.
- ✧ Implemented as side widgets the possibility of displaying a result from a designated source. The sources can be specialized sources such as new, whether, dictionary, wikipedia, etc.
- ✧ Implemented an expert search page in the MuseSearch application which allows the end-user to build complex queries (e.g. a query builder). Also the queries can be entered directly in the Muse query grammar.
- ✧ In the previous versions of the MuseSearch application, the panels (Manage your Results, Refine your Results, Manage your Topics) were positioned in the left side. Now they can be positioned in the right side as well, via configuration from the Muse Admin consoles.
- ✧ In the Search Sources panel the value of the DISPLAY_URL field from the source's profile is placed as a link on the source's name. This allows direct linking to the native platform. If the DISPLAY_URL is empty or missing, the value of the HOME_URL is used.
- ✧ Updated the MuseSearch application to display the repeated record fields on a single line, separated by a bullet character. Previously they were displayed on separate lines.
- ✧ Developed MuseSearch Widgets as proof of concept based on Font-Awesome, Bootstrap and



jQuery. The integration with the Muse application is done entirely from JavaScript which connects to the Muse XML API.

- ✎ Re-implemented the Anonymous application which is shipped with the Muse setup package as a one page JS application with Bootstrap and jQuery.

5.1.2 Muse Core and Modules

- ✎ The ICE sessions are now persistent between restarts of the service.
- ✎ New distill keys were created for the Language, Author and Years fields. So now there is the possibility of refining the results by language, author and year too in the MuseKnowledge™ Application.
- ✎ Upgraded the Jackrabbit library used by the Muse Document Repository structure to a newer version. The previous version was 2.2.4 and current version is 2.14.2.
- ✎ When saving a record into workroom its ID is regenerated, thus allowing multiple savings of the same record in the same result set.
- ✎ Implemented support for translating the searched query into other languages, to be offered as a suggestion for searching with the translated query. This is most helpful when the end-users search in their native languages and the searched sources do not have content in those languages. Currently the Microsoft Translation API was implemented.
- ✎ Implemented a new relevance ranking key based on the Lucene framework. Each record is sent to Lucene which computes for it the relevance score.
- ✎ Updated the generation mechanism for IDs of workroom items to be unique over all the machines from the cluster. A new field was added in the ICECore.xml configuration file called <ID> to store the ICE server id and to be used in the IDs generation mechanism.
- ✎ Now the number of terms for each entities in Content Mining have precedence by configuration. A new configuration element was introduced - NUMBER_OF_TERMS - which is used when the main configuration element MAX_TERMS equals -1.
- ✎ Introduced support in the search processing module for handling SNI - Server Name Indication - in HTTPS connections.
- ✎ The Muse query type operators case is now configurable. More exactly it can be specified by configuration that the Muse query type operators are case sensitive, e.g. AND/OR/NOT (upper case) are interpreted as operators, and and/or/not as regular words.
- ✎ Added the possibility to search with * for all the sources in SEARCH.xml instead of specifying values for the dbList parameter. This may be easier for certain integrations with Muse .
- ✎ STAT_USERS is set now by default in the STATISTICS level in the ICECore.xml configuration file to have all the extra parameters for login.
- ✎ Implemented support for a new functionality of recording as statistical information the clicking on record URLs for a source and a query.
- ✎ Implemented the core support for a new related searches/queries functionality. It will present other



search queries similar to the one provided. A history is created based on all the queries from that Muse System and then the current query will be compared to those. An out of the box query index and database is provided which is grown in the real installations with the information harvested from that system.

- ✎ Implemented the core support for the query highlight functionality that is able to emphasize the query searched for in the records.
- ✎ Extended the backup mechanism of the ICE log files in order to include a Date in backup file name strategy. More exactly to be able to have log filenames of the form ICECore-20170222.log which will contain entries logged for that date only.
- ✎ Updated the Discover module to return the value of the DISPLAY_URL field as well.

5.1.3 Muse Web Bridge

- ✎ Added support for LTI ([Learning Learning Tools Interoperability](#)) authentication in a MuseKnowledge™ Application. This will allow a MuseKnowledge™ Application be easily integrated into a LMS (Learning Management System) implementing LTI.
- ✎ Extended the Muse API to support JSON as well, besides XML. The API documentation was also extended.
- ✎ The test API tool usefull for implementing integrations with Muse was updated to include support for JSON. It was renamed as Muse Test API.
- ✎ Implemented the necessary support for the SAML authentication.
- ✎ Extended the Freemarker2WebSessionOutput to put as Freemarker variables the following values: the HTTP Session ID value (for Tomcat this is value of JSESSIONID) and the Application Locale /Default locale - needed to switch Angular language bundles.
- ✎ Implemented a mechanism to prevent browser cache for modified files. This was done by setting the 'Cache-Control: must-revalidate, max-age=0' HTTP header at the server level for static resources.
- ✎ Added support for integration with the Muse Central Index API. This provides everything necessary for building the interface for the Muse Central Index features.
- ✎ Updated the Ranking module to send its status via the progress action and minScore/maxScore with the lowest/highest values assigned to records.
- ✎ Implemented support for sharing a context map between successive XSL runs in the same Web Bridge action. This is useful for example for resolving the case of comma between records in JSON, as well as for other processings which requires shared or collecting data.
- ✎ Normalized footer/header/response settings among all actions supported by Muse Web Bridge. It was added header and footer for the actions that did not support them; added support for recordFormat for the actions that did not support them; added support for both XML and JSON for all actions.
- ✎ Implemented support for end user IP address in case of back-end integrations to be passed as a parameter because the userAddress sent from the TCP/IP stack is the one of the client software in



front of Muse. The security issue was covered as well, meaning that the userAddress is accepted only if the request coming from an accepted list of IPs.

- ✧ XSDs for responses of the Muse Web Bridge Communication Interface XML API were created. These are needed for clients integrations with the Muse API.
- ✧ Developed light "widgetized" versions of a Muse Application exclusively using the XML API via AJAX to be included in any web site, either for desktop or mobile, and which can be also used as a base for integrations. These are available on the EduLib website [here](#).

5.1.4 Muse Admin Bridge (Administrator, Management, Designer, Sources)

- ✧ Implemented the possibility of specifying different source description per each language. Now the sources' descriptions can be translated for each language available.
- ✧ Updated the attach logs mechanism in reportProblems action to cope with the new logs filenames format introduced which allow specifying a date pattern.
- ✧ Updated the Muse Management Console to allow editing the new LOG_BACKUP_DATE_PATTERN field from configuration files.
- ✧ Updated the Muse Management Console to allow editing the new ID field from the ICECore.xml configuration file.
- ✧ Updated the Muse Console for Applications Administration and Muse Console for Customer Support to allow editing the SSL_TRUST_ALL field for the Source Packages.
- ✧ Updated the Muse Console for Applications Administration and Muse Console for Customer Support to allow editing custom attributes assigned to the targets/groups in the sources.db files. The custom attributes can be used to mark some targets or groups and then based on these flags the targets/groups can be displayed in different ways in the Muse application interface.
- ✧ Updated the Muse Console for Applications Administration and Muse Console for Customer Support to allow selecting the SSL certificate from the list of installed certificates at the application level for the application email functionality. Previously at the SMTP SSL Certificates section one had to manually enter the certificate's path and name.
- ✧ Updated the Muse Console for Applications Administration and Muse Console for Customer Support to display in the applications listing screen the expiration date mark accordingly the ones expired and the ones about to expire. A legend with the colors used for these markings is displayed at the bottom of the page.
- ✧ Updated the Muse Console for Applications Administration and Muse Console for Customer Support to allow editing the DISPLAY_URL field from the Source Packages profiles.
- ✧ The new functionality in the MuseSearch application that enables the end-user to see the source's description when clicking on an Info icon next to the source name in the sources selection panel can be controlled from the Muse Console for Applications Administration and Muse Console for Customer Support.



5.1.5 Muse Control Center

- ✎ Extended the existent Muse Control Center task "CSV parser" to support a configurable Line Processor class for building the Related Queries index.

5.1.6 Muse Authentication and Authorization Service

- ✎ The mechanism used by action 'display' from Muse Servlet was reviewed to avoid exposing sensitive files like WEB-INF/web.xml or WEB-INF/lib/museservlet.jar. This was done for the following products: Muse Web Bridge, Muse Admin, Muse Control Center.
- ✎ A new login module - ICELoginModuleSQL - was implemented for authentication in a SQL database. It supports simple scenarios with just username/password and more complex scenarios which involve additional logic based on extra fields.
- ✎ Support for SAML authentication is now available. We now support SAML 2.0 Authentication as a Service Provider. Being based on Spring Security SAML Extension, theoretically all products supporting SAML 2.0 in Identity Provider mode (e.g. ADFS, Okta, Shibboleth, OpenAM, Efecte EIM or Ping Federate) should be compatible.
- ✎ A new utility login module is available - ICELoginModulePropertiesExtractor - which can be used in conjunction with other login modules to compute/extract/remap parameters using a script written in JavaScript language.
- ✎ A new login module is available - ICELoginModuleHTTPReferer - which allows authentication based on the HTTP Referer field. Although it cannot be secure it may be useful for situations where security is not a demanding factor.
- ✎ The secret key for DES/DESede algorithms is now configurable as it must be provided to clients integrating with Muse to encrypt requests parameters.
- ✎ A new login module is available - ICELoginModuleHMAC - for protected login without password and signed by HMAC which also covers the end-user IP. Timestamp is also covered and used for a max time availability test. This is most secure for integration scenarios.
- ✎ Made extensions for the LDAP Authentication description, comments and documentation to cover all aspects discovered during tests. For example it was clarified that BASE_DN is not appended to ROOT_DN, but in the 3rd authentication case the BASE_DN is appended to the in-memory fqdn; it was also clarified that for the 3rd authentication mode the user authentication must be false.
- ✎ Added support in the ICELoginModuleLDAP login module configuration file to specify the value for ROOT-PASSWORD in an encrypted form.
- ✎ Extended the behavior of the ICELoginModule to be able to pass transparently the SHA1/MD5 encryption to the ICE Server as well, besides DES or DESede.
- ✎ Extended the behavior of the ICELoginModuleXML authentication module to work without requiring a password. This configuration must be used only in conjunction with other login modules, such as HMAC, SQL, etc.



5.1.7 Apache Tomcat

- ✧ Added filter for limiting the access to the administrative Muse contexts such as Muse Source Factory, Muse Control Center and Muse Admin only from certain IPs.
- ✧ Replaced the Embedded Apache Tomcat with a newer major version. The previous version was 6.5.20, now it is 8.5.23.

5.1.8 Muse Statistics Monitor

- ✧ Created a new Muse Monitor analysis module that yields a CSV file with entries representing the sources that are really accessed by the end user based on the new record click tracking stat entries.
- ✧ Introduced a new command line parameter to be used as a reference date value for the analysis which make use of Date Filter. For example if the analysis is made with a date filter like last week, using the new command line parameter one can specify the reference date to which last week value will apply.

5.1.9 Muse Source Factory

- ✧ Renewed the expired certificates involved in the Registration Service – Muse client communication and all the Muse component certificates.
- ✧ Implemented support for importing sources from a Partner Source Factory system into the Global Source Factory.

5.1.10 Tools and Utilities

- ✧ Extended the Password Encoder utility to support key parameter from outside as command line parameter for symmetric algorithms (DES/3DES).

5.1.11 Muse Central Index

- ✧ The LANGUAGE field is now normalized before ingesting in Muse Central Index.
- ✧ Records can now be deleted from Muse Central Index by specifying the source identifier.
- ✧ Punctuation is now removed from the SUBJECT field before ingesting in Muse Central Index.
- ✧ Ingesting FullText information is now possible.
- ✧ Introducing the Muse Central Index product to bring a local index search next to the current federated search, thus giving birth to Muse Hybrid Search. An API is being developed to provide the full features of a local index search.
- ✧ Added support for ingesting metadata records from the Thin Common Cartridge format.



- ✎ Improve the log messages logged by the ingester tool. Now are displayed which files are ingested and how many records were ingested.
- ✎ Implemented significant improvements that decreased the ingesting time, especially when ingesting from MARC files.
- ✎ Added support for Charset Encoding when ingesting MARC records.
- ✎ Extended the Solr schema to introduce facets. For the following record fields we added faceting support: CONTRIBUTOR, COVERAGE, CREATOR, FORMAT, LANGUAGE, PUBLISHER, RELATION, RIGHTS, SOURCE, SUBJECT, TYPE.
- ✎ Implemented support for the ingester tool to ingest files based on a journal. This covers the situation when the harvesting task brings more files and the ingester cannot keep up with ingesting them.
- ✎ Created an index in MongoDB to improve the performance of retrieving the records from MongoDB.
- ✎ Extended the ingesting to also cover the cases when the ingested files are missing the mandatory DATA:DATE-AND-TIME-OF-LATEST-TRANSACTION field. For any records that are missing this field, the date stamp will default to the current time.
- ✎ Extended the Solr schema for more accurate searches.
- ✎ Implemented support for making a snapshot backup of an index via the replicate mechanism.
- ✎ Added support for ingesting metadata records from MARC files.
- ✎ Added support for ingesting metadata records from local files harvested from OAI-PMH services.
- ✎ Created the MuseHybridHarvesting application as a proof of concept to run federated search Source Packages as well as Source Packages searching the Muse Central Index.
- ✎ Introduced MongoDB for storing the ingested records. Every record added to Muse Central Index is stored in MongoDB and indexed in Apache Solr. This laid out the foundation for the Muse Central Index product.

5.2 Bug Fixes:

5.2.1 Muse Applications

- ✎ The highlight attribute was wrongly applied for the Publisher field and in general for fields that were concatenated from other fields. This was fixed.
- ✎ The value for the Publisher was not correctly computed when fields what form it were missing. Fixed the algorithm for computing the value for Publisher to depend strictly on the presence of the IMPRINT-Publisher-name field.
- ✎ Corrected all export features from the application interface (such as save to, email) to make use of the values for PersistentURL and DOI URL, thus the exported URLs to be session independent.



- ✎ Corrected in the MobileSearch application a bug which manifested when selecting Run Search from the History page. The last search was displayed no matter what history item was selected.
- ✎ Fixed the search terms highlighting to work when using the Brief Display type.
- ✎ Several bugs were corrected for the MuseSearch application: the Show Search Progress and Show Progress Details options were not taken in account; the Search Sources menu showed 2 lines (separators) with no entry between them; the Manage Your Results panel was too tall.
- ✎ Corrected the mechanism inside the MuseSearch application as the side groups were still shown even if they were set as hidden from the Muse Admin consoles.
- ✎ When running in an iFrame the sources faceting did not work for the MuseSearch application. Clicking on any source name that retrieved results did not work, the browser console showed errors. This was fixed.
- ✎ Corrected the behavior in the MuseSearch application to not show anymore the side sources widgets when not retrieving results.
- ✎ The functionality of highlighting the searched sources in the Search Source panel generated 'Action not specified' errors when pressing Enter. This was fixed.
- ✎ In the progress panel in the MuseSearch application when stopping one source it stopped all and other issues sources. This was fixed.
- ✎ In the MuseSearch application, the Searched Source facet, clicking on any of the sources that retrieved results did not always work. It was corrected by using jsTree events instead of onClick events.
- ✎ Corrected the behavior in the MuseSearch application when the side searches were executed each time an action with the current result set was performed. The side searches must be executed only once per main search.
- ✎ When a Result Set is saved in the Workroom and the name contains spaces a JS error appears in the history section and the application functionality is crashed. This was fixed.
- ✎ Fixed all Freemarker syntax from the Applications Web Templates to be compatible with the latest Freemarker version introduced.
- ✎ The MuseSearch application was reviewed to correctly escape what the user may enter in some places (e.g. query, filter input, My Account sections) and which may contain HTML entities.
- ✎ When record values contained characters that were interpreted by the Freemarker engine, errors were thrown. This was fixed by enclosing the values between <compress> tags.
- ✎ The behavior of the MuseSearch application was to save in the current session the selections made such as the selected sources and other properties (per source, per page...etc) only if clicking the Go button. This was corrected by introducing the Apply button to explicitly save the choices made.
- ✎ Updated the help functionality in the MuseSearch application to display content only for the enabled application functionalities.
- ✎ In the MuseSearch application, for each action made in the Help section, a request was being made to the server for the ICE version. This was corrected, only one request is made for the ICE version and the response is stored in the session properties.



- ✎ All constructions making use of the parent were corrected in the MuseSearch application. This was causing the integration in an iFrame to generate errors.
- ✎ In the MuseSearch application, the My Account functionality did not take into account the enabled features. This was corrected.
- ✎ Errors were displayed as XML instead of HTML in the MuseSearch application interface, due to missing the errorFormat parameter. This was added for all forms and now the errors are rendered as HTML.
- ✎ When deduplication features were used in the MuseSearch application, the usage of the -/+ icons was not correct for showing/hiding the duplicates, they were inverted. This was fixed.
- ✎ In the MuseSearch application, the contextual help (the small help icons) was not taking into account whether the Help functionality is enabled or not. This was fixed.
- ✎ In the MuseSearch application, Help section, the content for Search Options was shown when accessing the content for Sort Results. This was fixed.
- ✎ The Cupertino skin for RTL style was corrected for the MuseSearch application for missing PNG files.
- ✎ When no Source Packages were present in the MuseSearch application the search yielded JS errors in the browser console. This was fixed.

5.2.2 Muse Core and Modules

- ✎ When saving results as PDF and it contained Arabic characters, the PDF was not correctly rendered. This was fixed.
- ✎ Filtering based on an extracted term / topic tree that contain two parenthesis was not working - for example: "Kunstpalais (Erlangen, Germany)". This was fixed.
- ✎ If there are two or more calls in parallel for the same vocabulary, access is made to the XML and the DOM is not thread safe. Although the application interface was corrected to avoid multiple vocabulary requests this was fixed as well in core.
- ✎ The sorting of terms in the Distill module was not done efficiently as a AllTerms x n algorithm is used when an AllTerms x log n can be used via a Priority Queue for example. This improvement was implemented.
- ✎ The Filter operation (e.g. Search on ResultSets) did not consider LIMITERS to be specified. This was corrected and now LIMITERS are supported as well.
- ✎ The group name was missing from the results returned by the Discover.xml script and module for GROUPs defined in SEARCH.xml. This was fixed and the group name is now returned in the response. The XSD describing this was updated as well.
- ✎ The ICEDistillKey module was getting the XML nodes through serialization/deserialization. Taking into account that this is done for hundreds of records in one search we improved it to use the implementation directly.
- ✎ Because of the additional marking functionality the ResultSet files were updated on each



action=next/current, e.g. page navigation, display level update, etc. This was improved by checking if the mark remain unchanged and do not update the record in case its mark is unchanged.

- ✎ Corrected the Z39.50 library (hence *Z connectors) to work with Java 1.8.
- ✎ Corrected 2 bugs that appeared due to refactoring and packaging the dedupe and compare keys as individual packages that caused the classical alerts mechanism to not work anymore.
- ✎ Corrected a bug that made all queries that contained a semicolon (;) character to fail.

5.2.3 Muse Web Bridge

- ✎ Corrected action=getFooterInfo and action=progress to be compatible when xml=true is provided.
- ✎ Corrected the display of the record field content to avoid the cases when they contain constructions that might be interpreted by the Freemarker engine, thus generating errors. The record field values are now enclosed in <noparse> tags.
- ✎ Upgraded the Saxon library to 6.5.5 in order to address the caching mechanism of compiled stylesheets which was not thread-safe and which is used in the rendering of the XML documents via the XSL stylesheets.
- ✎ Reviewed and corrected all Muse Web Bridge actions to support context parameter for errorTemplate.
- ✎ Corrected the use of action=available to be consistent with all other actions with regard to the header and footer.
- ✎ Save to disk as HTML and as Raw Data was not correctly displaying non-English characters since the introduction of highlight feature. This was fixed.
- ✎ The action=locale was not having the right output for command=-g and errors broke the XML response. This was fixed.
- ✎ The following fixes were made for the Test XML API tool: added the missing parameter filterSearchReferenceID for action=filter; added the missing firstRetrievedRecord parameter for action=getFooterInfo. The documentation was updated as well.
- ✎ Fixed the cases when the firstRetrievedRecord and limitsMaxPerPage parameters were sent as empty strings which caused errors to be logged in the MusePeer log file.
- ✎ Corrected all errors from the Muse Web Bridge API to be uniform.

5.2.4 Muse Admin Bridge (Administrator, Management, Sources)

- ✎ When editing names of various keys in Muse Console for Applications Administration (content mining, dedupe, jitterbug, ranking, shopping, writers), if 2 keys have the same custom (admin set) name, Edit button opens for edit only the first of them. This was fixed.



- ✧ When selecting source(s) to delete their profile, their selection remains somehow stored in the session because when selecting other source(s) for the same operation, an error is thrown saying that it cannot delete a profile which was part of the previous selection. This was fixed.
- ✧ When enabling all search query attributes from Muse Console for Applications Administration > Interface Options > Search Query, they were not correctly saved in the applicationOptions.db file. This was fixed.
- ✧ Corrected a bug that allowed deselecting all languages, thus no default language was set and the languages dropdown in the application interface had no values. When the last language is unchecked user receives a warning and the last unchecked language is checked again by the system.
- ✧ When trying to update the password for an application that used `com.edulib.muse.Freemarker2Session` then in the `${MUSE_HOME}/web/User.properties` it was set as session class `com.edulib.muse.FreemarkerSessionEx`. This caused an error when trying to login into that application. It was fixed.
- ✧ Fixed the cases when installing new sources into applications that require entries in `jaas.policy` or `java.policy` (defined in MTD file). These entries were not added. It was fixed.
- ✧ Fixed the cases when editing configuration files as text files which broke XML entities.
- ✧ If a login module configuration file contains an entity such as `&`, upon saving the entity was lost, it was transformed in `&`. This was fixed.

5.2.5 Muse Control Center

- ✧ In some cases in the Ant task the output from the Ant build file or java calls output was mixed with previous runs. This was fixed.

5.2.6 Muse Authentication and Authorization Service

- ✧ A security issue was fixed for the action 'display' which allowed to access binary files outside the Muse root context.
- ✧ Reduced the cross-site scripting (XSS) possibilities in Muse Servlet applications.
- ✧ Reusing the session for the authority users did not work, e.g. when providing the `re-useSession=true` parameter. This was fixed.

5.2.7 Muse Statistics Monitor

- ✧ Fixed a `NullPointerException` error when starting analysis in GUI(desktop) mode.
- ✧ Wrong results were obtained when running the Connectors Activity Analysis and when `mapParams` was used to group entries. This was fixed.
- ✧ Group By (`mapParams`) and Split By (`-spl`) were in some places hard-wired for Campus ID in Connectors Activity, hence we could not use for example User ID. This was fixed, the hard-



wiring was removed.

- ✎ In CSV reports the Connectors Activity Query/Search source entry contains in the last paranthesis the Source ID. However this was not correctly displayed for the cases when the source's name contained paranthesis as well. This was fixed.
- ✎ Fixed an ArrayIndexOutOfBoundsException error when running the PartnerLogAnalysis analysis.

5.2.8 Muse Source Factory

- ✎ The serial.properties downloaded from Source Factory did not contain information about maximal limits (e.g. maxApplications, maxConcurrentSessions, maxApplicationSPs). This was corrected.
- ✎ The AutoLogin generator from Muse Source Factory (Support section) wrongly encoded the query with XML/HTML entities. This was fixed.

5.2.9 Tools and Utilities

- ✎ Fixed the command line ICE client tool when running a Next operation.
- ✎ Fixed the launch scripts for MARC to XML Converter tool.

5.2.10 Muse Central Index

- ✎ Corrected the extraction of the date field from the MARC records as it was very strict implemented and this caused the date extraction to fail.
- ✎ Check the timestamp from /RECORD/DATA/RECORD-DATESTAMP when ingesting a record and ingest only newer records.
- ✎ Corrected the ingesting mechanism as it couldn't handle large MARC files. It failed doing this because it tried to convert the file to XML first thus building a very large XML file in memory. Now we convert each record to XML as it is read from the MARC file and then ingest it.



6.0

Changes in Muse 2.7.0.0 Release

Release Date: 2014-04-07

6.1 New Features:

6.1.1 Muse Applications

- ✎ The new Muse Template Application for Federated Search (**MuseSearch** application) is faster, lighter, containing visual effects, widgets, and themes built on top of the jQuery JavaScript Library. The **MuseSearch** application is replacing the previous **MuseFoundation** and **ContentMiningFoundation** templates, the feature differences between them being controlled by the Serial Number. The new breadcrumb functionality allows navigation between post-search action results and the original search results.
- ✎ New Muse application template for mobile devices, **MobileSearch** is available. This is a lightweight application in terms of functionality, based on jQuery Mobile and is generally suited for libraries. "My Account" functionality is supported, including holds, charged fines, overdue, recall items, account messages. Display current availability status, placing hold and enrichment on demand is possible. User actions such as placing holds and renewing items are reflected immediately in the ILS.
- ✎ Speed improvements by making less requests in the PatronSIP2 module. An extra custom parameter to control the extraction of the Unavailable Holds items was added.
- ✎ The SIP2 Hold modules are now configurable when sending the pickup location, even if it is coming from the interface. Added a new custom parameter to ignore the pickup location.
- ✎ Previously, the circulation modules PatronSIP and HoldSIP modules were always sending to the PatronInformation SIP command the language English ("001" code). This is now configurable.
- ✎ Updated all "modules.properties" files from I18N directory to contain a new parameter for the "ERROR_MODULE_MAXIMUM_IDENTICAL_REQUESTS" and "ERROR_MODULE_MAXIMUM_REQUESTS" errors. The new error messages will be: "ERROR_MODULE_MAXIMUM_IDENTICAL_REQUESTS=|\${0}|: |Maximum number of identical |\${1}| requests has been reached" and



"ERROR_MODULE_MAXIMUM_REQUESTS=|\${0}: |Maximum number of |\${1}
|requests has been reached". instead of:
"ERROR_MODULE_MAXIMUM_IDENTICAL_REQUESTS=|\${0}: |Maximum number
of identical HTTP requests has been reached" and
"ERROR_MODULE_MAXIMUM_REQUESTS=|\${0}: |Maximum number of HTTP
requests has been reached".

- ✎ Updated all Hold*SIP.xml and Patron*SIP.xml files and their corresponding .mtd files to contain as custom parameters the new RETRY_NUMBER and ERROR_DETECTION_MODE values.
- ✎ Revised the content of the "\${MODULES_HOME}/lib/connectors.jar" and removed classes corresponding to non search modules for which new individual Source Packages were created.
- ✎ Revised the content of the "\${MODULES_HOME}/lib/modules.jar" and removed classes corresponding to non search modules for which new individual Source Packages were created.

6.1.2 Muse Core and Modules

- ✎ Location extraction part of the content mining was enhanced and is able to identify a great amount of cities and localities on Earth.
- ✎ The speed of switching to another source tab when there are marked records was improved, especially if between the records there are duplicates.
- ✎ Muse is able to run with Oracle Java 1.8. A small change was necessary to cope with a difference in Java Authorization and Authentication in 1.8 regarding how principals of the current subject are implied.
- ✎ The ICELoginModulePPMS login module part of Muse Authorization and Authentication was updated to add support for sending e-mails via SMTP over TLS when a user tries to recover his/her password.
- ✎ Added a new functionality to allow Muse Application Authority Users to store in Muse Personal Profile Management System individual source access details and/or source fields customization.

6.1.3 Muse Web Bridge

- ✎ Muse Web Bridge XML API is now implementing the Cross-Origin Resource Sharing (CORS) standard in order to allow calling MusePeer Servlet AJAX actions from other domains. This facilitates the creation of browser level rich MVC clients using exclusively AJAX calls.

6.1.4 Muse Admin Bridge (Administrator, Management, Designer, Sources)

- ✎ The MCAA Interface Options General Screen is now correctly wrapping the Default skin per language in case there are more languages available in an application.



- Updated the "addAASAuthorityUser" action in order to allow sending the account expiry date.
- ✧ MCAA: Test Sources -> Problem Report: For a better attachment management, removing an attached file is now possible.
 - ✧ The Application Upgrade Patch action indicates progress while the patch is installing for a better user feedback.
 - ✧ Controlling a new workroom parameter, named "cleanupTimeout", at the system level, in `${MUSE_HOME}/use/ice/ICECore.xml` and at the application level, in the `${APPLICATION_HOME}/profile.xml` and `${MUSE_HOME}/home/profile.xml`. The "cleanupTimeout" attribute is the value for the maximum number of milliseconds to wait for cleaning up the file repository based workroom of an application upon session ending. This prevents the following workroom cleanup bug – a big set of files take longer to be cleaned up and in case a new login (first new login in that app) happens the directories/files will be deleted.
 - ✧ MCAA: Search Module Configuration File: Added the action "Edit In Process Modules" used for the advanced configuration of the Search Engine Assigner pipeline in terms of processing modules and parameter mapping.
 - ✧ Proof-reading was done for "`${MUSE_HOME}/admin/doc/Muse Console for Customer Support`" document.
 - ✧ Proof-reading was done for "`${MUSE_HOME}/admin/doc/Muse Console for Application Administration`" document.
 - ✧ MCAA: Login Modules: For "`com.edulib.ice.security.authentication.ICELoginModulePPMS`" it was added the possibility to edit the content of the `${APPLICATION_HOME}/profiles/SendMail.xml` file.
 - ✧ If the browser window was too small, and then an Application is selected, and "Add Sources" was also selected, the panel with the Source Factory source list was displayed with its top "underneath" the header of the browser, and it could not be moved to uncover it. This was fixed and now the browser scroll bar is either near the top of its track.
 - ✧ Reorganized "Order New Source" section to be more intuitive: the "Source Protocol" field was moved above, in order to be the first item under the "Source Details" field. Based on the chosen value for Source Protocol, the "Source Fields" displayed will be specific to that type of protocol.
 - ✧ "Problem Report" section displays adjustments for the email body containing full range Unicode characters.
 - ✧ Updated Source Problem Report in order to add the report date (in UTC timezone) to the email sent.
 - ✧ Muse Management Console: When a new user was added/edited (for all Muse Products: Muse Authentication and Authorization Service, Muse Admin Bridge, Muse ICE, Muse Web Bridge etc.) the field for the password was a raw text field. This was changed and now this field is a password type field and a secondary password field for confirmation ("Confirm Password") was added.
 - ✧ Updated "PolicyEditor" and "JaasConfiguration" classes which read and write "java.policy", "jaas.policy" and "jaas.config" files to use UTF-8 encoding. This was done in accordance with Oracle specifications (see:



<http://docs.oracle.com/javase/1.5.0/docs/guide/security/PolicyFiles.html>).

- ✦ Source Audit using the XML Connector configured to execute XML commands via a secure connection is now correctly working on systems with IBM JDK.
- ✦ The tool used to run Muse Admin scripts did not work when trying to connect to Muse Admin Bridge on SSL. This was fixed.
- ✦ Fixed some small issues from the MCAA.
- ✦ Updated Muse Management Console in order for the message from the "Delete Confirmation Window" (that appears each time a user is deleted) to contain the USER_ID.
- ✦ Changed the warning message "No Replacement for Defunct source(s) added" with "No Replacement for Defunct source(s) added into the Application. First, use "Add Replacement Source(s)" to add the replacement(s)".
- ✦ The "Restore Application" action fully restore the saved application, by deleting local files which had been extracted meanwhile.
- ✦ Updated "Muse Source Report" section from MCAA Console in order to append to the email the version of modulesutil.jar installed in the Muse Application.
- ✦ Updated the "Delete orphan files" action in order to display a summary/status at the end of the action.
- ✦ Added the "Pre-Mapping" settings functionality in MCAA console. It is made available only for "guru" user.
- ✦ Updated the MCAA console to no longer edit the Navigation Manager fields, as they are no longer used from the bridge level, but only from the Source Package level. This was done for all Muse Bridges.
- ✦ Previously, in Muse Admin Bridge, when a non search source package source was profiled the authenticator can be selected from a list which was obtained from the global Connectors.xml file. The list with all the authenticators a Source Package supports was moved to the individual Source Package .mtd (Metadata) associated file. Changed the mechanism used to obtain the list of supported authenticators for a Source Package accordingly.

6.1.5 Muse Control Center

- ✦ Added a new option "use Unix-compatible checksum format to match standard md5sum or sha1sum" (in Muse Control Center web and desktop interfaces) for the FTP task that allows users to configure the format for checksum files. If this option is used, checksum files have the same format as the ones created by md5sum with the option --text on Unix.
- ✦ Improved the Automatic Source Upgrade task in order to use the 3-way SP profile merge algorithm which is considering the profile from disk, profile from the updated SP and the profile from the old SP.
- ✦ Now, the summary of the Automatic Source Upgrade execution displays time with the (hh:mm:ss) suffix to make it easier to understand what it refers to.



6.1.6 Muse Authentication and Authorization Service

- ✎ Extended the ICELoginModuleAuthority module to support receiving the password in already encrypted form.
- ✎ Updated the init mechanism from the "MuseServlet" class to avoid creation of "ICEPolicyRefresher" thread in case the "init()" method fails. This avoids cumulating threads in case a Muse Servlet could not be started but there are scheduled requests made against it.
- ✎ "MusePropertiesEditor.load()" and "MusePropertiesEditor.save()" methods were updated to use an explicit encoding as UTF-8, instead of defaulting to the native one. This will ensure that any character can be specified throughout the "Users.properties" file.

6.1.7 Apache Tomcat

- ✎ Configured Apache Tomcat XML TCP connector for Muse Admin and Muse InfoBase Bridges to accept parallel connections.
- ✎ Starting Embedded Apache Tomcat, after Muse 2600 was installed on systems with IBM Java 1.6, yielded in errors. This was fixed by adding new access rights in `${MUSE_HOME}/aas/java.tomcat.policy`.

6.1.8 Muse Statistics Monitor

- ✎ Running Muse Statistics Monitor on logs collected from two or more servers did not combine the result in the final statistics and also, in some cases, resulted in error. This was fixed.
- ✎ Added a new statistic "Muse Proxy Statistics Logs Analyses - All Excel XML".
- ✎ More graphics per IP can be generated from Muse Statistics Monitor for Muse Proxy JMX Statistics. This are: for the "ActiveConnectionsNr", "ActiveNavSessionsNr", "ActiveRequestsNr", "ActiveRewrittenPagesNr", "ActiveSessionsNr", "ActiveTinyURLsNr".
- ✎ Added functionality for the "MuseJMXMonitor" tool to save the "ActiveThreads" and "IdleThreads" values exported by Muse Proxy instances in the "monitor-proxy.rrd" file.
- ✎ The "Number of sessions" column from the "SessionsCountAnalysis" report table displays the maximum number of active sessions, not the total sessions field. Also, the average number of simultaneously active sessions field from the report summary is an average computed for the active sessions field, but it was not calculated correctly. This was synchronized by updating the column name from "Number of Sessions" to "Maximum Number of Active Sessions" and added the "getAverageNumberOfActiveSystemSessions" method that calculates a correct average for the active sessions. Also the label for "Average number of simultaneously active sessions" in the summary was corrected, by adding the correct period of time for which the average was computed.

6.1.9 Muse Packages Builder



- ✎ Muse Package Builder was updated to pack in JAR Source Package all the files required for the non-search packages such as Content Mining packages or Circulation packages.
- ✎ Improved the code so that the application runs faster. The way information is read from "Connectors.xml" and from mapping files like "SEARCH.xml" was changed. Instead of loading all the content of these files in memory, using DOM, now it is parsed only what is needed using SAX. This is very helpful when building a few sources because the build time is considerably smaller. The execution time is smaller with SAX but almost similar to DOM when building all the sources (over 6000). For instance, simple source packages are now built in 4.7 seconds instead of 19.1 seconds. Improved the code so that all types of modules can be packaged.
- ✎ Added logging support for the Muse Package Builder and "MTDCreator" tools using log4j.

6.1.10 Muse Setup

- ✎ Muse Setup is compatible with the recently released Oracle JDK 1.8. Both the native launchers and the generic jar launcher are able to function if the JVM on the target system is JDK 1.8.
- ✎ The Muse Setup icon was enhanced.
- ✎ MuseHybridHarvesting application will be installed with Muse Applications Setup.
- ✎ New Muse Central Index product will be distributed with Muse Setup.
- ✎ Previously, when uninstalling Muse there was the option for the installation directory to be entirely deleted. This delete option is no longer available as it could affect a shared Muse Proxy installation and as there is also the un-recommended practice of uninstall and install Muse, instead of the recommended upgrade, so the modified files should remain in place to cover all the practices. The uninstall finishing panel contains just a message to inform the administrator that there may be files that must require manually deleting in %MUSE_HOME% directory, in case (s)he does not need the files anymore.
- ✎ Muse Registration Service details are now configurable.
- ✎ MultipleMeters tasks will be installed with Muse Setup if Muse Content Mining and Muse Control Center products are licensed when the Muse installation is made.
- ✎ Updated the Muse Application Setup so that the Content Mining feature at interface level is also controllable. This way the same Muse application template can be used both for Content Mining applications or standard applications.
- ✎ When the following files: "\${MUSE_HOME}/xmldb/startPersonalUsersExporter" and "\${MUSE_HOME}/xmldb/startPersonalUsersExporter.csh" were installed by Muse Setup they were not made executable on Unix like systems. This was fixed.
- ✎ When Muse Control Center and Muse XMLDB Management Systems are installed a new Muse Control Center permission is added in the file "\${MUSE_HOME}/aas/java.tomcat.policy" for running code under the "tasks" subdirectory.
- ✎ The whole \${MUSE_HOME}/center/tasks/XMLDBBackupRestore directory will be installed with Muse Control Center and Muse XMLDB Management System products instead of the simpler task \${MUSE_HOME}/center/tasks/XMLDBBackupRestore.tsk.



- ✧ The document `${MUSE_HOME}/doc/Muse with Muse Proxy.pdf` is delivered by the Muse Setup.
- ✧ Added the context for Muse Statistics Monitor to the `${MUSE_HOME}/tomcat/conf/server.xml` file only if the Muse Statistics Monitor entry is to be installed.
- ✧ Starting Muse Setup 2600 on systems with IBM Java 1.7 yielded the error: "The wizard cannot continue because of the following error: could not load wizard specified in /wizard.inf (104) WARNING: could not delete temporary file /tmp/ismpp001/1882851". This was fixed.
- ✧ Deleted the following unused jars: commons-fileupload-1.1.1. and commons-io-1.1.jar from `${MUSE_HOME}/admin/www/WEB-INF/lib` , `${MUSE_HOME}/factory/www/WEB-INF/lib` and `${MUSE_HOME}/center/www/WEB-INF/lib`.
- ✧ The following Muse Control Center tasks will be distributed out of the box with Muse Setup: "LogAnalysis.xml", "PartnerLogAnalysis.tsk", "PartnerLogAnalysisMuseProxy.tsk", "PartnerLogUpload.tsk", "PartnerLogUploadMuseProxy.tsk", "NotifyExpiredApplications.tsk".
- ✧ The `${MUSE_HOME}/center/tasks/NotifyExpiredApplications.tsk` file is now installed by Muse Setup on partners machines when Muse Control Center is installed.

6.1.11 Muse Source Factory

- ✧ In the filters section from "Add Sources" screen from MCAA there were added explanatory comments. Thus, before each filter there is an icon which clicked will open a popup with definition and examples for that filter.
- ✧ Updated "downloadSourcePackage()" method to first check source package existence before trying to download it. Also updated the "getSourcePackages()" method to check the Source Administration Record existence no matter what "partnerID" is used.
- ✧ Previously, the Date Picker script was placed in all HTML pages from Muse Source Factory web interface. Now, this script is placed in a single JavaScript file and this file is included in all places.
- ✧ When installing Muse on systems with IBM Java 1.6, the Registration process failed with error "Reported error: SSL Connection Error: Connection has been shutdown: javax.net.ssl.SSLHandshakeException: com.ibm.jsse2.util.h: Certificate expired". This was fixed.

6.1.12 Muse Source Package Assistant

- ✧ Updated the calls to Muse Package Builder in order to use the ICE Class Loader to load the resources needed, thus isolating the execution of the Source Package Assistant tool in Muse Builder so that classpaths are not conflicting.
- ✧ Updated the logging mechanism in order to solve and write the correct messages into the Muse Source Package Assistant .log file and console. Also a "MalformedURLException" exception was thrown into the "SPAssitant.log" file for the generic sources profiles when the URL of the new source was compared with the "HOME_URL" and "SEARCH_URL" links of all global profiles. This was fixed.



6.1.13 Muse Connectors Generator

- ✎ Added support to generate simple authenticators using only the instructions available in the common CDF language or instructions similar to the ones found in the connector description language (CDF).
- ✎ Add a new CDF instruction called "SET_SESSION_PARAMETER" to set the value of a local property associated with the current session. This, together with the existent "LOAD_SESSION_PARAMETER" instruction it takes care of persistence.

6.1.14 Muse Search Query Translator Generator (SQTG)

- ✎ When a new DSD is created or an existing DSD is opened, a tabbed pane opens having as name the name of the DSD. It is useful to know the DSD type when working on it, especially for an existing DSD which is opened in order to be updated.
- ✎ Added "SUPPORTED_SET" values for a "LIMITER". Checked if a "LIMITER" has all the "SUPPORTED_SET" values defined. Updated code in order to check "SUPPORTED_SET" values for "KEYWORD" limiter. Updated "ICESQTGEditSupportedSet" class in order to avoid "SUPPORTED SET" validation for "DATE" limiter. This work was done in order for the selected "SUPPORTED_SET" values to match the limiter values for which there are defined mappings.
- ✎ Added a description field for each attribute and limiter into the DSD and CPB files.

6.1.15 Muse Source Package Testing

- ✎ Updated all GUI components from the actions menu of the "Tests" tab in the Muse Source Package Testing tool interface. The following updates were done to the "Statistics" tab of the Muse Source Package Testing tool interface: Updated all GUI components from the actions menu; Removed "Citation" table; Added new display options: the "Statistics" tab can display three tables now: "Data" section - "All Fields", "Data" section - "Citation Fields" and "IDR" section - "All Fields" tables; added filter for "Results Type" (the table can display: "All Results", "only LIST", "only SINGLE RECORD"); the "Fields Graph" was created and can be displayed for each table option.
- ✎ Added "perPage" combo and "Get More Results" button in GUI; rearranged the GUI search components. Updated search mechanism in order to use the selected "perPage" value from "perPage" combo box. Created and XML file which contains the "perPage" values. Loaded from configuration file the per page values. Updated table cell selection event in order to enable or disable the Get More Results button when a one or more cells are selected or deselected. Added event for Get More Results button in order to perform searches. Added method in order to perform the Get More Results action. Updated the table cell in order to store the start parameter for each cell. Updated each type of search ("ONLY SELECTED CELLS", "VERTICAL", "HORIZONTAL", etc.) in order to store the start parameter for each search. Added store and load options for the start parameter in the "DynamicData.xml" file (a new node "NEW_START"



will be created). Updated the results xml file store mechanism in order to save the results obtained after Get More Action in the XML file containing the results obtained after the initial search.

6.2 Bug Fixes:

6.2.1 Muse Applications

- ✎ Updated the Discover module and the Discover script to support the "-dp" and "-dmttd" parameters. When used, the "-dp" parameter will add the entire profile content whilst "-dmttd" will add the entire MTD content.
- ✎ Updated the proxy chaining for HTTPS sites with Basic User/Password authorization for SEARCH Source Packages.
- ✎ Updated the non-search Muse Modules base classes (e.g. circulation, jitterbug, writers, shoppingcart) to qualify the rewriting information added in the record by the sourceID attribute – This is useful for rewriting URLs of the same record obtained by merging different modules since the targets require the specific source set of cookies.
- ✎ Updated "MuseCenterTaskAnt" class in order to send messages to console after one second instead of sending them continuously line by line.
- ✎ Updated Content Mining, Enrichment and Writer modules to work correctly if all the resources used are available only inside the .jar package.
- ✎ Updated "ModulesXmlUtil.getNodeValue(Node)" method to handle multiple text nodes and CDATA inside the same element node.
- ✎ For speed efficiency many connectors are now making use of the WAIT_ONLY_FOR instruction from the CDF language which ensures the extraction process goes to the next page after parsing only the required variables without waiting for the intermediate page entirely.
- ✎ Improved the JavaDoc for the "com.edulib.ice.modules.util.parsing" package and extended it where necessary in order to be more explanatory, for example the actions of token rules are all covered.
- ✎ Updated the Default Data Model to contain new Holdings fields and remove the deprecated Holdings fields from connectors.
- ✎ Updated the utility connector method "ICEHttpUtilEx.cookieDateIsExpired()" to support all the date formats specified in the HTTP State Management Mechanism standard.

6.2.2 Muse Core and Modules

- ✎ When performing de-duplication and choosing "Display Duplicate" the duplicates records are available directly out of the search operation if DUPLICATES_AWARE is set on true in the configuration file \${APPLICATION_HOME}/profiles/SEARCH.xml. This is the default settings for



the new MuseSearch application template. Up to now duplicates records could have been seen only on the following pages (after performing the current/next operation).

- ✦ Fixed the numbering of the exported records in case duplicates were also present. The list is flat, not tree-like and the numbering is continuous.
- ✦ Fixed marking duplicates records. In case secondary duplicates were marked they didn't persist as marked when switching to another source tab.
- ✦ Setting weekly log rotation taking place on Saturdays is now possible. Up to now this setting for ICE Log was not possible.
- ✦ The ICE service on Microsoft Windows platforms is now correctly shutting down inside the JVM without the native Windows JVM process being killed after 30 seconds since initiating shutdown. This means a clean and quicker shut down.
- ✦ Export to PDF is correctly working in case there are sources reporting failing URLs in the search progress. Also corrected the wrapping of the progress in the PDF.
- ✦ Fix handshaking on SSL between the ICE Server and its clients. On some systems, such as Win 7 the SSL handshaking could have failed resulting in some Logons to fail.
- ✦ Fixed a race condition in the ICE concurrency semaphore classes when another thread could have called "doWait" just after one thread was returning from wait() upon a signaling, being dispatched and waiting to re-acquire the monitor. This means that two threads could have access to the same resource when they shouldn't.
- ✦ The SIP2 concurrency bug related to making a subsequent request after a big delay is now fixed. Fixed the concurrency bug related to reading the whole response on the reading thread before the call to read the request came. Also removed the "mutex" object used together with reader synchronization. One synchronization is enough. JDK "InputStreamReader" which is now used for reading characters (depending on the encoding) was also blocked if close was called while in reading. That is why we closed the underlying Input Stream actually.
- ✦ Updates in the SIP2 iceutil library related to check sum and encoding in order to be able to support non ASCII servers were done. Checksum now takes into account negative byte values and always return four hex digits. Added logging. Two new configuration parameters are also available for SIP2 clients "ENCODING" and "CHECKSUM" computation.
- ✦ Fixed the following harvesting bug: after a long time Alert run (3-4 hours) with thousands of records the temporary workroom was not functional for the next alert which started immediately. This was related to cleaning up of the temporary workroom and it was fixed by introducing a configurable cleanupTimeout parameter at the system level, in `${MUSE_HOME}/use/ice/ICECore.xml` and at the application level, in the `${APPLICATION_HOME}/profile.xml` files.
- ✦ The ICE Record Data section scheme, DATA.xsd, is updated to reflect newly extracted fields and structures.
- ✦ The `${ICE_HOME}/version` Unix script could have failed on some Linux/Solaris platforms with "CLASSPATH: Undefined variable.". This was now corrected.
- ✦ Removed dependency from `com.sun.mail.smtp.SMTPTransport`. This class prevented Muse from running with IBM Java or any other Java than Oracle's.



- ✎ Enhanced the ICELoginModuleIP message in the log file when an application was not found in the hosts.xml file to contain the application name (this is just for the log file, the interface is not providing this information as a security measure).

6.2.3 Muse Web Bridge

- ✎ The Muse Web Bridge Communication Interface document is reflecting the path of the properties.xml file and the action specific parameters. These are useful for setting default parameter values.
- ✎ The Test XML API was missing the "firstRetrievedRecord" parameter for "getFooterInfo" action. This was fixed.

6.2.4 Muse Admin Bridge (Administrator, Management, Designer, Sources)

- ✎ Muse Admin is no longer adding the NUMBER_OF_TERMS field in the SEARCH.xml file when updating source groups. The field is actually intended only for Content Mining module mappings and not the search sources and is correctly handled now only for the Distill.xml file.
- ✎ Correctly URI Encode the source description upon Edit Source Configuration and Edit Source Advanced Configuration so that it is no longer truncated in the SEARCH.xml file (and other mapping files) when a special URI character such as '&' was met.
- ✎ The Location entity file in the section "Content Mining Module: ICEDistillKeyLocations Properties: Configuration File" is now updateable.
- ✎ If Muse was installed in a folder that contained spaces the "Export by Download Application" did not work. This was fixed.
- ✎ An error appeared when MuseFoundation application was copied. This was fixed.
- ✎ Running the tool used to run Muse Admin scripts yielded the Freemarker error ("Error parsing included template scripts/scripts.db"). This was fixed.
- ✎ Updated the stylesheet used to generate .db files (`${MUSE_HOME}/admin/stylesheet/sourcesXML2db.xml`) in order to create .db files in the new syntax used in applications.

6.2.5 Muse Control Center

- ✎ The log level of the task "Event log" from "RegistrationServices [MGB].tsk" was changed to DEBUG.
- ✎ If many ".tsk" files are loaded, the interface has a lot of space occupied by tabs. This was fixed by placing tabs vertically and enabling scrolling so that they are not arranged on multiple columns if one is not enough.



6.2.6 Muse Authentication and Authorization Service

- Fixed a concurrency bug of the HTML template processor (Freemarker) which led to "File not found" errors, especially when the templates/XSLT were included in others. This resolves potential glitches in all the front end servlet based Muse interfaces such as Muse Application UI, Muse Admin, Muse Control Center, Muse Source Factory.
- Updated ICELoginModule to correctly encode the parameters using UTF-8 instead of the default encoding. Modified the LOGON.xml XSLT files to use UTF-8 when URLDecoding. This was done in all the bridges and clients of the ICE Server.

6.2.7 Muse XML DB Management System

- Updated the "getGlobalSourcePackagesVersionInfo" command to treat the cases of invalid IDs - if the format of the target ID is not correct, then a WARNING will be written in the "MuseIn foBaseBridge.log".

6.2.8 Muse Statistics Monitor

- While analyzing some of the statistics log file from the production environment there were detected issues with huge Muse queries (containing over 66000 characters). The analysis stopped when finding such an entry and did not continue even if the next entries and logs contains several days of data. This was fixed and now the analysis works as expected when huge queries are encountered in logs.
- The temporary folders created by the Muse Proxy analysis modules (folders that start with "proxyHistoryDB*") in the "\${MUSE_HOME}/monitor/tmp" directory were not deleted when the analysis ended. This was fixed and now the temporary folders are deleted when the analysis ends.
- After creating a data set that contained the "Muse Proxy Statistics Logs Analyses", then the "Analyze ..." button was clicked and then, after the analyse finishes the "Analyze ..." button was clicked again, the error "java.sql.SQLException: No current connection." appeared in the console. This was fixed.
- Now the description of the selected data set is displayed when a new ".mds" file is loaded.
- Removed the second set from "DataSets.mds.default" and "DataSets.mds" that referred an internal development machine arthur.museglobal.ro as a "Remote ICE Server".
- Updated the names of two of the header fields found in the "NetworkAnalysis" reports ("NetworkAnalysis.csv", "NetworkAnalysis.xls"): from "Muse Response Time (s)" to "Average Muse Response Time (s)" and from "Source Response Time (s)" to "Average Source Response Time (s)".
- Improved the appearance of the JMX graphs generated by the Muse Monitor Grapher.
- Updated the Muse Statistics Monitor analysis modules for Muse Proxy statistics logs to support the



latest message codes introduced.

- ✎ The old JRobin version 1.5.9.1 is now replaced with a newer version 1.5.14.

6.2.9 Muse Packages Builder

- ✎ An error appeared when creating jar files for non-search sources. This was fixed.
- ✎ Updated the "ICEPackageBuilder" class to use the "-pt" (package type) parameter value list in "createJarFiles" method.
- ✎ An error was obtained when using the "-ulj" (use local journal) parameter and the CVS connection was not configured. This was fixed.

6.2.10 Muse Setup

- ✎ When upgrading Muse Applications, in console mode, the following error appeared: "Errors occurred during the installation. - Insertion into uninstall tree failed: Dependencies". This error appeared just before the upgrade was finished. This was fixed.
- ✎ The Muse version is now displayed when the Muse setups are run in console (text) mode.
- ✎ Updated Muse Setup to delete the "servlet.jar" from the Muse web directories when an upgrade is performed.
- ✎ Fixed the merging algorithm for Muse servers configure* scripts when upgrading from one Muse/ Muse Proxy version to another such that any existent parameter in the file from the actual Muse installation should remain with the existent value after the upgrade and any new parameter must be added with the value from the field included in the new Muse version that was upgraded to.

6.2.11 Muse Source Factory

- ✎ Previously, if the "LifespanEnd" from the approved extension request was not exactly the same as the one from the extension request, in the email sent the "LifespanEnd" was missing. This is now fixed.
- ✎ In the scenario in which an extension request is approved but not with the exact data as in the request, the serial number still had the "Extension Requested" status. This was fixed and now, after the extension request was approved the serial number has "Active" status.
- ✎ An error ("Exception while processing xupdate: [at line 1, column 1] [at line 814, column 72]") was seen in logs after making a source Defunct. The source however was made Defunct even if the error appeared. This was fixed and now, when a source is made defunct no error appears in logs.
- ✎ Muse Registration Service: Muse Applications were not listed in Serial Number Record detail screen. This was fixed.
- ✎ After the "ImportAndRepack" process was finished, Muse Repacker did not write history information in "/db/infobase/history/history.data.xml" record. This was fixed and now after each



Muse Repacker run the history data (the number of new or updated Source Packages) is now written in the database record.

- ✎ "Source Groups" Details in Source Factory: when ALL option from "Per Page" combo was selected, in some cases it did not work correctly. This was fixed.

6.2.12 Muse Source Package Assistant

- ✎ Updated report for new sources in case of IP authentication. Removed "Delete profile" section in case of free or IP authenticated new sources.
- ✎ Updated "Create Issue Package" window to take into consideration application path changes.
- ✎ Updated "Create Issue Package" action from the Muse Source Package Assistant tool in order to avoid copying the source profile into the `${MUSE_HOME}/use/modules/profiles/connectors` directory when the profile contains custom URLs.
- ✎ The report generated by Muse Source Package Assistant can now be customized by partner.
- ✎ The "MTDCreator" packaging class was updated to directly append the MAP and CONNECTOR nodes for a new source fixing importing errors for first time import of new Source Packages.
- ✎ The structure of `${APPLICATION_HOME}/www/application/sources.db` file has changed and Muse Source Package Assistant was changed accordingly.
- ✎ Using the "Import Issue Package" option (with the "Build Source Package(s) Automatically" option set to "Yes") from Muse Source Package Assistant caused the creation of the SP jar archive process to fail with the message: "Exception: "null" .The "Build Issue Source Package(s)" process was prematurely ended because of FATAL ERRORS." This was fixed.
- ✎ Updated the "SPFileUtilTest" test class in order not to delete the directories after the first Junit run. There was also observed that in CVS in the output for this test there were committed some files that should not be there because they were created dynamically during the test. These files were removed. The java code was updated to delete the new created files after the test completion.

6.2.13 Muse Connectors Generator

- ✎ An exception("Exception in thread "AWT-EventQueue-0" java.lang.NoClassDefFoundError: org/apache/log4j/Priority at freemarker.log.Log4JLoggerFactory.getLogger(Log4JLoggerFactory.java:65)") was thrown when using the "Generate the java class" action. This was fixed.

6.2.14 Muse Search Query Translator Generator (SQTG)

- ✎ When trying to remove a custom qualifier added for a DATE limiter, the exception "java.lang.ArrayIndexOutOfBoundsException: Array index out of range: 1" was obtained. This was fixed.



- ✧ The 'Manage Supported Set' window from the 'Limiters' section did not properly handle the warning labels. More precisely, the wrapping of the text did not adapt correctly the text length to the window new size when this was diminished. This was fixed.
- ✧ Removed "Postfix" option from "Type" combobox contained by the "Operator" panel for Split DSD files.
- ✧ Created method in order to load DATE limiter values from all "writeVariable" templates. Created method in order to return the DATE limiter mappings for which there are no subfields values defined. Created method in order to return checked subfields values for which there are no DATE limiter mappings. Created method in order to display and update the "SUBFIELDS" messages in "SUBFIELDS" dialog. Updated "CPB" generate action in order to display "SUBFIELDS" messages.
- ✧ Update SQTG to enlarge the Date limiters supported range values.
- ✧ Updated the generate action for creating the CPB file in order to throw an warning message in the console in case the SUPPORTED SET section is not added for each limiter supported by the stylesheet.

6.2.15 Muse Source Package Testing

- ✧ The "Help" section for Muse Source Package Testing was updated to reflect the latest interface.
- ✧ Improvements were done for Muse Source Package Testing tool: added "Remove" button for custom query; updated query cells to display the correct query in the custom query section if the row query is changed; updated query cells in order to remove the custom query when the row query is changed to the same value as the custom query; updated custom query validation to avoid using "trim()" action; added tool-tip in order to display large estimate values which are truncated if the value is larger than the cell dimension; updated Muse Source Package Testing document.
- ✧ Muse Source Package Testing tool returned the "java.lang.NullPointerException" exception when the "Generate XLS" action was used and one of the queries contain non-ASCII characters. This was fixed.
- ✧ In Muse Source Package Testing, when "Compute fields" option from the Statistics tab was clicked, if one of the records contained empty fields, a "NullPointerException" error occurred. This was fixed.
- ✧ The test reports generated by the Muse Source Package Testing tool could not be opened by the Microsoft Excel Viewer (the freeware read-only Microsoft application). This was fixed.
- ✧ Made improvements to the Muse Source Package Testing interface, related to: obtaining a different type of rows/cells highlighting than the current bordered type; changing the colors used for selection of table cells and also of other components used; changing the general set of colors used in display.
- ✧ Updated Muse Source Package Testing to display multilevel fields.
- ✧ Implemented custom query mechanism in Muse Source Package Testing.
- ✧ Added "Records Containing Selected Fields with Empty Values" and "Records Containing Selected Fields with Empty Values" filters for the "Investigate Detail" display.



- ✎ Updated "SearchTableColorChanger" class in order to avoid the selection of cells which do not have a query.
- ✎ Added a fixed size for the chart axis in order to avoid resizing to panel size. Updated the chart size depending of the number of axis displayed. Added ScrollPane for the chart. Added a fixed lower and upper margin for the chart. This updates improve the "Show Record Fields Statistics" visibility when the record contain a large number of fields.
- ✎ Synchronized fields ordering between tables/field/Data.xml and the "Muse Data versus Native Data" table from the interface. This fixes the following scenario: perform a search with the Muse Source Package Testing, select the Muse results cell and mark it as LIST, change to Statistics tab and press the "Compute Fields" button. Among the marked fields, the CITATION field appears even though it was not present in any of the records present in workroom.

6.2.16 Tools and Utilities

- ✎ Removed dependency from com.sun.net.ssl.internal.ssl.Provider because this dependency prevented Muse from running with IBM Java or any other Java than Oracle's.
- ✎ Removed dependency from com.sun.crypto.provider.SunJCE. This class prevents Muse from running with IBM Java or any other Java than Oracle's.
- ✎ Removed dependency from com.sun.security.auth.Resources. This class prevents Muse from running with IBM Java or any other Java than Oracle's.



7.0

Changes in Muse 2.6.0.0 Release

Release Date: 2012-06-26

7.1 New Features:

7.1.1 Muse Applications (Miscellaneous)

- ✎ Updated the profile.xml template file as well as the `${APPLICATION_HOME}/profile.xml` for all Muse Maintained applications from `${MUSE_HOME}/home` directory to contain the `VENDOR` and `PRODUCT` metavariables. Also in some profiles the header comments were updated to contain the latest comments from the profile.xml template file.
- ✎ Deleted the resources files (MAP, MTD, DTD, stylesheets) for the non-search modules used in the Muse maintained applications (from `${MUSE_HOME}/home`).
- ✎ Changed the description for the `WWW_USER_NAME`, `WWW_USER_PASS` and `WWW_AUTHORIZATION_SCHEME` fields in the Source Packages profiles.
- ✎ Revised the `com.edulib.ice.util.sip2` java package.
- ✎ Created a writer for RefWorksAPI. This is called `WriterRefWorksAPI`.
- ✎ Created a writer for QuikBib. This is called `WriterQuikBib`.
- ✎ Corrected some misspellings in the Muse CVS modules (`ICECVS.java`, `ICEJournalCreator.java`, `ICEJournalMerger.java`) from `${MUSE_HOME}\use\tools\src\com\edulib\ice\tools\util` .
- ✎ Updated the Muse Modules XML API so that the elements which were matched by an `XPathContext` to be removed from memory after they were processed. The mechanism is pluggable. If for a specific XML stream it is wanted that some elements to not be removed from memory, one could define in the connector which calls the code a custom class that will describe the cases when the Element will be removed. So, although by default the mechanism removes from memory the Element nodes processed, it can be adjusted for individual cases to behave differently.
- ✎ Updated the URL to the Java Provider in the HTML files included in `modules-util-javadoc.jar` from: `http://java.sun.com/j2se/1.6.0/docs/api/` to



<http://download.oracle.com/javase/6/docs/api/> .

- ✎ Revised the entire manual for the Source Package Testing tool.
- ✎ Designed and implemented a mechanism to periodically deliver the modulesutil.jar and other development files to Partners which are doing SP Development.
- ✎ Revised the Source Package Testing tool's user interface and configuration files.
- ✎ Created a partner neutral version of the "Source Packages Build and Upload Procedure.pdf" called "How to Set the Build and Upload.pdf" located in \${MUSE_HOME}/center/doc.
- ✎ Created a partner neutral version of the "SPsBuildAndUpload [MGB].tsk" called "How to Set the Build and Upload [MGB].pdf" located at \${MUSE_HOME}/center/doc.
- ✎ Developed details that describe the setting of the Partner Connectors Development Initial Setup patch. This will be placed under the Readme.txt that accompanies the Partner patch.
- ✎ Revised the JavaDoc for the modules utility classes.
- ✎ Updated the classes in the "com.edulib.ice.modules.util.xml" which were using as parameter an ICEProcessingModule to work when the ICEProcessingModule reference passed to them is null.

7.1.2 Muse Core and Modules

- ✎ The implementation for the Multiple Meters was completed.
- ✎ Updated the Vocabulary module to be able to output multiple meters corresponding to the entities vocabularies of a resultset.
- ✎ Added the SOCKET_QUEUE_LENGTH and SOCKET_BACKLOG parameters and updated the ICEServer manual. The value of the SOCKET_QUEUE_LENGTH is the size of the socket queue used by the ICESessionsManager class for keeping the accepted socket connections. The value of the SOCKET_BACKLOG is the size of the backlog used by the ICE Server Socket.
- ✎ Updated the Ranking module to display different messages when performing ranking or pre-ranking as opposed to the previous version where, in both cases, the same message was displayed. Updated the i18n files by adding a new status corresponding to pre-ranking case. Added STATUS_MODULE_CALCULATING_RANKING_VALUES in BundleConstantsModules, and to the I18n files for ICE and MODULES. This status will be used when calling the Ranking module with just the pre-ranking keys.
- ✎ It was designed and implemented an inheritance mechanism for Alerts. This means that given two alerts one may set one to be the parent and the child will have access to all its parameters. The access is generic, that is, if a new parameter is added later the java code will not be updated but rather the Alert configuration.
- ✎ Now, the ICE Session UID (distinct from the Session ID) is written in ICE statistics log file and is also accessible though JMX. The UID can have multiple usages - currently it is passed via a MNM re-written URL to the Muse Proxy.
- ✎ The startup script for the ICE Server (startServer) contained some jars in the system classpath which were not needed. The same happened for the jar files located in the \${ICE_HOME}/lib



directory. These files were moved to where they belonged. For example: RTS related JAR files are now in the \$ICE_HOME/lib directory; added the jars from \${MODULES_HOME}/lib found in ICE Server class path to jvm.mf file, etc.

- ✧ In preparation for adding Vocabulary management in the Workroom section of an application, documented the available ICEScripts and actions available for vocabularies management.
- ✧ The Muse Harvesting application now has harvesting related scripts at the application level directory \${APPLICATION_HOME}/scripts.
- ✧ Previously, the Meter Structure (as exported into the file system) was only available after two Vocabularies were confronted and the history action was performed. So the meter creation (which is the structure closer to an external system, and closer to a graphic representation) was only done as part of the history. The meter was a flag inside the history action. It was enough to create the history once and then one should benefit of getting the meter form at any moment. Created a new distinct action "getMeter" which will create the Meter without creating the history.
- ✧ Previously, Result Set operations were shallow with respect to Vocabularies. If there were many vocabularies and result sets than the link between them could be subject to integrity failures. This was fixed by adding support for deep operations with respect to Vocabularies in Save, DeleteResultSets and Compare modules. If the -deep parameter is provided when deleting or overwriting a resultSet the referred vocabularies are also deleted. When creating a resultSet from the meta record of another resultSet some copies for the attached vocabularies are created and attached to the new resultSet.
- ✧ Modified the Alert scripts to set as the last run time the moment when the script started and not when it ended. Added an interval margin that allows the Alert to run after the alert interval minus an interval margin instead of running it after the alert interval. This is needed because the execution time of the script itself can differ from the moment of invocation in a busy system.
- ✧ Created a new distillkeys called ICEDistillKeyCompanies which will use a new created entity filter called ICEEntityFilterCompany to extract companies terms. Also created 2 thesaurus of words: one containing about 3000 famous companies names and a small one contain words which usually are found at the end of the companies terms such as Group, Company, Co. etc.
- ✧ For extracting Products terms a new Entity Filter called ICEEntityFilterThesaurus was created. This will test the candidate CM terms to a go-list which is stored on disk in a thesaurus list. Created the ICEDistillKeyProducts which is basically an ICEDistillKeyFrequency using the ICEEntityFilterThesaurus as entity filter. Filled the go-list for products with about 150 food terms.
- ✧ Previously, the general Alerts script at the system level added the alert delta resultSets to a Long Life Buffer(this is a resultSet that keeps all the records of the previous runs) and this could grow to infinity. Long Life Buffer limiting in the general Alerts.xml scrip, so that the alerts that run for the end users can only create a Long Life Buffer with a limited number of records. Added an "epsilon" for the global records limitation so that when the proposed value of MAX records is reached to delete the extra records plus that epsilon. In this way the next runs of the limiting algorithm will not reach the MAX value - hence will not perform any time consuming limitation.
- ✧ The Return-Path header is now added for the emails that are sent from Muse. This is because when the messages bounces from some reasons it may need to go to a real address. So, the Return-Path parameter was added to the SendMailGeneric, SendMarkedRecords and SendResultsSet scripts.



7.1.3 Muse Web Bridge

- ✧ Updated the Muse Web Bridge documentation to better describe the difference between Auto-
logon and Pass-through and especially in which situations the templateFile parameter is necessary.
- ✧ For Ice Server there were added some flags for disabling the PPMS, GAMS, PWMS. With these
flags set to false in the configuration file the system no longer tries to create the internal objects
leading to an increased performance in case a customer does not want to use XMLDB. Now the
same functionality is replicated at the Muse Web Bridge level.

7.1.4 Muse Admin Bridge (Administrator, Management, Designer, Sources)

- ✧ MCAA: When a Source Package is backed up the size (in bytes) is reported on successful
completion.
- ✧ In the "Import an Application" section you can either select a local file by browsing it with the file
chooser or you can enter a HTTP, FTP or server file location by specifying its URL. But in the
"Upgrade an Application" section you could not browse using the file chooser for a local patch file.
This was fixed and now, "Upgrade an Application" section is similar to the "Import an
Application" section, meaning one can browse using the file chooser for a local patch file.
- ✧ Revised all Muse Admin actions that deal with files associated with targets referred to in map
files(e.g: Writer.xml, Jitterbug.xml, etc.) in order to load these necessary files from
\${MODULES_HOME}/sources/lib/{targetID.jar} if they are not first found in
\${APPLICATION_HOME}.
- ✧ MCAA: Added the link "Application(s) Metadata Report" in the "Select one or more Applications
to" section under the "Application(s) Source Audit" link. This link opens a popup, similar to the
one that the "Application(s) Source Audit" opens containing the report with metadata information
for the selected applications.
- ✧ Updated MCAA, the "Applications List" screen to display the metadata information for an
Application. Updated Application filters by adding three new filters: created between, expiring
between, based on Application template.
- ✧ The "Source Protocol" field is now the first item under the "Source Details" field. Based on the
chosen value for Source Protocol, the "Source Fields" displayed will be specific for that type of
protocol. If one chooses HTTP there will be displayed the specific source fields, if Z39.50 is
chosen then the Z39.50 specific fields will be displayed.
- ✧ MCAA: DatePickers are now used for setting the date in input fields.
- ✧ Updated MCAA to add the possibility to edit all the parameters that are passed from a module
manager (WRITER for example) to its sub-modules (individual writers).
- ✧ Added support in MCAA for editing all the writers parameters from their configuration file.
- ✧ Update Muse Admin Bridge java code to allow the introduction of a new file, a metadata file for
each Application. This file contains metadata information related to the Application(e.g.:



application creation date, expiry date, Application version, Application template and its version, list of patches applied on the Application).

- ✧ When sending a Muse Broken Source Report, if there were some values that were mandatory and not filled an error message appeared saying that not all the mandatory fields were completed and the report was not sent. Now the mandatory fields are both bold-ed and followed by a red star to indicate that they are mandatory.
- ✧ The MCAA feature "Order New source" is now available to ecaa and oviddesigner users.
- ✧ The actions that deal with critical files are now synchronized in Muse Admin.
- ✧ Sending emails from MCAA through SMTP over SSL or TLS connection failed. This only happened if the mail server used un-trusted certificates. This is fixed now.
- ✧ CheckMuse tool was updated to capture errors generated by ConnectorsXMLChecker. These errors are reported only in the log file.
- ✧ Changed the following texts in the MCAA console, in the "Source Configuration", "Problem Report" and "Order New Source" sections: "User name for WWW authentication access" is now "The user name used to construct the value of the "Authorization" HTTP header"; "User password for WWW authentication access" is now "The user password used to construct the value of the "Authorization" HTTP header"; "The HTTP authorization scheme" is now "The HTTP authorization method: Basic (default) or Digest."
- ✧ Created a patch to be used after upgrading to Muse 2600. This is an MCAA patch to be applied over all Muse applications. It transforms INSERT modules to WRITER modules.
- ✧ When an application was copied the value of the "use" attribute from the DOCUMENT_REPOSITORY tag from the `${APPLICATION_HOME}/profile.xml` file is now copied to the profile.xml of the new application.
- ✧ There were some labels changed on MCAA web interface: The link "Defunct with Replacement" under "Applications->Application->Source Actions -> Mark" was renamed "Sources with Replacement"; The link "Use Replacement for Defunct Source(s)" from the "Select one or more Sources to:" panel was renamed "Use Replacement for the Source(s)"; For sources having production status "Defunct with Replacement" the label under the Source name is now "Defunct. Use `${SOURCE_ID}`."; For sources having production status "Duplicate" label under the Source name is now "Duplicate. Use `${SOURCE_ID}`."
- ✧ The algorithm used to perform merging operation was improved in order to use 3-way merge. Now, a field from an old profile is kept if and only if it was customized. In order to check if a field was customized the current value from disk is compared with the old source profile stored in SP profile. If the old SP profile is not available, then 2-way merge is performed. In this case, fields that start with `${MODULES_HOME}` or `${APPLICATION_HOME}` are not merged in the new profile.
- ✧ Previously, in MCAA, section Applications->Sources List, the default pagination value was 10 but this was changed so that the default source pagination value is now "all".
- ✧ The `${MUSE_HOME}/admin/tmp` directory is used to create various temporary files by Muse Admin servlet. Normally, the temporary files are deleted when user sessions are closed or servlet is destroyed. But, in some cases deleting these files failed(e.g. JVM is killed or files are in use). This is now fixed.



- ✧ The startup scripts for checkMuse command line tool (`${MUSE_HOME}/admin/startMuseAdminTool.bat`, `startMuseAdminTool.csh`, `startMuseAdminTool`) were updated to use the `${MUSE_HOME}/admin/lib/servlet-api.jar` file instead of the `${MUSE_HOME}/admin/www/WEB-INF/lib/servlet.jar`.
- ✧ Updated the interface files that deal with Content Mining Entities so that one can add a new Content Mining key and press Update interface and all the entities terms to be displayed - without any other intervention at the Interface level.
- ✧ The new Patron SIP module field "ERROR_DETECTION_MODE" can be now edited from the MCAA console (Application Modules -> Circulation -> Patron Modules -> Edit Configuration). The possible values of this field are: "on" or "off".
- ✧ The Muse Admin Bridge java code was updated in order to use timeout when receiving messages from Muse InfoBase. The values for the timeout are read from `${MUSE_HOME}/factory/SourceFactory.xml` configuration file where there were added two new fields: GLOBAL_IB_TIMEOUT and LOCAL_IB_TIMEOUT . Their values represent the amount of time (in milliseconds) to wait for a message from Muse Global InfoBase respectively Muse Local InfoBase.
- ✧ Added a new "Clustering" tab that was available in the old consoles. This tab is used to run an external script to synchronize MUSE on all servers when it is installed in a load balanced environment. Currently this tab is only available from Muse Management Console.
- ✧ MCAA:Added option to save the resultset as PDF.
- ✧ Added "Edit" functionality in the "Update Interface" screen, to all modules available in MCAA console. It allows users to edit the name of the module as it appears in the application interface.
- ✧ All lists displayed in the MCAA interface are now paginated .
- ✧ Implemented a friendly editing of the static thesauri for Content Mining Keys.
- ✧ Updated MuseAdmin API and Web Interface to allow filtering on all MuseAdmin "list*" actions (e.g. listSources, listAdminUsers, listAASUsers, etc.).
- ✧ Added source ID field to Source Configuration and Source Advanced Configuration screens.
- ✧ All sections from MCAA console were revised and added messaging functionality in order to inform users about the result (fail, successful, other) of the current operation (update, import, export, etc).
- ✧ The actions updateAppTextFile and updateTextFile were updated in order to allow an empty string as file content.
- ✧ Previously, on "Server Status" screen from MCAA console for "Embedded Tomcat Server" was displayed on PORT column value 8500 that is value of "shutdown/command" port instead of 8000 used by HTTP connector. Also, for "Muse HTTP Server" was displayed value 8010 (control port) instead of 8000. Updated the Java code in order to display the port used by HTTP connector.

7.1.5 Muse Control Center



- ✧ While testing it was observed that for the Muse control Center email task one could not specify the certificates for SMTP over SSL. This is now fixed.
- ✧ Updated Muse control Center InfoBase task: Added support for SSL connections to the InfoBase server (both for the default and custom server); Reorganized the user interface (web and Swing): split the Infobase Parameters tab in two tabs ("InfoBase Server" and "Commands"); Updated the task's XML representation to be more intuitive regarding the usage of the default and custom server; Updated the task's help, for the web version; Updated manuals accordingly - fields description and screenshots ("Muse Control Center.pdf", "Collecting Search Data.pdf", "How to Set the Process to Remove the Deprecated Sources.pdf", "MuseGlobal Source Checker.pdf").
- ✧ Updated ASU to log and display in the console a more accurate message about the number and list of processed applications. Log a message about the applied applications selection pattern (if any).
- ✧ Updated the ASU task to avoid unnecessary requests to Muse Global InfoBase that were made when retrieving the test status of sources and computing the up-to-date status of sources. This was done by updating the calls to the "getSourcesStatus" Muse Admin action to pass "includeGlobalStatus"="false" as parameter.
- ✧ Updated the FTP module (com.edulib.muse.center.task.modules.fcp.client.FTPXClientFTP) to list files using the MLSD command instead of LIST, if MLSD is supported by the FTP server. This way, the timestamps for all files (including the older ones) will no longer be truncated.
- ✧ Fixed the file path to MuseCenterTasks.tsk, so that the web version of MCC can start successfully with no tasklists specified in the configuration file (in this situation, it was loading Muse CenterTasks.tsk but from a wrong location; now the correct location is referred).
- ✧ Used a split pane in the main window of MCC so that the reports area can be re-sized.
- ✧ Made some improvements for "defined properties" tab of the Muse Control Center Ant task.
- ✧ ASU Task - The update of the global SEARCH.xml is no longer necessary, so ASU was updated to no longer download/update this file.
- ✧ The EMail task was updated with 2 new options: "Retries" and "Retry Interval", which are documented both in the Help page from the Muse Control center web interface and in the documents: Muse Control Center.pdf and all other documents that contain screen-shots of the EMail task.
- ✧ Email task: Added the possibility to edit the path of an email attachment.
- ✧ Previously, the FTP task did not fail if "use MD5/SHA checksums to validate transfers" was checked and "ignore failed transfers" was not checked. It only reported it as a transfer failure. This was fixed and now, if a checksum does not match and "ignore invalid transfers" is not checked, it is thrown an exception that results in an FAILED task. Also "ignore failed transfers" was renamed to "ignore invalid transfers".
- ✧ Used Ajax to update the status of tasks from the "Task List" instead of refreshing the whole page.
- ✧ Now, the Muse Control Center Source Checker task exports the number of successful sources and the number of "no records" sources.
- ✧ The variables from keystore file path used by ASU Task to connect to MuseAdmin using a SSL connection were not resolved. This was fixed.



- ✎ Updated the Muse Control Center email task to support TLS.

7.1.6 Muse Authentication and Authorization Service

- ✎ Errors such as "Invalid user/password" are now logged on NOTICE instead of ERROR.
- ✎ Verified the validity of the servlet configuration files (e.g. `${MUSE_HOME}/admin/www/WEB-INF/web.xml`). These files contain `<!DOCTYPE web-app PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application 2.2//EN" "http://java.sun.com/j2ee/dtds/web-app_2_2.dtd">` But some of these were not valid according to this DTD. Also the order in the `<filter>` element was not according to the 2.3.dtd. This was fixed.

7.1.7 Muse Statistics Monitor

- ✎ The graphics generated for the data read from the Muse Proxy JMX now display the total bandwidth.
- ✎ The graphics generated for the data read from the Muse Proxy JMX now display the 95 percentile.
- ✎ Added new Muse Monitor analysis modules to analyze Muse Proxy statistics logs. These new modules store their reports under `${MUSE_HOME}/monitor/csv`: "MuseProxyConnections.csv" file contains Time and Connections Number; "MuseProxyRequests.csv" file contains Time and Requests Number; "MuseProxySessions.csv" file contains Time and Client Sessions Number; "MuseProxyNavigationSessions.csv" file contains Time and Navigation Sessions Number; "MuseProxyTinyURLs.csv" file contains Time and Tiny URLs Number; "MuseProxyTotalTraffic.csv" file contains Time, Total Bytes In and Total Bytes Out; "MuseProxyTotalClientTraffic.csv" file contains Time, Total Client Bytes In and Total Client Bytes Out; "MuseProxyTotalTargetTraffic.csv" file contains Time, Total Target Bytes In and Total Target Bytes Out; "MuseProxyAuthenticationAttempts.csv" file contains Time, Successful authentication attempts and Unsuccessful authentication attempts.
- ✎ No validation was made regarding the file paths used by Muse Monitor - the location of logs to be analyzed, the location of data sets used by the analysis, etc, no matter if the file paths are provided as command line parameters or are read from configuration files. This was fixed and now, Muse Monitor will stop with an error message in case one of the following happens: 1. The path to the .MDS file is invalid - the file does not exist; 2. If the .MDS file is corrupted - invalid XML; 3. There is no valid ICE log location provided - only local files are checked. In case one of the given ICE log location is invalid, a warning message will be displayed.
- ✎ Some modules were using CSVWriter to write CSV files while the other modules saved their reports to CSV using the CSVView view. CSVView used an ad-hoc solution that did not create standard CSV files in some cases (e.g. multi-word or quotes are appearing). Used CSVWriter for all modules by replacing the code from CSVView with calls to CSVWriter.
- ✎ The following parameters were added to the console version of Muse Statistics Monitor(MSM):1. csvSeparator - an unicode character that is used to delimit cells from the CSV report(e.g.: `\u0009` - TAB character); 2. csvEncoding - the encoding used for the CSV reports(e.g.: UTF-8); 3.csvBom



- determines if a BOM sequence is added at the beginning of each report. Possible values: yes/no;
3.csvNI - a sequence of unicode characters used to delimit lines from the CSV report(e.g.:
\u000D\u000A - CRLF); 4.csvQuote - an unicode character used to escape spaces and quotes;
5.csvComment - a char used for comments in the CSV reports. The Muse Statistics Monitor was updated accordingly.

- Used JFrame instead of a JDialog for MuseMonitorAnalyseDialog. This was done in order to easier maximize it when creating large charts.

7.1.8 Muse Setup

- Updated Muse Setup so that the fields XMDB_USE/PPMS from `%{MUSE_HOME}/use/ice/ICECore.xml` and `%{MUSE_HOME}/web/MusePeer.xml` are set to false if Muse Personal Profiles Management System is not in the Serial Number used for the installation. Similarly, XMDB_USE/PWMS and XMDB_USE/GAMS will be set to false if the corresponding Muse Products Muse Personal WorkRoom Management System or Muse Global Authorizing Management System are not in the Serial Number used for Muse installation.
- The `${MUSE_HOME}/monitor/csv` directory is now installed by Muse Setup when Muse Statistics Monitor is enabled in the Serial Number used for installation.
- Added `${USE_TOOLS}/sqlframework` and `${USE_TOOLS}/validator` to Muse Setup.
- Added `${MUSE_HOME}/proxy/modules/statistics/server/ServerIPsCustomStatistics.xml` and `${MUSE_HOME}/proxy/modules/statistics/MuseProxyStatistics.xml` files to Muse Setup.
- Updated Muse Setup to include Application Metadata work.
- Updated Muse Setup to add in `${MUSE_HOME}/use/ice/ICECore.xml` file the RDBMS and JDBC_DRIVER fields, when RTS product is enabled in the serial number used for installation.
- Updated Muse Setup to add some missing jars when installing Muse Document Repository.
- Starting with Muse 2507 there is a complete separation of the Muse Proxy Setup from Muse Setup. Now the `/etc/init.d/muse` file does not refer Muse Proxy Server and, at upgrade this script gets overwritten. In this case Muse Proxy Server will not start. Even if the associated documentation states that, after installing Muse 2507 to run Muse Proxy Server Setup, it was added an upgrade instruction to Muse Setup to ask the user to run Muse Proxy Server Setup using any SN provided for the partner that has the entry for Muse Proxy Server enabled.
- Muse Proxy Constants, specific to partners, are now automatically installed by Muse Setup when a new Muse version is installed.
- Muse Proxy Server Setup and Muse Setup are now completely separated.
- Updated Muse Setup to add the new launchers when installing Muse Statistics Monitor.
- When installing a new Muse Proxy version, the allowed ips added in `${MUSE_HOME}/proxy/hosts.xml` for "default" `<USER_RULE>` are now added for "administrator" `<USER_RULE>`, too. This was done by adding a new window in Muse Proxy Server Setup for the administrator ips to be added in `${MUSE_HOME}/proxy/hosts.xml`.
- Updated Muse Proxy Setup so that at an upgrade the SUPPORTED_FILTERS field from



`\${MUSE_HOME}/proxy/MuseProxy.xml` file to get overwritten with the latest field value and in the `ENABLED_FILTERS` field from the same file to add the following string at the end of the field value `", com.edulib.muse.proxy.filter.MusePostID"`, if not already present.

- ✎ A new flag `"errorTemplate"` was added to the Muse Admin XML Connector from the `\${MUSE_HOME}/tomcat/conf/server.xml` and at upgrades Muse Setup adds this flag.
- ✎ Removed `UNCOMPRESS` field of the `\${MUSE_HOME}/proxy/MuseProxy.xml` from Muse Proxy Setup and Muse Setup.
- ✎ The Partner Source Factory is now distributed through Muse Setup.
- ✎ Updated Muse setup so that when installing Embedded Apache Tomcat only the scripts for the corresponding OS are installed (e.g. the `.exe`, `.bat` for Windows; the `.csh`, `.sh` and without extension files for Unix systems).
- ✎ The startup scripts have been updated to allow specifying additional parameters.

7.1.9 Muse Source Factory

- ✎ Removed the "Download" button for all serial numbers that are not active.
- ✎ Added a new filter on protocol on Source Factory web interface Muse Sources screen, both for staff and partner accounts.
- ✎ Created the `PartnerSPDBRecordsExporter` which exports the archive containing the partner's source related database records and `.sp` file to an agreed FTP location.
- ✎ Implemented a web interface for Partner Source Factory users: `adminpsf` and `partnerpsf`.
- ✎ Added `LAST_UPDATE` field to source related records: `DAR`, `HAR`, `SAR`, `CAR`, `AAR`, `TAR`.
- ✎ Updated Repacker to rebuild the `.sp` file when database related records are updated.
- ✎ Previously the stylesheets used to format responses from views generate input like: `<input name="param1" value="value1"> <input name="" value="abcd"> <input name="param2" value="value2">` and when this form was submitted to Embedded Apache Tomcat server the corresponding URL: `http://server/action=displayView¶m1=value1&=abc¶m2=value2` was RFC non standard because in the second input the name is empty. Updated stylesheets so as not generate the above input.
- ✎ Fixed small bug fixes added some minor improvements for Source Factory web interface: – all labels from one screen have the same format, – a field is referred with the exact same label in all screens, – the fields describing one record (e.g. the Source record) are displayed in the same order on all screens, – fields with similar content are displayed together as groups, – fields not necessary in the description of a Connector / authenticator were removed.

7.1.10 Muse Source Package Assistant

- ✎ Checked the `SourceID` and `ApplicationID` input fields for all the actions in order to prevent an invalid format.



- ✎ Updated ProfileContentGeneralTest class in order to notify the developer if the Source ID does not have a SAR entry in Source Factory.

7.1.11 Muse Search Query Translator Generator (SQTG)

- ✎ The Template editing window from the SQTG tool are now restructured to display the template data in a clear and well displayed style.
- ✎ Updated the help mechanism in the SQTG tool to be more intuitive.
- ✎ Revise the entire Search Query Translator Generator tool manual.
- ✎ Revised the entire Search Query Translator Generator tool's user interface.

7.1.12 Tools and Utilities

- ✎ The CheckMuse tool from Muse Admin was updated (the file `${MUSE_HOME}/admin/MuseAdminSettings.xml` is updated to refer to the WRITER.xml instead of INSERT.xml). Now, the CheckMuse tool supports only applications that contains WRITER.xml.
- ✎ The update tool for eXist contained a distribution of eXist. Among the files contained there is iceutil.jar used for sending emails from XQuery. This tool was uploaded on Support Site.

7.2 Bug Fixes:

7.2.1 Muse Applications (Miscellaneous)

- ✎ Updated the load method from the ICEHttpConnector class and now the navigation ManagerMode contains the rewriting templates in the following order: 1. The rewriting templates from application profile (if exists); 2. The rewriting templates from source's profile (if exists). Also, now, the rewriting templates from the source's profile are the last ones processed, because the final match value is done by the last template matching the URL.
- ✎ The checkMapConnectors task failed when it ran using JDK 1.7. The cause for this exception was that in the output records, generated using the map files, there were elements of xsd:gYear schema type like `j:VehicleModelYearDate`, which did not respect the schema type restrictions. this was fixed and now, all the necessary map files are corrected.
- ✎ Corrected the mechanism that computes the date when the source packages was built.
- ✎ All the methods available in ModulesXmlUtil class which have a correspondent in ICExmlUtil class were updated to the latest version of the code from ICExmlUtil class.



7.2.2 Muse Core and Modules

- ✎ A change made to the `ICEKeystoreFactory.createKeyStore(String[] sslCertificates, String keyStorePassword, ClassLoader classLoader)` method caused sending emails from MCAA through SMTP over SSL or TLS connection to fail. This only happened if the mail server used un-trusted certificates. This is fixed now.
- ✎ Previously, the In-Process modules section of the `SEARCH.xml` configuration file listed the modules that will be started along with the `SEARCH` module if some rules are met. However, if one failed to properly configure the parameters, then these modules ran without any control yielding unexpected results. This was fixed by adding a new parameter "useInProcessModules" to `SEARCH` module which controls if the In-Process Modules from the configuration file are taken into consideration. If the `useInProcessModules` is false the in-process modules configuration will not be used.
- ✎ After upgrading to Muse 2.5.0.3, it seemed that, in certain conditions one could not perform Muse Operations anymore, as if it had no rights. If one performed a whole `UWire` (meters) alert run, with 260 sources in it, then all the `UWireConverter` alerts failed, as well as any other operation in any other application (other than `UWire`). On the other hand, after an ICE Server restart there were performed some searches in `DevFoundation`, then the `UWire` alert was run and it was observed that out of 260 source few of them were failing with the Access denied. this was fixed.
- ✎ The previous startup scripts did not leave room for specifying any additional parameters. It was possible to alter the already defined ones but one could not add anything new. The scripts were changed in order to allow the setting of these additional parameters.
- ✎ The `<LOG_SCHEDULED_ROTATION>` rules from the configuration file were not followed. This was fixed.
- ✎ Even though some of the `ICEXmlUtil` methods declare an encoding parameter, the code actually did not use it at all, the encoding being hard coded at UTF-8. this was fixed, and now, the code uses the declared encoding parameter.
- ✎ If, on the ICE Connection, an empty initial message is sent, the connection closed immediately without any error message. However this did not happen after a `LOGON` is performed on that connection. This was fixed and now the connection stays opened until the client closed it or after the `LOGOFF` command is issued or after the specified timeout in the ICE Server.

7.2.3 Muse Web Bridge

- ✎ Saving custom parameters in harvesting application did not work correctly. This was fixed.
- ✎ Every time a user signed-in the system computed and stored its `personalID` so that its PPMS properties may be referred under the new credentials. It was expected that each sign-off resets the `personalID` to its previous state which did not happen. This was fixed.

7.2.4 Muse Admin Bridge (Administrator, Management, Designer, Sources)



- ✧ Updated filters for Personal Users to be case insensitive.
- ✧ Minor changes(e.g.: corrected misspellings, added more details for some fields in the associated help pages, changed some text to be more meaningful) were done to the MCAA web interface.
- ✧ While testing "Configure more sources like this" from MCAA for sources that do not have the same parameters the message "This source does not have these parameters to be set in the source profile" did not appear when it should have. This was fixed.
- ✧ While testing MCAA, when clicking on "Problem Report" button, the "Order New Source" window opened. This is now fixed.
- ✧ While testing "mobileDevFoundation" application from Muse 2507 the associated skins were missing. This is now fixed.
- ✧ When testing "Configure more sources like this" feature from MCAA, the error "Parameter xm lFileNames has invalid value: XML document structures must start and end within the same entity." was received. This is now fixed.
- ✧ Reviewed the status of the floating panels in order to have the "modal" status when the user must not interact with another MCAA actions. For example the floating panels for the Application Modules are not modal and errors occurred when the user made an action in the parent page and then made an action in the floating panel.
- ✧ "Update Interface" did not work if a group name contained a backslash character. This is now fixed.
- ✧ When trying to update the "Proxy User" with a value that contains backslash "\", the character "\" was doubled. This was fixed.
- ✧ Import application threwed ArrayIndexOutOfBoundsException. This was fixed.
- ✧ If a long GET string was used as URL in the Prototype Ajax call, the browser refused to send the long string (URL) and no response was returned from the server. This was fixed by revising all Ajax calls from MCAA to correctly use POST method instead of GET (or a surrogate POST).

7.2.5 Muse Control Center

- ✧ Moved the \${MUSE_HOME}/center/CollectingSearchData.xml, \${MUSE_HOME}/center/CollectingSearchData.mds and \${MUSE_HOME}/center/tasks/CollectingSearchData.tsk files to \${MUSE_HOME}/center/tasks/CollectingSearchData directory. Corrected the references inside these files to the new location. Deleted these files from \${MUSE_HOME}/monitor directory since they are not used from here.
- ✧ The error "Update error:Build file field is empty." occurred when testing the Properties tab of an Ant task. This was fixed.
- ✧ The error "Failed to invoke method query in class org.exist.xmlrpc.RpcConnection: org.exist.xquery.XPathException" was received while testing Collecting Search Data task. This error appeared because the UTF-16LE encoding was not used. This was fixed.
- ✧ A blank page was obtained while trying to edit a FileSet for an FTP task. This happened only



when using Mozilla Firefox. This is now fixed.

- ✧ The mechanism that computes the ASU progress was changed so that the maximum number of steps to be: the number of downloadable sources plus the number of processable sources. Also, the progress is increased by 1 unit each time a source is downloaded or installed.
- ✧ ASU Log was improved with: 1)improved the messages for reporting the update of the applications list and the update of the Sources list within an application. These steps are now as part of a "preparation" step that it is executed before running the actual upgrade algorithm. 2)The download of Source Packages and of modulesutil.jar file is now reported on Task Summary instead of Application Upgrade Summary. 3) The messages for up-to-date Sources are no longer displayed when the list of installable Sources is constructed (before the install of modulesutil.jar), but when the Sources are actually processed or skipped from processing because they are already up-to-date.
- ✧ Updated ASU log messages to explain the error's context and not only the exception message, as it was previously.
- ✧ Updated the Swing interface for the FTP Connection and FTP Logging tabs to avoid problems at resize.
- ✧ The properties of the Muse Control Center Ant task that have no values, were not displayed on the interface but they exist in the .task file. This was fixed, and now, the properties with empty values are displayed.
- ✧ In Muse Control Center (MCC) log file the error:
"com.edulib.muse.center.servlet.output.FreemarkerMuseCenterSessionOutput@71780051: Not logged on. Please logon first." appeared repeatedly (every time MCC refreshed) after logging into the MCC Web Interface. This was fixed.
- ✧ Certain events were not displayed in the report dialog, both on swing and the web interface. This was because events were only identified by an integer and if two events had the same id, they were treated as the same. This was fixed.
- ✧ Multiple fields from the Muse Control Center email(to, cc, subject and message)task allow the use of variables which are later interpreted. If an email was stopped at unexpectedly the fields from the email were replaced with their interpretation. If the task was saved at that time, the variables used in the fields were lost. This was fixed.
- ✧ Fixed the problem with FTP logs if 2 or more FTP tasks were started at the same time. Fixed a problem where the FTP task failed on stopping if the FTP server was Windows based SFTP.
- ✧ FTP task: Fixed a problem regarding text fields validation. Initialized to the same value all the text field values that contain file paths in order to make switching between different appenders easier.
- ✧ Automatic Source Upgrade: The source status descriptive name is now displayed instead of code. So, the "FFE" is now replaced by "Not Tested".

7.2.6 Muse XML DB Management System

- ✧ When exporting the personal users for an application either by using the startPersonalUsersExporter tool or Downloading the application (Including the Personal Users) from Muse Admin Console the following exception is returned: "Error exporting personal profile: No such



collection : '/db/ppms'. This is now fixed by creating the /db/ppms/ collection if it does not exist (it was not already created by the init mechanism).

7.2.7 Muse Statistics Monitor

- ✎ Creating a data set that has one "Collecting Search Data CSV" analysis, then clicking to start the analysis and then closing the analysis dialog resulted in a "java.lang.NullPointerException" error. This was fixed and now, the closeButton button and the window close button (X) are disabled when the analysis is running.
- ✎ Creating a data set that had one "Muse Proxy Statistics Logs Analyses" analysis, then clicking to start the analysis and then click on the first view from the analysis resulted in "java.lang.ClassCastException: com.edulib.muse.monitor.views.DefaultView cannot be cast to com.edulib.muse.monitor.views.ViewDialogInterface". This was fixed by setting the "isGraphic" attribute to true for CONTROLLER_VIEW node(from `${MUSE_HOME}/monitor/MuseMonitorClassMaps.xml` file).
- ✎ Removed the copyright message from the main window and updated the screenshot in the manual (chapter 3.1 Data Sets). The copyright message was already displayed in the About dialog.
- ✎ Made some updates to prevent Muse RRD Grapher spikes. This updates use NaN sample values when an overflow happens.
- ✎ Previously, the FreemarkerMuseMonitorSession did not compile with Java 1.7 . This was fixed.
- ✎ Previously, the RecordElementAttributeDialog did not compile with Java 1.7. This was fixed.
- ✎ Updated NetworkAnalysis fields descriptions in sections "7.2.4.6 NetworkAnalysis.csv" and "7.2.5.6 NetworkAnalysis.xml" to indicate that their values are average values per connector.
- ✎ Renamed the column "Source Name" to "Source ID" for the NetworkAnalysis reports (both CSV and XML). Updated the manual(`${MUSE_HOME}/monitor/doc/Muse Statistics Monitor/Muse Statistics Monitor.xml`, sections 7.2.4.6 NetworkAnalysis.csv and 7.2.5.6 NetworkAnalysis.xml) accordingly.
- ✎ Revised the Muse Monitoring using JMX document and added more details about the graphs and how the parameters are measured and displayed.

7.2.8 Muse Setup

- ✎ The "Desktop Icons" for Muse Proxy Server were not uniform: Muse Proxy Server was found in Start->Programs->"Muse/Muse Proxy Server"(no quotes) which did not do anything. And also "Uninstall Proxy Sever" was found in Start->Programs->Muse. This was fixed and now all the "Desktop Icons" for Muse Proxy Server are located under Start->Programs->Muse->"Muse Proxy Server"(no quotes). Here the following icons will be found: Proxy Sever Start Page, Shut Down Proxy Sever, Start Up Proxy Sever, Uninstall Proxy Sever.
- ✎ When for Muse HTTP Server there was a connector for HTTP defined to use port 8000 and another one for HTTPS that uses 8443 port, then, at an upgrade, Muse Setup transfered, for Embedded Apache Tomcat for HTTP, the port 8443 and for HTTPS did not assign any port. This



was fixed and now the port transfer is done correctly for the two connectors.

7.2.9 Muse Source Factory

- ✎ Updated the getSerialProperties action to prevent the "Cannot get output stream: getWriter() has already been called for this response" error when trying to download serial.properties for inactive serial numbers.
- ✎ Previously, the Log format for MuseInfoBase.xml.default file was wrong since it was not logging the seconds only the minute. This was fixed.
- ✎ Emptied the Repacker history values from the `${muse_home}/factory/init/db/infobase/history/history.xml` so as at a fresh install of Source Factory (PSF or GSF), when the Repacker did not work yet, these values do not appear on the web interface. They will only appear when Repacker runs and actualizes them.
- ✎ When logged into Source Factory as a partner user the "Source Packages" link showed more records than the "All Source Packages" link from the "Source Factory Lists" page. This was fixed and now the two screens show the correct number of sources.
- ✎ Support Site: Corrected a typo in the logon page: "The Muse Supoprt Web Site provide a..." is now "The Muse Support Web Site provides a .."
- ✎ The stylesheet(edit.xsl) used for editing the Source Factory records in the Source Factory web interface did not properly render the groups of fields (`<FIELD group="groupName">`) in certain situations. When the fields included in a group have the `display="no"` attribute or they come without content, they were displayed on the interface as included in the previous group, and not into the correct one. This was fixed.
- ✎ Increased the version of Source Factory 1.0.3.0. This version is visible on the web interface.

7.3 Known Bugs:

7.3.1 Muse Document Repository

- ✎ Embedded Apache Tomcat does not shutdown when calling the shutdown script if at least one logon has been performed into an application. This happens when running Jackrabbit context under Embedded Apache Tomcat.

7.3.2 Muse Setup

- ✎ Upgrading to Muse 2509 on a machine where Java 7 is installed will take longer than upgrading on a machine with Java 6 installed. This happens because of a bug in Java 7: BUG ID 7122740 (http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=7122740). This bug is solved in Java 8 build 23. The fix is not included in the Java 7 update 1 to 4. The bug manifests when invoking a



method from `java.beans.PropertyDescriptor` class which takes 5000ms in Java 7 versus 100ms in Java 6. Note that the methods from this class are intensively called by the 3rd party Installshield software tool, not the MuseGlobal java code . Also note that the upgrade is done successfully, is just that the installation will take longer. There is no such slowness when performing fresh Muse install on machines with Java 7 installed.





8.0

Changes in Muse 2.5.0.0 Release

Release Date: 2010-10-07

8.1 New Features:

8.1.1 Muse Applications (Miscellaneous)

- ✧ Updated the connectors base classes to properly handle the HTTP error codes when a proxy is used.
- ✧ The necessary changes were implemented in order to obtain ISO8601 dates which contains only the native date parts.

8.1.2 Muse Core and Modules

- ✧ The stopThread() method is now executed with the rights of the Subject which executes the module. This was needed by the stopThread() method of the Z39.50 connector which needed to do extra calls to disconnect from the lower levels in order to assure a source was promptly stopped and did not hang on forever. For this, some permissions were needed, because the stopThread method was executed with no permissions (due to the intersection between the context of the IEAbort having all ice.jar code permissions and the context of the SPjar which is empty).
- ✧ Updated the descriptions for the MAX_CONCURRENT_SESSIONS and MAX_USER_CONCURRENT_SESSIONS fields in \${MUSE_HOME}/use/ice/ICECore.xml and in \${MUSE_HOME}/use/ice/doc/ICE Server.pdf document.
- ✧ Created a new entityFilter which will extract(actually just keep) the telephone numbers from the frequency key primary results. Added in this entity filter configuration file a series of regexp expressions which will be used to match the phone numbers. Also created a new distill key which will use the above entity filter to extract telephone numbers.
- ✧ Created a new Content Mining extraction key to extract the Locations terms.
- ✧ Define the system data model and add it to the ICE-Record.xsd. Defined the JXDM data model



for the ICERecord and included all XSD files belonging to this model into the ICE-Record.xsd. Defined the Events Data Model XSDs.

- ✦ Created the ICEWebSphereMQReader and ICEWebSphereMQWriter modules in order to retrieve and write messages to the provided Test WebSphere MQ Server.
- ✦ Modified the ICEServer code which handles the creation of the JMXConnectorServer to use only one port (2506) when monitoring the ICEServer through JMX. Note that the changes are not available for HTTP and Tomcat servers (since for them out of the box monitoring is used).
- ✦ An index with all the data models supported by the system is kept in a file that is going to be stored at ICE server level. Besides the data models, this index file contains all the namespaces and prefixes used by each of these models. This index is available only in the Muse Web Bridge.
- ✦ The 'internal' data, that is data that does not reach the end-user transparently, was added in a separate DATA section of the record. This DATA section will be created in its own namespace, namely <http://museglobal.com/DM/system> and will hold the fields from all ICE commands that are appropriate to be stored there. The fields added by each ICE command will have separate namespaces. The URI for these namespaces must be derived from the system one.
- ✦ New methods were added and the existing ones were updated in order to permit optimized namespace serialization.
- ✦ Updated the ICERecord and ICEXmlRecord, ICEXmlRecordTest classes by adding support for data models.(version support was already implemented). Updated the ICERecordMetadata class to have support for version and data models. Updated ICEBigList and ICEBigResultSet classes.
- ✦ Moved the License Access Denied log message for the Distill model (i.e. for the Content Mining functionality) from the ERROR log level to the NOTICE log level. Also changed the message from just "Licensing Access Denied." into "Licensing Access Denied for Content Mining. This functionality will not be used". This way it gets symmetric with the other Licensing Access Denied messages.
- ✦ A limit for the number of file descriptors has been added to the startup scripts.
- ✦ Added the possibility to limit the number of emails sent from an application. This limit can be set from the application profile. If a limit is not specified or if the limit is set to 0 the number of emails sent is not limited.

8.1.3 Muse Web Bridge

- ✦ Added statistics log to Muse Web Bridge. Also the number of active sessions and workers were exported through JMX.
- ✦ Updated the Muse WebBridge Communication Interface.pdf document with more details about the Progress action.
- ✦ Updated the testXMLAPI tool in order to contain, for every action, all parameters defined in the Muse Web Bridge Communication interface for that action.

8.1.4 Muse Admin Bridge (Administrator, Management,



Designer, Sources)

- ✎ Reorganized the MCAA-> Application->General Application Settings ->Information panel, in two sections: Contact Information and Outgoing Mail Server (SMTP).
- ✎ Updated MCCA console to allow the user to add an attachment uploaded from Web Browser to the email sent from "Source Problems Report".
- ✎ MCAA: Updated "More Information" screen from the "Applications" tab with the details about the latest features added: Add Replacement Source(s) and Use Replacement for Defunct Source(s).
- ✎ MCAA: Source Audit: Changed the display for Visible to use "Yes" for visible, "No" for not visible instead of the currently used icon.
- ✎ Now, when serial.properties is missing the following error message is displayed: "The Serial Number file [C:\muse\use\ice\serial.properties] not found. The installation might have not been completed (possibly because it has been interrupted or the registration form has not been successfully delivered)."
- ✎ Updated serverControl scripts o refer the new path of Apache Tomcat embedded within Muse.
- ✎ Added LIST_SIZE parameter to MCAA. This parameter is configurable for the: DeDupe Keys, Jitterbug Keys, Ranking Keys and Content Mining Modules.
- ✎ If a Source Package is replaced with another Source Package then all the occurrences in groups are also replaced.
- ✎ Extended Muse Admin API to allow reordering the login modules from jaas.config files.
- ✎ In MCAA it was added the possibility for the administrator to configure which languages are included in the language dropdown from among the complete list. This can be done from the section "Applications General Settings->Interface Options->General".
- ✎ Fixed some inconsistencies from the Source Audit report. These inconsistencies were: 1)for the HTML version and for the Z3950 sources the main Z3950 fields like: host, port did not appear in the report; 2) the VENDOR and PRODUCT fields did not appear in the .xls report.
- ✎ modulesutil.jar version is now included in Applications Source Audit report.
- ✎ Updated the MCAA formatting stylesheets (HTML and Excel) to include modulesutil.jar version in the Applications Source Audit report.
- ✎ Implemented a new action in Muse Admin Bridge that allows updating modulesutil.jar file alone, without any source update.
- ✎ Updated MCAA to easily manage the replacement of the Defunct with Replacement Sources.
- ✎ MCAA users are now able to edit \${ICE_HOME}/profiles/hosts.xml right from the interface. This can be done from "Login Modules"-> "Edit" link of com.edulib.ice.security.authentication.ICELoginModuleIP login module.
- ✎ Updated the "Muse Console for Application Administration.pdf" manual with information about regarding the MTD file related to a Source Package.
- ✎ Created the Muse SourcesAudit.pdf manual that describes SourcesAudit tool functionality.



- ✦ To the "3.1.4.2 Select a User to Edit Properties" section from the MCAA manual, there were added details regarding the permission to edit/view the application authority users.
- ✦ Added more contrast between the background and the text to distinct between the "readonly" and "disabled" fields.
- ✦ Using the MTD files to add/update Source Packages on the clients machine is no longer necessary downloading the entire global SEARCH.xml and Connectors.xml from Global InfoBase, because the Source Package corresponding entries from these files are now find in the associated MTD file. Actually, these files are automatically updated when add, update sources operation are performed. Removed the global SEARCH.xml.sp and Connectors.xml.sp downloading when a Source Package is added/updated.
- ✦ Extended "Source Problem Report" from Muse Admin consoles to include more Source Package information such as: ENCODING, REQUEST_ENCODING, USE_PROXY and other useful information from the SP's profile. It was added on Source Problem Report panel a checkbox with label "Muse Version" (after "System Configuration" checkbox). If this option is checked the information about Muse version will be added to emailed problem report.
- ✦ Updated all Muse Admin consoles in order to use DOM when XML documents are created from Java Script instead of string concatenation.
- ✦ Sometimes, if connection with Global InfoBase is slow when a customer sent a "Source Problem Report", in the attached report the Source Package version is "Loading Source Version ...". This is an error which was fixed.
- ✦ Previously, from the "Source Configuration" section only the "Host" value could be set, while the "Port" value could only be set from the "Source Advanced Configuration". Added the possibility to set the value of the "Port" parameter in the "Source Configuration" section.
- ✦ The following two new fields are now edited from MCAA: Database Driver and Database URL.
- ✦ The "skipTo" mechanism used in "List Applications" Panel was changed so as: If the user enters a valid Application number in the "Skip to" box and then clicks the "Go" button then the list with the retrieved Applications will have on first position the Application having the number the user entered. If the user enters a portion of a Application ID in the "Skip to" box and then clicks the "Go" button then the list with the retrieved Applications will have on first position the Application having the portion of Application ID the user entered.
- ✦ Added a new panel entitled Information in the "Test Source(s)" window from MCAA. This adds more information of how to construct a test query.
- ✦ Because old consoles will be replaced by the MCAA based consoles, a notification page was added. In this page the user is announced that the old console was replaced with MCAA.
- ✦ Because the old console will be replaced with the MCAA administrator, designer, setup, eyeshot users were removed from configuration files. Updated guru, ovidadmin, oviddesigner users to use MCAA web interface.
- ✦ Extended the application export/import operation from MuseAdmin in order to allow exporting/importing entries from \${ICE_HOME}/profiles/hosts.xml if they exists.
- ✦ Added "Display" option to "Test Source" panel from MCAA. This option specifies how the result records will be displayed: either as XML or Raw HTML entities. To view the detailed result



records click on the Show Records icon.

- ✧ New fields(USE_TLS, USE_EHLO, USE_SSL, SSL_CERTIFICATES) added in MCAA under "General Settings/Information" panel.
- ✧ Added the following fields in MuseAdmin.xml: USE_TLS, USE_EHLO, SSL_CERTIFICATES.
- ✧ Two new options were added to the "Interface Options->Search Options" section from MCAA. These options are: "Show Search Progress" which determines whether the Search Progress information is displayed during a search process and "Show Progress As" which determines if the Search Progress will be displayed as a progress bar or as an animated text(e.g.: Searching,...).
- ✧ Fixed some problems that appear when generating the Source Audit Report from MCAA. Improved this report with new information such as: build date, machine name and version of the Muse Admin Bridge used to generate the report.
- ✧ Added a "Standard Muse Statistical Reports" appendix in the Muse Statistics Monitor document.
- ✧ Added support for editing Source Name at interface level. In this way the Source Name can be translated in different languages or simply changed. This update is now reflected on "Update Interface" section from MCAA. However if a Source Name from a Muse Application was never edited(changed) in the "Update Interface" section from MCAA then the Source Name displayed in Muse Application Interface is the one from Source's profile.
- ✧ While running the Audit tool for the HTTP connection for the "mcaa" user, an "Unreconized Muse Admin response" error appeared. This was fixed.
- ✧ ASU - it is now possible to test multiple sources with distinct queries for each source.
- ✧ For some configuration options (from Source Package's profile) there were added "Field Information" windows. In each of these "Field Information" windows is displayed metainformation(information about how to configure a field) related to the corresponding configuration option. A new window named "Field Information" that displays the metainformation related a Source package. This "Field Information" window appears when clicking on the "More Information" icon of a parameter from the "Applications -> Setup and Organize Sources -> Edit Source Advanced Configuration" section. A link "Raw View" was added, in MCAA console in the "Applications -> Setup and Organize Sources -> Edit Source Advanced Configuration". When this link is accessed the Source Package profile will be displayed in an popup window.
- ✧ The MCCS console includes now Source Audit functionality.
- ✧ Added new switch for enable/disable "Document Scoring" functionality in MCAA console.
- ✧ It is now possible to edit USE_URL_REWRITING from Source Package profile. The possible values of this field are "yes" or "no" without quotes.
- ✧ Added "Maximum User Emails" field in MCAA on the "Application->Edit Configuration" screen.

8.1.5 Muse Control Center

- ✧ Automatic Source Upgrade(ASU): Added possibility to force the download of modulesutil.jar file in all Applications.



Some improvements done for the Muse Control Center ASU task. These improvements are: changed components layout and tab name, updated help screens with the new labels and tab name

- ✦ The Muse Control Center FTP task recursively downloaded the files although this was not obvious from the user interface. For upload, the files were not uploaded recursively and the local files could be uploaded from several directories. Added a recursive option to the Muse Control Center FTP task for the scanning of the source directory in every given fileset, and used wildcard filters on both download and upload operations.
- ✦ Improved ASU algorithm with several optimizations, updated the algorithm representation on disk, updated both the Swing and the web interface. The execution time for the new algorithm is highly reduced due to these improvements.
- ✦ The previous logger for the FTP task could only process messages sent by the FTP task (the same messages are written into the console and can be intercepted by a separate LOG task from Muse Control Center). Added a log4j logger which logs every message from the FTP task. It can have 3 different appenders: file appender, rolling file appender, and daily rolling file appender. Every one of them is selectable from the user interface.
- ✦ Updated ASU manual with more details regarding the scheduling of the task, added criteria about whether to "Clean-up source related files", "Update status of source after upgrade"; and "Restore Source".
- ✦ Added summary to Alerts task, that displays the number of processed applications, and the personal users, the total number of alerts, disabled alerts and expired alerts per application. Included this summary as `#{SUMMARY}` in the email report.
- ✦ Added a new line in the ASU summary that indicates the number of processed applications.
- ✦ Split the "Script Parameters" tab in "ICE Server" and "Script" tabs. Updated help on web interface.
- ✦ Added the possibility to not overwrite any existing files on FTP transfers. The new option is called "Overwrite: none".
- ✦ Updated the web interface to be more intuitive. The updates are: split the "Email parameters" in 2 tabs: a) Outgoing Mail Server (SMTP): that contains host and port, username and password, option to enable SSL; b) EMail Message: contains from, to, cc, bcc, reply to, subject, message, attachments, archive name c) The help on the web version was updated accordingly.
- ✦ Add support in Muse Control Center FTP task for FTPS.
- ✦ Added support in Muse Control Center FTP task for FTP, SFTP and FTPS.
- ✦ Updated the FTP task to use multiple file sets. Previously, a FTP task could upload/download files to a single destination directory. Now, it was extended to handle multiple destination paths.
- ✦ When running a task list that contained a CSV task of type "read", the report tab contained a number of blank lines equal to the number of lines parsed. This was fixed and now, the blank lines do not appear in the report.
- ✦ All email addresses from the Muse Control Center Email task are now validated against RFC 2822 standard.
- ✦ Previously, the Alerts task required the user to manually enter the applications to run alerts for. Now, the user has the possibility to choose these applications from a list.



- ✧ Loading a task that is already loaded will not break the application panel anymore.
- ✧ When loading a new task, the names of the possible tasks that can be loaded are now sorted in alphabetical order.
- ✧ The Source Audit task: Updated the e-mail task to create the .zip archive and attach it to the e-mail only if at least one of the files to be archived exists. Otherwise the e-mail task failed when trying to create a .zip archive with no files (error message "ZIP file must have at least one entry"). Updated the build file to delete the report files from disk before running the tool.
- ✧ Changed the subject of the email sent for Source Checker reports to display the number of failed sources and the number of tested sources.
- ✧ Source Checker task: Extended the report to contain the sources categories from the current report and the lists of sources for each category. The report is saved as an HTML document (\$MUSE_HOME/center/logs/SourceCheckerReport.html) and attached to the e-mail.
- ✧ When running the task SourceAuditReport.tsk from Muse Control Center for applications that contains sources with "special" chars in their name (e.g. the application collectivecatalog), the generated reports were invalid: the Excel report contained invalid content and the .xml report was invalid. This was fixed.

8.1.6 Apache Tomcat Embedded within Muse

- ✧ Added a graceful shutdown interval to Muse Servlets. So, on the destroy() method the Apache Tomcat embedded within Muse now waits a specified amount of time (in seconds – default 60) to release the resources.

8.1.7 Muse XML DB Management System

- ✧ Updated the existUpgradeTool to install the new eXist version(1.4).
- ✧ Isolated all non standard xquery code in the form of an eXist built-in module.

8.1.8 Muse Setup

- ✧ Now, both Muse HTTP Server and Embedded Tomcat cannot be set as services in the same time. A popup will appear saying that either Muse HTTP Server or Embedded Tomcat should be set, preferably Embedded Tomcat since Muse HTTP Server is deprecated. All Muse services will be uninstalled by Muse Setup before the upgrade action. When starting the upgrade operation, in Muse Setup services panel, only the Muse services for the products found in serial number will be displayed.
- ✧ The \${MODULES_HOME}/pac directory was added to Muse Setup.
- ✧ Added Apache Tomcat product to Muse Setup.
- ✧ Add Content Mining in Muse.pdf manual to Muse Setup.
- ✧



The `${MUSE_HOME}/tomcat/doc` directory was added to Muse Setup.

- ✎ Many settings as the heap memory dimension, file descriptor limits, JVM properties generally were previously placed in the shell startup files, which got entirely overwritten. These settings are now placed in `configure.bat` file from `http`, `ice`, `z3950` and `proxy` projects. This `configure.bat` file will be merged when a muse upgrade will be performed.
- ✎ Updated Muse Setup and Muse Proxy Setup to not install some files that are no longer needed.
- ✎ Updated Muse Setup and Muse Proxy Setup to accommodate the recent changes from Muse Proxy.
- ✎ Removed some unused libraries from Muse Setup and Muse Proxy Setup.
- ✎ The Muse starting script was updated so work was done in Muse Setup so as the `muse` file from `/etc/init.d/` to be overwritten on a Muse upgrade.
- ✎ On Muse installation on 32 bits Windows Systems Muse Setup installs the corresponding `javaservice.exe` file. On Muse installation on 64 bits Windows Systems Muse Setup installs the corresponding `javaservice.exe` file. On Muse installation on Windows 7 Systems Muse Setup installs the `msvcr71.dll` file together with the corresponding `javaservice.exe` file.
- ✎ Updated Muse Setup and Muse Proxy Setup according with the changes done to the Muse Proxy Server products.
- ✎ MCAA partner customized users will be installed by Muse Setup.
- ✎ Customized partner skins and resources will be installed by Muse Setup.
- ✎ Updated Muse Setup to install the Muse Proxy changes.
- ✎ Added `Muse Sources Audit.pdf` to Muse Setup.

8.1.9 Muse Source Factory

- ✎ A new list is now available in the Source Factory web interface. This list contains the Sources created during a given time period.
- ✎ Few changes done on the Source Factory web interface regarding the list with new sources done in a specified period of time. Also the date input was transformed from textfield to date pickers.
- ✎ Source Factory web interface: added the two fields "Access Restrictions" and "Subscription" to the "insert new record" , "edit record" , and "advanced Edit" screens in the Source Factory. New possible values were added for these two fields.
- ✎ Simplified the algorithm to store all actions done on a database record in the corresponding action history record(AHR).
- ✎ The value of the Test Status of a Source becomes FFE(meaning Not Tested) if the corresponding Production Status is changed to 9xx value.

8.1.10 Tools and Utilities



- ✧ Included .mtd files to Source Packages.
- ✧ Added Muse Version in the document version section, besides the document version. This was done in all Muse documents.

8.2 Bug Fixes:

8.2.1 Muse Applications (Miscellaneous)

- ✧ Some <JAVA_POLICY> and <JAAS_POLICY> entries contained \${MODULES_HOME} instead of \${APPLICATION_HOME}. When the Source Package was installed, the security rights were added with values referring \${MODULES_HOME}. This means they were not functional because the jar files referred were installed at application level. This was fixed.
- ✧ Added the ISBN13 field to IDR and changed the necessary files accordingly.
- ✧ Updated the cookie management from ICEHttpUtil/ICEHttpUtilEx classes in order to parse the "expires" attribute and test if the cookie is expired or not. If the cookie is expired it will not be added.
- ✧ Added support for the CONNECT HTTP request handling in the ICEHTTPConnector class.

8.2.2 Muse Core and Modules

- ✧ The PersonalIDIndex was stored in a cache constructed in PersonalWorkroomManagerFactory using a 10 minutes as CACHE_EXPIRE, the cleanup thread was using a local constant for CACHE_EXPIRATION of 6 hours. This might have caused that the Alert task to only take into account the new Individual users after 6 hours of inactivity. So if the alert task was set to run more frequently it did not get new users at all – only after a Muse Control Center restart (which some times involves the restart of the whole Servlet Engine). This was fixed.
- ✧ Relevance Ranking now works with all the data models.
- ✧ After the e-mail was sent the connection stayed open. This was fixed by adding the close() call after the e-mails were sent. Also reformatted the code so that to do this on a finally clause making sure that at the end of the sendMail call to close the SMTP connection.
- ✧ Added safety flags for both the ICEStatusThread and ICETimeToRunChecker flags. The flags control the startup of the threads, hence the threads cannot be started twice. Implemented catching of all the possible exceptions (Throwable) while stopping a Processing Module thread. This will prevent the helper cleanup daemon thread to finish. This will fix the IllegalThreadStateException error that appears in the logs.
- ✧ Updated Muse I18n manual, section 2.2 "JDK and JRE supported encodings" with the latest Java 6 encodings.



8.2.3 Muse Admin Bridge (Administrator, Management, Designer, Sources)

- ✧ The DISTILL keys list was not parsed correctly in the web interface. This was fixed.
- ✧ Previously, modulesutil.jar was installed after any Sourcen Package update. Now, the modulesutil.jar file is installed at application level only if this file is out of date.
- ✧ When the administrator created a new Application using MCAA and when he tried to add the first Source Package in this new Application, an warning message appears "Error occurred when try to update permissions from MTD for SP: \${APPLICATION_HOME}\profiles\SEARCH.xml (The system cannot find the file specified)". This was fixed.
- ✧ When adding a Source into an application the "Error occurred when reading permissions from MTD for {SP}: Target {SP} not found." error appeared. This was fixed.
- ✧ In MCAA a wrong tab was selected after "Update" button was clicked in the "Application General Settings" -> "Interface Options" window. This was fixed.
- ✧ Parameter values for the XML Servlets that contain non-English characters contained a "?" instead of the right character. This was fixed.
- ✧ MCAA - "Add Sources" section did not work if application name contained apostrophe. This was fixed.
- ✧ Some log messages from the Source Audit tool were not written in the log file. This was fixed.
- ✧ The SMTP_USE_SSL field from MuseAdmin.xml file is read incorrectly as USE_SSL instead of SMTP_USE_SSL. This was fixed.
- ✧ An audit report for an application in which a source's profile contained the:
<PROXY_PORT>\${PROXY_PORT}</PROXY_PORT>field, produced an invalid Excel file. This was fixed.
- ✧ The "URL Rewriting" option was placed incorrectly in "Navigation Manager" section instead of "Other Settings" section. This happened if the URL_REWRITING field was present in a Source Package's profile but USE_EX_PARSER and CUSTOM_PARAMETERS were not. This was fixed.

8.2.4 Muse Control Center

- ✧ The "Unexpected exception while executing action copyTask:" error was obtained when trying to copy a FTP task. This was fixed.
- ✧ Previously, the PersonalIDs index was reloaded for each Alert run - the index was only loaded on the init - when it was first created in the JVM. But because the index was altered by another JVM (the ICE server) the index was reloaded so that the new individual users to be taken into consideration in a timely manner (not having to wait for 6 hours of no Alerts task being run).
- ✧ Embedded Apache Tomcat (as well as any other Tomcat) did not stop if there was any Muse Control Center task "turned on". This was fixed.



- ✧ In Muse Control Center – the Swing version, a `NullPointerException` occurred when unloading a task list that contained task of type "FTP". This was fixed by adding a check in the `stopActionThread()` method to only write messages when the user presses the "Stop" button for the FTP task and not when the task is unloaded.
- ✧ When two FTP subtasks of the same task run in the same time the logs became scrambled towards the end. This was fixed by changing the way a logger is created(it is given a name identical to the ID of the FTP task) and closed(release all resources).
- ✧ A task list was marked as changed if at least one task was opened for editing but no change was made and the Close button was clicked.
- ✧ Redesigned the java code so that all initialization for the FTP task parameters to be done in one single place. The default timeout was set to 1 minute.
- ✧ If the connection to ICE was stopped while running the Alerts, the task remained in a "Running" state and so no email was triggered. This was fixed.
- ✧ Added Help sections for the "Connection Parameters", "Search Parameters" and "Report Parameters" tabs of the SourceChecker task.
- ✧ Updated the Help section for the Muse Control Center CSV task, on the web interface, to detail all the associated parameters and actions.
- ✧ Corrected some misspellings and added more comments on the Help pages of the "Upgrade Parameters", "Description", "Schedule" and "Algorithm" tabs of the Automatic Source Upgrade task.
- ✧ Updated ASU task so as: the values for keystore path and keystore password to no longer be lost when "secure connection" is not selected, the "update applications list at runtime" and the "update sources list at runtime" checkboxed to keep its value when applications are checked / unchecked, the "enable all" checkbox for sources to change its status (checked/unchecked) when the first source from list is checked/unchecked.
- ✧ For the CSV task the tab delimiter was not saved and was not loaded correctly. This was fixed.
- ✧ For the CSV task, tab was not available as an option for delimiter – this happened only on Muse Control Center web interface. This was fixed.
- ✧ One could not copy or delete filesets on Muse Control Center web interface for a FTP task. This was fixed.
- ✧ The task failed to transfer the current file if stopped when set to SFTP. This was fixed.
- ✧ Now, when pressing the "Stop" button the FTP task finishes the current transfer and then stops and fires a "Task Stopped" event. Previously, pressing the "Stop" button changed the status of the task to "Stopped" but the task continued to run in the background.
- ✧ Updated help information on Muse Control Center web interface for Log and Script tasks.
- ✧ When running the `SourcePackagesUpgradeTasks.task` task, occasionally the information from the final report seem inconsistent. This was fixed by updating the summary report with more suggestive texts for the non-working sources: the labels "Sources with Errors" / "Sources with Upgrade Errors" were replaced with "Non-working Sources (before upgrade)".
- ✧ The applications that cannot be found / processed are now skipped so that the ASU task to not fail



and to continue processing the rest of the applications.

8.2.5 Apache Tomcat Embedded within Muse

- When the Embedded Apache Tomcat was installed as a Windows Service (through the script `${MUSE_HOME}/tomcat/bin/service.bat`) the configuration options were not set from the JVM parameters configuration file (`${MUSE_HOME}/tomcat/bin/configure`). Thus one could not set the heap and non heap memory for example, as well as the JMX options uniformly. If heap memory was set inside the services.bat script, the JMX used the default Tomcat data which made the JMX connectivity to the Muse Servlets not working. This was fixed.

8.2.6 Muse Statistics Monitor

- The new modules that use CSVWriter to write a CSV file used comma as separator, while the rest of the modules use tab. They were updated to use tab as separator for all CSV files.
- Corrected some misspellings for Muse Statistics Monitor in "Connector Activity" tab and "Session Lifetime" the Chart and Report.

8.2.7 Muse Setup

- At a Muse upgrade from Muse 2400 or older to Muse 2405, Embedded Apache Tomcat did not appear in the MCAA->Monitor panel. This was fixed, and now, if there is no External Tomcat configured, Embedded Apache Tomcat will appear in the MCAA->Monitor panel.
- Some jar files were deleted from a Muse installation when computer restarted. This was because previously, a Muse uninstall was done and these files were in use and could not be deleted. If this Muse uninstall was followed by a computer reboot, before doing any other Muse installation, then the files are not deleted. Fixed this problem by adding a restart screen for uninstaller if there are any files marked as could not be deleted.
- Some errors such as "Cannot propagate configuration changes" appeared in the Muse Setup log after performing some Embedded Tomcat postinstall changes. These were fixed.
- On "Debian based" systems the Muse services did not start when the server started. This was fixed.

8.2.8 Muse Source Factory

- Registration notifications emails were not sent when Serial Numbers were about to expire. This was fixed.
- Updated the web interface to send the proper message when a mandatory field from an extension request is not provided (instead of remaining "frozen" as previously did). Now, extension request is processed even when no registered IP is provided.



8.3 Known Bugs:

8.3.1 Apache Tomcat embedded within Muse

- ✎ XML parser thread safe related errors can affect communication between Muse Admin and Muse Local Infobase Bridge which is used during Source Package Maintenance. This was fixed.





9.0

Changes in Muse 2.4.0.0 Release

Release Date: 2009-07-16

9.1 New Features:

9.1.1 Muse Search

- ✎ Increased the default limits of Maximum number of sessions such that MAX_USER_CONCURRENT_SESSIONS value was increased from 25 to 50 and MAX_CONCURRENT_SESSIONS value was increased from 100 to 200.

9.1.2 ICE Server

- ✎ Error codes and the error keys are now available to the end-user. The error message keys sent through progress messages are also sent as part of the error messages. Updated various classes from Web Bridge to add the errorKey and errorSource of the ICEOutput error messages to the parameter list of the displayError methods. Also various classes from Muse Modules were updated to forward the errorKey and errorSource When an error message is received from another module and it is forwarded. The putError method was fixed in order to use module targetID. If and only if, the module targetID is not available the class name will be used.
- ✎ Enhanced the Muse Benchtesting utility to be able to run commands that depend on other commands in parallel inside a session.
- ✎ Extended the Frequency Key so that it has a configurable test function which is applied on each term in order to satisfy certain rules. In this way a frequency key can be configured for extracting ISBNs, another instance of the frequency being configured to extract Social Security Numbers(SSNs), another to extract Plates Numbers, etc.
- ✎ Added more details to Muse Query Grammar description.
- ✎ Allowed for a two tier directory structure for the file repository to be used by the Temporary Workroom.
- ✎



Updated Muse Server sizing.pdf in accordance with the latest software updates.

- ✎ The Search functionality can now use individual queries, that is a particular query for each target. This is an extension to the similar individual start parameters that we are able to send now for each source. The main purpose behind this is to have the same basic query for all the sources but to allow for distinct limiters for each source (dubbed 'dynamic limiters'). When listing Alerts, saved to personal workrooms, an error appeared in ICELog if the alerts were missing the INDIVIDUAL_QUERIES tag. This was fixed.
- ✎ The maximum alert expiry period is now configurable in the SavedSearches.xml file. For this the MAX_ALERT_EXPIRY_PERIOD and DEFAULT_ALERT_EXPIRY_PERIOD parameters were added and the SavedSearches module and the SavedSearches.xml configuration file were updated accordingly. The ICE Communication Interface and Muse Web Bridge Communication Interface documents were also updated to reflect the changes.
- ✎ Error codes and the error keys are now available to the end-user. The error message keys sent through progress messages are also sent as part of the error messages. Updated various classes from Web Bridge to add the errorKey and errorSource of the ICEOutput error messages to the parameter list of the displayError methods. Also various classes from Muse Modules were updated to forward the errorKey and errorSource When an error message is received from another module and it is forwarded. The putError method was fixed in order to use module targetID. If and only if, the module targetID is not available the class name will be used.

9.1.3 Muse Web Bridge

- ✎ Added the possibility to export the servlet internal parameters through JMX. Bandwidth related data seemed not to take into account logon actions. Ensured that every action that generates traffic is included.

9.1.4 Muse Admin Bridge

- ✎ Now the Banded Retrieval functionality is set completely from the console. To enable the use of Banded Retrieval functionality the following conditions must be fulfilled: Retrieval Bands to be defined in "Organize Sources - Priority Retrieval Bands" section, ICERankingKeySource key to be added to the RankingKeysSequence group from the "Application Modules -> Ranking Keys" section. For Banded Retrieval to be set as default in the Application check both the ICERankingKeySource radio button and Banded Retrieval checkbox from "Application Modules -> Ranking Keys -> Update Interface" section.
- ✎ MuseAdmin now supports SSL connections to the ICE Server. It initiates a SSL connection if USE_SECURE_CONNECTION flag from \${ICE_HOME}/ICECore.xml is set to "yes".
- ✎ The email sent by the fix report section from MCAA console (Applications -> "Setup and Organize Sources" -> "Test Sources" -> Problem Report) did not include the Proxy PAC field. This was fixed.
- ✎ Updated "Check Application" operation in order to report application orphan files such as: profiles, stylesheets, source packages that are not referred to in application configuration files.



- ✎ The Production Statuses from Applications >> Setup and Organize Sources >> Add Source(s) section from MCAA are now identical to those from Source Factory web interface.

9.1.5 Muse Control Center

- ✎ Added support for SMTP via SSL in Muse Control Center both for desktop and web version.
- ✎ Made the log task aware of the ICELog backup index; Made the log task aware of the ICELog scheduling rules; Corrected the typo for the Log Time Interval. It is now set at 240 hours; Remade interface in order to accommodate the new changes; Changed the way the Log Task writes into the log in order to allow for scheduled rotations.
- ✎ Added description for the CSV task, corrected the misspellings, updated the behavior of the check boxes from "Task parameters".

9.1.6 Muse Proxy

- ✎ The stylesheets from `${MUSE_HOME}/proxy/stylesheets` were moved in the `${MUSE_HOME}/proxy/www/stylesheets` directory and the `STYLESHEETS` entry from `MuseProxy.xml` file was updated to point to the new location.
- ✎ In `MuseProxyConstants.xml` file added constants for configurable names. These constant are used in the Muse Proxy pop-up messages, the Muse Proxy "Server", "WWW-Authenticate" and "Proxy-Authenticate" HTTP Headers, for the Client Session cookie, as part of the Muse Proxy error messages, they are passed as parameters to the `www` interface stylesheets.
- ✎ The Proxy PAC and Proxy Authorization Scheme fields are now displayed in the Sessions section of Muse Admin. Also we have added support for filtering on the values of these fields.
- ✎ Revised the algorithm for rewriting the page and for applying the navigation filters to store a single buffer with the data which is changed when the rewriting is made. In this way, fewer String objects will be created and less memory will be used.
- ✎ The first redirect which is automatically generated when navigating on a MNM-rewritten link no longer includes the header javascript section.
- ✎ Add a new marker as part of the rewritten urls named "StartMuseNavigationManagerMode" whose value will be stored as part of the url navigation session and will be used to see which urls from the current page will be rewritten either directly at Muse Proxy server side and in the javascript rewriting code added by MNM in the rewritten pages. This was needed to use the value of the `NAVIGATION_MANAGER_MODE` from the Source Package profiles to decide in the MNM-rewritten pages which URLs to rewrite and which URLs to not rewrite.
- ✎ The Proxy and MNM versions are now displayed in Muse Proxy Admin interface.

9.1.7 Muse XML DB Management System

- ✎ Removed all occurrences of `xmldb:xcollection()` eXist-specific extension from all queries (eXist



and Muse applications) since is no longer supported since version 1.3.

- ✎ Replaced `${exist.home}` variable with `${MUSE_HOME}/xmldb/webapps/exist` since the `${exist.home}` was not resolved. This was done to allow the exist logs to be generated in the correct place.

9.1.8 Muse Statistics Monitor

- ✎ Modified the excel analysis in order to split the resulting excel file into multiple worksheets whenever the maximum row count is encountered.
- ✎ Muse Statistics Monitor (MSM) can analyze a local log file specified as a command-line parameter using the `-ill` switch. Now, the `-ill` switch should override any locations specified in the data set for all servers instead of just for the Default Server.

9.1.9 Muse Source Factory

- ✎ On the Source Factory web interface a new "Muse Sources - Advanced" view was added. It contains the following fields: "SourceID", "Vendor (Host)", "DisplayName (Data Service)", "Source Name", "Connector (Protocol)", "Resource (Category)", "Description", "Host URL", "Search URL".
- ✎ The "Muse Sources - Advanced" interface was incorrect if a source with the production status of 9xx, and with no replacement, was included in the view. 2 table cells were missing from the row containing that source. This was fixed.
- ✎ On the "Muse Sources - Advanced" report from Source Factory web interface Production Status filter was added.
- ✎ On the "Muse Sources - Advanced" view form Source Factory, the "Export to Excel-XML" report was broken. The columns from the report were shifted to the right. This was fixed.
- ✎ Added the HOME_URL in the SAR record, and on the SF interface in the Source Detail screen. This HOME_URL will be updated by the content of the SP. Also if there is a HOME_URL in the HAR record, this will be displayed as Host_URL.
- ✎ Deleted the orphan DARs (there is no link to a SAR or to another DAR) and orphan HARs.

9.2 Bug Fixes:

9.2.1 Muse Search

- ✎ The Refine action from the Content Mining applications is now using the record terms extracted (instead of the record's fields) in order to see if a term from the CM Panel is really included in a record.



9.2.2 ICE Server

- ✎ Modified the error handling in Ranking, SourceRanking and Grouping modules to display a more detailed error message when a key is not found in the module configuration file. Added `ERROR_MODULE_KEY_NOT_FOUND` to `BundleConstantsModules` class and `I18N` files from modules. Now, if an exception is raised when creating a key, the module is stopped. Corrected a problem in Grouping module: When `perGroup` is reached for a group, the list sent is not removed from the `groupingsTable`. Performed the same modifications for `Jitterbug` and `Jit tebugDirect`.
- ✎ Modified the `SendMail` module: added simple validity check for recipients, from and replyTo; added checks for smtp host, smtp port and sender; added a `I18N.putError()` when no records have been selected.
- ✎ The global aliases.properties for classes is not used at run time anymore. It is only used at Source Package build time.
- ✎ Updated the `DistillMarkedRecords.xml` script to use the Vocabulary module for retrieving the distillation terms.
- ✎ The process of freeing the workroom items when the repository fails to create directories for the result sets could lead to memory leaks . Protection was implemented to ensure that orphan result sets structures are eliminated from the memory.
- ✎ When placing a semicolon (;) after the last entry of the modules in the profile of an application, many lines containing: "Invalid class URL: no protocol:" error were generated in the ICE Debug log files. This was fixed.
- ✎ When performing the Discover action, all the `ICERecords` returned had the hit attribute set to 0. Updated the Discover class to correctly set the hit attribute for each record.
- ✎ Resolved some inconsistencies between the configuration file and `ICELog`.
- ✎ When an SSL encrypted connection was used for the ICE Control port, the socket was closed immediately after the call sent the control message, although the ICE Server successfully executed the command as seen from the log files. This was fixed so that the connection stays open until the ICE Client closes it.
- ✎ Modified the `MuseServlet` class in the destroy method to obtain the `ICEControlCom mandsManager` instance and to call the stop method for this instance using reflection. Also modify the stop method from `ICEControlCommandsManager`. In this way the old `MessageCollector` threads are destroyed when the Tomcat context reloads.
- ✎ When launching the tool `${USE_HOME}/tools/startSystemInformation` that reports the Version and other System Information, exceptions were thrown both for the ICE Core and some bridges. This was fixed by adding the missing jars to the classpath. A Muse Statistics Monitor parameter was fixed in order to prevent an "Invalid options" error message .
- ✎ Added more complete clean up for all the servlets used in Muse by stopping all the started threads. This clean up is performed on the `destroy()` method of the servlet.
- ✎ In the foundation application when saving a resultset to a personal workroom, if the result set description or name contained the quote character an error message appeared on the web interface.



This was fixed.

- ✧ If, after de - duplicating the results retrieved when searching on two or more sources, the source link was followed, the number of records displayed did not match the number of counted records. This was fixed.
- ✧ Sorting on "Retrieved Order" after sorting by "Title" and/or "Date" no longer returned the original order. This was fixed, and improvements made to guarantee the initial "Retrieved Order" based on unique record IDs rather than timestamp.
- ✧ We are now able to send e-mail using TLS and SSL with and without authentication. Note that the certificate to be used can only be included in the global trust store, currently specified as a JVM parameter as `-Djavax.net.ssl.trustStore="$MODULES_HOME/jssecacerts"`. The certificate cannot be specified at application level.
- ✧ Filter on phrase query did not yield the expected results. This was fixed.
- ✧ The SendMail functionality could issue a confusing NullPointerException to the end user. This error happened, for example, in case of an empty FROM field (from the `${APPLICATION_HOME}/profiles/SendMail.xml` file). This was fixed so as more intuitive messages are sent to the end user.

9.2.3 Muse Web Bridge

- ✧ Updated documentation by adding notes about encoding the parameter values containing Unicode or reserved characters.

9.2.4 Muse Admin Bridge

- ✧ Fixed small problems that appeared in MCAA during tests.
- ✧ Fixed a source backup/restore problem where an application contains two sources where the ID of one is the beginning of the ID of another source.(e.g MSN and MSNMSNBC_com).
- ✧ In the "**Distill Key -> Edit Configuration File**" panel from MCAA, when the user clicked the "**Update**" button the changes were not stored in the respective distill configuration file. This was fixed.
- ✧ If a query used to test a source contained greek/chinese characters then the "Problem Report" was failing. This was fixed.
- ✧ Changes to MCAA to correct the spelling of the field URL_REWRITING from URL_REWRITTING.
- ✧ Fixed some Muse Consoles browser compatability issues with Safari browser on a MAC 10.5.6 OS.
- ✧ Fixed small interface problems such as: misspellings, corrected interface messages, added "Close window" button for " Edit > Edit Configuration File > Get Possible Authenticators" section, in both MCAA and vendor neutral interface files.
- ✧



Fixed some misspellings, resolved interface bugs: When the back-up operation is performed on application, the information window which notifies that the back-up was done contained more than one "Close window" button, one for each selected application; For "Application Modules -> Search Module" section, the alert pop-up didn't render well - the window had a scroll bar which needed to be used to see the "OK" button..

- ✎ An error occurred when importing applications in the MCAA consoles using Internet Explorer. This error occurred if the application archive was uploaded via the browser. This was fixed.
- ✎ Verified all logon pages of Muse Products and added Content-Type="text/html;charset=utf-8" meta tag. Also, if the pages encryption was ISO then, this value was replaced with UTF-8.
- ✎ Fixed a small problem that sometimes appeared when updating some changes in "Application General Settings" -> "Interface Option" section.

9.2.5 Muse Control Center

- ✎ While running the Source Checker task on an application the following message appeared in the log file: "Unexpected exception: null;". This was fixed.

9.2.6 Muse Authentication and Authorization Service

- ✎ Took out the 'alive' sessions hashmap from Muse Servlet to eliminate the High CPU usage caused by infinite loops in the HashMap class which is not Thread Safe. It is not required since both Muse HTTP Server and Tomcat are calling our own valueUnbound() method so we really do cleanups there instead of the Servlet's destroy() method.
- ✎ Muse Web bridge now uses its own resource bundle. The missing fields were added in the corresponding properties files.

9.2.7 Muse Proxy

- ✎ If a filter was disabled using the Muse Proxy Admin interface and then enabled again, it was placed in Muse Proxy memory at the end of the list of filters. Since the order of filters matters, this was incorrect. The order of the filters is defined in the SUPPORTED_FILTERS field, and this is order is now used to place the filter in the correct position.
- ✎ Fixed an error that appeared during Muse Proxy shutdown.
- ✎ Fixed the implementation of ReusableThread and ClientSession classes which kept references to objects used during the page rewriting after the effective page rewriting was completed They are now nulled.

9.2.8 Muse XML DB Management System

- ✎ When exporting an application from a Muse Console with the Include Personal Users enabled, the



personal settings and workroom corresponding to the default personal user (present in the application before performing a sign in) was not exported. This was fixed.

- ✎ There was code in the Converter or XMLDB Utilities that did not close all used resources. This was fixed.
- ✎ A mechanism was developed so that parallel access to the same personal index is not allowed from the same Virtual Machine.

9.2.9 Muse Source Factory

- ✎ The Source Factory web interface was modified in order to display the real Test Status stored in the database, in place of a computed Status.
- ✎ Updated the page navigation to consider the case when the total number of hits is divisible by the perPage variable. This fixed a problem in the navigation of the records in Source Factory.
- ✎ An exception was encountered in the Source Factory web interface when trying to list all DARs. This was fixed.

9.2.10 Muse Z39.50 Bridge

- ✎ Updated all Muze Z39.50 startup scripts with the reference to the jakarta regexp package.



10.0

Changes in Muse 2.3.3.0 Build

Release Date: 2009-06-24

10.1 New Features:

10.1.1 Muse Search

- ✎ Increased the default limits of Maximum number of sessions such that MAX_USER_CONCURRENT_SESSIONS value was increased from 25 to 50 and MAX_CONCURRENT_SESSIONS value was increased from 100 to 200.

10.1.2 ICE Server

- ✎ The Search functionality can now use individual queries, that is a particular query for each target. This is an extension to the similar individual start parameters that we are able to send now for each source. The main purpose behind this is to have the same basic query for all the sources but to allow for distinct limiters for each source (dubbed 'dynamic limiters'). When listing Alerts, saved to personal workrooms, an error appeared in ICELog if the alerts were missing the INDIVIDUAL_QUERIES tag. This was fixed.
- ✎ The maximum alert expiry period is now configurable in the SavedSearches.xml file. For this the MAX_ALERT_EXPIRY_PERIOD and DEFAULT_ALERT_EXPIRY_PERIOD parameters were added and the SavedSearches module and the SavedSearches.xml configuration file were updated accordingly. The ICE Communication Interface and Muse Web Bridge Communication Interface documents were also updated to reflect the changes.
- ✎ Enhanced the Muse Benchtesting utility to be able to run commands that depend on other commands in parallel inside a session.
- ✎ Extended the Frequency Key so that it has a configurable test function which is applied on each term in order to satisfy certain rules. In this way a frequency key can be configured for extracting ISBNs, another instance of the frequency being configured to extract Social Security Numbers(SSNs), another to extract Plates Numbers, etc.



- ✎ Added more details to Muse Query Grammar description.
- ✎ Allowed for a two tier directory structure for the file repository to be used by the Temporary Workroom.
- ✎ Updated Muse Server sizing.pdf in accordance with the latest software updates.

10.1.3 Muse Web Bridge

- ✎ Added the possibility to export the servlet internal parameters through JMX. Bandwidth related data seemed not to take into account logon actions. Ensured that every action that generates traffic is included.

10.1.4 Muse Admin Bridge

- ✎ Updated "Check Application" operation in order to report application orphan files such as: profiles, stylesheets, source packages that are not referred to in application configuration files.
- ✎ The Production Statuses from Applications >> Setup and Organize Sources >> Add Source(s) section from MCAA are now identical to those from Source Factory web interface.
- ✎ Now the Banded Retrieval functionality is set completely from the console. To enable the use of Banded Retrieval functionality the following conditions must be fulfilled: Retrieval Bands to be defined in "Organize Sources – Priority Retrieval Bands" section, ICERankingKeySource key to be added to the RankingKeysSequence group from the "Application Modules -> Ranking Keys" section. For Banded Retrieval to be set as default in the Application check both the ICERankingKeySource radio button and Banded Retrieval checkbox from "Application Modules -> Ranking Keys -> Update Interface" section.
- ✎ MuseAdmin now supports SSL connections to the ICE Server. It initiates a SSL connection if `USE_SECURE_CONNECTION` flag from `$(ICE_HOME)/ICECore.xml` is set to "yes".
- ✎ The email sent by the fix report section from MCAA console (Applications -> "Setup and Organize Sources" -> "Test Sources" -> Problem Report) did not include the Proxy PAC field. This was fixed.

10.1.5 Muse Control Center

- ✎ Added description for the CSV task, corrected the misspellings, updated the behavior of the checkboxes from "Task parameters".
- ✎ Made the log task aware of the ICELog backup index; Made the log task aware of the ICELog scheduling rules; Corrected the typo for the Log Time Interval. It is now set at 240 hours; Remade interface in order to accommodate the new changes; Changed the way the Log Task writes into the log in order to allow for scheduled rotations.

10.1.6 Muse Proxy



- ✎ Updated the Muse Proxy manual to remove references to old browsers and to add references to newer browsers including Opera, Safari and Google Chrome.
- ✎ The Proxy and MNM versions are now displayed in Muse Proxy Admin interface.
- ✎ The stylesheets from `${MUSE_HOME}/proxy/stylesheets` were moved in the `${MUSE_HOME}/proxy/www/stylesheets` directory and the `STYLESHEETS` entry from `MuseProxy.xml` file was updated to point to the new location.
- ✎ In `MuseProxyConstants.xml` file added constants for configurable names. These constant are used in the Muse Proxy pop-up messages, the Muse Proxy "Server", "WWW-Authenticate" and "Proxy-Authenticate" HTTP Headers, for the Client Session cookie, as part of the Muse Proxy error messages, they are passed as parameters to the `www` interface stylesheets.
- ✎ The Proxy PAC and Proxy Authorization Scheme fields are now displayed in the Sessions section of Muse Admin. Also we have added support for filtering on the values of these fields.
- ✎ Revised the algorithm for rewriting the page and for applying the navigation filters to store a single buffer with the data which is changed when the rewriting is made. In this way, fewer String objects will be created and less memory will be used.
- ✎ The first redirect which is automatically generated when navigating on a MNM-rewritten link no longer includes the header javascript section.
- ✎ Add a new marker as part of the rewritten urls named "StartMuseNavigationManagerMode" whose value will be stored as part of the url navigation session and will be used to see which urls from the current page will be rewritten either directly at Muse Proxy server side and in the javascript rewriting code added by MNM in the rewritten pages. This was needed to use the value of the `NAVIGATION_MANAGER_MODE` from the Source Package profiles to decide in the MNM-rewritten pages which URLs to rewrite and which URLs to not rewrite.

10.1.7 Muse XML DB Management System

- ✎ Removed all occurrences of `xmldb:xcollection()` eXist-specific extension from all queries (eXist and Muse applications) since is no longer supported since version 1.3.
- ✎ Replaced `${exist.home}` variable with `${MUSE_HOME}/xmldb/webapps/exist` since the `${exist.home}` was not resolved. This was done to allow the exist logs to be generated in the correct place.

10.1.8 Muse Statistics Monitor

- ✎ Modified the excel analysis in order to split the resulting excel file into multiple worksheets whenever the maximum row count is encountered.
- ✎ Muse Statistics Monitor (MSM) can analyze a local log file specified as a command-line parameter using the `-ill` switch. Now, the `-ill` switch should override any locations specified in the data set for all servers instead of just for the Default Server.



10.1.9 Muse Source Factory

- ✎ Added the HOME_URL in the SAR record, and on the SF interface in the Source Detail screen. This HOME_URL will be updated by the content of the SP. Also if there is a HOME_URL in the HAR record, this will be displayed as Host_URL.
- ✎ Deleted the orphan DARs (there is no link to a SAR or to another DAR) and orphan HARs.

10.1.10 Muse Setup

- ✎ Now, Muse installation will stop if a 1.6 JVM cannot be found on the system.

10.2 Bug Fixes:

10.2.1 ICE Server

- ✎ Small bug fix related to SMTP authentication.
- ✎ Added more complete clean up for all the servlets used in Muse by stopping all the started threads. This clean up is performed on the destroy() method of the servlet.
- ✎ In the foundation application when saving a resultset to a personal workroom, if the result set description or name contained the quote character an error message appeared on the web interface. This was fixed.
- ✎ If, after de - duplicating the results retrieved when searching on two or more sources, the source link was followed, the number of records displayed did not match the number of counted records. This was fixed.
- ✎ Sorting on "Retrieved Order" after sorting by "Title" and/or "Date" no longer returned the original order. This was fixed, and improvements made to guarantee the initial "Retrieved Order" based on unique record IDs rather than timestamp.
- ✎ When launching the tool `${USE_HOME}/tools/startSystemInformation` that reports the Version and other System Information, exceptions were thrown both for the ICE Core and some bridges. This was fixed by adding the missing jars to the classpath. A Muse Statistics Monitor parameter was fixed in order to prevent an "Invalid options" error message .
- ✎ The process of freeing the workroom items when the repository fails to create directories for the result sets could lead to memory leaks . Protection was implemented to ensure that orphan result sets structures are eliminated from the memory.
- ✎ When placing a semicolon (;) after the last entry of the modules in the profile of an application, many lines containing: "Invalid class URL: no protocol:" error were generated in the ICE Debug log files. This was fixed.



When performing the Discover action, all the ICERecords returned had the hit attribute set to 0. Updated the Discover class to correctly set the hit attribute for each record.

- ✎ Resolved some inconsistencies between the configuration file and ICELog.
- ✎ When an SSL encrypted connection was used for the ICE Control port, the socket was closed immediately after the call sent the control message, although the ICE Server successfully executed the command as seen from the log files. This was fixed so that the connection stays open until the ICE Client closes it.
- ✎ Modified the MuseServlet class in the destroy method to obtain the ICEControlCommandsManager instance and to call the stop method for this instance using reflection. Also modify the stop method from ICEControlCommandsManager. In this way the old MessageCollector threads are destroyed when the Tomcat context reloads.

10.2.2 Muse Web Bridge

- ✎ Updated documentation by adding notes about encoding the parameter values containing Unicode or reserved characters.

10.2.3 Muse Admin Bridge

- ✎ Updated installSourcePackages method in order to install modulesutil.jar only if a source is actually installed rather than each time the install action is run
- ✎ Verified all logon pages of Muse Products and added Content-Type="text/html;charset=utf-8" meta tag. Also, if the pages encryption was ISO then, this value was replaced with UTF-8.
- ✎ Fixed some Muse Consoles browser compatability issues with Safari browser on a MAC 10.5.6 OS.
- ✎ Fixed small interface problems such as: misspellings, corrected interface messages, added "Close window" button for " Edit > Edit Configuration File > Get Possible Authenticators" section, in both MCAA and vendor neutral interface files.
- ✎ Fixed some misspellings, resolved interface bugs: When the back-up operation is performed on application, the information window which notifies that the back-up was done contained more than one "Close window" button, one for each selected application; For "Application Modules -> Search Module" section, the alert pop-up didn't render well - the window had a scroll bar which needed to be used to see the "OK" button..
- ✎ An error occurred when importing applications in the MCAA consoles using Internet Explorer. This error occurred if the application archive was uploaded via the browser. This was fixed.
- ✎ In the " **Distill Key -> Edit Configuration File**" panel from MCAA, when the user clicked the " **Update**" button the changes were not stored in the respective distill configuration file. This was fixed.
- ✎ If a query used to test a source contained greek/chinese characters then the "Problem Report" was failing. This was fixed.



- ✎ Changes to MCAA to correct the spelling of the field URL_REWRITING from URL_REWRITTING.

10.2.4 Muse Control Center

- ✎ While running the Source Checker task on an application the following message appeared in the log file: "Unexpected exception: null;". This was fixed.

10.2.5 Muse Authentication and Authorization Service

- ✎ Took out the 'alive' sessions hashmap from Muse Servlet to eliminate the High CPU usage caused by infinite loops in the HashMap class which is not Thread Safe. It is not required since both Muse HTTP Server and Tomcat are calling our own valueUnbound() method so we really do cleanups there instead of the Servlet's destroy() method.

10.2.6 Muse Proxy

- ✎ Fixed the implementation of ReusableThread and ClientSession classes which kept references to objects used during the page rewriting after the effective page rewriting was completed They are now nulled.
- ✎ If a filter was disabled using the Muse Proxy Admin interface and then enabled again, it was placed in Muse Proxy memory at the end of the list of filters. Since the order of filters matters, this was incorrect. The order of the filters is defined in the SUPPORTED_FILTERS field, and this is order is now used to place the filter in the correct position.
- ✎ Fixed an error that appeared during Muse Proxy shutdown.

10.2.7 Muse XML DB Management System

- ✎ When exporting an application from a Muse Console with the Include Personal Users enabled, the personal settings and workroom corresponding to the default personal user (present in the application before performing a sign in) was not exported. This was fixed.
- ✎ There was code in the Converter or XMLDB Utilities that did not close all used resources. This was fixed.

10.2.8 Muse Statistics Monitor

- ✎ Updated the Appendix A of Muse Statistics Monitor document to contain all the codes correctly described along with their parameters. The following codes were added:
STAT_CONNECTORS_PROXY, BENCHTEST_SESSION_DISCOVER_START,
BENCHTEST_SESSION_DISCOVER_END BENCHTEST_SESSION_DISCOVER_ERR,
BENCHTEST_SESSION_SCRIPT_START,BENCHTEST_SESSION_SCRIPT_END,



BENCHTEST_SESSION_SCRIPT_ERR, BENCHTEST_ACTIONS_COUNT.

10.2.9 Muse Source Factory

- ✎ An exception was encountered in the Source Factory web interface when trying to list all DARs. This was fixed.





11.0

Changes in Muse 2.3.2.0 Build

Release Date: 2009-02-05

11.1 New Features:

11.1.1 Muse Interfaces

- ✎ Encoded the authentication details (user name, password, pin) in all existing authenticators so that the same character encoding of the native source is used. This ensures that the details will be sent correctly from Unicode (as they are stored in Muse) into the native encoding of the source, ensuring that language dependent elements are not lost.
- ✎ When logging in to a Foundation-based application using the pass-through mechanism, if a source appeared in multiple groups of the application then the source appeared multiple times in the list showing the searched sources. This was fixed.

11.1.2 ICE Server

- ✎ Extended the ICE Server JMX capabilities by adding the following functionality: refresh the JAAS related files (jaas.config, jaas.policy) by means of JMX exposed operations; gracefully shutdown the ICE Server; obtain the sessions list along with their status.
- ✎ Updated the Discover module output to include information about the supported limiters for each source.
- ✎ Result sets, created as temporary workrooms items, are deleted when the session ends.
- ✎ Updated the Muse2ISR Junit to accommodate all Muse grammar rules, including the support for LIMITERS, allowing it to be fully tested.
- ✎ Updated all the configuration files to have the proper values for the localhost machine, that is ::1 or 0:0:0:0:0:0:0:1 for IPv6 and 127.*.*.* for IPv4.
- ✎ descriptionID has been added to the progress structure and it contains the resource key for the description string.



11.1.3 Muse Web Bridge

- Changes to the search module test conditions ensure that all error messages coming from a search where a source does not start, or with un-supported limiters, can be retrieved..

11.1.4 Muse Admin Bridge

- Added Muse Console for Customer Support manual.
- "Login Modules" option is available only in the full MCAA, not in the MCCA console.
- Corrected some GUI elements(texts, labels) on the MCAA interface for Application Modules section.
- An exported archive now includes workroom and tmp directories.
- Implemented search within the applications list, and added pagination to the applications list.
- Implemented SSL connection for Muse Admin Bridge to the Muse Global Infobase Server.
- Update the MCAA manual to reflect the latest changes.
- There is a new application level Search Configuration element named `STOP_IF_LIMITER_NOT_SUPPORTED`. It is a boolean element, hence in MCAA it behaves as Report Status is. Its default value is false. Its meaning is that it stops the search on a target if the target does not support a limiter provided in the search query.
- The Source Test panel in the MCAA now allows for an Export to CSV. The generated file contains: Source ID, Source Name, Estimated, Retrieved, Test Status, Query, Date of Test.

11.1.5 Muse Control Center

- Now, a standard screen for authentication failure is displayed on Muse Control Center in case authentication fails.

11.1.6 Muse Proxy

- The TinyURL context objects which are kept in Muse Proxy memory are now using less memory. The improvement was obtained by moving the duplicated data to separate objects which are only referenced from the context objects.

11.1.7 Muse Setup

- Muse Log Capabilities manual will be installed when installing Muse 2320.
- The `GLOBAL_IB_USE_SSL` and `GLOBAL_IB_KEYSTORE` nodes were added to `${MUSE_HOME}/factory/SourceFactory.xml`.



- ✧ Deprecate jar file are now deleted when upgrading to Muse 2320.
- ✧ Updated the MUSE init meta script file that handles all the services (ICE, HTTP, proxy and z39.50). The script will exit if there is no ACTION given. Possible actions are: start | stop | restart.

11.1.8 Muse Source Factory

- ✧ SF interface: "Last Automatic Update:" renamed to "Last Automatic Update completion time:".

11.2 Bug Fixes:

11.2.1 ICE Server

- ✧ Now DISCOVER returns all the fields from the profile even if they have empty values.
- ✧ A deadlock could occur on very heavily loaded systems, if Logoff was performed while other operations are still in progress. This was related to the ICEClassLoaderPool used for loading Source Packages. This was corrected by changes to the synchronization processing, and the code checked for other potential deadlocks.
- ✧ The Capability (CPB) file was extended allow the Limiters capability of a sources to be described. The CPB file can be interpreted from the Search Assigner module (SEARCH), to determine if a limiter used in a search is supported for that source. The SEARCH module can now take various decisions based on this result.
- ✧ Using the extended CPB file the SEARCH module was updated to check if a search limiter is supported. This allows the SEARCH module to issue an error message stating that the limiter is not supported and, based on a new configuration switch, retrieve or not retrieve records from the respective source.
- ✧ A part of the authentication process did not allow the use of comma in the authentication credentials. This was fixed.
- ✧ Updated the temporary and persistent factories which depend on the repositories when the repositories are updated (ICEWorkroom). Replaced all the checks for directory existence and mkdir() with mkdirs() which also creates the parent directory (ICEFileRepository).

11.2.2 Muse Web Bridge

- ✧ In the case of action=more an incorrect searchReferenceID caused a null pointer exception, and an empty page was sent to the browser. The error handling was improved to fix this.
- ✧ Internet Explorer 6 and above rejects cookies from third party sites when IE uses the default privacy setting of Medium. This is a problem when a parent site (eg CSU-Global using Blackboard) references another site inside a FRAME or inside a child window. This was fixed.



11.2.3 Muse Admin Bridge

- When a new Authority user was created there was nothing to indicate that the user was created. This was fixed.
- Editing an existing Application Property from Application General Settings (such as "Navigation Management" or "Proxy Configuration" settings) deleted any new properties previously added (for example (PROXY_INDEX=\${PROXY_INDEX})). This was fixed.
- Importing and exporting archives, application patches etc. is now available directly through the browser.
- Corrected Content Mining configuration in the MCAA. Previously, if the Content Mining Module Name was empty, no other module parameters (Report Status, Max Terms, Max Terms Per Record) were displayed on the Edit screen. This was fixed.

11.2.4 Muse Statistics Monitor

- Muse Statistics Monitor can now read files from ftp servers.
- Added two new analyses("All Excel XML" and "Collecting Search Data Excel XML") that write reports in Excel XML format.

11.2.5 Muse Setup

- Corrected a bug in UNICODE character handling in xml files(e.g.: passwords.xml etc).

11.3 Known Bugs:

11.3.1 Muse Setup

- When upgrading from Muse 2.2.0.0 or older to Muse 2.3.2.0 the ``${MUSE_HOME}/aas/hosts.xml`` and ``${MUSE_HOME}/aas/passwords.xml`` files should be manually edited to include the entries corresponding to `mcaa` and `mccs` users, prior to performing the upgrade. To do that please follow the below instructions:

- edit ``${MUSE_HOME}/aas/hosts.xml`` file and add the `USER_RULE` entry corresponding to `mcaa` and `mccs` users at the end of the document (before `< /ICE-FIREWALL>` line)

```
<USER_RULE>
    <ID>mcaa</ID> <ALLOW>127.*.*.</ALLOW>
    <ALLOW>::1</ALLOW>
    <ALLOW>*.museglobal.ro</ALLOW>
    <ALLOW>217.156.14.*</ALLOW>
    <ALLOW>*.museglobal.com</ALLOW> </USER_RULE>
</USER_RULE> <ID>mccs</ID>
```



```
<ALLOW>127.*.*.*</ALLOW>
<ALLOW>::1</ALLOW>
<ALLOW>*.museglobal.ro</ALLOW>
<ALLOW>217.156.14.*</ALLOW>
<ALLOW>*.museglobal.com</ALLOW>
</USER_RULE>
```

- ✎ edit `#{MUSE_HOME}/aas/passwords.xml` file and add the `USER_RECORD` entry corresponding to `mcaa` and `mccs` users at the end of the document (before `< /ICE-PASSWORD>` line)

```
<USER_RECORD>
  <ID>mcaa</ID> <PWD/> <NAME>Muse
  Console for Applications Administration</NAME>
  <HOME>#{MUSE_HOME}/admin/home/mcaa</HOME>
  <GROUP>users</GROUP> <EXPIRY/>
</USER_RECORD> <USER_RECORD>
  <ID>mccs</ID> <PWD/> <NAME>Muse
  Console for Customer Support</NAME>
  <HOME>#{MUSE_HOME}/admin/home/mccs</HOME>
  <GROUP>users</GROUP> <EXPIRY/>
</USER_RECORD>
```





12.0

Changes in Muse 2.3.1.0 Build

Release Date: 2008-11-27

12.1 New Features:

12.1.1 Muse Applications

- ✎ Revised the "anonymous" application in order to avoid the occurrence of certain errors generated by the MCAA console.

12.1.2 ICE Server

- ✎ Expanded the monitoring and statistics capabilities introduced with JMX monitoring by adding CompositeData navigation for the statistics related to the sources. To allow for source statistics for each user, the userID is now sent to ICEStatMonitor with the data provided by each source. The source and session statistics are returned as one of the OpenTypes provided by java.management.openmbean package (CompositeData or TabularData).
- ✎ Modified the global Alerts script to output via status the number of records found by the SEARCH operation.
- ✎ Added XML Schema Definition for the ICE-INPUT and ICE-OUTPUT messages.
- ✎ Added a parameter to the DISCOVER command that specifies the modification date for the SEARCH.xml file. If the file modification time is newer than this parameter then DISCOVER performs normally, otherwise it sends back a 'Not modified' message and status.
- ✎ Added a new Muse Bridge that will connect Oracle SES to Muse. The bridge emulates an Oracle SES behaviour, this being the only way to bridge the two systems.
- ✎ Updated the ICE Communication Interface document by adding the error codes not present in to the document. Minor changes to UPDATE, SendMail, SEARCH, INSERT, DISCOVER, DELETE, ICEIELOGON, ICEIELocale, ICEIEAbort by adding more error codes.
- ✎ Created a tool that will monitor the Muse system through JMX. JRobin API was used in order to



store the monitored data in RRD files. Also, a separate part of this process, is the graphing tool that takes the RRD files generated by the JMX monitor and graphs the data based on external configuration files. Update the "Muse Monitoring using JMX" document with technical and functional details about this new tool.

12.1.3 Muse Web Bridge

- Updated section 4.1.12 of the Muse Web Bridge Communication Interface document with the details regarding the creation of a new personal user.

12.1.4 Muse Admin Bridge

- In the "Source Audit" window the Excel report generated takes into account the "Include Source Packages versions" and "Include SP authentication details" check boxes like the HTML report.
- In the "Edit Application Configuration" panel from MCAA a new field named "Temporary Directory" under the "Server Settings" heading was added.
- When an application is exported, the `${APPLICATION_HOME}/${TEMPORARY_DIRECTORY}` directory was not exported. The name of temporary directory is specified in the application profile field `TEMPORARY_DIRECTORY`. If missing the default value `ICESession.TEMPORARY_DIRECTORY` must be used.
- The real end-user IP is now sent to Muse Admin Bridge at login when testing an SP. This makes it available in statistical reports. Previously all searches from the Admin Bridge were reported as from 127.0.0.1.
- Improvements were made to the email configuration fields, and the explanatory text in the "Source Report" section of the MCAA Console. Corrected values picked in the email body. (The value of the Locale was the value of the "Max user concurrent sessions" while the value of the "Max user concurrent sessions" was "file:\${APPLICATION_HOME}/sources/lib/".
- Included the 'unknown' status (indicated by a question mark) to the selection criteria for 'Suspicious' in the MCAA.
- When editing ICE Properties using the class `com.edulib.ice.util.ICEProperties` the output now preserves the initial order.
- Extended the Sources Audit Report from Muse Admin Console and command line tool in order to extract enhanced information about source packages. For command line tool added more parameters in order to customize the level reports details.
- Upgraded MuseAdmin in order to use the last version of Apache Ant.
- The "Copy an Application" panel from MCAA was updated to allow the setting of the "New Application Name" and "New Application Description" parameters.
- A new field `NAVIGATION_MANAGER_PAC` defined at application level is able to be edited from the MCAA .



12.1.5 Muse Control Center

- ✎ Made the stylesheets Saxon independent.
- ✎ Added a visually indicator for task lists which have at least one running task.
- ✎ Added the possibility to delete files in the source location after download/upload completes successfully.
- ✎ Added support in our FTP task for file integrity checking through MD5 and SHA sums.
- ✎ Documented variables sent by tasks as attached to events.
- ✎ Added the 2 texts to be displayed on the Control Center web interface when the center is TURN ON and TURN OFF.
- ✎ Ftp task from the Control Center must be able to work in active mode. Added the possibility to choose between active or passive connection modes.
- ✎ Extended the ftp task to mark the files that are copied in a history file.

12.1.6 Muse Proxy

- ✎ Added support for running Muse Proxy and Muse Navigation Manager in a load balanced environment.

12.1.7 Muse XMLDB Management System

- ✎ Updated the Exist Upgrade tool in order not to copy the Xquery functions found in xmldb.
- ✎ Added Chapter 4 Repairing XML DB Indexes in Muse XMLDB.pdf manual.

12.1.8 Muse Source Factory

- ✎ Made all stylesheets Saxon independent(without using Saxon Extensions attributes, functions or elements).
- ✎ When a source is marked as "duplicate" or "defunct with replacement" the source name of the replacement is added to the "USE" field. Made the USE field available to edit on the simple edit form. Added restrictions in "Edit Source" view for Status field. If Status is selected as "duplicate" or "defunct with replacement" and "USE" field is not specified then an error message is displayed.
- ✎ Source Tests made with the Source Checker will have the value "SourceChecker" for the attribute type in THRs.
- ✎ Added the XQuery that copies a Source Group into another as a tool accessible from the web interface.
- ✎ Modified the function that retrieves the SN for a partner so that inactive partners are no longer



processed.

- ✎ Added a **SelectAll** checkbox to select/unselect all the checkboxes from the page in Muse Tests Factory.
- ✎ Muse Registration Service: "Skip to" to let you skip to serial numbers .
- ✎ Added Export to Excel XML besides plaintext CSV.
- ✎ Added a help popup mechanism for the GROUP element of views (filters can be grouped into groups). Added help for source filters for staff and partner. Added help for regular expressions that are supported (eXist uses the jakarta regexp package).

12.1.9 Muse Builder

- ✎ Made all stylesheets Saxon independent(without using Saxon Extensions attributes, functions or elements).

12.1.10 Muse Connectors Generator

- ✎ Implemented navigation aid for end users based on a Firefox extension.
- ✎ Extended the Connector Generator to use the steps recorded by the Firefox extension.
- ✎ Now Muse Generator Firefox Extension is able to start the recording process from a blank page. The HTTP headers associated with first page are saved into the recording file.
- ✎ The URL name used by the external parser is now configurable. Default is "URL"; the external parser has support for configuring external parser parameters; removed the ExParser mechanism.

12.2 Bug Fixes:

12.2.1 Muse Applications

- ✎ With the new mechanism of extracting the Muse versions from the InfoBase database there was the possibility to be no versions available and because of that some errors appeared. We fixed that by treating these exceptional cases.
- ✎ All mandatory jaas.config contexts(users) are added during system upgrades. Previously the JMX contexts have been left out.
- ✎ Post Install Configuration: changing Muse HTTP Server port did not change it in MuseAdmin.xml This was fixed.
- ✎ Changes to the text that is displayed when starting the uninstall.



12.2.2 ICE Server

- ✎ A problem with the classloader correctly detecting updates from sources/lib, \${MODULES_HOME}/lib or \${APPLICATION_HOME}/modules/lib and the a temporary directory when classes are in a classes directory, not a jar file, was corrected. .
- ✎ Corrected ICESession endless cycle and ICEShutdown problems when a plaintext connection was run against an ICE service set to run on SSL.
- ✎ ISR remapping was not working correctly for all search sources. This has been fixed.
- ✎ The detection of the Muse HTTP Server port failed with an XPath exception on Unix systems with Java 1.6. This has been corrected.
- ✎ Unicode errors were obtained in case of using Marc Display functionality (i.e. MARCConverter module) on ANSEL encoded records from Z3950 sources. The error was thrown in the standard error by the XML Parser, and the module did not continue execution (i.e. the conversion returns a void string).This was fixed.
- ✎ The error "ICEResourceFactory error: Unknown message key " was fixed.
- ✎ The process of dropping records from the long run buffer didn't work when the global time span period, specified in the configuration file, was bigger that 2 to the power of 31 milliseconds. This was fixed.

12.2.3 Muse Admin Bridge

- ✎ The Muse Admin Client Tool did not work on SSL.This was fixed.
- ✎ Muse Admin Consoles Interface now includes the extended functionality for the Sources Audit Report.
- ✎ Updated the list of login modules templates files in order to include all available login modules for ICE, Admin and Proxy.
- ✎ Incorrect window title appeared when accessing "General Settings – Navigation Manager" section from the "Edit Source Configuration" section.
- ✎ MCAA Global Infobase errors are now correctly rendered.
- ✎ When editing a DeDupe Key for which there is no profile on disk an error appears. This was fixed.
- ✎ Source packages are fully uninstalled when deleting a list of sources from an application.
- ✎ When deleting sources a message instructs the user to 'Use the Update button found in the Update Interface window under the Organize Sources menu to update the Application Interface.'
- ✎ In some cases on Source listings in the Console the 'Newer' action did not select all the Sources for which there was a newer version. This was fixed.
- ✎ A bug in the "Shows only the sources having status:" dropdown to view "All Values" incorrectly changed the view back to only SPs with a "Released" value when moving around the list by means other than arrow keys. This was fixed.



- ✧ When viewing the list of Source Packages via the Add Source(s) option, the Source Factory list displays in a pop up window. This window can be expanded to full screen but the expansion was not truly full screen. This was fixed.
- ✧ In some circumstances blank entries could appear when adding a source to an application. This was fixed.
- ✧ An ' character in the source name caused a freemarker error when testing the SP. This was fixed.
- ✧ In the MCAA section Applications -> Setup and Organize Sources -> Restore Source there were 2 "Close Window" buttons. This was fixed.
- ✧ When running the Source Audit commands on TCP/IP and using the parameter outputFormat=xls the response that was sent back was an invalid MUSE-RESPONSE message because it was just the MS Excel XML document. This is now correctly wrapped inside a MUSE-RESPONSE.
- ✧ The order in which the possible values for an option appeared in applicationOption.db file is correctly preserved when the file is updated from a Console.
- ✧ Using MSC, if the source description was updated on the Configure page (first tab page) the description was updated correctly in the end-users interface. If however the description on the Advanced page was updated this change did not propagate through to the user interface (or the Configure page). This was fixed.
- ✧ When copying an application all the application settings were not carried over (e.g.: User Concurrent Sessions). This was fixed.
- ✧ In the MCAA it is no longer possible to add Source Packages with a status of "Defunct with Replacement" to an application.
- ✧ The "getICEUserLoginModule" returned an empty response instead of the entry for the selected module from jaas.config file. This was fixed.

12.2.4 Muse Control Center

- ✧ The Collecting search Data task did not work on Unix. This was fixed.
- ✧ Corrected some spelling errors for ASU.
- ✧ The default Alert Task list was rewritten in order to convey the format elements through the new custom parameters configuration of the Alert Task.

12.2.5 Muse XMLDB Management System

- ✧ The restore tool (converter) did not preserve the eXist index configuration found in the database. The configuration were saved during a backup, but not restored on a restore. This was corrected.
- ✧ In certain error cases the repacker did not do the last action. This was fixed.



12.2.6 Muse Statistics Monitor

- ✎ Corrected a typo in "Logon Status" column from the SessionLifetimeAnalysis_SessionAnalysis.csv report.
- ✎ Corrected a small inconsistency in the Global Lifetime value, as it is generated once in hh:mm and once in seconds.
- ✎ Null Pointer when selecting Analysis tree children does not appear anymore.

12.2.7 Muse Source Factory

- ✎ There were cases where the document link paths are generated with white spaces in them. Corrected the views so that will not add tags in the database.
- ✎ Modified the updating mechanism for recreating the SAR index file. Now the list of SAR sources that will be put into SAR index file is first created in memory and when is finished it is stored into the database. So even if an error occurs in this process the old SAR index file is left intact.
- ✎ The USE links were corrected so as not to point to the same SAR record anymore.
- ✎ Optimized the stylesheet that generates the HTML list of all sources so that the operation now to takes less time.
- ✎ Fixed method getFormat() in order to return the path to default stylesheet even if default stylesheet not exist.

12.2.8 Muse Serial Number Encoder

- ✎ Removed the typos discovered in the Serial Extension Approval Notification.
- ✎ Corrected some formatting inconsistencies between the MuseGlobal Serial Request Extension Notification and the MuseGlobal Serial Extension Approval Notification.
- ✎ Muse Serial Encoder GUI problem - fields were not resetting to defaults. This was fixed.

12.3 Known Bugs:

12.3.1 ICE Server

- ✎ The ICE Server has an internal cache for all the stylesheets that is currently using for faster access. The cache expiration mechanism prevented an expired entry to be cached again, hence causing the processing times to grow higher than usual.



12.3.2 Muse Admin Bridge

- ✎ This patch upgrades the MCAA console. It allows for new properties to be added to the PROPERTIES field of `${APPLICATION_HOME}/profile.xml`, and ensures that they are correctly retained if the PROPERTIES field is re-edited. Previous releases allowed only for correct editing of a pre-defined set of properties through the MCAA Interface.



13.0

Changes in Muse 2.3.0.2 Build

Release Date: 2008-06-19

13.1 Bug Fixes:

13.1.1 Muse Admin Bridge

- ☞ When deleting personal users any associated workroom are now also deleted.

13.1.2 Muse Control Center

- ☞ The log task can now be started manually without errors.
- ☞ Changes made to task scheduling by a control center user are now saved correctly.

13.2 New Features:

13.2.1 ICE Server

- ☞ Improved memory usage in the Distillation process. Memory is no longer allocated unless it is specifically used.

13.2.2 Muse Control Center

- ☞ The list of applications used by the Automatic Source Package Upgrade Task can now be configured to update the application list at runtime, keeping it in line with changes on the server without manual intervention.



13.3 Known Bugs:

13.3.1 ICE Server

- ✎ If a search was carried out on a number of sources and one of them has an unsupported attribute which is internally remapped then all subsequent sources were incorrectly affected by this remapping. This has been fixed.
- ✎ Fixes a 2 minute wait interval that appears when multiple logons per second are requested.

13.3.2 Muse Admin Bridge

- ✎ If one performs SP tests in the MCAA or MCCS console on more than one SP and one of the SPs contains the ' character in the name or non-latin unicode characters, Freemarker errors are generated.



14.0

Changes in Muse 2.3.0.1 Build

Release Date: 2008-05-30

14.1 Bug Fixes:

14.1.1 ICE Server

- Both the session and the session timeout checker can clear the classloaders concurrently on logoff. This corrects possible errors on logoff on heavily loaded systems.
- The limit on the message queue used for messages passed between an ICE client and the ICE Server has been removed. This prevents problems on extremely heavily used systems where the message queue could fill up, preventing further communications.

14.1.2 Muse Admin Bridge

- Fixed a command line Audit tool parsing error when the credentials used for authentication were incorrect.

14.1.3 Muse Source Factory

- The code for inserting the XQuery and other resources has been re-written to use the recent mechanism for inserting the functions for XMLDB.

14.2 New Features:

14.2.1 Muse Control Center



- ✎ A new XMLDB Backup/Restore task that is suitable for customer use is now available.

14.2.2 Muse XMLDB Management System

- ✎ Updated the eXist XML Database Management Engine to version 1.2.2. Fixes the memory leak bug

14.3 Known Bugs:

14.3.1 ICE Server

- ✎ The ICE Server has an internal cache for all the stylesheets that is currently using for faster access. The cache currently has no mechanism for removing any cached objects, hence after a while it fills up all the available memory yielding an OutOfMemory error.



15.0

Changes in Muse 2.3.0.0 Release

Release Date: 2008-05-09

15.1 New Features:

15.1.1 Muse Authentication and Authorization Service

- ✎ New scripts `$USE_HOME/tools/museSlavesSync*` are now installed together with the ICE Tools component.
- ✎ The "Muse Server Sizing" manual will be installed with a new Muse version.
- ✎ Added "Forgot my password" functionality for personal users.
- ✎ On upgrade a merge on servers configuration files is done instead of replacing them.
- ✎ Only eXist is installed as the XML DBMS on new Muse installs.
- ✎ `xmldb/startPersonalUsersExporter*` scripts are installed when xmldb is installed/upgraded (same way as `startConverter*` scripts are installed/upgraded).
- ✎ The `commons-cli-1.0.jar` file is now included in Muse setup.
- ✎ HTTP Authenticators and Muse HTTP Sources documents were taken out from Muse setup.
- ✎ Muse with EZproxy manual is added to setup package.
- ✎ `mail.jar/activation.jar` were removed from setup.
- ✎ The file `${MODULES_HOME}/jssecacerts` is installed in all cases.
- ✎ Setup is able to run Java code to do upgrades specified in `Upgrades.xml`.
- ✎ Moved the tasks files from the main directory `${MUSE_HOME}/center` to `${MUSE_HOME}/center/tasks`.
- ✎ Changed the panel that now reads the IP address used to administer Muse through the Admin Consoles to read an IP address to Administer Muse or connect to all our suitable products (Muse Control Center, Muse Proxy, other products). Changed the texts on the panel so the user is



instructed what to enter there. Also changed the Muse Setup so it puts the entered IP address as ALLOWed for Muse Control Center users, Muse Proxy (administrator and default users).

- ✎ start/stopMuseServices/rc.muse scripts are now a single script.
- ✎ The "MusePeer Communication Interface.pdf" manual (in muse/web/doc) was renamed to "Muse Web Bridge Communication Interface.pdf".
- ✎ ICE control users (control.anonymous and control.administrator) on upgrade are merged in authentication related files. These users have related information in the files `${ICE_HOME}/jaas.config`, `${ICE_HOME}/jaas.policy`, `${ICE_HOME}/profiles/passwords.xml` and `${ICE_HOME}/profiles/hosts.xml`.
- ✎ Created a .default mechanism in Muse Setup for the file 'proxy/jaas.config'.
- ✎ Revised Session Properties. An alternative method of setting, storing and using Session Properties which is easier to handle through the HTML interface is now available.

15.1.2 ICE Modules

- ✎ Added a section in the Muse I18n document that describe in more detail the mechanism for adding a new locale for the Muse system.
- ✎ There had been many issues related to network IPs configuration that prevents GAMS working properly. This happens for example in cases where the end-user has both a private and public IP. If the private IP is used by Muse (e.g. the end-user is in the same network as the Muse server), and Muse Proxy is in another network, the public IP will be used by Muse Proxy used. Using these IPs the comparisons through GAMS will fail. Now, a token is used in places of IP for authorization.
- ✎ Created the `ice_zh_tw.properties`, `modules_zh_tw.properties` and `aas_zh_tw.properties`

15.1.3 Muse Web Bridge

- ✎ Use signalling between record processing threads instead of polling to achieve a more elegant and efficient communication between actions threads.

15.1.4 Muse Admin Bridge

- ✎ Added support for editing the `PROXY_AUTHORIZATION_SCHEME` field in Muse Consoles. This is a new proxy configuration field added recently. Until now we only supported "Basic" proxy authorization scheme and this was the default. Now we also support the "Digest" proxy authorization scheme. So this field was needed to define the proxy authorization scheme used. If this field is missing then the "Basic" proxy authorization scheme is used by default.
- ✎ New AJAX-enabled Console combining MDC, MAC and MSC Console functionalities, for Muse installation level admin.
- ✎ AJAX-enabled Console configuration to provide with only the functionality from the MSC, as an application level admin console.



- ✎ Added Muse Personal Users under the Users button in Muse Designer Console to allow access to personal (individual) user records and data associated with them: Personal Profile, WorkRoom, Saved Searches). The administrator is able to list all personal users, delete one or more of them, and see details for each personal user.
- ✎ In "Configure More Like This" sections of MuseAdmin consoles added alternative display for the text that is too long to be displayed fully.
- ✎ Revised Consoles manuals to contain documentation for the latest features.
- ✎ Revised the warning messages from consoles so as to be more intuitive and not appear to be more critical than they really are.
- ✎ Added code to edit the SMTP_USERNAME and SMTP_PASSWORD fields from consoles.
- ✎ Test functionality has been modified to show progress per source as soon as it is available. previously, all sources had to complete before the success or failure results were displayed. Stop/ Stop All buttons have been added so the Test can be interrupted.
- ✎ Application ID and Application Name are now included in the Source Problem Report.

15.1.5 Muse Control Center

- ✎ Now, on activation each task displays "Task automatically started" or "Task manually started".
- ✎ Now, the FTP task logs all messages that normally appear in the report window (success and error messages).
- ✎ The FTP task sends events when it finishes download/uploading the files and also another event in case there were no files to upload/download (because all of them were up to date, or there weren't any).
- ✎ The last active tab in the web interface is maintained even after Muse Control Center restart.
- ✎ New Muse Admin task that calls Admin API functions from Muse Control Center.
- ✎ Added an input next to the Archive Attachment Files, so the line becomes:[x] Archive Attachment Files as [attachment.zip].If the checkbox is unchecked then the input is disabled.
- ✎ Upgrade to a newer Ant task(from 1.5.1 to 1.7.0).
- ✎ Muse Control Center is able to run multiple tasks files at the same time.
- ✎ In the web interface when loading a task there is a popup window with a combobox that gives the user the list of center/*.tsk files to load. Now, the combobox also includes *.tsk files from the center/tasks directory and subdirectories.
- ✎ Added the possibility for the toolbar buttons to use shortcuts, such as Ctrl+O = open, Ctrl+N = New, Ctrl+S = Save.
- ✎ Better progress display while a task is running shows the state name, the run progress (as a percentage), and the estimated time left finish the task (e.g 3:45:03s left).This was implemented for 2 tasks: ConnectorChecker and SourcePackagesUpgrade.
- ✎ Log rotation after a certain period of time is implemented in the Log task of Muse Control Center.



- ✧ SP Upgrade task: made summary at the end and send it on email.
- ✧ Source Checker/SP Upgrade: Added an 'Update list at runtime' checkbox for sources. When 'Update list at runtime' is checked the Source Checker task should do a DISCOVER before starting the check on the sources to update the list of sources from the application. Any new sources that appeared in the application will be added to the list of sources to check (with the default query), and sources that were removed from the app will be removed from the list.

15.1.6 Muse Proxy Server and Navigation Manager

- ✧ Muse Proxy logs the IP address that is used to make connection to the web site. This is useful in multiple IP configurations to clearly see in the log file (access.log) which IP address was used to make the connection.

15.1.7 Muse XML DB Management System

- ✧ XMLDB Converter tool now exports the 'system' collection.
- ✧ Personal Users Management now uses XQuery to filter the personal user records. Added initialization mechanism to be used for all XMLDB managers. This mechanism is responsible for storing the xqueries in the XML database on system startup.

15.1.8 Muse Statistics Monitor

- ✧ When generating CSV files (single server analysis), there were some CSV files that contain the time as a timestamp. These were written as a human readable time (example 07/14/2007 11:34:37 AM) instead of a timestamp.
- ✧ CSV files are now generated for each application. Every csv file contains a short summary of the analysis.
- ✧ Added a 'Last XX days' option for Date Filter of Muse Statistics Monitor.

15.1.9 Source Factory

- ✧ Made the necessary extensions to allow exclusive sources for partners' customers.
- ✧ The email sent when a Serial Number is about to expire also includes the Registered IPs found in the SN record, to assist the partner in locating the machine with the serial number.
- ✧ Updated Source ID filter. If the value is enclosed in "" then an exact match is done.
- ✧ New Host Record fields: emails, news pages.
- ✧ Added ability for partners to see the full list of sources that MuseGlobal produces.
- ✧ Created a mechanism for attaching specialised functions to a view. This speeds up the interface in some of the situations (such as opening a multiple selection list).



- ✎ Added possibility for help text (descriptions) for views. Added help text for Serial Number views.
- ✎ Implemented a complementary action for downloadMusePackage that will give file information (size). The method will be called when displaying the download page for Muse setup packages, and will take as arguments the filenames for which to provide more information (size). The size information will be thus displayed on the download page before the user begins the download.

15.1.10 Muse Builder

- ✎ The Output Pane is now a Notebook control, with at least one Tab: Output. The Output tab is the current (single) control of the Output Pane (a scrollable text window). This allows plugins to publish information into it.
- ✎ Add locale Editor for easing the translation of internationalized system strings.

15.1.11 Muse Connectors Generator

- ✎ Added support for code generation that contains ex parser calls.
- ✎ Added a visual DateFormatter tool to create parsings for various dates encountered in the html pages processed by the connectors.

15.1.12 Muse Serial Number Encoder

- ✎ Changed EncoderGUIDocumentListener class to enable Load button only when a partner is selected.
- ✎ By default only the Muse Guest (anonymous) application is selected.

15.1.13 Muse OneBox Bridge

- ✎ Added support to specify any of the keys: DeDupe, Ranking, Jitterbug and Distill.

15.2 Bug Fixes:

15.2.1 Muse Authentication and Authorization Service

- ✎ Now, ICELoginModulePPMS verifies the provided password against the password from the Personal Profile.
- ✎ For the Hosts authentication the DNS comparisons is now case insensitive.
- ✎ Post Install Configuration Setup: Use SSL for Muse HTTP Server does not work. It doesn't seem



to change the port, or do any modification to the contexts.xml file. This was fixed.

- ✎ On clean install, muse startup script is not put on disk (in /etc/init.d/muse). This was fixed.
- ✎ xindice jars (1.1b2) was not deleted on install. This was fixed.

15.2.2 ICE Modules

- ✎ Fixed the "SAXParseException: The character reference must end with the ';' delimiter." SAX error reported when the alerts for NTX were running. These errors prevented the new records to be stored for many alerts.
- ✎ Changes were made to ensure that a client using ICEConnect always receives the last message before a socket closes. Previously in some cases a socketClosed exception was received.
- ✎ Language strings for internal messages strings were only picked up Once for a session. They are now changed correctly when the Local is change.
- ✎ Enrichment modules were not sending records as they were processed. They were kept until the list was completed, introducing a delay in viewing result lists.
- ✎ Banded Retrieval with no priority groups defined waited for all the records from all the sources to complete before sending the first record, potentially introducing a long delay in displaying result records. When there is no group defined or when the groups defined are void, the records are now sent immediately.

15.2.3 Muse Web Bridge

- ✎ Added a new field in Users.properties file, namely documentRootLocale. This field specifies the locale of the web pages located in the default location. It allows administrators to use a locale other than English for the files in the default location.
- ✎ When perPage = -1 is requested for actions (e.g. for the doCurrent action) the display footer could loop forever triggering out of memory exceptions. Since perPage = -1 means all the records the loop is not used since it is a single page.
- ✎ We wrongly considered that search was already done when interpreting the responses from the ResultSets command, which was actually initiated when search was not already done. Thus we have changed the order and we read the variable startingWithSearchDone before we call for the ResultSets command.

15.2.4 Muse Admin Bridge

- ✎ The error message when an attempt was made to create an over long Group ID was made more specific.
- ✎ A bug in Import Source Profile using Internet Explorer with Muse installed on Unix has been corrected.
- ✎



Corrected some wrong spellings in console interfaces.

- Reviewed the current messages from Proxy Settings section from Consoles to be more explicit for the user.

15.2.5 Muse Control Center

- "Corrected validation for the Alerts task so that checking the default ICE Server Host/Port does not produce an empty field error
- The FTP Task did not take account of the server and local times when checking file modification times. This could result in repeated downloads. This has been corrected,
- Adding parameters in the InfoBase task now works correctly.
- When the task that was running was not in the current tab logs did not pick up the task name. This has been corrected.
- Copying the Log task from the web interface did not work correctly: scheduled events are not copied correctly. This has been corrected.
- Corrected inconsistencies when multiple users are logged on in Muse Control Center (web interface). The number of active sessions are now displayed in the web interface.
- The "Update" button for sources from the "Upgrade Parameters" section of "Source Package Upgrade" task is now implemented to work correctly in the web interface of Muse Control Center.
- When the Source Checker task attempts to check an application that has expired, this is now reported correctly.

15.2.6 Muse Authentication and Authorization Service

- The authorityID authentication parameter is now sent to the ICE Server during the authentication process.

15.2.7 Muse Proxy Server and Navigation Manager

- Files read from cache are now properly closed after they are read and the file handles are released.

15.2.8 Muse XML DB Management System

- Updated the jars used by the eXist upgrade tool v1.1 since it was using the old eXist jars when performing the upgrade. Also added support for automatic versioning of the jar files.
- Xindice is now forced to re-index resources entered when the database is initially empty. It was not possible to display a list of the resources if this was not done.



XMLDB servlets (eXist, xIndice) output their log information in their own log files in ``${MUSE_HOME}`/xmlldb/logs`.

15.2.9 Muse Statistics Monitor

- ✎ Search queries are now correctly displayed in the Query Analysis tab.
- ✎ When trying to generate the "Performance Measure" report as a html file, the resulting html had some invisible elements. This was fixed.

15.2.10 Source Factory

- ✎ Checking Test Status for sources from Muse Admin Consoles took a long time. Made a number of improvements to code and also upgraded to a newer eXist, to improve times.
- ✎ Filtering then skipping to a Source name did not function correctly.
- ✎ Extension Request screen changes: 1. better display of long fields 2. verify that at least one limit was requested for extension.
- ✎ Export to CSV exported files with entities instead of exporting them in UTF-8.
- ✎ Sources that contained `&/=` in their fields could not be updated. This was fixed.
- ✎ List All Hosts / List All Data services from Admin consoles produced errors. This was fixed.
- ✎ Download of files from the Support Site: Improved the display of a suitable suggested filename.
- ✎ News Items/Planned Work items are now properly displayed.
- ✎ Rewrote the views that create records in order to work with the indexing mechanism for Source Factory performance improvements.
- ✎ While extending a Serial Number (by checking the 'Send Notification Email' checkbox) the following error was obtained: `org.exist.xquery.XPathException: error FORG0006: effectiveBooleanValue: sequence of length 1, but not castable to a number or Boolean [at line 27, column 46]` ..This was fixed.
- ✎ Clicking on the Download button showed only a link to download the Source Package, and not modulesutil.jar file. This was fixed.

15.2.11 Muse Builder

- ✎ Fixed the following items in the Unicode2Ascii tool: The "Eclipse style encoding(\uxxxx)" translate into \uxxxx sequences every unicode character that is greater than 127. Changed the label from "Eclipse style encoding(\uxxxx)" into "Java style encoding(\uxxxx)". The text box were not working for large texts.

15.2.12 Muse Connectors Generator



- ✎ Interface improvements for Debug Settings window, Watches window, Generate Extractions window .
- ✎ Improvements were made to the he HTML rendering window.

15.2.13 Muse Serial Number Encoder

- ✎ Corrected some small interface problems.

15.2.14 Muse Web2 Bridge

- ✎ Updated the Muse Web2 XML Protocol manual with detailed description regarding the custom authentication parameters currently in use.

15.3 Known Bugs:

15.3.1 ICE Modules

- ✎ The communication between the ICE clients and the server is carried out by means of ICEConnect. This class uses an internal, bounded queue for messages that haven't been processed yet by the client. Under heavy loads the queue fills up and yields an '`IllegalStateException`' breaking the communication between the client and the ICE Server.
- ✎ The Relevance Ranking is not working after another post processing operation (Ranking, DeDupe, Distillation, Enrichment). It only works during the search and immediately after the search as the first post-processing operation.

15.3.2 Muse Web Bridge

- ✎ In case you are using Tomcat as a servlet engine there is a jar file that have to be manually copied in order to have Tocmat run the Muse Web Bridge. The jar file is commons-cli-1.0.jar and it needs to be copied from `${ICE_HOME}/lib` into `${MUSE_HOME}/web/www/WEB-INF/lib`.
- ✎ When an application is configured to start with a locale different from the default one then after logging in and changing to the default locale (language) the search will end with the following error: **Stylesheet error: record2HTML.xsl (The system cannot find the resource specified)**. The error is generated by the incorrect setting of the base directory for display stylesheets.

15.3.3 Muse Admin Bridge



- ✎ Sources Audit Tool command line version generate the following error message if in the profile provided as input the authentication parameters (user/password) are incorrect:

Error processing template: The processing instruction target matching "[xX][mM][lL]" is not allowed. The markup in the document preceding the root element must be well-formed.

- ✎ In case you are using Tomcat as a servlet engine there is a jar file that have to be manually copied in order to have Tomcat run the Muse Admin Bridge. The jar file is commons-cli-1.0.jar and it needs to be copied from `${ICE_HOME}/lib` into `${MUSE_HOME}/admin/www/WEB-INF/lib`.

15.3.4 Muse Control Center

- ✎ In case you are using Tomcat as a servlet engine there is a jar file that have to be manually copied in order to have Tomcat run the Muse Control Center. The jar file is commons-cli-1.0.jar and it needs to be copied from `${ICE_HOME}/lib` into `${MUSE_HOME}/center/www/WEB-INF/lib`.

15.3.5 Muse XML DB Management System

- ✎ The XML Database Management System used by Muse has a memory leak which prevents it to run for long periods of time. Currently, under heavy usage, it takes about a week to waste the available memory. Before running out of memory the system runs slower and slower, the solution being a restart of Muse HTTP Server.



16.0

Changes in Muse 2.2.0.0 Release

Release Date: 2006.12.20

16.1 New Features:

16.1.1 Muse Search

- ✎ The Admin Consoles password panel only displays newly-installed consoles for setting the initial password. In the case of an upgrade existing passwords are unchanged.
- ✎ The InstalledFiles list is now generated at installation time or offline and is faster. A panel in the installer informs the user that this processing is in progress.
- ✎ Added Sources Audit Report / Partner Log Analysis files in Setup.
- ✎ The startMuseUninstaller* scripts work regardless of the current working directory. The JAR file referred by it given using MUSE_HOME environment variable.
- ✎ Install the admin/tmp/upload directory used by the Muse Admin to store uploaded files (for example when importing a source profile).
- ✎ When the installer starts the used JVM is checked. If a JVM is not found then the JAVA_HOME variable is used. if it points to a JVM 1.5.If there is no JAVA_HOME defined then the java found in the Path is used - providing it is the executable of a JVM 1.5.
- ✎ The upgrade of Xindice from 1.1 b2 to 1.1 b4, requires the deletion of soem existing JAR files and some file modification. This is taken care of by the setup package during Muse upgrades.
- ✎ The searchLogAnalysis.xml file is now installed/overwritten with Muse Statistics Monitor. This file contains Ant targets needed to run MSM to analyze ICE Core Statistics log files and produce a CSV file with the analyzed data.
- ✎ Changed the 2 panels from the end of installation which ask for passwords for the administrator (MAC) and standard users (Muse Standard Console) into a single one that can set the passwords for all the users of the Admin Consoles that were installed. Also at the end of the installation, the user is asked for the IP address that is allowed for Muse administration. The IP address was set as ALLOWed for administrator user only (MAC). Now this IP allows access to all installed Admin



Consoles.

- ✦ A newer eXist version with is now installed when a clean Muse install is done. In case of an upgrade, the existing eXist is left in place.
- ✦ First and second services panels were update to display texts explaining the user the steps that are be followed.
- ✦ Updated build.xml files in order for ant target dist to preserve the date of the files.
- ✦ Updated the path to startSystemInformation/serverControl scripts at installation time and also updated the Muse Admin.xml file to point to the correct script location, depending on the OS (.bat version for Windows, .sh version for Unix). Now the startSystemInformation file is installed allways in use/tools directory if Information Connection Engine Tools or Muse Admin Bridge are part of Serial Number used to install Muse Products.
- ✦ Automatically added permissions in the `${MUSE_HOME}/aas/java.muse.policy` file at install time, so as to be able to log in custom bridges without manually modifications. The corresponding manuals were also update accordingly.
- ✦ The application interface for the applications from the `$MUSE_HOME/home` directory were changed, so that it takes into account the message IDs in order to display progress information. Until now the content of the message was checked against the hardcoded English texts of the status messages. Now, the status information is now stored in messageID and will contain the name of the messageKey that is currently displayed in the progress window.
- ✦ The applicationOptions.db file was added in all applications (in `$APPLICATION_HOME/www/application/`). This file has the following content: `assign meta OptionsInfo = [{ "id", "null", "value", "", "name", "", "values", [] }]>`. This is necessary because the Muse Sources Console now issues an error message if this file is not present.
- ✦ The interface was modified to treat the records that are duplicated (e.g. hit 1.1, hit 1.2) differently from the main records. All the functions where resultSet was implied (e.g. MARC Display, OpenURL, ILL) use the resultSet taken from that record itself and not the main resultSet (it appears in DEDUPE/KEY/CONTAINER field).
- ✦ The ICELoginModule's login now fails (return false) if no End of Data EOD is retrieved from ICE. That is in case we receive just Start of Module (SOM) and End of Module (EOM) and no EOD status which means that the logon had actually failed (conforming to the ICE Protocol).
- ✦ Added a new mapping file which associate for all known types of extensions a display type that will be used by doDisplay method from BaseSession.java. This new file should reflect any changes done in web.xml from HTTP Server in the extension(mime types) section. This wa done in order for the action "display" to correctly handle binary files.

16.1.2 ICE Server

- ✦ Increased performance on MarkedRecords action for medium and big result sets.
- ✦ Added new configuration options for source priority groups (Banded Retrieval) in the SourceRanking module. These are slice (the number of records) and timeout.
- ✦ The core modules SEARCH and ResultSets send a new message with status 5, which represents



the entire total records. When a search is progressing this is the entire number of records in the result set at a certain moment during the Search. The last response of this type means the entire number of total records in the result set at the end of the Search. It remains valid if other modules remove or add records from/to the same resultSet during the Search. Currently all bridges except Muse Web Bridge ignore this status.

- ✧ Updated the Discover Module to read and send more entries from the source profile.
- ✧ Created the OpenURLKey which can be used to obtain an OPEN_URL field for each record dynamically during the search process. The OpenURLKey computes the OPEN_URL using one of the OpenURL resolvers defined in the OpenURLGenerator.xml file.
- ✧ Muse documents were revised in order to refer only to java version 1.5.
- ✧ Added BENCHTEST level to ICELog. Defined the message codes that will be used along with this level too.
- ✧ Now the Expiry can be given as a command line parameter to the ICELoginModuleWriter. If not given in the command line then the hard-wired value should be used.
- ✧ We are now able to translate the internal messages, driven by tables with Message IDs, Message types and Messages. Note that we don't implement the localization process as we are not interested in specific country elements except the language. There are 3 levels where translation will occur: ICE, Muse Modules, Muse Applications. The mechanism is uniform for all these levels. That means, for example, that there are three levels of translation tables – one at the Core level, one at the Modules level and one at the Muse Application level.
- ✧ The Muse manuals were updated with respect to Localization settings:
 - ✧ References to the new LOCALE elements in the configuration files of ICE Core, Muse Web Bridge, and in the applications' profile.xml
 - ✧ Programming and configuration details added to Muse I18n (e.g. how to introduce a new language – add ice_locale.properties).

16.1.3 Muse Web Bridge

- ✧ A Dynamic footer is made available and AJAX application interfaces can implement it. Currently it is only fully implemented in the MuseSeek application. Changes to the internal status flags allow for allows navigation through pages from the early stages of the Search operation, and updating of the number of records during other operations (e.g. keep, delete marked records) while the search is progressing.

16.1.4 Muse Admin Bridge

- ✧ Added a Notice that for Priority Retrieval Bands to work it is necessary to implement support in the application interface.
- ✧ Added CONNECT_TIMEOUT/READ_TIMEOUT configuration options for Sources Audit Tool.



- ✧ Added a confirmation popup when a SSL certificate is being overwritten.
- ✧ Added a Select All/None combo selector for the Backup/Restore tab.
- ✧ Muse Source Console changes to simplify configuration using MuseNavigationManager and MuseProxy.
- ✧ Updated the Chinese interface of MAC with latest translations.
- ✧ Backup and Restore of Source Packages and configuration files is available from the Source Consoles.
- ✧ The validity of the SSL certificate is checked before import or listing of the SSL certificates.
- ✧ MAC – Authentication Method and Details screen was simplified as in MSC.
- ✧ Popup help was added in the Query Remapping tab. This help text was taken from Muse Source Console manual.
- ✧ Muse Administrator Console manual and Muse Source Console were updated to include all the new functionality.
- ✧ A warning is displayed if a user tries to update a source that is no longer in the global SEARCH.xml file. The message now includes the possible causes for this (for example the source is Defunct).
- ✧ When updating a Source Package the navigationManagerMode field is no longer merged with the entries in web/Users.properties. Rewriting of URLs through MNM is now done at ICE level, and the NMM field can be read directly from the source configuration profile. [Requires appropriate configuration in the application profile.xml]
- ✧ A Status column has been added to the Configure tab in Muse Source Consoles.
- ✧ The Source Configuration -> Authentication Method and Details screen from the Muse Source Console was very crowded with text. The layout has been simplified.
- ✧ The explanatory text on the General Settings- >Navigation Management and General Settings->Proxy Configuration sections of the Muse Source Console has been updated to make the use of these settings clearer..
- ✧ Updated the Muse source console by adding the #Proxy Configuration# and "Navigation Management" section under the General Settings tab and also the Source>Configure>Setup>Authentication Method and Details screen was updated to use or override the default proxy settings. Added new tab #Configure more sources like this#. Small display changes and reorganization.
- ✧ Updated the Muse Designer Console in order to be able to edit more fields (i.e.:Configuration File:HOME_URL, SEARCH_URL,PROXY_HOST etc).
- ✧ Allowed editing of authentication details(User Name/Password/Pin) for a source to be personalized (from personal profile) in consoles. [Later removed since no applications are currently using this]
- ✧ There is a new element in the application's profile.xml. It keeps the default LOCALE of a Muse Application, i.e. the locale the application starts with. This element is handled from the Admin Bridge.



16.1.5 Muse Control Center

- ✎ Added default Scheduling for the SourcePackagesUpgrades task (daily at 1 o'clock) in the Source PackagesUpgradeTasks.tsk.default file.
- ✎ Automatic Source Upgrade Task: Added Select All functionality for selecting all applications.
- ✎ Extended the DEPENDENCIES section of a connector entry from `${MODULES_HOME}/profiles/Connectors.xml` file to allow inclusion of additional JAR files.
- ✎ The Source Packages upgrade task has some improvements making it easier to configure. A 'Select all' checkbox has been added to the Applications list, and the page layout has been improved.
- ✎ SourceChecker Task: Synchronized the web interface with the GUI interface of the Task Parameters tab.
- ✎ Automatic Source Upgrade: When starting, logs the algorithm in use, so one can see which steps were enabled and which not.
- ✎ Updated the "Application List" figure from the "Muse Control Center" document, 2.11. Source PackagesUpgrade Task chapter, to include only Muse applications.
- ✎ Made a new task which will check the Muse serial number of all partners, and if a serial number is about to expire (there are less than 30 days till expiration date), a warning email is sent to that partner.
- ✎ Automatic Source Upgrade document created.
- ✎ In order for the Collect Search Data task to work correctly, the minimum set of files needed to run the Monitor is now included when the Control Center is installed. It previously relied on the files being available from other modules.
- ✎ New task to collect search information to store into Local InfoBase. Updates to the manual to conform with interface changes.

16.1.6 Muse Proxy Server and Navigation Manager

- ✎ Muse Proxy is now able to listen on a set of specified IP addresses.
- ✎ ProxyChain filter now interprets the Muse markers: StartMuseProxyHost, StartMuseProxyPort and StartMuseProxyPac from a request to use the values for chaining the Muse Proxy Server with another proxy server.
- ✎ Added Navigation Sessions: for each link navigation it is created a new session to keep the authorization details needed for this navigation using Muse Proxy Server as Muse Navigation Manager.
- ✎ Added a new CGI `"/ProxyInformation"` which offers an XML document describing the Muse Proxy filters and their services as response.

16.1.7 Muse Statistics Monitor



- ✎ The Session Count analysis produces more statistical information (both summary and graphic) about the distribution of sessions.
- ✎ Java 1.5 allows for some new sublevels for STAT_SYSTEM. These levels contain more information about the amount of memory used by the JVM, the number of threads currently running and the CPU and User time for a particular thread. This information must be included in new analysis modules.
- ✎ Added a description field for every analysis module. This field briefly describes the module's functionality. It is displayed as a separate column in the list of available analysis modules or as a context sensitive quick help.

16.1.8 Muse Source Factory

- ✎ All history lists (Action, Distribution, Test, etc) are ordered most recent first.
- ✎ Planned work and News Items can also be linked to a partner in order to be visible by that partner only.
- ✎ Added a new API method - downloadMusePackage which downloads Muse Packages from FTP and send them (with the proper Content-Type) to the client (browser).
- ✎ Modulesutil.jar is now re-packed before the Source Packages are repacked. This way we ensure that when re-pack spans over many sources and spends a lot of time, the SPs that are updated together with the modulesutil.jar will correctly function.
- ✎ Created a tool for upgrading the old eXist version to a newer (much more stable) version. This tool was put on the Support Web Site.
- ✎ The following fields were added to SAR record:
 - 1. DESCRIPTION (to contain TEXT, FROM, LOCATION)
 - repeatable. Now the form of the SAR DESCRIPTION nodes is:
<DESCRIPTION> <TEXT>text</TEXT>
<FROM></FROM> <LOCATION></LOCATION>
</DESCRIPTION>
 - 2. CLASIFICATION (type=UDC,DDC - type attribute values to be editable by meta user) - repeatable
 - 3. KEYWORDS
 - 4. SUBJECT_SPECTRUM (type attribute values to be editable by meta user) - repeatable
- ✎ "Authentication failed" tests do not count when computing test status.
- ✎ The possibility to have use/used for links between SARs was added. This will allow Defunct sources to point to their replacement.
- ✎ Greatly improved the import/repack mechanism in terms of speed. The number of DB accesses was greatly reduced, and avoided redundant Connector/Authenticator records overwrite.
- ✎ Partner notification emails (Serial Number extension/deny possible through web interface or through clients - such as Serial Number Encoder).

16.1.9 Muse Connectors Generator



- ✎ The CALL_SETTER instruction was added to set various runtime configuration options for connectors(such as maximum number of requests to the same url, maximum number of http requests, etc.). Any new option that needs to be set will be able to be set very easily.
- ✎ Now the connector generator generates internationalized connectors.(New keys can be added modifying only language.xml).

16.1.10 Muse Search Query Translator Generator

- ✎ Added support for the new limiters model in ISR.
- ✎ New translator type: Distributed by Operators Source was built.

16.1.11 Muse Serial Number Encoder

- ✎ The Applications.xml files from older Muse versions is now installed with the Serial Encoder. Other changes include renaming the serial/tmp directory to serial/work, copying this directory on the distribution target, changing the ICE Version input into an editable combobox.
- ✎ Changes done to Serial Number Encoder.
- ✎ Added the possibility to send an email when the details from the Extension Request are final.

16.1.12 Muse Web2 Bridge

- ✎ Created a schema for the Web2 output RECORD A short description for the most important fields was written. The schema along with the descriptions reside in a new section of the Muse Web2 XML Protocol manual.

16.2 Bug Fixes:

16.2.1 Muse Search

- ✎ The Post Install Configuration Setup now correctly changes the port in jaas.config when the Muse HTTP Server port is changed.
- ✎ \${APPLICATION_HOME}/scripts directories are now included when a new application is installed.
- ✎ Empty passwords are no longer allowed for Admin Console users during installation.
- ✎ All files from the Muse installation directory are now deleted if the checkbox from the last panel of Uninstaller is checked.
- ✎ Fixed error obtained when installing Muse Applications, when Muse was deleted and not



uninstalled.

- ✧ Took out references to Win9x/Me from manuals Win9x/Me are no longer supported.
- ✧ The Muse Admin Console passwords panel was not functioning correctly if you did not choose to install all consoles included in the Serial Number, resulting in duplicate entries for the administrator user in the passwords.xml file. This has been corrected.
- ✧ Fix done for keep in results action from all `#{MUSE_HOME}/home` applications.
- ✧ Updated the applications which are using AJAX and filter actions.
- ✧ Updated the Muse-AJAX applications to retrieve the operation status based on the reference id.
- ✧ Timeout windows now use the application name in the window title, making it easier to identify where the timeout message has come from.[Requires an application update patch].
- ✧ All the Muse applications which support limiters were updated to use the latest limiters model.[Requires an application update patch].
- ✧ Both MuseServlet and BaseSession are now correctly retrieving and deleting the LoginContext from the associated HttpSession. Logoff is called only once either on explicit action from user or upon session timeout.
- ✧ When templateFile and errorTemplate are missing/not found an error, together with the stacktrace, is displayed in the browser. The distinction is made between "file not found" and "invalid freemarker" template errors.
- ✧ Changed the message displayed when no suitable JVM is found for installation from "**No Java Runtime Environment was found on this system.**" to "**No suitable Java Runtime Environment was found on this system. You need Java 1.5 installed before running this install package.**".
- ✧ Running .bin files could not get the installer to run. This has been corrected.
- ✧ Running .bin installer no information on running with -console was displayed.
- ✧ When performing an upgrade the Muse Standalone Proxy now merges the IPs from the existing hosts.xml file with the ones present in the muse-proxy-options.txt and presents this merged list in the Setup Panel for IPs configuration, where it may be edited if required.
- ✧ NULL errors were obtained while installing on Solaris. This was possible because of a missing/corrupted vpd.properties file. This case is checked and the user is presented with a proper error message before stopping the installation.
- ✧ Post Install Configuration Setup: Certificate parsing code is now working properly.
- ✧ Call logoff when unbinding from the HttpSession in order to detach session objects when unbound.
- ✧ Admin Consoles and all Muse Applications web page templates were updated to support FreeMarker 2.3.3 syntax.
- ✧ All problems caused by the InstallShield 11.5 which were discovered during tests are now resolved.
- ✧ Added the CollectingSearchData task to Muse Setup.



16.2.2 ICE Server

- ✧ Redesigned the Relevance Ranking algorithm in order to take account of query indexes, and to handle complex queries correctly.
- ✧ Added support for sending e-mail using an SSL encrypted connection. Modified the SendMail.java module to use the new ICEMailUtil class and added the two required parameters for the SMTP port and a flag to use secure connections. Modified the console interface so that the two new fields required for secure connection (smtpPort and useSSL) can be modified by the admin users. In case of the old systems the SendMail.xml file must be upgraded so that they contain the tags corresponding to these new two fields(SMTP_PORT, USE_SSL).
- ✧ Updated IPAddress.getLocalIPAddresses() method to return a HashMap where all values are of type ArrayList. This way one does not have to check the 'instance' of every value.
- ✧ Fixed the reporting modules version on Unix (with version shell script) to work on Unix for modulesutil.jar and connectors.jar.
- ✧ Updated the filter to work correctly.
- ✧ We have fixed the "first time slow retrieval phenomenon". This was actually due to a proxy miss-update.
- ✧ The search Manager was refactored in order to be easier to add new in-search processing modules.
- ✧ SendMail module was updated to properly encode the mail subject with UTF-8 encoding.
- ✧ The duplicate records are now correctly processed(the name of the resultset of the duplicate records is saved at the DeDupe key level).
- ✧ System bundle is used before somebody logs in a session. Changed the name of internal variables in the ICESession from modulesResourceXXX to userResourceXXX.
- ✧ Updated the GAMS mechanism in order for the GAMS entry to not expire so quickly.
- ✧ The DISCOVER module was enhanced so that it returns as its response the NAME of the targets. The ICE Communication Interface document was updated with the new functionality of the DISCOVER command.
- ✧ Rewrote the code so that all valid IP addresses of the machine ICE runs on are correctly retrieved.
- ✧ Implemented a queue for collecting the log messages instead of immediately writing them to disk. The queue is written to disk by a separate thread at defined time intervals. The interval is defined by a 'flush' attribute of the LOGGER field from the ICECore.xml file.
- ✧ Fixed an internal message appearing when Saving records to the workroom. It is the message from SAVE that notifies that the Result Set was created (ModulesUtil.MPM_CRS). This message is actually intended to be used only when Save is running in-search, but SAVE also runs from scripts related to workroom. We solved this by using the boolean parameter for SAVE - notifyCreateRS.
- ✧ Saving Alerts with sources having the profile packed in its SP is not displaying the names of these sources. We have fixed this.



16.2.3 Muse Web Bridge

- ✎ The in-line errors (e.g. the ones that gets mixed with the records) did not reach the interface. This is now corrected.

16.2.4 Muse Admin Bridge

- ✎ The SMTP_HOST/SMTP_PORT/USE_SSL fields should only appear for editing if they are present in the SendMail profile.
- ✎ Corrections have been made to the permissions needed to Restore a previously backed up source through Muse Consoles.
- ✎ Correction to the functionality of the 'Return to list of sources' button from the 'Test' page after an email is delivered.
- ✎ Muse Admin console correctly displays the time remaining before a Muse Serial Number must be renewed.
- ✎ Change to the consoles so the FFE status of a Source is displayed as Unknown.
- ✎ Text has been changed in places in the MDC interface to make the intended functionality clearer.
- ✎ Allows for installing Source Packages containing JAR dependencies through the Consoles.
- ✎ Since none of our partners currently use the 'Add' custom attributes button available from the Amend Interface screen (and it requires additional Application Interface coding to make use of it) it has been removed from all consoles.
- ✎ A warning message is displayed when trying to edit the Identification and Description of a source which has not yet been downloaded and installed.
- ✎ More information about the Home URL, Search URL, Database Name, and Description fields was added in the source information popup window from the Select tab.
- ✎ When filling in the "Request for Profiling" email form all fields were treated as mandatory. This was incorrect, and has now been corrected.
- ✎ Changed the Expiry Date field in the Muse Designer Console to use a 'date picker' dropdown to prevent errors in date format.
- ✎ Additional source configuration profile fields are now editable through the Advanced Configuration screens.
- ✎ Configure More Sources Like This functionality includes checks for fields not present, in all profiles (such as EXtended Parser) and does not prevent update of the remaining fields.
- ✎ Import Profile/Configure More Sources Like This does not fail anymore when fields from the source profile contain entities like & .
- ✎ Defunct sources are displayed as such in all consoles.
- ✎ In case of error when listing applications (usually the first console screen), the user got a blank



page. Now in case of error occurs when reading the application list an informative error message is displayed.

- ✎ In case the Source Package for a Source is not present at application level you got an error when importing a profile for the source.
- ✎ Check Application reported only the first occurrence of a duplicate source in search .xml. Now all are reported.
- ✎ When a source is deleted from an application, all related Local InfoBase structures, such as IHR (Installation History Record) are also deleted.
- ✎ When an application is deleted/copied, its Local InfoBase structures(IHR (Installation History Records),THR (Test History Records), TDR (Test Definition Records)) are also deleted/copied.
- ✎ When configuring a source (MSC, possibly other consoles), the read timeout/connect timeout are specified that are given in milliseconds.
- ✎ Changed the name to "MuseAdmin Communication Interface.pdf" file (note the 2 'm's within Communication) instead of "MuseAdmin Communication Interface.pdf".
- ✎ The Source Audit tool was added in the Chinese section of the Muse Administrator Console.
- ✎ Corrections to the mechanism for marking sources as exclusive to a partner.
- ✎ For all the 9xx production status records the names from Source Factory are now colored in red. The following statuses were created:
 - ✎ 912 for defunct (no longer used - the source has gone)
 - ✎ 914 for defunct (no longer used - the SP has been replaced)
 - ✎ 920 for duplicate (do not use - use the other one)

in order to categorise them and maintain them more easily. Also there were added corresponding filters for these. Now for the sources with 900 status there is a link to the correct record - clicking it will take the user to the correct record to use. The <Download> button on the record display for "9xx" records was disabled.

- ✎ When copying an application using MDC it was not possible to set a password, from the copy screen. The default was always used. This has been corrected.
- ✎ If using consoles, some actions on a source whose profile is not extracted from .jar file gave an error. This has been corrected.
- ✎ Changed the mechanism of retrieving the supported languages. The `${APPLICATION_HOME}/www/application/applicationOptions.db` file is used in order to retrieve the list of supported languages. If `${APPLICATION_HOME}/www/application/applicationOptions.db` file does not exist then the old mechanism is used.
- ✎ Updated consoles so that deleting a source from a group works correctly. It no longer deletes the group.



16.2.5 Muse Control Center

- ✎ Automatic Source Upgrade Task: The Select All checkbox now works correctly when there is a single application with a single source.
- ✎ When a Task is deleted all references to it are deleted too.
- ✎ Improved thread management in the logging task from the Control Center.
- ✎ When setting up the task in the list of applications from the Automatic Source Upgrade task only one application was listed instead of the full list.
- ✎ Automatic Source Upgrade task. This task is now loaded by default. The algorithm is configured ready for automatic source upgrade use by partners without requiring further configuration.
- ✎ Beep task: fixed the saving of the events from the Schedule tab.
- ✎ The refresh of the "Tasks Report" page for the SourcePackagesUpgrade task (web interface) works properly now.
- ✎ Revised the logging from the HTTP interface.
- ✎ Corrected the GlobalSourceChecker task for complex queries such as "pizza and :COVERAGE[type="geographic"] New York".
- ✎ The muservlet.jar was added in classpath from startCenter* scripts. Without it the SourcePackagesUpgrade task is not visible (loaded) in the GUI interface (it works in the web interface). This jar is needed after AAS code was restructured.
- ✎ The upgrade task was setup to skip a package if it isn't found in the Source Factory.
- ✎ Updated MCC in order to prevent a tasks file that has tasks with the same ID from running.
- ✎ When the ICE server was closed, during the running of the Source Checker task, an exception was thrown and caught too late in the Muse Center, skipping some cleanup steps. Now this is fixed.
- ✎ InfoBase tasks in MCC were sharing settings. Thus if you modified the shared details in one InfoBase task, the change would have been reflected to the other InfoBase tasks in the tasks file.
- ✎ Editing the InfoBase task did not work correctly. Some command parameters were under certain circumstances lost (not saved) after editing.

16.2.6 Muse Proxy Server and Navigation Manager

- ✎ More than one Proxy Cache object is used – one for each listening Server object. Each Cache (per Server object) now resides in its own directory. This ensures that the same URL cannot be accessed simultaneously by 2 clients with potential for corruption. It also prevents any security issues where a resource cached by a user with a certain security credential could possibly have been retrieved by another user without credentials.
- ✎ When the proxy port is changed from the default (9797) the proxy shutdown now works correctly.
- ✎



In the re-writing mechanism the `getProxyServices` method was fixed and now the request is made once per session regardless the result of the request.

- ✎ The proxy chaining mechanisms have been fixed. Now, if any entry for proxy authorization (`PROXY_HOST`, `PROXY_PORT`, `PROXY_PAC`) is an empty string, or the host for proxy is the same as the host for navigation manager, these entries are ignored (not used).
- ✎ Added a filter in Muse Proxy that would generate and re-construct tiny URLs from long URLs that are normally trimmed by certain browsers.[Requires application configuration to use MNM at ICE level]
- ✎ When rewriting the links from Muse Web Bridge, the rewritten URLs were missing the Muse Markers. We fixed that.
- ✎ The rewritten URLs which must be navigated using the HTTP POST method were not well handled by Muse Proxy (the POST data was lost because of a redirect made by the proxy which did not stores the POST data). This happened if an ICE version previous to 2.1.0.3 is used but Muse Proxy 2.1.0.3 is used. Also this happened when an ICE version 2.1.0.3 is used and the links are rewritten through Muse Web Bridge. This has been corrected.

16.2.7 Muse XMLDB Management System

- ✎ Running the `${USE_HOME}/tools/startSystemInformation` scripts displayed a `NoClassDefFoundError` in the output console.This was correcting by adding .jar files to the CLASSPATH.
- ✎ Added necessary permissions to `$ICE_HOME/jaas.policy` and `$ICE_HOME/jaas.policy.default` in order for the RefWorks module to exit cleanly on error.

16.2.8 Muse Statistics Monitor

- ✎ Extended the analysis modules to ignore dummy sessions, that is sessions that have just a Logon and possible Logoff but no other operations.
- ✎ For the CSV analysis module(for which the Graphical tab is completely blank) for each component of the Controller view added the flag `isGraphic`. If the new flag is true then an empty view will be added. The view will not be updated when an analysis is run.
- ✎ Caught the exceptions that may be thrown on Muse Statistics Monitor startup in the case where the `applications.xml` file was missing. An appropriate message is now displayed.
- ✎ Closing the window using the 'x' button left the monitor running (console does not return). This has been corrected.
- ✎ The ComboBox with the Module Types was filled with all the previously Module Types from all the Data Sets used before. Now the ComboBox is populated only with the Module Types from the current Data Set.
- ✎ The xml with the dates from the Date Filter was not properly read, and only the first START and END node was read (from the `<FROM_TO_DATE>` parent node). This has been



corrected.

- ✎ Changed the name to "Muse Statistics Monitor Communication Interface.pdf" file (note the 2 'm's within Communication) instead of "Muse Statistics Monitor Communication Interface.pdf".

16.2.9 Muse Source Factory

- ✎ A correction was made to source status codes. They now all display correctly.
- ✎ Using registration user, trying to edit a SN with extension results in error: View SNR.EXT.approve.view not found. The view was missing so we added it.
- ✎ Notifications for SNs about to expire were being sent daily (instead of the configured interval). Some chars were not properly escaped when handling the email message, resulting in errors when writing the Notification Record.
- ✎ When connecting from the Admin Consoles to SF, using startersf user, all sources were listed instead of the ones that should be available to the user.
- ✎ The "[Target Name] is empty error" is fixed now.
- ✎ New Sources stopped automatically appearing in Auto-Update=true source groups.
- ✎ customer group of SF was missing SAR.subject.brieflist view. Thus when a customer connected with MAC to the SF the following error was reported by the SF: View [SAR.subject.brieflist.view] definition file not found.

16.2.10 Muse Builder

- ✎ Creating a Web Interface Project did not work in Muse Builder from CVS. We have corrected this.

16.2.11 Muse Connectors Generator

- ✎ Changed the snippet for estimate to trim the source after the special characters are cleared.

16.3 Known Bugs:

16.3.1 ICE Server

- ✎ On systems with GAMS Manager not being licensed (i.e. musegams.jar is missing from the lib directories), the ICE Server does not start. These systems need a patch consisting in a new musxmlldb.jar.



16.3.2 Muse Admin Bridge

- ✎ Domains for inclusion or exclusion for Muse Navigation Management entered through the General Settings -> Navigation Management tab must not contain spaces. The example given on the screen includes a space, which is incorrect.
- ✎ Source Profile Import and HTTPS Certificate import do not work correctly work when the files are uploaded from a Windows machine using Internet Explorer and the Muse system where the files are uploaded to runs on UNIX/Linux. Source Profile Import produces an error that Source Profile name does not match, while the imported HTTPS Certificate, it will upload, but it will be unusable and the user won't be able to delete it.
- ✎ Using the Admin Consoles, when deleting a Source from an application all Groups that the Source belonged to were deleted.

16.3.3 Muse Control Center

- ✎ An error appears when logging in the Muse Control Center web interface.

16.3.4 Muse Proxy Server and Navigation Manager

- ✎ When rewriting the links from Muse Web Bridge, the rewritten URLs are missing the Muse Markers.
- ✎ The rewritten URLs which must be navigated using the HTTP POST method are not well handled by Muse Proxy (the POST data is lost because of a redirect made by the proxy which does not stores the POST data). This happens if an ICE version previous to 2.1.0.3 is used but Muse Proxy 2.1.0.3 is used. Also this happens when an ICE version 2.1.0.3 is used and the links are rewritten through Muse Web Bridge.





17.0

Changes in Muse 2.1.0.2 Build

Release Date: 2006.06.28

17.1 Bug Fixes:

17.1.1 Muse Setup

- ✎ Post Install Configuration Setup: Added another configuration panel for editing jssecacerts file used by Muse Modules.

17.1.2 ICE Server

- ✎ Avoid XML serialization through identity Transformers. It does not always assure that the serialized XML is consistent. Use instead a faster, in house, node by node, transformation on the DOM structure.
- ✎ ICELoginModuleGAMSReader, ICELoginModuleGAMSWriter use the GMT time zone for all dates that get into the GAMS database. Now, the GAMSReader and GAMSWriter installed under different timezones can use the same GAMS database concurrently and the time comparisons will work as expected.
- ✎ Add more log messages into all LoginModules so that anyone can track the progress of the authentication mechanism.

17.1.3 ICE Modules

- ✎ Updated all the translators in our global repository so that if a translator does not support limiters, but a query with limiters is performed on it the query generated will be the same as in case the query did not contain limiters.



17.1.4 Muse Admin Bridge

- ✎ In the Setup Source screen the Source Name was not properly escaped (and for example Chinese/Greek Source Names didn't display up correctly)
- ✎ When Testing a source if estimate and hits were zero, the test was recorded into Local InfoBase as Failed but in the Test window the icon was an OK icon.
- ✎ Parsing of estimate string coming from tested Sources is done using long instead of int. For large estimates (> MAX_INT) parsing as int did not get the correct number.

17.1.5 Muse Control Center

- ✎ SP Upgrade task now updates modulesutil.jar too.
- ✎ Fixed an error in the log file: No 'MAX_SEARCHES' element.
- ✎ Fixed the setting of the Always interval for Schedule in the web interface.
- ✎ When editing an Alert email header if the value contained new lines it was not properly written back in the tasks file, causing emails not to contain the desired information.
- ✎ 2nd run of Source Checker task was not closing the connection to ICE (was still listening for messages and ICE finished it on timeout).
- ✎ Source Checker task is not recording anymore hits/retrieved number for failed sources.

17.1.6 Muse Proxy Server and Navigation Manager

- ✎ access.log wasn't properly rotated on Windows (after reaching the MAX slot it wasn't rotated at all).
- ✎ Enabling/disabling filters from the admin interface did not work correctly for filters with config files.

17.1.7 Muse Source Factory

- ✎ New Source IDs are checked for validity when staff users are creating Source records.
- ✎ In Test History listing for a source the 'Source work by default' test had a Tested: Working icon.

17.1.8 Muse Connectors Generator

- ✎ Add a condition for new field USE_EX_PARSER.
- ✎ Agent variable is not restored after function calls.



17.1.9 Muse HTTP Server

- ✎ jsessionid from the URL is interpreted as part of the path (correctly as specified in the standard), not at the end of the request URL.
- ✎ When the session id comes in the URL now the server sends back the session ID as cookie.

17.2 New Features:

17.2.1 Muse Servlet

- ✎ Split the session into two parts: the actual session and the output type. This way, different output types (JSP, Freemarker, AJAX) can be plugged to the same session without any session changes.
- ✎ Move here the XML communication API from Muse Admin Bridge.

17.2.2 Muse Search

- ✎ Created several demo applications based on the Explorer idea – they make use of AJAX mechanism and new interface elements (Divs and DOM functions in JavaScript).

17.2.3 Muse Setup

- ✎ museppms.jar was always installed and it is now installed only if you have the Muse PPMS bit in the SN.
- ✎ New Setup package: Muse Escrow Setup.

17.2.4 ICE Modules

- ✎ Search Manager re-factoring in order to allow for easy handle of in-search modules.
- ✎ All the connectors were updated to call the setRawData function. In order to control the adding of the raw data to the Muse records there are used some properties defined at application level (in the \${APPLICATION_HOME}/profile.xml) as follows:
 - ✎ HTTP_RAWDATA which can have the values "yes" or "no" and if not present the default value will be "no"
 - ✎ Z3950_RAWDATA which can have the values "yes" or "no" and if not present the default value will be "yes". The default value of this property is "yes" because we want to keep the current default mechanism.



These values will be processed in the ICEHttpConnector class and in Z3950 class and if they have the "yes" value the raw data will be present in the Muse records. Otherwise the raw data will not be present in the Muse records.

- ✧ Added the "USE_EX_PARSER" field in the Source Packages profiles. This field specifies whether the connector should use an extended parser to retrieve detailed information. This is just an indication for the connector that an extended parsing should be done, but it is up to each connector to implement or not such an extended parsing. The possible values for this parameter are: "yes" or "no" without quotes.
- ✧ Adds more date formats to the supported list of ICERankingKeyDate.

17.2.5 Muse Web Bridge

- ✧ Keep up with Muse Servlet changes and split the code to use one session (WebSession) and various output types. The FreemarkerWebSessionOutput also uses the AJAX mechanism for progress and footer information.
- ✧ Add support for specifying Distillation keys that will be used in the search process.

17.2.6 Muse Admin Bridge

- ✧ Keep up with Muse Servlet changes and split the code to use one session (WebSession) and various output types.
- ✧ Added new Source Audit standalone tool. Added Source Audit functionality in the MAC interface.
- ✧ Allow editing of new source profile fields: USE_EX_PARSER, NAVIGATION_MANAGER_MODE, etc.
- ✧ Updated the Test Status icons to match the ones from the Source Factory.
- ✧ In the Test/Check Source(s) screen the user has the possibility of adding personalized logon details. Also can set a timeout on the search.
- ✧ Create the certificates directory for new applications.

17.2.7 Muse Control Center

- ✧ Pass some more paths/parameters for resolveVariables in Ant task and in the FTP task.
- ✧ Email task: logs are attached in a single archive.
- ✧ Source Package Upgrade algorithm modification – added another IF (IF Source is not working). Thus the user has the option not to upgrade the Source Packages that are working.
- ✧ Alerts task are able to configure the From address field of the alert emails.
- ✧ Source Checker task modifications to Produce a summary at the end of run which is also available



via the SUMMARY metavariable to other tasks.

17.2.8 Muse Control Center

- ✎ modulesutil.jar is sometimes built without a version in the journal.txt.

17.2.9 Muse Proxy and Navigation Manager

- ✎ Muse Proxy now has a session mechanism built inside. The session is used to keep the data that otherwise would be kept in user's browser as cookies.
- ✎ Tiny URL functionality is introduced in with a new filter in Muse Proxy that generates and re-constructs tiny URLs from long URLs that are normally trimmed by certain browsers. Also the code in the modifyURLsFormMNM method (called by ICE and bridges) is now using the Muse Proxy Tiny URL new service for longer URLs and for the ones that needs Post.

17.2.10 Muse XMLDB Management System

- ✎ XML DB managers are now an interface + an implementation class.

17.2.11 Muse Source Factory

- ✎ Muse Registration Service: additional filters for the Serial Number list:
 - ✎ filter by version
 - ✎ filter by date (build date to be between given start/end dates)
 - ✎ filter on every field of MRR (only one input, but will scan all fields in MRR for a match)
- ✎ Change the InfoBase servlet structures to support AJAX.
- ✎ Added repeatable fields editing.
- ✎ Tests failed with 'Authentication failed' do not count in final test status of a Source.
- ✎ Added new SAR fields:
 - ✎ DESCRIPTION (contains TEXT, FROM, LOCATION)
 - ✎ repeatable 2. CLASSIFICATION (type=UDC,DDC - type attribute values to be editable by meta user) - repeatable
 - ✎ KEYWORDS
 - ✎ SUBJECT_SPECTRUM (type attribute values to be editable by meta user) - repeatable

17.2.12 Muse Connectors Generator



- ✧ CDF Debugger: Added visual representation of parsings. Thus the user can visually see what data from the HTML page (browser/source view) the parsing extracted.
- ✧ Add possibility for the generated connectors to load custom profile properties.

17.2.13 Muse Serial Number Encoder

- ✧ For some Serial Numbers lifespan is not correctly loaded from the Registration Service.

17.2.14 Muse HTTP Server

- ✧ Display a nice error when the maximum number of threads in the server is reached.

17.3 Notes:

17.3.1 Muse System

- ✧ All manuals are written in DocBook and when building Muse, PDF documents which respects the MuseGlobal Template are generated.



18.0

Changes in Muse 2.1.0.1 Release

Release Date: 2006.04.17

18.1 Notes:

18.1.1 Muse System

- ☞ All the code has been made XML parser independent. This will ensure that in the future we can easily switch to using other XML parser then crimson. We are creating a new build because this implied many changes in all the code from all the products. This build is aimed only for our internal servers in order to upgrade them to the XML parser independent code. Thus, specific New Features:, which are now build using the parser independent code will be easily deployed on our servers.





19.0

Changes in Muse 2.1.0.0 Release

Release Date: 2006.03.09

19.1 Bug Fixes:

19.1.1 Muse Setup

- ✎ In the registration process, if the user didn't checked the 'Online registration' option, Muse Setup displayed the Registration Failed Screen. Now it displays information on how to perform registration at a later time.

19.1.2 ICE Modules

- ✎ Stylesheets for Z39.50 sources are now supporting queries where multi-word search attributes are involved. The search term for the Z3950 server will contain the structure attribute s=6 (multi word list).

19.1.3 Muse Control Center

- ✎ Some of the fields from the web interface were not taken in consideration (Script -> Custom Parameters, Ant -> Defined Properties, Alerts -> Keystore, Password)

19.1.4 Muse Source Factory

- ✎ `downloadSourcePackage()` checks that the access details used for login have access to the Source Package asked to be downloaded.

19.1.5 Muse Search Query Translator Generator



- ✧ Stylesheet is now generated in the default XSL path from ICESQTG settings. Until now it was generated in the default DSD path from ICESQTG settings which was not correct.

19.1.6 Muse HTTP Server

- ✧ When a request for a CGI file was made (file name matching *.cgi pattern) a NullPointerException was displayed back.

19.2 New Features:

19.2.1 ICE Modules

- ✧ New Jitterbug key - TermsExtractorKey - used for term extractions. The key extends the given record with the most important word sequences. The word sequences are weighted based on frequency and on the length of the sequence (for example a single word appearing 5 times is less important than a two word sequence appearing 4 times)

19.2.2 Muse Admin Bridge

- ✧ MAC displays the list of sources for addition into applications from the Global Source Library.
- ✧ An unlimited number of sources can be updated at once (up to how many sources the user has in the application). Previously, sources could be updated only in batches of 25.
- ✧ When checking a source the user has the possibility to choose a timeout period for the source check to be forcefully finished.
- ✧ Update system level SEARCH.xml when navigating in the Maintain Sources tab. If SEARCH.xml was not updated, then in a clean Muse install, warnings were obtained when Sources were updated from SF.

19.2.3 Muse Search Query Translator Generator

- ✧ Generate LINKS section in DSD files (if it doesn't exist) containing links to CPB/PMF files.
- ✧ Generate CPB and PMF files
- ✧ Added truncation support
- ✧ Added multiword support



20.0

Changes in Muse 2.0.0.3 Release

Release Date: 2006.02.23

20.1 Bug Fixes:

20.1.1 Muse HTTP Server

- There have been some strange issues with certain browsers that sent data after the socket had been closed by the server and then the browser reports an error page instead of the desired HTML page. To prevent this one can now configure the `socketCloseDelay` parameter for the desired Connector in the `${MUSE_HOME}/http/conf/contexts.xml`. The value for `socketCloseDelay` parameter is specified in milliseconds.

20.2 New Features:

20.2.1 ICE Modules

- Now when new SSL certificates are added in the `${MODULES_HOME}/jssecacerts` file the ICE server is no longer required to be restarted. ★ Now the SSL certificates needed by an SP can be specified in the `SSL_CERTIFICATES` field from SP profile. The certificates specified in this field are automatically packed up at SP build time, included inside the SP and used at runtime. If for an SP there are SSL certificates specified in the `SSL_CERTIFICATES` field from profile then the `${MODULES_HOME}/jssecacerts` file is no longer used when running that SP.

20.2.2 Muse Admin Bridge

- Update the Admin Consoles (MAC, MMC, MSC, MAC Standard) to be able to edit the `SSL_CERTIFICATES` field in Source profiles.



- ✎ Update the Admin Consoles to permit editing of the Pre-mapping entries for search attributes for sources packages.

20.2.3 Muse Proxy Server and Navigation Manager

- ✎ Now another rewriting proxy (e.g. EzProxy) could not be chained with Muse Navigation Manager. If a page rewritten by the Muse Navigation Manager contains URLs which are formed using the Muse JavaScript function "url2Muse" and this page is passed over to the rewriting proxy (e.g. EzProxy) then the links formed using the url2Muse function will work fine. The fix consisted in dynamically obtaining from JavaScript of the browser host:port and storing them in the `_mmmHost_` javascript variable written into the page by Muse Navigation Manager.

20.2.4 Muse Proxy Server and Navigation Manager

- ✎ When the maximum configured number of worker threads in Muse Proxy was reached, new connections were simply closed. Now, Muse Proxy displays an error messages to the client ("Muse Proxy Server is too busy at the moment and cannot service your request. Please try again later. Please contact your Muse System administrator to increase the maximum number of simultaneous connections allowed.") then closes connection.



21.0

Changes in Muse 2.0.0.2 Release

Release Date: 2006.02.09

21.1 Bug Fixes:

21.1.1 Muse Authentication and Authorization Service

- ☞ Correctly handles UTF-8 templates and stylesheets, that is the Freemarker templates and the stylesheets containing UTF-8 encoded characters are correctly interpreted and rendered.

21.1.2 ICE Server

- ☞ Remove the Java Sun implementation specific details. Do not use implementation specific objects. This ensure that the ICE Server will run on IBM Java Virtual Machine too.
- ☞ ICE Messages could have got mixed up under high load (i.e. the synchronization at the level of message is not respected during race conditions). The method sendMessage(clientSocket, message) from ICEConnect class is now synchronized and there is no longer any possibility for the messages to get mixed up.

21.1.3 ICE Modules

- ☞ SEARCH module - If none of the search targets are started (various reason - e.g. ISR file not found) the result set gets created empty (0 records).
- ☞ SourceRanking is now reporting its status.

21.1.4 Muse Admin Bridge

- ☞ On the Select/List all Hosts tab, a number of the Sources (Defunct and Requested Sources) had two checkboxes next to the name in the Source column.



- ✧ When checking sources, use targetID to identify sources instead of moduleName. moduleName is a human readable name for the source.
- ✧ Muse Admin Bridge works correctly with IBM JVM, using SSL.

21.1.5 Muse Proxy Server and Navigation Manager

- ✧ Authentication is now done based on the remote port also. This allows one to deny connecting through proxy to well known service ports such as SSH, FTP, SMTP, etc. Denied by default the following ports for all users: 20,21,22,23,25.

21.1.6 Muse Source Factory

- ✧ Lists in the interface now display filters at the bottom on empty lists. Before, if you got to an empty list by filtering down the list you were not able to get back because you couldn't reset the filters.

21.1.7 Muse Connectors Generator

- ✧ Corrected a potential bug regarding marker initialization in functions.
- ✧ Corrected a bug appearing when generating a do while and the if transformed contains an instruction altering the condition.
- ✧ In Citation Wizard corrected backslash duplication algorithm, corrected a bug appearing at the last source removal and updated sourceArea after editing a source. Also removed quotes from mappings.
- ✧ Replaced String.replaceAll with a custom function when dealing with snippets.
- ✧ Added read from error stream in cases when only downloaded page is saved and we have no parsings.

21.1.8 Muse Serial Number Encoder

- ✧ Tracking Number could go below zero. When changing Tracking Number the SN is now also cleared.

21.1.9 Muse HTTP Server

- ✧ XmlServletOutputStream.print() method now writes UTF-8, as it was mangling the characters in the output stream.
- ✧ Muse HTTP Server works correctly with IBM JVM, using SSL.



21.2 New Features:

21.2.1 Muse Setup

- ☞ Use the new Muse Registration Service for registration.

21.2.2 ICE Server

- ☞ When converting from Muse query type to the ISR query truncation attributes are added when certain wildcards patterns are recognized. The truncation attributes are left, right, leftright and regexp.
- ☞ MNM Rewriting is carried out at the ICE Level. Actually there was no modification in the ICE Code as this could be done transparently using the ICE user properties specified in the profile.xml of the application. The following application properties `USE_NAVIGATION_MANAGER`, `NAVIGATION_MANAGER_HOST`, `NAVIGATION_MANAGER_PORT` are used in order to specify the MNM settings. Besides this each source profile contains the `NAVIGATION_MANAGER_MODE` entry in order to specify the matching patterns.
- ☞ Verify the three new serial.properties limits: maximum number of Muse applications in the system; maximum number of concurrent ICE sessions; maximum number of SPs per application.
- ☞ Add support for limiters in the ISR query and in the ISR converters: `ICEMuse2ISR`, `ICEOCLC2ISR`, `ICEScan2ISR`.
- ☞ Add support for multi-word in the ISR query and in the ISR converters: `ICEMuse2ISR`, `ICEOCLC2ISR`, `ICEScan2ISR`.
- ☞ Created an `ICEConstants` class to store various constants, for example `COPYRIGHT` which is then used by each product in turn to display the copyright string.
- ☞ Use an XML Document Builder pools in order to optimise the speed of creating XML Documents. This XML pool could be tuned from `ICECore.xml` configuration file using the new elements.

21.2.3 ICE Modules

- ☞ Updated the `ICEHttpConnector` class to add support for gzip and deflate content encodings.
- ☞ Updated the `ICEHttpConnector` class and now it implements support for handling the records created by the connector by managing internally a list of records and taking care internally of the `timeSlice` when sending the list to ICE (e.g. the method `sendRecord(ICERecord)`).
- ☞ Now when ICE is run with Java 1.5 or later the value of the `READ_TIME_OUT` field from the Source Package profile is used and the value of this field overrides the `"sun.net.client.defaultConnectTimeout"` and `"sun.net.client.defaultReadTimeout"` parameters



which are set in the ICE Server start up script. On Java 1.4 the old mechanism which uses global connection and read time out values for all the URLConnection objects created is still in place as Java 1.4 does not support individual connection and read timeout for every URLConnection object created, but only a global setting at java virtual machine level.

- ✧ Move the Navigation Manager Re-writing from Bridge sides to the ICE Server side, namely to the module side. Re-writing is carried out based on the application properties located in the `${APPLICATION_HOME}/profile.xml`: `USE_NAVIGATION_MANAGER`, `NAVIGATION_MANAGER_HOST` and `NAVIGATION_MANAGER_PORT` and also based on the `NAVIGATION_MANAGER_MODE` located in the source profile.
- ✧ Automatically added `AUTHORIZATION` and `PROXY_AUTHORIZATION` fields to the record when necessarily.
- ✧ General mechanism for search index remapping and for describing the search capabilities of a source. Added two configuration entries in the source profiles: `CPB` The capabilities file name that describes the search capabilities. `CPB` and `PMF` The Pre-mapping file name that offers the possibility for pre-mapping attributes before applying the `ISR` stylesheet.

21.2.4 Muse Admin Bridge

- ✧ Created Muse Source Console manual.
- ✧ Restrict source group IDs to a maximum of 32 chars.
- ✧ During SP installation/upgrade the `NAVIGATION_MANAGER_MODE` field from the Source Profile is merged with the corresponding field from the source profile.
- ✧ Screen for Banded retrieval configuration.

21.2.5 Muse Control Center

- ✧ Pack new files into Source Packages (capabilities and pre-mapping files).

21.2.6 Muse Proxy Server and Navigation Manager

- ✧ Muse Proxy can now be used in multiple IPs configurations, in ASP Environments. Made a shell script to assist users in setting up multiple IPs. Script has it's own manual and all files (script and manual) are under `${MUSE_HOME}/proxy/tool`.

21.2.7 Muse Source Factory

- ✧ New Muse Registration Service was created, for easy maintenance of Muse Serial Numbers and easy Muse Registration (online). This service is also accessible by partners from the Source Factory web interface. The Serial Number Encoder and Muse Setup rely on this service.
- ✧ Show 'Last update time' (time when the last repack of Source Packages was made) on all pages in



the Source Factory web interface.

- ✎ InfoBaseConnect now knows to connect to Source Factory over SSL.
- ✎ Test status changes to better reflect tested vs non tested sources, better reflect aging of tests. Re-designed the test status icons.
- ✎ Automatically create initial DB structure based on templates found on disk instead of hardcoded strings from code.

21.2.8 Muse Builder

- ✎ Web Interface Builder now accepts custom color schemes. There are a variety of colors a user can change in the created Web Interface.

21.2.9 Muse Connectors Generator

- ✎ Added CLEAR instruction and instructions to header parsings.
- ✎ Added instruction at the level of the individual loop field and made the loop field value available as a variable (named the same as the loop field).
- ✎ Added inner loop fields.
- ✎ Made the rules for loop fields not mandatory.
- ✎ Added stopConnectorIfStGTest for estimate as an expression.
- ✎ Changed snippets accordingly to the new format.
- ✎ Modified the ICERRecord operations accordingly with the new format.
- ✎ Used ErrorMessage transmitted from authenticator.
- ✎ Added a hint when detecting an incorrect return.
- ✎ Integrated the CDF debugger in builder. Debugging is for now supported on approximately 80% of possible CDF language instructions (most frequent ones). For the rest of 20% the work is still in progress. Also the java reflection mechanism has to be improved to find the most specific method.

21.2.10 Muse SOAP Bridge

- ✎ Muse SOAP Bridge Client was moved to its own subdirectory (`${MUSE_HOME}/soap/client`).

21.2.11 Muse Serial Number Encoder

- ✎ Integration with Muse Registration Service. It is now possible to register a serial number in InfoBase (including IP, lifespan), to extend a serial number (IP, lifespan) in InfoBase, to retrieve the customers list from InfoBase. Also added a Note entry in the interface that gets stored along with



the SN/Serial Properties in the Muse Registration database.

- ✎ Accomodate the three new serial.properties limits: maximum number of Muse applications in the system; maximum number of concurrent ICE sessions; maximum number of SPs per application.

21.3 Notes:

21.3.1 Muse System

- ✎ Most of the Muse Products (ICE Server, HTTP Server, Proxy Server, all the Bridges) are able to run on IBM Java Virtual Machine.
- ✎ The log mechanisms of all the products allows for a timely rolling. This is possible both in the cases where ICELog is used and in the cases where log4j is used. For ICELog the new configuration element, LOG_TIME_INTERVAL, is to be used to specify the number of hours between rotations. For log4j the daily roll over parameter (DR) is to be used.



22.0

Changes in Muse 2.0.0.1 Release

Release Date: 03.11.2005

22.1 Bug Fixes:

22.1.1 Muse Servlet

- ☞ Use toUTF8() for the Session Properties names and values. This way we deal correctly with all the unicode characters that are making up the session properties values.

22.1.2 ICE Server

- ☞ More explanatory messages in case of licensing problems. The e-mail now contains the class type and message for both the thrown Exception and the Exception Cause (but it does not contain the stack trace).

22.1.3 ICE Modules

- ☞ For the SourceRanking module the following bug was fixed: when all the sources with a middle priority were quicker and finishes all the records to be sent, then the lower priority records were brought in before the highest priority ones.

22.1.4 Muse Control Center

- ☞ If the checkbox for enabling the default (global) ICE server is enabled, the custom ICE server and port are no longer mandatory (and viceversa).
- ☞ Extended the message displayed when an error occurs while loading the task configuration file. Now it also displays a short text message and the class of the Exception.
- ☞ Added timeout for connecting to ICE through SSL. Before, when the remote endpoint was not



SSL enabled, the SSL connection locked. Now, when reaching the timeout the connection ends.

22.1.5 Muse Proxy Server and Navigation Manager

- ✎ In encodeHTML function from MuseProxyHTMLUtils skip if the first characters that are not ASCII. Some pages come with strange characters at the beginning (but the reply is text/html) and because of this the page was interpreted and rewritten as a JavaScript, which generated a very strange code.
- ✎ The FrameSet filter was modified to handle redirect replies.
- ✎ Fixed the unEscapeString function from MuseProxyHTMLUtils to be applied only on "" and \" chars.
- ✎ Fixed the default path for configuration files of Proxy Filters computed by FilterManager (in UNIX systems, though the configuration file exists, it wasn't loaded).
- ✎ The content of the incoming pages is now uncompressed for the following types of content type: text/html, text/css and application/x-javascript.
- ✎ In MuseProxyUtils, modified the function encodeCECookie to encode the Cookie domain also, not just the path (this was necessarily as long as the MNM looks for the Cookie domain now, not just for Cookie path).
- ✎ The NavigationFilter and HeaderMuseCookieFilter send cookies only if their domain matches the request domain also, not just the path.
- ✎ Added the HttpCookie class to handle the Cookie objects. Very useful to read the cookies directly from the HTTP Headers and to make use of all their attributes, like: domain, path, expiration date, etc.
- ✎ Make improvements to the HTTP redirect mechanism. All redirects are now logged along with the name of filter that generated them.

22.1.6 Muse Source Factory

- ✎ Started using the latest eXist snapshot (20050805).

22.1.7 Muse Serial Number Encoder

- ✎ A warning is displayed in the Lifespan tab if the serial.properties file does not have a lifespan field defined, that is the serial.properties is a pre 1.2.0.1 version.

22.2 New Features:



22.2.1 ICE Server

- ✎ The ICE Server will not start if the lifespan is not defined in the serial.properties file – this is a theoretical security strengthen.
- ✎ Added new login module, named ICELoginModuleXMLDB. The module is used to authenticate a user against a password file that is located in an XML database. This Login Module recognizes the passwords option in jaas.config file.

22.2.2 ICE Modules

- ✎ Now when the connector is interrupted because the period specified through the JVM parameter "sun.net.client.defaultReadTimeout" exceeds, no longer it is displayed to the user an "The process has been interrupted" error, but instead a "Read time out" error.
- ✎ Updated the ICEHttpConnector class to calculate and log the network time, the processing time, the time until first record is retrieved, the bytes sent and the bytes received.
- ✎ SourceRanking – extension to support the specification of a group made by the rest of the sources. The attribute definition="rest|inline" is to be used for allowing to specify the group with the rest of the sources not appearing in the inline specified groups. Backward compatibility (when no definition attribute is present) remains available.
- ✎ SourceRanking – extension for explicit priority specification. The attribute priority="positive integer" should be used for this. The highest priority is 1. Backward compatibility remains available that is, if no priority is found then that group is treated as having the next available priority (depends on the physical order of GROUPs and on the – highest priority number – found in the configuration file).

22.2.3 Muse Control Center

- ✎ Add internationalization support. The user is now able to select the font for the desktop interface. Also the task name and description can be set in any language.
- ✎ The user may specify parameter values for all the InfoBase commands defined in the InfoBase type tasks.

22.2.4 Muse Source Factory

- ✎ Modulesutil.jar can be downloaded from the Source Factory web interface.
- ✎ The latest update date of Muse Source Packages is displayed on the first page displayed after login into Source Factory.
- ✎ The InfoBase version number is displayed on the Welcome Screen.
- ✎ Customers can now login into Source Factory with personal user name and password and manage



their source groups and obtain informations about Muse Source Packages.

- ✦ Add support for Source Groups Management. Partners can edit their own source groups, and edit their customers' source groups as well.

22.2.5 Muse Serial Number Encoder

- ✦ Incremented version to 0.0.0.8.
- ✦ Added support for scrolling the serial number if it is too long to be displayed on the interface.

22.3 Notes:

22.3.1 Muse System

- ✦ Changed the template of all Muse documents to a new layout, more printer friendly.
- ✦ For Intermediary Builds Version use the last 2 least significant digits from the version number instead of using the string 'Build x'.



23.0

Changes in Muse 2.0.0.0 Release (Developed under 1.2.0.2)

Release Date: 17.08.2005

23.1 Bug Fixes:

23.1.1 Muse System

- ☞ Upgraded the jakarta-regexp package from version 1.2 to 1.3. The package was used in almost all products. The new version brings Bug Fixes: and enhancements.
- ☞ All start/stop/InstallService/UninstallService scripts make use of the JAVA_HOME variable if it is set in the system. If the environment variable is not set then use the java executable in the PATH.
- ☞ All products that require at least Java 1.4, directly or through another package, don't start if they are run with Java < 1.4. An explanation is printed on the console and the program terminates.
- ☞ Reviewed the manuals and stated more clear the supported shells.

23.1.2 Muse Setup

- ☞ Revised Install Services behaviour. Corrected some panel texts which were wrongly saying what was happening at that time.
- ☞ Uninstall program prints a notice if the current user cannot uninstall services and services are installed, instructing how to first uninstall services as administrator, then finishes.

23.1.3 ICE Server

- ☞ ICEClassLoader handles resource loading too - it overrides the getResourceAsStream methods from the URLClassLoader. The classloader takes into account that if any of the JAR files from its classpath is updated, then it performs a refresh. The bug manifested when searching after a source



package was updated. The following error was obtained only on some OSes: "Cannot perform target instruction: Style sheet error: ISR.target.xml (The system cannot find the resource specified)"

23.1.4 ICE Modules

- ✎ The INSERT module now accepts parameters same as the ResultSets module does (mark, start, perPage, displayDuplicates).
- ✎ New INSERT module for inserting into RefWorks.
- ✎ In ICEJitterbugKey added an workaround when the URL Path is empty. The URL Path must contain at least the "/" character.
- ✎ Add the record hit to the ranking key. Helps sorting records with equal ranking keys.

23.1.5 Muse Web Bridge

- ✎ Incremented version to 0.0.8.4.
- ✎ SignOff resets 'useProperties' to false or to the value of the 'useProperties' variable in the HTTP request, if present.

23.1.6 Muse Admin Bridge

- ✎ Revised Info Base connectivity errors and the error messages, and considered all errors when connecting to Local Info Base not-fatal.
- ✎ A GIB error was issued when you went to Status and you had no sources in the application. In method getSOURCESStatus check if application has no sources, before querying GIB.
- ✎ The MAC entry screen was also updated to conform with latest look and feel.
- ✎ All Muse Admin commands are now returning an execution status.

23.1.7 Muse Control Center

- ✎ MuseCenterTaskConnectorChecker: Use the Source ID instead of Source Name in order to keep track of received records and estimate for a particular source.
- ✎ Display task description without altering any Muse style variables.
- ✎ Add support for task properties. The properties are used to resolve task variables, e.g. \${MUSE_CENTER_HOST}.
- ✎ MuseCenterAntTask: Added setter for ant project properties. Uses 'setProperty' instead of 'setUserProperty' for setting the -D style properties.



23.1.8 Muse Proxy Server and Navigation Manager

- ☞ Check for multiple Content-Type entries in the HEAD section of the response. Do what a browser does, and consider the last content type.

23.1.9 ICE Tools

- ☞ In ICEPackageBuilder changed the mode of detection of up to date status for a package. Up to now it used individual resource revisions (versions) instead of timestamps. These revisions are now retrieved from the journal file. Also, profiles for authenticators were not packed in the SP. Now file existence detection uses case sensitive checks. Add support for multiple stylesheet entries in the connector profile.

23.1.10 Muse Source Factory

- ☞ In SAR/DAR list views, when no records were shown in the list, still an empty record was shown.
- ☞ Additional permissions were needed for InfoBase Bridge when Muse was running under a balanced environment.

23.1.11 Muse Source Factory

- ☞ Source repack failed if the SAR record existed, but the AHR/SAR record didn't.
- ☞ MuseInfoBase servlet initialization was always rewriting the meta documents. It should write them in case they are not there.

23.1.12 Muse Connectors Generator

- ☞ Check if a variable is used as having different types and issue an error message when this happens.
- ☞ Changed the default horizontal table headers parsing source to be the entire record not the entire page.
- ☞ Perform grammar checking before generating a connector.

23.2 New Features:

23.2.1 Muse Authentication and Authorization Service



- ✎ userAddress is available as a Freemarker variable and stores the remote user address.

23.2.2 Muse Setup

- ✎ Added SourceChecker.tsk/SourceChecker.tsk.default file to center.
- ✎ Added SEARCH.xml/SEARCH.xml.default file to \$MODULES_HOME/profiles.
- ✎ Added Muse Connectors Generator and Muse Search Query Translator Generator (SQTG) products.
- ✎ \$MODULES_HOME/jssecacerts file is merged at installation time.
- ✎ Installation of custom bridges is done from the setup program (in case you have such a custom bridge included in your S/N). Previously this needed to be done at hand after the installation.

23.2.3 Muse Search

- ✎ New mgbcheck application that will be used to check sources and feed test history records in SF for all sources MGB has access to.

23.2.4 ICE Server

-
- ✎ ICELoginModuleLDAP can extract fields from the LDAP user record and store them for future use in the ICE Session. This is done using its configuration file to specify the name of the LDAP fields and the corresponding mappings into the ICE Session local properties.
 - ✎ Improvements to the script language and the script interpreter: added 'this' as a context variable which points to the 'com.edulib.ice.modules.SCRIPT' instance that runs the current script; added support for ClassLoaders when creating new class instances; declaring a VARIABLE without creating an instance of it first; SET now supports fully qualified processing modules.
 - ✎ Split the Ranking process into two phases: computing the key values and adding them to the record and performing the actual ranking. There exists the possibility to specify multiple Ranking keys that are to be computed and added to the record and one Ranking key that will be used in the Ranking process.
 - ✎ ResultSets may be saved in the workroom after performing the sign-in. This was implemented by chaining the workrooms one to another. We have a base workroom, that is created upon user logon in an application and it is shared for all the temporary resultSets by all users that perform sign-in after logging on under that application.
 - ✎ ICEShutdown reads the control port from the configuration file. The ICE control port is taken in the following order from: 1) the command line -p <control port>, 2) the configuration file ICE server port+1, 3) the hardcoded value 2504+1.



23.2.5 ICE Modules

- ✎ Improved the citation parsing package. Now all the field extractors have methods for specifying the pattern which matched, the string on which the pattern matched and the substring of the input string which was actually matched. These methods will be used for debugging purpose.
- ✎ Created the ICEParameterReader class which handles the parameter reading of a given processing module. The processing module which uses this class can also easily define its own processing of additional parameters.
- ✎ Reorganized the Z3950 module in order to be easily extended for additional record fields processing.
- ✎ New SavedSearches module to deal with SavedSearches.
- ✎ SEARCH module profile (SEARCH.xml) at system level does not contain any sources listed.
- ✎ Download time for the results page and records processing time are now recorded in the statistics log – this allows for computing connectors statistics for the network times and for the Muse processing times.

23.2.6 ICE Scripts

- ✎ New Alerts.xml ICE script that implements whole Alerts logic.
- ✎ New InsertMarkedRecords.xml ICE script (based on GetMarkedRecords.xml) that passes the records for insertion to a list of targets.

23.2.7 Muse Web Bridge

- ✎ Implement Search History using SearchHistoryItems stored in the searchHistory vector inside a Freemarker session. The new action methods are: doHistoryList, doHistorySave and doHistoryDelete.

23.2.8 Muse Web Bridge

- ✎ saveToDisk knows to save files into three formats: PC (CRLF line terminator), MAC (CR line terminator), UNIX (LF line terminator).
- ✎ Extended API for Alerts/Saved Searches support. Added doSavedSearch method.
- ✎ New look and feel for logon page.

23.2.9 Muse Admin Bridge

- ✎ Added API for getConfigOptionsFile, updateConfigOptionsFile. The API can be used to edit



Freemarker application options in a consistent manner.

- ✧ Source Package version is displayed and used for download/install conditions.
- ✧ Added a new permission type, UserPermission. Added new logic permissions: Manage Muse AAS Users, Manage Muse InfoBase Users, Manage Muse Proxy Users, Manage Muse OpenURL Users, Manage Muse Enrich Users, Manage Muse Center Users.
- ✧ Implemented a mechanism to give warnings that are displayed to the end user. Non-fatal LIB errors are issued as warnings.
- ✧ Added API methods for: backupSourcePackages, cleanAppSourceRelatedFiles, mergeAppSourceProfile, restoreSourcePackages. The methods are used for upgrades of Source Packages. The upgrades can be programmed in an automatic manner using Muse Control Center.

23.2.10 Muse Control Center

- ✧ New Alerts task that handles alerts set up by users in Muse Applications.
- ✧ New SourceChecker and MGBSourceChecker tasks to periodically check sources and feed results into InfoBase. First task is for LIB, second one is to be run on GIB machine.
- ✧ New "Source Packages Upgrade" task that allows Muse System administrators to schedule automatic Sources Packages updates.
- ✧ New 'center' user created for accessing Muse Control Center web interface. Previously the administrator user was used.
- ✧ New Source Packages Upgrade task to perform Source Packages upgrade for the applications. All the existing external dependencies for a Source Package are removed – except the profile, which is merged, with the one from Info Base. There is still development work for the Center Web Interface.
- ✧ Loading a '.tsk' configuration file in the web interface had no 'Browse' support. The user had to know the full path of the '.tsk' file to be loaded. Added "browse files" in "load task" page.

23.2.11 Muse Control Center

- ✧ All source packages have a version attached. The journal file for each source package version is kept in the CVS tree.
- ✧ Added a SearchXMLChecker utility class, to be run before package building process to ensure SEARCH.xml integrity.
- ✧ Used a Java CVS API to connect to CVS.

23.2.12 Muse XMLDB Management System

- ✧ Added new XmlDBHashtable utility object (stores a Hashtable into an XML document in the XML DB.)



- ✎ Added a PersonalIIDIndex object that keeps a link between an application and all its associated personal IDs.
- ✎ Added API for managing SavedSearches/Alerts.

23.2.13 Muse Statistics Monitor

- ✎ New analysis module that deals with Time Breakdown of Muse vs Source Response Time.

23.2.14 ICE Tools

- ✎ New tool (UpdatePatternsJavaForm) for extracting citation patterns from Java code and writing them in generator/patternJavaForms.properties file.
- ✎ New tool (AntDistTester) callable from ant that would check and report based on the dist tree these problems: 1. file size in dist differs from the file size in the muse tree 2. file is in dist tree but not in muse tree.

23.2.15 Muse Source Factory

- ✎ All source packages have a version attached. The version is imported into SF and displayed in SF interface.
- ✎ The CSV importer tool is more flexible with the new 'update' mode that allows one to mass-update fields in SF records.
- ✎ Record ID is editable.
- ✎ SF interface enhancements: new filters (source ID, Host, Ownership), 'All Records' button for no filtering.
- ✎ New filter: Status.
- ✎ Field attributes from METADATA section can be overwritten on a per record basis.
- ✎ Development Status Codes marked as 'notAutomaticUpdate' are not overwritten by repack.
- ✎ alt/main relations renamed to used for/use.
- ✎ Relations (use/used for, po/sub) can be created/edited/removed.

23.2.16 Muse Builder

- ✎ Muse Builder was built as a framework for developing utilities need by the Muse Team. It keeps inside it the common functions of an IDE. It was built by separating the framework functionality from Muse Web Interface Builder.
- ✎ The Output Pane allows for user feedback. For example errors can be displayed as links and when the user clicks on them the user is positioned exactly in the context.



- ✧ Icons and splash screen have been redesigned.
- ✧ Application toolbar tools have been redesigned, more page layouts have been added.
- ✧ Manual was updated to conform with latest interface changes.
- ✧ Plugins are more compact now (they reside in a .jar file only). For loading a plugin in Muse Builder a line defining the plugin has to be added to plugins.properties configuration file.
- ✧ Added support for internationalization.
- ✧ Added support for loading and saving unicode characters.

23.2.17 Muse Connectors Generator

- ✧ Integration under Muse Builder framework. New set of icons have been made. Buttons for the Muse Builder toolbar.
- ✧ Added possibility to tokenize simultaneously from multiple sources. The delimiters are specified using parsing rules.
- ✧ Revised CG output when generating. Added an indication of progress (sequence of operations), dual messages (start/finish) and a notification of success/error of the operation at the end.
- ✧ Added the possibility of adding comments to each node in the tree. Thus you can add comments to clarify parts of CDE. The commented nodes are visually marked.
- ✧ Implemented Find/Find Next/Find Prev/Replace functionality.
- ✧ Added a limit to loop fields parsing and to repeated parsing. This way you can specify for them to finish parsing after N cycles.
- ✧ Added description for every language construct in the meta-language. The description appears as a tooltip.
- ✧ Perform grammar checking before generating a connector using minimum number of apparitions from meta-language.
- ✧ Added the Citation Parser Tool, to assist developers in parsing citation fields in connectors.
- ✧ Has an entry in the Serial Number.

23.2.18 Muse Search Query Translator Generator

- ✧ It allows to be integrated under Muse Builder framework.
- ✧ Has its own project directory and an entry in the Serial Number. Previously Muse SQTG was part of the Muse Tools.

23.2.19 Muse III Bridge

- ✧ New Bridge.



23.2.20 Muse HTTP Server

- ✎ Changed the look and feel for the default web pages.

23.2.21 MuseSearch Toolbar

- ✎ Project added to the Muse CVS tree.

23.3 Known Bugs:

23.3.1 Muse Builder

- ✎ Deployment when having multiple projects is not working properly. It should deploy only the selected project to its deployment location but it is deploying only the last project from the list of opened projects.





24.0

Changes in Muse 1.2.0.1 Release

Release Date: 05.05.2005

24.1 Bug Fixes:

24.1.1 Muse Servlet

- ✎ Do not invalidate the HTTP session on an unsuccessful logon. This will destroy all the sessions of an user that logged on multiple times from different browser windows.
- ✎ Added encoding parameter for the displayFile action. This can be viewed as a feature but has been introduced in order to fix internationalized URLs problems (i18n URLs contains parameters with values representing a string of bytes encoded with '%'. But there is no information regarding the encoding that must be used to interpret this string of bytes. In some processing operations in JavaScript the URLs are decoded and then re-encoded. ISO-8859-1 is an encoding that assures `encode(decode(string)) == string`. UTF-8 is not a good encoding for doing this so we needed to specify a different encoding than UTF-8, hence the need for the encoding parameter)

24.1.2 Muse Setup

- ✎ Discovered and fixed IS X bug - in the case of panels that displayed HTML from files, there appeared an error (IS error) that prevented the panel from being displayed: all HTML files displayed by the setup must contain only HTML tags written in lower case (e.g. `<body>` is recognized while `<BODY>` is not).
- ✎ Muse Applications Setup:
 - ✎ investigated build error - Muse Applications setup could not be built with IS X - the Java code for the Muse Applications setup panels was missing
 - ✎ added support for Java 1.5 detection
- ✎ Investigate InstallShield X setups on Java 1.3
 - ✎ cannot be built on Java 1.3 - at least Java 1.4 is required



- ✧ HTML display error on Java 1.3: if setup (built with 1.4) is ran using JRE 1.3, then the panels from the setup that display HTML content will produce a Java error. This will prevent those panels from being displayed.
- ✧ Build launchers
 - ✧ fixed build launchers (if Muse was installed on a different partition than InstallShield X, the build failed)
 - ✧ get parameters from the command line and pass them to IS
- ✧ Install Services Panel
 - ✧ discovered setup error: the Muse Proxy Server service stopping action was initiated, and then file copying of Muse Proxy Server files started. Because the state of the Muse Proxy Server service was not verified and the stopping action had not finished, overwriting of files could have failed on Windows.
 - ✧ launched the service stopping and uninstalling in a separate thread and synchronized the above thread with the interface thread
 - ✧ displayed " **Please wait...**" (together with 'Uninstalling <service name>') message during the stopping and uninstalling action. This was done using a busy state that each panel has. Previously when this operation was performed, the panel was freezed - no interface updates were performed.

24.1.3 ICE Server

- ✧ Fixed a very important bug in Muse - the navigation on full-text of the records that contain an ISBN and a URL (the ISBN is before the URL in the record representation) was not working. This bug has been introduced when we have done the improvement for re-writing for MNM all the URL multiple fields. The problem appears as both URL and ISBN are transformed into IDR/IDENTIFIER, and only the scheme attribute differs. The fix consists in code that is located both at the Muse Bridges and at ICE Server side where we have enhanced the getFields(String fieldName) method for the ICE XML Record in order to accept qualified filedNames (e.g. INDENTIFIER[@scheme="URL"]).
- ✧ Fixed a bug in ICEConfiguration.resolveVariables(#):if one variable could not have been resolved then nothing was resolved.
- ✧ Improved FTP speed in the com.edulib.ice.util.net FTP package by making CustomInputStream extend a BufferedInputStream instead of InputStream for the Socket connection. The read operation was taking place 1 byte at a time because of this.
- ✧ ICE Unauthorized Install mails have the serial.properties file attached.
- ✧ The ICELog class used to perform the logging uses the MessageFormat java class to format messages logged to a configurable format. This MessageFormat class is not thread safe. Because of this the date formatting as appears in the log file could end up incorrect, or exceptions to be thrown. Synchronized the call to MessageFormat.format().
- ✧ Implemented SSL encryption for ICE connections. This includes modifications of ICE and all ICE



clients: Muse Bridges, Muse Control Center, ICE Client. Tested on Windows & Linux and works OK.

- ✧ Change the condition for Java Version comparison in Java code such that we compare against version 1.3 instead of 1.4 (thus everything that is above Java 1.3 will be treated similarly).
- ✧ In ICEWorkroom when creating an empty resultSet also set its name correspondingly.
- ✧ Use crimson.jar version crimson-1.1.3 thus the behaviour of xml parser is the same both when running with Java 1.4 and Java 1.5.
- ✧ When writing a result set it is normalized by using our custom ICEXmlUtil.normalize() methods which eliminates the white spaces founded only in between tags.

24.1.4 ICE Modules

- ✧ If DeDupe module is applied (with the same key) twice on a result set that is growing (e.g 1st time immediately after the search, and 2nd time immediately after performing more) the linked result sets are now "concatenated".

24.1.5 Muse Web Bridge

- ✧ On Tabbed display the estimate for the corresponding source is now correctly rendered as it is in Progress. The problem was that the progress information coming from ICE didn't contain the targetID in order to get the estimate for the current source (for which we knew the targetID).

24.1.6 Muse Admin Bridge

- ✧ Incremented version to 0.0.1.8.
- ✧ All parameters are converted to UTF-8 encoding.

24.1.7 Muse Control Center

- ✧ Use Event Queues for Tasks because if the task is already running any addressed event is lost.

24.1.8 Muse Control Center

- ✧ Take in account the aliases.properties files.
- ✧ When deleting the old source package .jar file, it is possible that the garbage collector didn't yet cleaned up old objects, and the file is still seen as opened. If this is the case and the delete fails, try and call garbage collector and then delete the file. Perform this operation at most RETRY_TO_DELETE times.
- ✧ A package is generated first into a temporary file name, and now the temporary file name is



generated using java API, and is different each time (previously it was hardcoded as tmp.jar)

- ✧ `NodeList.getLength()` was called in `for()` conditions. the `getLength()` method is very time consuming, so moved the call outside of the loop.
- ✧ Relevant parts of `aliases.properties` file is packed inside source packages.
- ✧ Global `aliases.properties` file can be taken from a jar file using syntax: `!path/to/jar_file.jar!aliases.properties'`

24.1.9 Muse Proxy Server and Navigation Manager

- ✧ Incremented version to 1.2.0.1
- ✧ In Muse Navigation Manager, `document.cookie` is rewritten instead of just `cookie` (`document` object is the only object which has a `cookie` member). At Ebsco sources (for Indiana University) there was a construct that was wrongly rewritten (`'var cookie;'`) because of this bug.
- ✧ The `open()` calls do not get rewritten unless they have parameters. Bug appeared at: Historical Abstracts, Child Abuse, Child Welfare & Adoption, World Shakespeare Bibliography Online.
- ✧ Add a CRLF between two statements that reside on the same line. If the former ends with `;` and the latter does not end with `;` IE issues an error message. When assigning values to multiline variables, keep the last end-of-line. This way the next statement will begin on the following line.
- ✧ In the EBrary filter if the URL contains two `?` replace the last one with `&`.
- ✧ Chain to another proxy that requests authentication details (proxy username/proxy password).
- ✧ The second parameter of a `setAttribute` JS function is rewritten through `urlD2Muse` function. Fixes JS errors at Factiva source.
- ✧ In the `setAttribute` JS function rewriting if the second parameter was in quotes the quotes were not properly placed in the rewriting.
- ✧ In EBrary filter, if the URL contains two `?` replace the last one by `&`. However, this was performed not only for URLs for EBrary source, as normal but for every URL that was passing through Muse Proxy. Now only EBrary URLs are altered.
- ✧ In MNM, the `_cPath_()` method written in JavaScript (that computes a MNM path based on the domain) didn't add a trailing `/` at the end. This caused some cookies to be set incorrectly and not be sent by the browser with the subsequent requests.
- ✧ In MNM, the `'src'` bit is not always rewritten, it depends on the context. For example in a line `'var src;'`, the `src` (variable name) is not rewritten. Appeared at Factiva source.
- ✧ In MNM, in `urlD2Link()` JS method the `MuseFirst` marker was put all the time (in not rewritten URLs too). Now it is only put in rewritten URLs. Appeared at Factiva source.
- ✧ Modified `stopMuseProxy` scripts and `InstallMuseProxyService.bat` to use the new password encryption support. Before this password for administrator user was put in clear in the stop scripts.
- ✧ In MNM, `fixJSPropertyUpdate()` method remove the `'.'` from the beginning of the object. Appears in case of `.document.location` constructs.



- ✎ In MNM, skip commented lines in multiline assignments (lines starting with //).
- ✎ Add support, in fixJSPropertyRead, for constructs of type: prefix + location.hostname + suffix. Here, only the location.hostname part should be rewritten (appeared at World Book Online and Nueva Enciclopedia sources).

24.1.10 Muse XMLDB Management System

- ✎ XmlUtil.encryptString()/decryptString() methods padded the encrypted string, but the padding code was flawed. Now they perform no padding and rely on ICEPasswordUtil.encrypt()/decrypt() to perform the encryption and padding.

24.1.11 Muse Statistics Monitor

- ✎ Forced JFreeChart to use an offscreen buffer (ChartPanel constructor). This resulted in greater speed when re-displaying the charts by using the offscreen buffer.
- ✎ Small typo in UI: find & replace "etriv" with "etrieve" ("Retrieve" & family)
- ✎ When adding a new DataSet activate all analysis modules by default (previously none was activated by default).
- ✎ The DatePicker has a JDialog as parent window, instead of a Frame. By doing this the date picker will appear centered on screen instead in the top-left screen corner.
- ✎ Newly created datasets have now all the available analysis modules enabled by default.
- ✎ Modified the concept of LOCATION for a log file. Now a LOCATION is not only a path to a log resource, but it also carries login information. The structure of the .MDS (model data set) file has been changed. A <LOCATION> element will have the following structure:

```
<LOCATION>  
  <USER_NAME>username</USER_NAME>  
  <USER_PASSWORD>userpassword</USER_PASSWORD>  
  <URL>the path to the log file</URL>  
</LOCATION>
```

This will allow greater flexibility (the password can now be encrypted on the disk, the add/edit dialogs can now show asterisks instead of the plain password...)

- ✎ "Add Dir" and "Edit File" and "Edit URL" have now as parents, the DataSet window. This means that during ALT-TAB (on Windows platforms) these dialogs do not disappear anymore.
- ✎ Removed copyright notices from graphs.
- ✎ Incremented version to 0.1.5.
- ✎ All exceptions that were printed on the console are now logged in the log file instead.
- ✎ Changed color for the successful Logons serie from red to blue.
- ✎ In the configuration dialog for the "Date Filter", the calendars that show when clicking on dates are now centered and have as parents the main window.



- ✎ Add/Edit URL has its focus on the URL text field by default.
- ✎ Add File/Directory now remembers the last used directory.
- ✎ The table in any "Data Tabel" Panel supports sorting via clicking on table headers.
- ✎ Changed UI for "Add/Edit URL" from GridLayout to GridBagLayout to better support window resize. Also moved the URL field up in the window because it is more important than the others and it is mandatory.
- ✎ Changed "Main Analysis" Panel into "Logons" in the "Sessions Lifetime" analysis module.
- ✎ Created a new data set sends us directly to the edit dialog.
- ✎ Found redundant date parsing code for a log entry. When removed, the speed of the process of retrieving/filtering the data is now about 45% faster. The next table illustrates the benchmark:

Test	Time
with redundant code	approx 90s
without redundant code (CPU INTEL P3 @ 667MHz)	approx 50s

Table 1. Benchmark table

The local logs were about 26.7MB and the selected analysis module was "Memory Use".

- ✎ Clicking to edit a date in the Date Filter Editor opens the calendar and selects the currently selected date instead of today.
- ✎ The checkbox for analysis in monitor mode is now enabled only if the number of seconds is valid (>0). Otherwise, it remains disabled.
- ✎ In Settings window fixed check for Muse Monitor log file. The old code assumed that the log file should already exist therefore you could not change the log file name to a non-existent file.
- ✎ In Settings window fixed check for Muse Monitor log format. An invalid format was throwing a RuntimeException which is now caught and a Message Box is shown saying that the format is invalid.
- ✎ The behaviour of the MuseMonitorConfigurationXmlDialog has been made transactional. The previous code was updating the system settings until an error was found and a rollback was not performed. Now the update is done only if everything is correct.
- ✎ Cleaned up the XML Serializer for the Muse Statistics Monitor configuration - used classes from iceutil package (ICEConfiguration), instead of using plain XML API.
- ✎ Locations of the ICECoreStatistics.log and MuseMonitor.log are no longer variable-resolved in the EDIT dialog.
- ✎ Broken the class hierarchy between MuseMonitorDataSetXml and MuseMonitorDataSetXmlDialog. Previously the list of datasets was a list of dialog windows. Now the list is just a list of data set objects.



- ✧ The Data Set Editor now correctly supports OK and Cancel. Previously, the changes were done live on a data set and there was no way to undo them (only by not saving the Data Sets File).
- ✧ Changed some dialogs in the Data Set editor (filter editor windows) to be transactional.
- ✧ The Muse Monitor Documentation was brought up to date (screenshots, log entries, sections describing new functionality that appeared).
- ✧ Found a mismatch between the ICECoreStatistics.log format for the STAT_CONNECTORS_STOP and the one expected by Muse Monitor. Now the ELAPSED period for a CONNECTOR is computed from the 2 timestamps for the STAT_CONNECTORS_START and STAT_CONNECTORS_STOP messages. This is because on STAT_CONNECTORS_STOP messages there is no elapsed time (still some minor testing required).
- ✧ Fixed a bug in main window where if the description of a data set was modified it was not updated in the lower part of the screen.
- ✧ Previously Create button for a data set created a data set and then it displayed the EDIT window. Pressing Cancel here was not deleting the newly created data set from the list. The new Data Set is kept iff the user presses OK in the Edit Data Set window.

24.1.12 ICE Tools

- ✧ SQTG:
 - ✧ For composed stylesheets, UI improvement to move up and down the files which compose the stylesheet.
 - ✧ Found and fixed a bug in parser for "andnot" and "grouping" in the OPERATORS section of the DSD.
 - ✧ Modified startSQTG scripts to pass arguments to java main class.
 - ✧ Edit OPERATOR window focuses on MAP Name field. Still has OK as default handler for ENTER.
 - ✧ The XSL generator for normal sources is now working properly (in both AND NOT cases).
 - ✧ Fixed XSL generator for composed sources. Previously, when AND NOT is was not checked the generator was inserting AND instead of NOT. Now it works OK.
 - ✧ Optimized code for retrieving the name of the first child of an XML node.
 - ✧ In the Generate Stylesheet dialog if the file already existed the dialog was asking for overwrite confirmation even if the "Confirm overwrite if the file already exists" checkbox was checked.
 - ✧ The default mapping for an attribute has been changed from #value to #urlencode(#value()).

24.1.13 Muse Builder

- ✧ Fixed a jelly bug in regard to \$ escaping. Dollar sign is used in jelly to interpret variables.



- ✎ Some exceptions were thrown by the serialization API that we use to store the settings on Java 1.4.0 but not on Java 1.4.1.

24.1.14 Muse Connectors Generator

- ✎ Corrected the bug with wrong xml encoding/decoding (wrong order when encoding and too much decoding).
- ✎ Added runnable to conditions from cycles parsing table fields and headers.
- ✎ Proposed an extension to table parsing to cover horizontal tables and cells containing more than one field and also urls.
- ✎ Added explicit field initialization in the record parsing loop. Before that, the initialization was made as for any variable and when more than one record parsing is present in a search function then the fields parsed in more than when cycle where initialized only once, outside those cycles. That was a bug.
- ✎ Added horizontal table header parsing language element inside record parsing.
- ✎ Added maxRequests and maxIdenticalRequests global variables to avoid overriding when using in a connector.
- ✎ Corrected a bug in editor that appeared when trying to edit a node after loading a file. The edit action was failing in that case.
- ✎ Extended table fields parsing to permit to extract a field and an url from the same cell (not fully tested).
- ✎ Fixed a bug reported by Robert Chiras : "..the generated connector does not compute the description field. It does generate the code for finding that field but it doesn't set the variable description". The bug was introduced when I added type to rule element. This bug could be encountered in many places.

24.1.15 Muse SOAP Bridge

- ✎ Fixed MuseSearch.wsdl file that contains the Muse SOAP Service description:
 - ✎ Changd queryStatement type to xsd:string.
 - ✎ Took out MuseSOAPBridge port.
 - ✎ Changed server from www.edulib.ro to www.museglobal.ro.
 - ✎ Changed servlet location from /muse/soap/MuseSOAP to /soap/servlet/MuseSOAP

24.1.16 Muse SOAP Bridge

- ✎ start & perPage parameters were not used in the SOAP servlet. (start was hardcoded to 1 and perPage to 10).



24.1.17 Muse ENCompass Bridge

- Revised documentation and added a section in regard to starting the bridge using Muse HTTP Server as a Windows service.
- Client recognizes error in form

```
<MUSEENCOMPASS-OUTPUT><ERROR><DATA>err  
msg</DATA></ERROR></MUSEENCOMPASS-OUTPUT>
```

24.1.18 Muse HTTP Server

- Incremented version to 1.2.0.1
- Added the property -
Djavax.xml.transform.TransformerFactory=com.icl.saxon.TransformerFactoryImpl in the startup scripts in order to specify that the default XSLT processor is Saxon. Otherwise on some JVMs there are conflicts as they set this property to Xalan.
- If the context docBase does not exist on disk do not add the context. Log an error.
- XmlConnectionHandler sets an errorTemplate attribute to every XML request, and in case of error this errorTemplate is used to generate the XML error message.
- DefaultErrorPage - the servlet that responds to errors in Muse HTTP Server knows (based on the errorTemplate request attribute) to respond with XML error messages in case of XML requests.
- For XML connectors, when a session expired, it's associated socket was left open, if the client didn't closed it. Now the socket is closed when the session expires.
- Use a timeout when reading from socket, previously the request was read with no timeout (that means forever, so if the client wrote nothing, we just kept the socket open). A malicious client could 'eat' all sockets Muse HTTP Server could handle by just opening connections to server and writing nothing on them.
- destroy() method of servlets is not called on a graceful stop. Servlets weren't destroyed on a server stop. Now all contexts and their servlets are correctly destroyed.

24.1.19 Muse Brodart Bridge

- Revised documentation and added a section in regard to starting the bridge using Muse HTTP Server as a Windows service.
- Client recognizes error in form

```
<MUSEBRODART-OUTPUT><ERROR><DATA>err  
msg</DATA></ERROR></MUSEBRODART-OUTPUT>
```

24.1.20 Muse Grokker Bridge



- Revised documentation and added a section in regard to starting the bridge using Muse HTTP Server as a Windows service.
- Client recognizes error in form .

```
<MUSEGROKKER-OUTPUT><ERROR><DATA>err  
msg</DATA></ERROR></MUSEGROKKER-OUTPUT>
```

24.1.21 Muse Web2 Bridge

- Revised documentation and added a section in regard to starting the bridge using Muse HTTP Server as a Windows service.
- Client recognizes error in form

```
<MUSEWEB2-OUTPUT><ERROR><DATA>err  
msg</DATA></ERROR></MUSEWEB2-OUTPUT>
```

24.2 New Features:

24.2.1 Muse Authentication and Authorization Service

- Created a new LoginModule to authenticate/create users in the PPMS. Depending on the createNewUser parameter the module will either compare user/password pairs against PPMS and return accordingly or will create them and return as authenticated.
- Created a new LoginModule to authenticate against a properties file. Authentication parameters may be specified in a configuration file along with the data to be retrieved from the properties file and sent to other LoginModules.
- Created a new LoginModule to authenticate against Athens service.
- Add IPv6 support for ICELoginModuleIP.

24.2.2 Muse Setup

- Muse Setup is now build using Install Shield X.
- Added lifespan message to registration preview panel. Modified needed classes.
- Muse Proxy Server Setup:
 - uses the same UID properties so it is treated by InstallShield as a Muse setup
 - stripped all unnecessary parts from Muse Setup
 - tested on Windows and Linux. Works OK.



options will be recorded with name corresponding to .jar name of the setup, for example if the name of the setup is "product-setup.jar", then the name of the options file will be "product-options.txt". For Muse Proxy Server Setup the options file will be muse-proxy-setup.txt and the .jar name muse-proxy-setup.jar.

- ✎ Added .keystore files to Muse Setup- the next files where added to Muse Setup
 - ✎ brodart\brodart.keystore
 - ✎ center\center.keystore
 - ✎ encompass\encompass.keystore
 - ✎ grokker\grokker.keystore
 - ✎ mandarin\mandarin.keystore
 - ✎ soap\soap.keystore
 - ✎ use\ice\ice.keystore
 - ✎ web2\web2.keystore
 - ✎ web\web.keystore
 - ✎ z3950\z3950.keystore
- ✎ Removed support for Java 1.3 (Setup was previously requiring Java 1.3 or newer, now requires 1.4 or newer)
- ✎ When a root install of Muse is present, and a normal user tries to install Muse, logs are attempted to be written in root's installation of Muse.
- ✎ Some beans were placed first in the install sequence (but when using -goto <panel> they weren't executed). Make them startup beans (IS X feature).
- ✎ Console mode setup will test for the case when swing & awt fail and provide instructions.
- ✎ rc.muse script knows start/stop/restart parameters.
- ✎ Muse setup can now be build on Linux system too.
- ✎ Display corresponding sections from Upgrades.txt when upgrading.

24.2.3 ICE Server

- ✎ Control the session rate of creation - based on keeping all connection attempts in a queue until it is time to process them (the new ICESessionsController class is also involved). The delay between sessions creation is given by the new element DEFAULT_SESSION_START_INTERVAL in the ICECore.xml file and its default value is 1000 ms.
- ✎ Control the maximum number of sessions. Reject all connections if the maximum number of sessions is reached. The user will be notified by the following message "Sessions limit reached. Please try again later". The maximum number of sessions is given by the new element MAX_CONCURRENT_SESSIONS in the ICECore.xml file, the default value being 100. If



MAX_CONCURRENT_SESSIONS is missing or is 0 then there is no limit upon sessions. There also exist the possibility to control the maximum number of concurrent sessions that a user can have. This is possible by using the new element MAX_USER_CONCURRENT_SESSIONS in the ICECore.xml – representing the default value for all ICE users and by using this new element MAX_USER_CONCURRENT_SESSIONS in the application profile.xml in order to override this default value. ICECore.xml comes with the default value 25 for MAX_USER_CONCURRENT_SESSIONS. If MAX_USER_CONCURRENT_SESSIONS is missing from ICECore then the limit for the concurrent user's sessions is given by MAX_CONCURRENT_SESSIONS.

- ✧ Added a shutdown hook that catches Ctrl-Break, Window close, signals, etc. and dies gracefully.
- ✧ Implement life-span verification. Now the serial.properties contains a life-span entry corresponding to the period the system is licensed to run. Outside this period the system will refuse to run until a new license is obtained.
- ✧ ICELoginModuleGAMSReader, ICELoginModuleGAMSWriter authentication modules know how to read respectively write application properties (found in profile.xml) into the XML DB.
- ✧ ICEPasswordUtil.encrypt()/decrypt() methods use PKCS5Padding instead of NoPadding scheme (they expected that the padding was done externally). Currently these 2 methods were only used from Muse XML DB.
- ✧ Add getFieldAttribute(...) method for ICERecord & ICERecordXml to get the value of a field attribute.
- ✧ In ICEXmlUtil class, moved NodeList.getLength() calls outside of for loops condition. The NodeList.getLength() call is time consuming, and since the list length doesn't change when you traverse the list, there is no point in not computing it only once, outside of loop.
- ✧ Records with void/null values for Ranking keys are sorted at the end of the record list – in respective of the sorting order (ascending/descending). Thus for ascending sorting void/null values are treated as maximum values, while for descending sorting void/null values are treated as minimum values.
- ✧ In ICELoginModuleParametersRemap the parameter remapping is carried out from either callback and shared state with parameters from either callback or shared state.
- ✧ Removed old ICE startup scripts: startICE/stopICE/RestartICE. They were no longer used.
- ✧ Created interface for About command. Added stylesheets AboutInput.xsl, AboutOutput.xsl and About.xsl.

24.2.4 ICE Modules

- ✧ Extend OpenURL Generator module in order to pick up personal access according with the authenticated user in the current session and use it to form a valid base URL; also OpenURL Generator Module can now select between multiple resolvers based on the resolver attribute for BASE_URL and MAP fields in the configuration file.
- ✧ Enhanced ResultSets module and command in order to allow for tabbed display. It now accepts a targetID filter.



- ✧ SEARCH module can handle individual start parameter for target. This way the "more" functionality will be available under tabbed display.
- ✧ We are now able to handle the linked result sets that contains records that are duplication of the records in the main Result Set. This is possible with enhancements in the command ResultSets, in the module DeDupe and in the module MarkedRecords and in the majority of scripts related to marked records.
- ✧ New core module - SourceRanking # that based on a configuration file describing the order (priority) of results display will buffer the records until all the records from the previous priority levels gets displayed.
- ✧ Now when an error occurs into an authenticator the full stack trace of the error is written into the log file. Previously you could not know at what line in the authenticator module the error actually occurred.
- ✧ Changed the connector template for new connectors that are build: the field extractors are created only once, StringBuffer is used instead of String, read blocks of chars instead of reading line by line.
- ✧ Extended the DISCOVER module to accept a list of targets for which it will return names and descriptions.
- ✧ All the connectors are now sending the targetID in the progress information.

24.2.5 Muse Web Bridge

- ✧ Improved execution time and eliminate eventual system loads for the Next and More operations. Next and More operations uses ResultSets command in ICE in order to retrieve more records from the result sets that is being created by an in progress SEARCH command. We were using a very basic poll technique to extract more available records but this could end up into many many (possible endless) loops of calling ResultSet command in case SEARCH command take very much time to finish (e.g due to slow/problematic connectors). Right now we have enhanced the poll technique by calling ResultSets command only if there is a change in the number of records retrieved from the last ResultSets call. Thus we are drastically reducing useless ResultSets calls (even if they bring no records still takes execution time - each call involves 3 ICE XML messages).
- ✧ Enhanced tabbed display: "more" is operational under tabbed display; if a search is in progress and one asks for a tabbed display for a source the footer will be display only after perPage results will be received.
- ✧ Added interface support for ICE command About. Created the corresponding action in Muse Web Bridge, in order to call it from the Application Web Interface.

24.2.6 Muse Proxy Server and Navigation Manager

- ✧ Improved thread handling, by implementing the same mechanism for limiting the maximum number of threads as in Muse Http Server. Previously no limit on maximum number of threads was imposed.
- ✧ Increased the backlog parameter when opening the server socket (from 512 to 1024). This backlog



parameter specifies how many new connections the OS will keep for us in queue before we are calling `accept()` to accept them.

- ✎ Added a shutdown hook that catches Ctrl-Break, Window close, signals, etc. and dies gracefully.
- ✎ Each request that is authorized to go through Muse Proxy has set as an attribute the `ICESubject` that resulted from authentication. `ICESubject` has for example any user (application) properties that are set.
- ✎ New filter `ProxyChain`. This makes use of user (application) properties (available in `ICESubject` attribute of each request passing through proxy) and sets the proxy host/port and authentication details the request must use.
- ✎ Add password encryption support for authentication to proxy (for the administrative interface only). Passwords can be supplied in encrypted form (SHA1, MD5) in the command line of `stopMuseProxy` scripts. This way password don't appear in clear in `stopMuseProxy` scripts.

24.2.7 Muse XMLDB Management System

- ✎ Changes to accommodate both `Exists` and `xIndice`.

24.2.8 Muse Statistics Monitor

- ✎ Tables can be sorted (ascending/descending) by any column the user wishes by clicking on column name.
- ✎ Added a new analysis with successful logons only. The result can be visualized in 3 forms (chart, table and report).
- ✎ Created a `SWING` component to give the user the ability to easily change time (hour & minute) values. Because of some of the missing components in Java 1.3 (like `JFormattedText` and `JSpinner`), the component had to be designed from the beginning. The component supports both the keyboard (numeric keys and up/down cursor keys) and the mouse. The value in the text field cannot be set to 'invalid' at any moment because of an internal filtering mechanism. At any moment, the content of the component can be seen as `hh:mm` where `hh` represents the hour (1 or 2 digits) and `mm` represents the minute (1 or 2 digits).
- ✎ Modified the `Date Filter` to increase flexibility (increasing granularity) in choosing the time intervals used in filtering the log information. We can now filter the events with 1 minute resolution.
- ✎ Modified the `WHILE-FROM` and `TO-WHILE` `Date Filter` to support also minute and hour units (previously only days, weeks, months were supported).
- ✎ Row tables can be selected and copied into the clipboard (the rows are copied using the comma separated values `CSV` format). The interface allows both keyboard shortcuts (`Ctrl+C` for 'Copy' and `Ctrl+A` for 'Select all') and mouse usage by means of a context menu.
- ✎ The `XML` serializer for the global settings now extends `MuseMonitorConfiguration` (now abstract) and implements `LOAD` and `STORE` operations.



- ✎ Broken the hierarchy between `MuseMonitorConfiguration` (base class keeping global application settings), `MuseMonitorConfigurationXml` (serializer/deserializer) and `MuseMonitorConfigurationXmlDialog` (UI editor for these settings). Now there are 3 different classes with the following relationships between them: `MuseMonitorConfiguration` - Singleton class which keeps the global application settings. It uses `MuseMonitorConfigurationXml` for serialization/deserialization purposes. The `MuseMonitorConfigurationXmlDialog` is used only for editing the global settings.

24.2.9 ICE Tools

- ✎ `ICEPackageBuilder` - add support for Source Packages containing multiple connectors that are in the same group (equivalence classes). The connector groups are specified in `${MODULES_HOME}/profiles/Connectors.xml`. Now we have set up groups only for the connectors that have an Ex correspondent, the group containing the simple connector and its corresponding Ex one.
- ✎ Added a new component (`JTextFieldWithContext`) based on `JTextField` that has a contextual menu (Cut/Copy/Paste/Delete/Select All) when right-clicking on it. Made `ICEToolsGUIEditFileChooser` use this object.
- ✎ `Muse Packages Builder` - Inside SPs that need aliases (because connector or authenticators have aliases) an `aliases.properties` file should be included with the relevant aliases inside.

24.2.10 Muse Source Factory

- ✎ `Muse Source Factory` was completely re-factorized in Java and is using `XMLDB cXist`. It is now part of the `Muse Set-up`.

24.2.11 Muse Builder

- ✎ Shortcut files are represented using the type "Shortcut" in the project file list. This makes it easier to spot these type of files.
- ✎ User is now able to specify one or more file viewers for different file types.
- ✎ Have a progress bar showing progress during deployment.
- ✎ Have a set of default resources when a project is created (Images, Html Files).
- ✎ Change the cursor to hourglass cursor when a tool generates code (this can take a while so the user should have some feedback).

24.2.12 Muse Connectors Generator

- ✎ Put the project in the CVS tree (source, documentation, startup scripts).
- ✎ Combined the connectors generator (command line utility that generates Java code based on a connector description) document and connectors editor (visual tool that edits the connector



description and also contains the connector generator) document in one document, Muse Connectors Generator.doc.

- ✎ Added revert file option to forget about changes made to a file, and reload the file from disk.
- ✎ Added configuration files for editor and generator (previously they were using only parameters given in command line). Now command line options are implemented the standard way (as done in all other Muse tools).
- ✎ Added connectors description directory option (configurable) for editor.
- ✎ Added collapse/expand command for a node in editor.
- ✎ Added ADD_TO_httpProperties instruction.
- ✎ Added GET_FROM_httpProperties instruction.
- ✎ Started extending table parsing: added a mechanism (in vertical table headers parsing) to copy a previous header, when existing and when the current parsed header has zero length.
- ✎ Added In How to section: Describe extraction rules Extract an information (a variable) Specify the record boundaries Parse a record from a different source than currently downloaded page Add a new field to the editor Add cookies to record Construct a field from multiple parts Change a parsed field before adding it to the record Map an URL field extracted in a table field parsing Stop downloading a page after all the information needed was extracted (optimization) Avoid to reparse variables (optimization)
- ✎ Ease code snippets modification. Snippets are now external files that can be modified without any changes in the code.
- ✎ Added a Window menu from which all opened windows are accessible. Still some work required to also put a TabbedPane (a notebook) for opened windows selection.
- ✎ Parse fields in a loop (when we have a sequence of fields):

```
Start of record Some fields  fieldType1,
                             fieldType2, , fieldTypeN fieldType1, fieldType2, ,
fieldTypeN
                             fieldType1, fieldType2, , fieldTypeN  Some fields End of
record
```

24.2.13 Muse Z39.50 Bridge

- ✎ Added a shutdown hook that catches Ctrl-Break, Window close, signals, etc. and dies gracefully.

24.2.14 Muse Serial Number Encoder

- ✎ Added System Lifespan tab in order to set the period the system is licensed to run in the serial.properties file. Outside this period the system will refuse to run until a new license is obtained.
- ✎ Add a Tracking Number along the Customer Code.



24.2.15 Muse Management Console

- Added the handling of the new DEFAULT_SESSION_START_INTERVAL in the ICECore.xml file.

24.2.16 Muse HTTP Server

- Added a shutdown hook that catches Ctrl-Break, Window close, signals, etc. and dies gracefully.
- Now, by default the HTTP Server starts with security. If -nosecurity is specified in command line, then start it without security.

24.2.17 Muse Mandarin Brdige

- Added a shutdown hook that catches Ctrl-Break, Window close, signals, etc. and dies gracefully.

24.2.18 Muse Manuals

- Muse Install.doc was updated to reflect the last modifications in the setup. Also under the Tuning Muse section information about maximum JVM Heap Size and about MAX_CONCURRENT_SESSIONS and MAX_USER_CONCURRENT_SESSIONS have been included.
- MusePeer Communication Interface.doc has been updated to reflect the newly added About command.

24.3 Notes:

24.3.1 Muse Proxy Server and Navigation Manager

- Increased the number of maximum number of objects cached from 1024 to 8192. Updated configuration file, documentation to reflect it.
- Added JVM options when starting Muse Proxy: -Xms64M -Xmx256M

24.3.2 All Muse Products

- JVM 1.3 is not anymore supported. Muse can be installed and run only under JVM 1.4 or higher.
- Change the Copyright message that appears in the console and in the log file in order to refer MuseGlobal S.A. instead of Mastercraft Solutions Ltd. E.g.: "Copyright (c) 1998-2024



MuseGlobal, Ltd. All Rights Reserved."

- ✎ Made Muse Compiling with JDK 1.5 (the only change was to rename the variables having the name "enum" as "enum" is a new keyword in JDK 1.5).

24.4 Known Bugs:

24.4.1 Muse Web Bridge

- ✎ Entering strings containing html entities ("'", '&', '<', '>') in the applications forms is problematic. For example one should not save a resultSet with the name "a&b" because it cannot be retrieved from the workroom.

24.4.2 Muse Statistics Monitor

- ✎ Found a bug in Jasper Reports but it only shows on one computer (any JRE version and Windows 2000). The problem seems to be with UNICODE characters. When the log file contains a Greek string (for example, but probably present with other encodings), Jasper Reports has an odd behavior and it is _very_ slow. (no workaround found yet).



25.0

Changes in Muse 1.2.0.0 Release (Developed under 1.1.3.5)

Release Date: 21.09.2004

25.1 Bug Fixes:

25.1.1 Muse Authentication and Authorization Service

- Added new permissions to crimson.jar:

```
permission java.io.FilePermission
    "${ICE_HOME}${/}-", "read"; permission
java.io.FilePermission
    "${MUSE_HOME}${/}home${/}-", "read";
```

This prevented LDAP's configuration file to be read from user's home but there should have been other hidden (and not encountered) problems because of this.

- Added permissions for xindice-1.1b2.jar, xmldb-api-20021118.jar, xmldb-xupdate.jar, xmlrpc-1.1.jar.

25.1.2 Muse Setup

- Installed the directory "\${MUSE_HOME}/use/ice/workroom" instead of the file "\${MUSE_HOME}/use/ice/workroom/Readme.txt".
- On Unix installation the file "/etc/rc.d/rc.muse" is now updated so that the servers will be started with the same JRE used to install Muse.
- The directory "\${MUSE_HOME}/monitor/reports" was added to setup.
- The file \${JAVA_HOME}/bin/classic/jvm.dll will be used for running Muse Services only if there isn't any other file jvm.dll in the \${JAVA_HOME}/bin directory. This is because classic jvm.dll is no longer supported by Sun. "Using Classic jvm.dll Version 1.3.1_07 out of c-prog in NT2000



doesn't work" at <http://developer.java.sun.com/developer/bugParade/bugs/4830502.html>.

- ✎ The processing of the "\${ICE_HOME}/jaas.config" and "\${ICE_HOME}/jaas.policy" files was enhanced in order to be more flexible with the syntax.
- ✎ Sections from Upgrades.txt are displayed at end of installation, depending on which version is upgraded to which version.
- ✎ Changed 'muse-proxy-server' name appearing in packages names for Muse Proxy Setup to 'muse-proxy'.
- ✎ Investigated how Muse Setup(s) build on Linux platform using Stand Alone Builder (SAB). They do build OK. Modified readme.txt to include Linux differences.
- ✎ rc.muse script knows start/stop/restart parameters. They are used by install to start/stop services, and can be used by users too.
- ✎ eXist integration and directory structure change for xmldb.

25.1.3 Muse Services

- ✎ In all the install*Service.bat files the JVM_DLL is set to %JAVA_HOME%\jre\bin\hotspot\jvm.dll as classic jvm.dll is no longer supported.
- ✎ Use MUSE_DRIVE environment variable for all Muse services.

25.1.4 Muse System

- ✎ The rc.muse scripts that are used for automatically starting Muse servers along with system startup on UNIX systems were not launching Muse HTTP Server with the -security parameter, when the shell for the account was /bin/sh.

25.1.5 ICE Server

- ✎ In case of failed logon and logoff mark the session as expired, so it will be closed down by the inactivity checker. This optimizes the memory in used and releases idle sessions. The inactivity checker has been programmed to 1/6 from the <MAX_INACTIVE_INTERVAL>. It used to work at 1/2.
- ✎ When ICE was started, it didn't keep count of existing log files, and when rotating them, older ones (from previous runs of ICE) were lost.
- ✎ When current log size was evaluated (when exceeding the configured LOG_SIZE the log files were rotated), File.length() was used but this doesn't always reflect the size on disk. Now we internally keep count of how many bytes we write in the log file. This also resulted in up to 50% faster ICELog.write() times.
- ✎ Z39.50 client package: check for unimarc, ukmarc, ibermarc, ukmarc syntaxes. There was a mistake checking for xxxmark syntaxes.



- ✎ We have changed some core classes (methods that were called very frequent as `sendMessage()`, `putMessage()`, `log()`) in order to use efficient String operations: 1. `StringBuffer` should be initialized with an initial size as far as possible. 2. Use `StringBuffer` instead of adding 2 or more Strings because it is more efficient even if internally there is also used a `StringBuffer`.
- ✎ We have modified the util class `ICEMarc2Xml` used by Z39.50 source in order to close 2 input streams thus preventing losing of file descriptors.
- ✎ Close input streams used for reading various Muse resources (configuration files, stylesheets, modules access list, modules aliases, charsets tables). Modifications have been made in the following files:
 - ✎ `com.edulib.ice.util.configuration.ICEXmlConfiguration`: Close the input stream in the methods with String `fileName` parameter.
 - ✎ `com.edulib.ice.util.configuration.ICEPropertiesConfiguration`: Close the input stream in the methods with String `fileName` parameter.
 - ✎ `com.edulib.ice.core.ICEClassLoader`: Close the input stream used to load the aliases file.
 - ✎ `com.edulib.ice.util.ICEXslUtil`: Closing the stream used for reading the stylesheet.
 - ✎ `com.edulib.ice.core.ICESession`: Close the `InputStream` used to read modules `acl`.
 - ✎ `com.edulib.ice.util.charsets.*` (except `ICEUnicodeUtil.java`): Closing the stream used for reading the charset tables.
- ✎ In `com.edulib.ice.core.ICESession` it was fixed a bug in creating the session `ClassLoader` – the system modules location were not taken into account by the `ClassLoader` because the list of URLs were not parsed. Instead the fallback mechanism of `loadObject()` (where URLs are parsed) was used. But `loadObject()` creates every time a new `ClassLoader`. Also the static method `loadObject` uses a static `ClassLoader` – `systemClassLoader`. This is instead of creating a new `ClassLoader` with each call to `loadObject()`.
- ✎ In the `ICECore.xml` configuration file one can now specify multiple stylesheets separated by ';'. This indirectly made the `${MUSE_HOME}/modules/stylesheets` to be cached thus improving the execution time.
- ✎ The version scripts were not working as the `.jar` files related to XML DB were not included in `CLASSPATH`.

25.1.6 ICE Modules

- ✎ Improved the title sorting by using a stop list mechanism.
- ✎ Improved the date sorting by using new date parsers.
- ✎ `ICEHttpConnector` class was also improved to prevent the file descriptor lose:
 - ✎ now all the `URLConnection` objects created are recorded in a vector
 - ✎ when a connector finishes all these connections are disconnected if they aren't already closed
 - ✎ this change covers all the existing connectors and authenticators



- ✎ close the `BufferedReader` after reading the `jssecaaliases` file (the alias mechanism is only used starting with Muse 1135)
- ✎ The following classes were modified to close the streams used to read the configuration file:
 - ✎ `com.edulib.ice.modules.DELETE`
 - ✎ `com.edulib.ice.modules.circulation.holds.HoldModule`
 - ✎ `com.edulib.ice.modules.util.authentication.ICEAuthenticator`
 - ✎ `com.edulib.ice.modules.connectors.ICEHttpConnector`
 - ✎ `com.edulib.ice.modules.connectors.ICETelnetConnector`
 - ✎ `com.edulib.ice.modules.ill.ILLModule`
 - ✎ `com.edulib.ice.modules.circulation.patron.PatronModule`
 - ✎ `com.edulib.ice.modules.Scan` `com.edulib.ice.modules.SEARCH`
 - ✎ `com.edulib.ice.modules.shoppingcart.ShoppingCartModule`
 - ✎ `com.edulib.ice.modules.writers.SQLDelete`
 - ✎ `com.edulib.ice.modules.writers.SQLInsert`
 - ✎ `com.edulib.ice.modules.writers.SQLUpdate`
 - ✎ `com.edulib.ice.modules.UPDATE`
 - ✎ `com.edulib.ice.modules.connectors.Z3950`

25.1.7 Muse Web Bridge

- ✎ Fixes regarding the `action=doScriptCommand` (treat the statuses 0 and 3) so the session classes were modified: `FreemarkerSessionEx`, `FreemarkerSession`, `JSPSession`.
- ✎ Incremented version to 0.0.8.2.
- ✎ In case more than one tag with `scheme="URL"` attribute was present in a record, only the first one was rewritten for MNM.

25.1.8 Muse Admin Bridge

- ✎ Added `xindice-1.1b2.jar`, `xmlldb-api-20021118.jar`, `xmlldb-xupdate.jar`, `xmlrpc-1.1.jar` in `WEB-INF/lib` directory.
- ✎ The `updateSources` parameter coming from the interface was always read as `false`.
- ✎ Remove references to Muse Management Console from Muse Designer Console, Muse Administrator Console and Muse Admin Bridge index pages.
- ✎ Fix some actions that manipulate XML configuration files that are stored into Source Packages (.jar files) (`updateAppXMLFile`, `addTagsToAppXMLFile`, `deleteTagsFromAppXMLFile`, `update`)



AppICEXMLConfig). This is a fix to be done were Source Packages are in used.

- Fix errors that appear when processing sources.db file that contain HTML entities that are not XML entities.

25.1.9 Muse Control Center

- Changed default INPUT_DIRECTORY from "\${MODULES_HOME}/lib/modules.jar" to "\${MODULES_HOME}/lib/connectors.jar".
- When checking for inner classes for an authenticator, if the authenticator didn't exist, a NullPointerException was thrown.
- Consider a .jar to be invalid (and don't overwrite the one in place) in case the connector configuration file is missing or a configured stylesheet file is missing.
- When a file revision was needed actually all files from the same directory were taken revisions, and put them all in a cache, so next time we took them from cache. For directories that contained many files, this caused an error, so now do the same process but in chunks of 512 files at a time.
- When parsing Connectors.xml, if an empty CLASS dependency existed for an authenticator a NullPointerException was raised. Now issue a WARNING if such a case occurred (empty CLASS).

25.1.10 Muse Control Center

- Changed to support the new WorkRoom mechanism for ConnectorChecker task.
- Added xindice-1.1b2.jar, xmldb-api-20021118.jar, xmldb-xupdate.jar, xmldbpc-1.1.jar in WEB-INF/lib directory.

25.1.11 Muse Proxy Server and Navigation Manager

- Incremented version to 0.1.2.1.
- When a filter dies because of bad coding (e.g. a NullPointerException, StringOutOfBoundsException, etc), catch that and allow the thread to die gracefully, sending a meaningful error to client.
- For requests that come for Httpd component, but don't start with /admin path, respond with a '400 Bad Request' error.
- HeaderMuseProxyAuthorizationFilter didn't properly recognize its own cookie, so only the request that had the marker worked, the subsequent ones that had the cookie didn't work.
- The cookie set by HeaderMuseProxyAuthorizationFilter contained also a domain. In MNM case this resulted in an invalid cookie.
- In case of MNM, a redirect coming from server (using '302 Over there' response, with a Location header field) wasn't properly encoded.



- ✧ In case of MNM, if the Referer field is a valid encoded MNM url, then process that URL as well (extract the real Referer URL as the server of origin should see it). This helps in a general way the cases where servers expect that the Referer should be on that server too.
- ✧ In HeaderMusePACFilter filter, catch a bad formed proxy in proxy.pac (missing proxy port), log a WARNING message, and use the DIRECT way.
- ✧ In MNM, on JavaScript side (sent to client browser), in some cases URLs contained MuseFirst MNM marker two times.
- ✧ In MNM, on JavaScript side (sent to client browser), when rewriting an URL, the server name could be of form host%3Aport (escaped form of host:port). Before using it, unescape it using JS method unescape().
- ✧ In MNM, when rewriting a line like 'form.action = "/some/path" + someVariable + "/script.asp";', don't rewrite it as 'form.action = url2Muse("/some/path") + someVariable + "/script.asp";' but as 'form.action = url2Muse("/some/path" + someVariable + "/script.asp");'. Take in account and rewrite the whole action URL.
- ✧ The cookie used by HeaderMuseCharsetFilter had a value which was wrongly set for subsequent requests (2nd, 3rd, etc).
- ✧ When the length of the altered HTML/CSS/JS was computed, to be written in the ByteArray OutputStream, it didn't take into account the encoding. In case of encodings that matched the number of bytes with UTF-8, the bug didn't showed up, but for other encodings (such as big5), the pages were truncated.
- ✧ In Navigation Manager filter, make use of the domain in the Location field before encoding the location.
- ✧ Implemented a bootstrap museproxyboot.jar package for server startup to avoid "The input line is too long" Windows limitation.
- ✧ By default Muse Proxy authentication has been configured to check on previous authenticated (Login, SignIn) users for the current session.
- ✧ The filter that performed authentication in Muse Proxy didn't removed the Authorization header field from the request after it used its details (user & password). This caused the Authorization header field to reach the server of origin which in certain situation posed problems.
- ✧ A new filter was written to support sites that used eBrary plugin.
- ✧ Do not MNM encode Location header field if it has https protocol.
- ✧ In MNM, when a document.write() was rewritten, and on the same line the '}' was encountered (finishing the current code block), the '}' was removed.
- ✧ A new filter was written to support sites that use DejaVu plugin.
- ✧ Relative locations in Location header field were not rewritten.
- ✧ If no ? is found in url then start searching for Muse Markers (e.g: &StartMuse...) as the end of path, when rewriting URL's from bridges.
- ✧ All calls to open are rewritten. As an exception document.open is left untouched (document.open does not open any url). Previously only window.open was rewritten, but also calls of form



document.getElementById["someID"].open needed to be rewritten.

- ✎ Fix a bug in Muse Navigation Manager, fixJavaScript() method. An EOL was not always found, making the function to cycle infinitely and end with an java.lang.OutOfMemory error.
- ✎ Append a trailing '/' to the cookie path (corresponding the path for Muse Navigation Manager). Internet Explorer wasn't determining the correct domain for the cookies, because of missing '/'.
- ✎ In MNM, constructs of type ?: were not parsed correctly. Check if properties to be written are quoted (e.g. reDirect("document.location." + url)) and rewrite them. Statements of type function_call("").property are not rewritten. Usually these are not assignment statements so they should not be changed.
- ✎ In MNM, MuseProxyHTMLUtils.notInQuotes() method, the apostrophe was treated differently than the quotes. Bug appeared at WilsonWeb sources, resulting in JS errors and page not loading.
- ✎ In MNM, MuseProxyUtils.decodeIceURL() do a trim() of the path, to fix the URLs that have a space at the end. (for example this was the case with the Browse image for WilsonWeb source).
- ✎ Gzip decompression didn't worked in case the Content-Type header field containing a charset. This bug was seen on the eLibrary2 source.
- ✎ In MNM, method MuseProxyHTMLUtils.fixJSPropertyUpdate(), when testing for ?: constructs, the previous test for ; was lost. This bug appeared at ElectricLibrary (eLibrary2) source.
- ✎ Version changed to 1.2.0.0.

25.1.12 Muse XMLDB Management System

- ✎ Fix the xmlrpc component with regard to i18n issues. This means a modified xmlrpc.jar both in XML-DB and in ICE Server.
- ✎ When using an Xindice database, synchronized code in methods that write into the database.
- ✎ eXist integration and directory structure change to accomodate eXist.

25.1.13 Muse Statistics Monitor

- ✎ ice.jar is now copied also to monitor\${MUSE_HOME}/www/WEB-INF/lib. ice.jar is needed because the Muse Monitor Servlet extends MuseServlet which in turn makes use of classes located in ice.jar. We didn't noticed this when running in Muse HTTP Server because it has its own copy of ice.jar and that one was used.
- ✎ Implemented table view and report view based on the Jasper Reports Open Source Project.

25.1.14 ICE Tools

- ✎ Password Encoder utility - added jce1_2_1.jar and sunjce_provider.jar to classpath.



25.1.15 Muse Builder

- ✎ Could not create a project file if it already exists.
- ✎ Changed the project loader to ignore the exceptions when failing to add a new file or directory. When exception occurred, the project would not load.
- ✎ Some accelerators were missing from the interface, so some options were not accessible using keyboard.
- ✎ Added tooltip text for workspace panes hide button.
- ✎ The table with project files can be sorted using a click of a mouse in ascending and descending order.
- ✎ Reopening a file will check for changes with its disk image.
- ✎ Fixed a bug that let the state of a project directory inconsistent when one of its subdirectories or files was renamed.

25.1.16 Muse ENCompass Bridge

- ✎ When a new session is created, log on NOTICE the hostname and IP of the client.
- ✎ In case more than one tag with scheme="URL" attribute was present in a record, only the first one was rewritten for MNM.

25.1.17 Muse Enrichment Service

- ✎ ice.jar is now copied also to \${MUSE_HOME}/enrich/www/WEB-INF/lib. ice.jar is needed because the Enrich Servlet extends MuseServlet which in turn makes use of classes located in ice.jar. We didn't noticed this when running in Muse HTTP Server because it has its own copy of ice.jar and that one was used.

25.1.18 Muse Administrator Console

- ✎ When it refreshes the first time it then starts refreshing at a rate of about twice a second. Fixed.

25.1.19 Muse HTTP Server

- ✎ Implemented a bootstrap musehttpboot.jar package for server startup to avoid "The input line is too long" Windows limitation.
- ✎ Updated copyright years when they are printed on screen.
- ✎ XmlResponseAdapter and XmlServletOutputStream corrupted the data written as the response. This happened because of an improper (and not needed) cast done in code. Also cleaned up a bit



the methods writing the response by removing some totally unnecessary code.

- ✎ The load-on-startup option in web.xml application descriptor wasn't taken into account.
- ✎ Changed the level of 2 logged messages from info,error to debug as they were debug messages.

25.1.20 Muse OpenURL

- ✎ ice.jar is now copied also to \${MUSE_HOME}/openurl/generator/www/WEB-INF/lib. ice.jar is needed because the Muse OpenURL Generator Servlet extends MuseServlet which in turn makes use of classes located in ice.jar. We didn't noticed this when running in Muse HTTP Server because it has its own copy of ice.jar and that one was used.

25.1.21 Muse Manuals

- ✎ Revised Muse Administrator Console.doc manual.
- ✎ Changed Tomcat download locations in Muse External Servlets Engine (Tomcat).doc to correct ones.

25.1.22 Muse Web2 Bridge

- ✎ When a new session is created, log on NOTICE the hostname and IP of the client.
- ✎ In case more than one tag with scheme="URL" attribute was present in a record, only the first one was rewritten for MNM.

25.1.23 Muse Brodart Bridge

- ✎ In case more than one tag with scheme="URL" attribute was present in a record, only the first one was rewritten for MNM.

25.2 New Features:

25.2.1 Muse Authentication and Authorization Service

- ✎ ICELoginModuleLDAP: Added a new field in the configuration file <ATTR-FILTER>, under the <ROOT-AUTHENTICATION> node. Here you may add a comma separated list of attributes. These are the object attributes that will be retrieved from the LDAP tree. The userPassword attribute is always added to this list (even if it is not specified in the configuration file).



New ICELoginModuleGAMSWriter login module. The command line parameters (specified in the jaas.config file) of this module are: -xmldbLocation: The URL where the XML Database containing the GAMS collection is located. An example of usage of this module in the jaas.config file of the Muse Product is given below: ICELoginModuleGAMSWriter required xmldbLocation="http://localhost:8000/xmldb" rootCollection="authorization";

- ✎ New ICELoginModuleGAMSReader login module. This module will be configured to read certain attributes from the GAMS collection and compare them against a minimum set of provided authentication parameters, which will need to be sufficient for the authentication to succeed. The command line parameters (specified in the jaas.config file) of this module are:

- ✎ xmldbLocation: The URL where the XML Database containing the GAMS collection is located.
- ✎ condition: The XPath query. This query may contain Muse style variables (e.g.: \${userAddress}).

The attributes matching will be done using a XPath query. The authentication parameters that are specified in the XPath will be represented as variables, e.g. \${userAddress}. An example of usage of this module in the jaas.config file of a Muse Product that needs to rely on somebody else's authentication:

```
ICELoginModuleGAMSReader sufficient
    xmldbLocation="http://localhost:8000/xmldb"
    rootCollection="authorization"
condition="/AUTHORIZATION/ENTRIES/ENTRY[child::PROPERTY[@name='userAddress']
    and text()='${userAddress}']"]
```

- ✎ New ICELoginModuleVirtualLibrary module. It is used to authenticate a userID/userPwd against a VirtualLibrary URL. The command line parameters (specified in the jaas.config file) of this module are:
 - ✎ logonurl: The URL used to authenticate.
 - ✎ logouturl: The URL used to logg out.
- ✎ Added permissions for xalan.jar, xml-apis.jar.
- ✎ Added permissions for \${MUSE_HOME}/brodart/www/WEB-INF/lib/ directory in java.muse.policy file.
- ✎ Added permissions for \${MUSE_HOME}/grokker/www/WEB-INF/lib/ directory in java.muse.policy file.
- ✎ Added support for XML Bridges.

25.2.2 Muse Setup

- ✎ When installing an application the file "\${ICE_HOME}\profiles\hosts.xml" is now updated with the rules required.
- ✎ The algorithm of processing the entries in the file "\${ICE_HOME}\profiles\passwords.xml" has



been improved and now it will work well if additional fields are added inside an entry.

- ✧ The algorithm of processing the entries in the file "\${MUSE_HOME}\home\applications.xml" has been improved and now it will work well if additional fields are added inside an entry.
- ✧ The "Muse Personal Workroom Management System" product was added to setup.
- ✧ Previously the install location was resolved from the value of a custom bean variable. This due to creating multiple uninstall directories on multiple installs. Now the install location is set to a default value and changed programatically if needed. This fixes the above problem.
- ✧ Use Version 2 Serial Number which extended the number of products and applications.
- ✧ The "Muse Brodart Bridge" was added to setup.
- ✧ The "Muse Global Authorizing Management System" was added to setup.
- ✧ The Muse environment variables are now set on user level as well as system level.
- ✧ The file \${MUSE_HOME}/use/modules/jssecaaliases.properties.default was added to setup. This is required for HTTPS certificate aliases.
- ✧ The \${MUSE_HOME}/factory/SE.xml.default file was added to setup. When instaled it will be renamed into \${MUSE_HOME}/factory/SE.xml.
- ✧ The "Muse Grokker Bridge" product was added to setup.
- ✧ When installing an application the file "\${ICE_HOME}/profiles/authority.xml" is now updated with the entries required.

25.2.3 Muse Search

- ✧ All application web interfaces have been changed to make use of Target ID (instead of Target name) for results set selection per source.
- ✧ Changes for the WorkRoom tab: escaping the name of the result set, script parameters or new scripts to be called, a fix for navigation through the results set list.
- ✧ Changes for the Save As window to perform the escaping for the names of the listed result sets.
- ✧ New application - Article Finder eXtreme (afx).
- ✧ New application - University of Patras (patras).
- ✧ Interface changes to Muse Toolbar and MuseSeek applications.
- ✧ New application - Ouachita Parish (ouachita).

25.2.4 ICE Server

- ✧ In case of a problem interpreting serial.properties file content, attach the serial.properties file to the notification email sent (ICE Unauthorized Install).
- ✧ New and updated scripts for Muse Personal Workroom Management Systems. New scripts: Dele



teResultSets.xml. Modified scripts: CombinedResultSets.xml, ModifyResultSet.xml, More.xml, SaveMarkedRecordsEx.xml, SaveResultSet.xml, SaveResultSetEx.xml, SendByFTPResultSet.xml, SendMail.xml, SendResultsSet.xml.

- ✦ New classes located in the package `com.edulib.ice.util.data`: ICEWorkroom, ICEWorkroomsManager, ICEResultSetRepository, ICEResultSetFileRepository, ICEResultSetRepositoryStub, ICEResultSetRepositoryIndex, ICEResultSetMetaData.
- ✦ Changes in the existent ICE classes: ICECore.java, ICEInterpreterExtension.java, ICEProcessingModule.java, ICESession.java, ICESessionsManager.java, ICESystem.java, ICEIELOGOFF.java, ICEIELOGON.java, ICEIESignin.java, ICEResultSet.java, ICEXmlResultSet.java, ICEXmlResultSetFactory.java, ICEURLReaderFTPConnection.java (bug fix regarding exporting i18n result sets), ICESerialNumber.java.
- ✦ In `${ICE_HOME}/jaas.policy` the "delete" right has been added for each ICE user. This is required for Muse Personal WorkRoom Management system. For example:

```
permission java.io.FilePermission
    "${MUSE_HOME}${/}home${/}msl${/}workroom${/}-",
    "write,delete";
```
- ✦ Every `${APPLICATION_HOME}/profile.xml` upgraded <MODULES> field to:

```
<MODULES>
    file:${APPLICATION_HOME}/modules/classes/;
    file:${APPLICATION_HOME}/modules/lib/modulesutil.jar;
    file:${APPLICATION_HOME}/modules/lib/connectors.jar;
    file:${APPLICATION_HOME}/modules/lib/modules.jar
</MODULES>
```
- ✦ Try to determine the real IP address for the ICE Server and its peers in case these addresses are local (i.e. "127.0.0.1" or "localhost").
- ✦ Using the Global Authorization Manager System in order to make the authentication persistent to other products, too (e.g. to Muse Proxy).
- ✦ Lowered the MAX_INACTIVE_INTERVAL configuration option from default 45 minutes to 30 minutes.
- ✦ Inacout check at MAX_INACTIVE_INTERVAL/6 intervals (before it performed the checks at MAX_INACTIVE_INTERVAL/2 intervals).
- ✦ Version 2 serial number is in charge now. It has the form `zzddsssscccssvvvx`. The number of products and applications encoded into Serial Number has been extended using part of the space previously used by date. The : `zz` – control code. `dd` – built date. `ccc` – customer code. `ssss` – system code in two groups of 4 characters each. System code is the place where products and applications are encoded. `vvvv` – version. `x` – CRC. The serial number is encrypted using DES/3DES algorithm and encoded to Base64. Practically the number of products and applications has been doubled. The ICE Serial Number can still handle Version 1 serial numbers.
- ✦ URLEncoderUtil, in case of ISO-8859-1 encoding, encodes the characters that have the Unicode values bigger than 255 as numeric entities.
- ✦ Implemented a domain aliases mechanism for HTTPS certificates. This is to be used when certificates are issued for a domain but used for a different domain.



Authority Utility checker performs the timesers are used for authentication to the MuseGlobal demo applications academic, business, medic and standard. Entries in the `#{ICE_HOME}/jaas.config` have been added for each of these applications. The new file `#{ICE_HOME}/profiles/authority.xml` contains the authority users including users coinciding to the application name (e.g. 'academic'). The authentication to these 4 applications is to be done only from their logon pages (e.g. <http://www.museglobal.com:8000/muse/logon/business/>).

- ✧ We have improved the execution time of an ICE Instruction by letting internal messages (ICEMessage) to be handle only in Java instead of using the `#{ICE_HOME}/stylesheets/Message.xml`. The conversion from ICE Input to ICE Message and from ICE Message to ICE Output is still done using stylesheets.
- ✧ Set the thread priority to `MAX_PRIORITY` for the threads checking the sessions against time out and the modules against timeout. This was done in `ICESessionsManager` and `ICEProcessingModule` respectively.
- ✧ In `ICEXmlUtil` we have added method `setSpecificTagvalue`. We have modified the method `setTagValue` such that when the provided value is null it will delete the text node from that tag. This way in Java 1.4 we obtain `<TAG/>` instead of `<TAG></TAG>`.
- ✧ ICE Log is now catching the `InterruptedException` in order to state at the stderr that someone has interrupted the log process and to provide the data that should have been logged.
- ✧ Store directly `ICEMessage` objects instead of Strings. Again this improves execution time of an ICE Instruction.
- ✧ From ICE Session we sent `ICEMessage` objects directly to mailbox instead of converting them to Strings. This improves execution time.
- ✧ Add and use the new log method having `messageCarrier` Object as argument in order to avoid useless String conversion for logging messages even if the log was set on NOTICE the `toString` conversion was done in calls like `log(ICELog.DEBUG, iceMessage.toString())`. This improves execution time.
- ✧ Add a new function to `com.edulib.ice.util.net.IPAddress` that checks if an IP Address is private/non-routable (e.g. from the following networks: 10.0.0.0/8, 172.16.0.0/12, 192.168.0.0/16).

25.2.5 ICE Modules

- ✧ Extended `TargetFilter` module to support multiple `targetID` for results set selection per source.
- ✧ Changed the following modules in order to support Muse Personal WorkRoom Management System: `DeDupe.java`, `Delete.java`, `Jitterbug.java`, `LOAD.java`, `MARCCConverter.java`, `MarkedRecords.java`, `OpenURLGenerator.java`, `Results.java`, `ResultSets.java`, `SAVE.java`, `TargetFilter.java`, `Hold.java`, `SEARCH.java`, `Scan.java`, `Ranking.java`, `SendByFTP.java`, `HoldModule.java`, `PurchaseModule.java`, `ILLModule.java`, `PairTokenizer.java`
- ✧ `OpenURLGenerator` uses external mappings in the form of XSLT. It now handles new fields from the DATA section of a record, namely `DATA:CITATION`-fields.
- ✧ Added the `com.edulib.ice.modules.util.parsing` package. It provides a more compact and error free method for parsing strings (in practice HTML).



- ✎ Added the `com.edulib.ice.modules.util.parsing.citation` package. This package has some general purpose classes that can be used to manage the extraction of citation fields and some implementor classes that can handle individual citation fields parsing. At this moment covers parsing citation fields of EBSCO source.
- ✎ Add two new targets: "connectorLoopsGuard" and "authenticatorLoopsGuard" to the file `${MODULES_HOME}/build.xml` which will be used to test the connectors and authenticators for possible infinite while cycles.
- ✎ Added dispatcher modules for writers: INSERT, DELETE and UPDATE. The writer modules will be used for writing accesses into heterogenous data sources (insert, delete, update). These also represents 3 new ICE commands (6 new stylesheets `INSERTInput.xml`, `INSERTOutput.xml`, `DELETEInput.xml`, `DELETEOutput.xml`, `UPDATEInput.xml` and `UPDATEOutput.xml` in `${MODULES_HOME}/stylesheets`).
- ✎ For Java 1.4.x HTTP connectors do no longer use the workaround for opening URL connection that consisted in creating a thread for each connection and joining it after `timeOut` interval. We now make use of the new properties `sun.net.client.defaultConnectTimeout` and `sun.net.client.defaultReadTimeout`. Because these values are static for the JVM all the HTTP connectors share the same values. For the moment this is not a drawback as anyway all the HTTP sources have been configured with the same timeout (60 seconds).
- ✎ `ICEHttpConnector` is catching `InterruptedException` in more places in order to log more properly this event.
- ✎ The version scripts show the version from `modules.jar`, `modulesutil.jar`, `connectors.jar`.

25.2.6 Muse Web Bridge

- ✎ Lowered the `MAX_INACTIVE_INTERVAL` configuration option from default 30 minutes to 20 minutes.

25.2.7 Muse Admin Bridge

- ✎ Added new console - Muse Designer Console (user "designer") that allows MuseSearch application parameters to be easily changed.
- ✎ Incremented version to 0.0.1.7.
- ✎ Add new actions that allows to edit any XML document (Update nodes, add nodes, delete nodes).
- ✎ Added `xml-apis.jar`, `xalan.jar` in `WEB-INF/lib` directory (needed for XPath).
- ✎ Add new actions that allow groups to be moved in the interface just like sources are moved inside groups.
- ✎ Add new actions to edit rules from `${ICE_HOME}/profiles/hosts.xml`.
- ✎ Add new actions to manipulate `${ICE_HOME}/profiles/authority.xml` file.



25.2.8 Muse Control Center

- ✎ Incremented version to 0.0.0.8.

25.2.9 Muse Control Center

- ✎ Add two new tasks: "Source Packages: Connectors Loops Guard" and "Source Packages: Authenticators Loops Guard" into the file `${MUSE_HOME}/center/SourcePackages (Regular Upload Tuesday-Friday).tsk` which will be executed every Tuesday and Friday along with the Source Packages build and will detect the possible infinite while cycles in connectors and authenticators.

25.2.10 Muse Global Authorizing Management System

- ✎ Lets an user (individual or application program) that is already authenticated through Muse Authentication and Authorization System (MAAS), via one of our products, be authorized for certain access from other Muse products also implementing MAAS as if the user had been successfully and directly authenticated to these products. The authorization information will be stored in the xmldb using a new collection, named GAMS (Global Authorizing Management System). A localized component of the GAMS system will handle the storage based on Muse XML DB Management System.
- ✎ Data written into the Muse XML DB is encrypted.

25.2.11 Muse XMLDB Management System

- ✎ A new client was implemented, to access XMLDB over HTTPS connections.
- ✎ Ugly Debug Tool is accessible (<http://museHost.domain:8000/xmldb/>) only if the configuration element "debug-tool" in `${MUSE_HOME}/xmldb/www/WEB-INF/system.xml` has the "enabled" attribute set to true. In order to achieve this we have modified the XindiceServlet class from xindice-1.1b2.jar (the modified Java source is also jared in here).

25.2.12 Muse Statistics Monitor

- ✎ System LifeSpan Module: Add data table and report panels.
- ✎ Connectors Activity Module: Errors Analysis (statistics of errors per targets), Query Analysis (statistics of queries per targets), Performance Measure (statistics of connectors completion search time per targets).

25.2.13 ICE Tools



- ✧ Z3950 Client – incremented version to 0.0.1.2.
- ✧ SQTG:
 - ✧ Modified file loading/saving mechanism to support the new file format (work in progress as New Features: are being added – especially to the split-type sources).
 - ✧ Written remapping of attributes via xml tag renaming. The generated xsl is a multi-pass transform (rename the nodes according to the defined aliases and the processing itself).
 - ✧ Added support for qualified mappings (work in progress for split-type sources).
 - ✧ Designed the user interface to support the new features.

25.2.14 ICE Tools

- ✧ Add a new utility class `com.edulib.ice.tools.ICEConnectorLoopsChecker` which will be used to test the connectors and authenticators for possible infinite cycles.

25.2.15 Muse Builder

- ✧ The Muse Builder tools have been redesigned. The old mechanism that used a proprietary scripting language combined with Freemarker has been replaced by Jelly scripting. All Muse Builder tools are now programmed using Jelly.
- ✧ Improved the wizard mechanism and added Jelly integration.
- ✧ Projects can now store as many properties as needed. They can be retrieved and modified by Jelly tools.
- ✧ Automatically add file extension if missing, when creating one.
- ✧ Command line parsing uses Apache Commons CLI.
- ✧ Implemented a bootstrap `musebuilderboot.jar` package for program startup to avoid "The input line is too long" Windows limitation.
- ✧ The 'Import from a specified project' option found in the 'New Project' dialog was removed.
- ✧ Improved the 'Add directory' project dialog to support complex directory and file (glob) filters.
- ✧ Project resource filters use glob filters to group related files.
- ✧ Popup menu for editor files with Close and Close All commands (right click on the file tab).
- ✧ Added File > Deploy Project... command.
- ✧ When creating a FTP deployment location the port 21 is completed by default in the FTP deployment window.
- ✧ When a directory is added to the project, a filter that excludes CVS directories is used by default.
- ✧ Only registered files will be edited. The others will just be viewed.
- ✧ Changed the format for `MuseBuilder.xml`, the file that keeps the configuration for Muse Builder.



Current format uses plain text names and values for the configuration properties.

- ✎ The popup menu associated with a project file will activate the "Show Parent Directory" only for files from a Resources node.
- ✎ Added a progress bar to the Deployment Dialog.

25.2.16 Muse Serial Number Encoder

- ✎ Incremented version to 0.0.0.7.
- ✎ Add support for dependencies between products. The applications are now numbered and the application identifier is displayed between parenthesis. The description tooltip for an application is wrapped on multiple lines.
- ✎ Add support for the version 2 serial number. It now handles both Version 1 and Version 2 of serial number.
- ✎ Update the applications panel each time the path to applications.xml is changed from the Configure menu option.

25.2.17 Muse Serial Number Encoder

- ✎ The user is warned when trying to register private/non-routable IP addresses.
- ✎ Change the default directory for applications.xml to \${USE_HOME}/tools/serial/tmp.
- ✎ Add a contextual menu for the Generated Serial number text box. This menu is used for copy/paste operations.

25.2.18 Muse Web2 Bridge

- ✎ Minor changes required by the new WorkRoom related parameters.
- ✎ Incremented version to 0.0.1.0.

25.2.19 Personal WorkRoom Management System

- ✎ Created new com.edulib.muse.xmlldb.pwms package, currently having only ResultSetXMLD BRepository class which handles a result set repository located in an XMLDB database. PWMS stands for Personal Workroom Management System. Each user uniquely identified by its personal ID (computed by PWMS from user's attributes) has a personal location in the XMLDB database where its workroom related files (currently only result sets) are stored and later managed through PWMS.

25.2.20 Muse Administrator Console

CHANGES IN MUSE 1.2.0.0 RELEASE
(DEVELOPED UNDER 1.1.3.5)



- ✎ Interface changed to permit editing of multilevel XML documents and element attributes. Used the new API functions (getXMLFile, updateXMLFile, addTagsToXMLFile, deleteTagsFromXMLFile).
- ✎ Groups can be moved in the interface just like sources are moved inside groups.

25.2.21 Muse Management Console

- ✎ Interface changed to permit editing of multilevel XML documents and element attributes. Used the new API functions (getXMLFile, updateXMLFile, addTagsToXMLFile, deleteTagsFromXMLFile).
- ✎ Groups can be moved in the interface just like sources are moved inside groups.
- ✎ Add the interface for manipulation of Authority Users. This will allow personal users to be set including change passwords.

25.2.22 Muse Designer Console

- ✎ Interface changed to permit editing of multilevel XML documents and element attributes. Used the new API functions (getXMLFile, updateXMLFile, addTagsToXMLFile, deleteTagsFromXMLFile).
- ✎ Groups can be moved in the interface just like sources are moved inside groups.

25.2.23 Muse Manuals

- ✎ Muse Administrator.doc updated with "2.3 Create a New Authority user to an Application".
- ✎ Revised Muse Administrator Console.doc manual.
- ✎ Changed company name (to MuseGlobal SA) and contact details.
- ✎ Added support for Tomcat 5.x in Muse External Servlets Engine (Tomcat).doc.
- ✎ ICE Communication Interface.doc – added INSERT, DELETE and UPDATE commands and the RECORD_UPDATE structure.
- ✎ Added instructions on how to install/uninstall Tomcat as a Windows Service in Muse External Servlets Engine (Tomcat).doc document.

25.2.24 Muse HTTP Server

- ✎ In case <SERVER_NAME> is specified in the config file as 'localhost' try and use a host name determined with InetAddress.getLocalHost().getHostName(). This is the fully qualified host name on which the server runs and you must have changed this in the configuration file to the host name on which the server runs, otherwise HTTP redirections for directories will have been done to localhosts which make no sense from remote browsers.



- ✎ Added new TcpConnector to listen on port 8003 for Muse Brodart Bridge.
- ✎ Added new TcpConnector to listen on port 8004 for Muse Grokker Bridge.
- ✎ Added new context /grokker for Muse Grokker Bridge.
- ✎ Implemented new SSL functionality, thus allowing Muse HTTP Server to accept and serve HTTPS clients.
- ✎ Incremented version to 1.0.1.3.
- ✎ Extended XmlConnectionHandler to accept custom requestAdapter and responseAdapter classes that will use to construct the request/response adapters.
- ✎ New request adapter, MuseXmlRequestAdapter that basically transforms parameters given in an XML request into HTTP parameters, suitable from a HTTP servlet to use. The XML request has a certain format so the XmlRequestAdapter can extract parameters from it.
- ✎ Added a shutdown hook, so the server can exit gracefully when Ctrl-C is pressed on the console, for example.

25.2.25 Muse Brodart Bridge

- ✎ Initial version (0.0.0.1). Basically stripped down version of Muse Web2 Bridge in terms of functionality. Draft proposal for new commands: INSERT, UPDATE, DELETE.
- ✎ Copy ice.jar, iceutil.jar, museproxy.jar to www/WEB-INF/lib respectively client/lib directories.
- ✎ When a new session is created, log on NOTICE the hostname and IP of the client.

25.2.26 Muse Grokker Bridge

- ✎ Initial version (0.0.0.1). Basically stripped down version of Muse ENCompass Bridge in terms of functionality (LOGON, LOGOFF, DISCOVER, SEARCH, ResultSets)

25.3 Known Bugs:

25.3.1 Muse HTTP Server

- ✎ Using a browser to access the bridges (by connecting to port `http://localhost:8000/<bridge_name>`) the XML returned by the bridges is not UTF-8. This happens because in this way `BufferedServletOutputStream` is used as opposed to `XmlServletOutputStream` (as in the case of talking directly with the bridge using the XML protocol), and this doesn't know UTF-8 or doesn't have a mean to specify a desired encoding.



25.4 Notes:

25.4.1 Muse System

- ✎ For all bridges clients and ICE client, changed the prompt from : to >.

25.4.2 Muse Search

- ✎ Applications removed from CVS repository (12):
 - 1 California State Library (calzig),
 - 2 Free Library of Philadelphia (flp)
 - 3 Grace Sandlin Memorial Library (gcml)
 - 4 Greek University Libraries (gul)
 - 5 Intermountain Health Care (ihc)
 - 6 Libero Library Network (lln)
 - 7 Michigan eLibrary (mel)
 - 8 Michigan eLibrary for Guests (melguest)
 - 9 Michigan eLibrary for Residents (melres)
 - 10 Vivisimo Document Clustering (vivisimo)
 - 11 The Z Texas Implementation Component of the Library of Texas (zlot)
- ✎ Applications moved from `${MUSE_HOME}/home` to `${MUSE_HOME}/home/Source` Package in CVS repository (3) :
 - 1 New York Public Library (nypl)
 - 2 National Taitung University (nttu)
 - 3 Procter & Gamble (pg)
 - 4 ArticleFinder eXtreme (afx)
- ✎ Applications added to the CVS repository (1):
 - 1 COMPanion Corporation (companion)

25.4.3 Muse Projects

- ✎ We have just added the project files needed for Eclipse IDE (<http://www.eclipse.org/>) to CVS tree. For each of top level directories suitable for a project (namely aas, admin, builder, center,



encompass, enrich, http, mandarin, monitor, openurl, proxy, soap, use (tools, ice, modules) , web, web2, xmldb, z3950) there are 2 new files, .project and .classpath.

25.4.4 ICE Server

- ✧ Reorganize XMLMARC library on packages. xmlmarc.jar file and only the class com.edulib.ice.util.ICEMarc2Xml were modified.

25.4.5 ICE Modules

- ✧ Split modules.jar in order to allow backward compatibility with introducing of Workroom Management. The result of the split consists in 4 jars: modules.jar(core classes, dedupe and ranking keys, journal.txt, special manifest with classpath), modulesutil.jar(all util classes, all the base classes for the connectors, journal.txt), connectors.jar (all the connectors except their base classes; connectors means also the circulation, ill) and muselogin.jar (the JAAS login modules). The code for the connectors (located into connectors.jar) do not contain any reference to WorkRoom so it can be safely send to a client without backward compatibility problems. The code that will be usually given to clients, as connector fixes would consists from now on in connectors.jar instead of modules.jar, and rarely modulesutil.jar. The modules.jar file would usually remain unchanged between installations of different versions.
- ✧ Reorganize XMLMARC library on packages. xmlmarc.jar file and only the class com.edulib.ice.modules.MARCCConverter.java were modified.

25.4.6 Muse Admin Bridge

- ✧ Changed from Muse Administrative Interface to Muse Admin Bridge.

25.4.7 ICE Tools

- ✧ Z3950 Client - reorganize XMLMARC library on packages. xmlmarc.jar file.

25.4.8 Muse Source Factory

- ✧ In order to ensure consistence between Connectors.xml and connectors.jar:
 - ✧ OstiGrayLit class name corrected to OSTIGrayLit.
 - ✧ Infotrieve connector class name was renamed to ArticleFinder to reflect the existing name change.
 - ✧ The following missing authenticator entries were added and referred (where needed) from the corresponding connector entries:
 - DAAIAuthenticator



- EbscoAuthenticatorR
- EbscoAuthenticatorS
- FactivaAuthenticatorB
- FirstSearchAuthenticatorD
- IliAuthenticator
- OvidAuthenticatorE
- OxfordReferenceAuthenticator
- ScienceDirectAuthenticatorD
- ScienceDirectAuthenticatorE
- ScienceDirectAuthenticatorF
- SybWorldAuthenticator
- UnityWebAuthenticator
- WOSAAuthenticatorB
- WilsonWebAuthenticator
- ZETOCAuthenticatorC
- iBistroAuthenticator

25.4.9 Muse HTTP Server

- ✎ Add -Xmx512M -Xms64M option for the JVM in the startup scripts.

25.4.10 Muse Manuals

- ✎ Modify ICE Communication Interface.doc regarding the ResultSets command .
- ✎ Modify Muse Administrator.doc to be synchronized with the latest configuration files.



26.0

Changes in Muse 1.1.3.4 Release

Release Date: 12.03.2004

26.1 Bug Fixes:

26.1.1 Muse Authentication and Authorization Service

- ✎ Added checkAddress(address,hostName,template) overloaded method in ICELoginModuleIP. Used this in login(), so checkAddress() doesn't need to repetately resolve the name from IP. This results in faster response times in login() method. In case the IP doesn't have a name associated with it, log a warning message.

26.1.2 Muse Setup

- ✎ Changed some texts in the registration email. The text "Upgrading from Version:" was replaced by "Previous Installed Version:" and the text "Upgrading from Product Serial Number:" was replaced by "Previous Product Serial Number:".
- ✎ Running the Muse setup native binary with the parameter "-goto registration" generated an error message; the options file was not saving well and the process was hanging.
- ✎ Corrected the above error message spelling.
- ✎ The file \${MUSE_HOME}/proxy/hosts.xml.default is installed as \${MUSE_HOME}/proxy/hosts.xml if the file \${MUSE_HOME}/proxy/hosts.xml does not exist.

26.1.3 Muse Search

- ✎ Changed the PACKAGES location from 'file:///\${APPLICATION_HOME}/sources/lib/' to 'file:\${APPLICATION_HOME}/sources/lib/' in every profile.xml.



26.1.4 ICE Modules

- ✎ Build modulesutil.jar which contain common and util classes for connectors and authenticators. Classes here are likely to be modified in connectors development. Classes included here are for now still present in modules.jar, but they will be removed some time in the future.
- ✎ ICEHttpConnector, ICETelnetConnector, SQL, Z3950 use the setDefaultSource() and setDefaultSourceID() methods of their recordFactory, to automatically set the source name/sourceID of records. Thus all connectors will (automatically and transparently) use this.
- ✎ Scan module logs statistics messages as well, as SEARCH did already.

26.1.5 Muse Web Bridge

- ✎ Accept to put an empty StartMuseReferer marker in URLs.

26.1.6 Muse Control Center

- ✎ Incremented version to 0.0.0.7.
- ✎ Fixed a bug in ICECVSUtil.findRevision(). Now using File.getCanonicalPath() to get the file name case dependent from the underlying SO, instead of File.getName() which gave the file name as we constructed the File object.
- ✎ Make use of DEPENDENCIES section for an AUTHENTICATOR, in Connectors.xml file. With this new section, when an authenticator is included in a .jar file, all its configured dependencies will be also included.
- ✎ Pack possible inner classes of authenticators or dependencies.
- ✎ Create packages as a temporary file. If there are no errors, then rename the temporary file to the final package. Until this fix, a package started being overwritten, at some point an error occurred, and the jar was left in an inconsistent state. Error was printed on screen, but a human reader can easily overlook it.
- ✎ In case of invalid .jars, print out more detailf (either the old jar file was not overwritten, either the new jar was not created at all).

26.1.7 Muse Control Center

- ✎ Incremented version to 0.0.4.6.
- ✎ For the FTP task, in the isUpToDate() method, first test if the sizes differ, and if so, say is not up to date. If the sizes are the same, test the dates.

26.1.8 Muse Proxy Server and Navigation Manager



- ✧ Incremented version to 0.1.2.0.
- ✧ When the URL for a record wasn't for a CGI script (not containing '?' in it), the first Muse marker was not recognized to be processed (first after the '?' character).
- ✧ Remove the StartMuseCharset marker from HTTP's header Referer field.
- ✧ The content of the <STYLE> tag is also parsed as text/css.
- ✧ Inside a .css stylesheet parse the '@import "<url>";' commands.
- ✧ When encountering OutOfMemoryError exception when trying to make a new Handler() to deal with an incoming connection, besides logging the error also close the client socket.
- ✧ Log the OutOfMemoryError on ERROR logging level instead of WARNING.
- ✧ When parsing a stylesheet, for example '<STYLE>@import url("url_here");</STYLE>' it deleted the '@import' part in front of 'url()' and didn't re-wrote the URL.
- ✧ When MNM was parsing a tag of form "<meta http-equiv="refresh" content="0;url=/some/url">" it found the URL by searching for URL= (case sensitive, in upper case only) inside the content attribute. Now it searches for the 'URL=' part case insensitive.
- ✧ In Muse Charset Filter the cookie name is MuseCharsetCookie. In some places it was mixed with the marker name, generating IndexOutOfBoundsException exceptions.
- ✧ When parsing URLs in stylesheets, if the URL was enclosed in " (simple quotes), the first quote was replaced with " (double quote).
- ✧ If the URL didn't contained a ? in it, then the & was taken as end of path (wrongly). & can appear in paths as seen on www.gnps.com.
- ✧ Parse the 'style' attribute of all tags. It can contain URLs in it.
- ✧ When seeing document.write("x" + variable + "y") don't parse the content of the document.write(). We don't know the variable value or that can be determined at runtime.
- ✧ MuseProxyUtils.urlFormMNM() called from MusePeer: In case NAVIGATION_MANAGER_HOST points to 127.0.0.1 or localhost, try to find the IP address more exactly, disregarding any non-routable IP address and the 127. (local) class. In case multiple addresses still remain, return the first one.
- ✧ In fixURL() when testing if the host is in the domain strip the :port part from both of them before comparing.
- ✧ In JavaScript method urlD2Muse(), the content of the MusePath parameter must be escaped using the escape() method.
- ✧ In JavaScript method urlD2Muse(), when adding params also add MuseFirst=1.
- ✧ In case of an exception when reading from server side (e.g. missing status line in response, etc), send an error to client.
- ✧ The markers weren't removed correctly from the Referer header field.
- ✧ In case the StartMuseReferer marker is empty, then the Referer filter removes the Referer header field entirely.



26.1.9 Muse Enrichment Service

- ✧ The Indexer is better error tolerant. Instead of exiting on every error the Indexer just writes the error message in the log and keeps building the indexes. Generation of indexes is stopped only on critical errors.
- ✧ Added log support.

26.1.10 Muse HTTP Server

- ✧ When no explicit address is configured for a TcpConnector, write in the log instead of "Starting TcpConnector on 0.0.0.0:<port>" "Starting TcpConnector on all assigned IP addresses on port <port>".
- ✧ Incremented version to 1.0.1.2.

26.2 New Features:

26.2.1 Muse Setup

- ✧ The script files for Muse File Encoder, `${MUSE_HOME}\use\tools\serial\startFileEncoder.bat`, `${MUSE_HOME}\use\tools\serial\startFileEncoder`, `${MUSE_HOME}\use\tools\serial\startFileEncoder.csh`, were added to Muse Setup.
- ✧ The files `${MUSE_HOME}\monitor\startDirectorStationConverter.bat`, `${MUSE_HOME}\monitor\startDirectorStationConverter`, `${MUSE_HOME}\monitor\startDirectorStationConverter.csh` were added to Muse Setup.
- ✧ Added Muse statistics Monitor setup.

26.2.2 Muse Search

- ✧ New GIST, Westminster applications.
- ✧ All our applications are now "MuseSearch Toolbar compliant" (actually accept a pass through search and pre-define the sources to search by default).
- ✧ Displaying "Not Started" status messages in the Progress Window in all of the Muse applications.

26.2.3 ICE Server

- ✧ The MODULES tag in ICECore.xml can contain a list of URLs (as opposed to only one till now) separated by semicolon (;). Make use of this new feature in ICESession, when constructing class



loaders.

- ✧ ICERRecordFactory has new methods used to set default attributes in newly created records. After setting a default in ICERRecordFactory (e.g. `recordFactory.setDefaultSourceID("Google")`), all subsequent calls to `ICERRecordFactory.createEmptyRecord()` will return records with the attribute `sourceID` set to Google. All the records will be stamped now not only with the sources name but the `sourceID` (target) as well.
- ✧ Add statistics log on various statistics log levels (STAT_USERS).

26.2.4 ICE Modules

- ✧ Sending new "Not Started" status messages from SEARCH, BROWSE module, in case of targets that do not start – e.g. 'Unsupported query'. This is to be able to display such errors into the Progress window.

26.2.5 Muse Control Center

- ✧ Make use of DEPENDENCIES section for an AUTHENTICATOR, in Connectors.xml file. With this new section, when an authenticator is included in a .jar file, all its configured dependencies will be also included.

26.2.6 Muse Statistics Monitor

- ✧ This is a new product to make statistical analyses on Muse usage.
- ✧ Includes ICE Log to Director Station converter.

26.2.7 Personal Profiles Management System

- ✧ Incremented version to 1.0.0.3.
- ✧ Extended API:
 - ✧ `setField()/getField()` now accept a node path, and deal with encrypted fields.
 - ✧ `savePersonalProperties()/savePersonalProfile()` now deal with encrypted fields too.
 - ✧ `loadPersonalProperties()/loadPersonalProfile()` now can have an extra argument, to automatically decrypt any encrypted fields.
 - ✧ Added several methods (private) for dealing with encrypted fields: `encryptFieldsInXmlDocument()`, `decryptFieldsInXmlDocument()`, `encryptString()`, `decryptString()`.
 - ✧ Added `deleteField()` method.



26.2.8 Muse Administrator Console

- ✎ New interface based on frames.

26.3 Known Bugs:

26.3.1 Muse HTTP Server

- ✎ POSTs exceeding 8k (approx) can result in an unexpected error page in Internet Explorer.

26.4 Notes:

26.4.1 Muse Search

- ✎ Added 'file:///\${APPLICATION_HOME}/modules/lib/modulesutil.jar' in MODULES paths in every profile.xml.



27.0

Changes in Muse 1.1.3.3 Release

Release Date: 18.12.2003

27.1 Bug Fixes:

27.1.1 Muse Authentication and Authorization Service

- ✎ In the `displayFile()` method the client is also given a message in case of an error. Before, the error was only logged, and the user got a blank page.

27.1.2 Muse Setup

- ✎ The `InstallServicesPanel` was not setting the services well in case of this scenario: One is starting from the services panel, is going to the next panel, then is returning to the services panel and then is again going to the next panel.
- ✎ The appropriate application specific web interface logon, logoff directories in Muse Web Bridge are now installed from the Muse Applications setup instead of Muse Products setup.
- ✎ The values parsed from the configuration files were truncated if they contained entities (e.g. `& > &#xxx;`).
- ✎ Fix the following: on Windows, when updating a Muse System that was installed on a different drive then the system one the servers that were set to run as services failed to start. The problem was fixed by using the `MUSE_DRIVE` new environment variable (see the Notes: for this version).
- ✎ Now the search for the required `jvm.dll` library, which is needed for Windows NT, 2000, XP native services is performed recursively under the `{java.home}/bin` directory.
- ✎ Correct the behavior of `InstallHTTPService.bat` and `UnInstallHTTPService.bat`, `InstallHTTPService.bat.default` and `UnInstallHTTPService.bat.default` processing.
- ✎ Use different log files for the wizard and product components of the setup. Previously it was used the same log file but this caused the blocking of the setup which was continuously writing to the log file.



- ✧ Fixed some broken links that appears when the "Muse Administration Interface" product is installed and one of the products "Muse Management Console", "Muse Administrator Console" is not installed.
- ✧ Now the "Administration Panel" only appears in the wizard when "Muse Administrator Console" product gets installed.

27.1.3 ICE Server

- ✧ Use the refreshing mechanism only for JDK 1.4. In JDK 1.3 it triggers security exceptions during race conditions. When code is executed in parallel with the JAAS file refreshing it is possible that the internal JAAS structures to be inconsistent hence the bizarre security exceptions. In JDK 1.4 the problem seems to be fixed and there are no inconsistent JAAS structures. So now if running under JDK1.3 one does not have the facility to manage users without restarting the ICE Server. This facility is only present if running under JDK 1.4.

27.1.4 ICE Modules

- ✧ Backward compatibility with old versions of ICE regarding the session persistent properties (e.g. the `getLocalProperty()` method that was used in the modules code).

27.1.5 Muse Web Bridge

- ✧ Use `toUTF8()` for script arguments.
- ✧ Test for the `useProperties` flag only if the `SignIn` was successful. Added code for computing personal ID, test the `useProperties` flag also in `FreemarkerSession` and `JSPSession`, not only in `FreemarkerSessionEx`.

27.1.6 Muse Control Center

- ✧ Incremented version to 0.0.0.6.
- ✧ Uniformed messages printed on screen.
- ✧ Displayed a message when a .jar file was skipped because it wasn't modified.

27.1.7 Muse Control Center

- ✧ Set time out of FTP connection (FTP task).

27.1.8 Muse Proxy Server and Navigation Manager



- ✧ Incremented version to 0.1.1.9.
- ✧ The `_tgDomain_` variable wasn't correctly computed when the host was of form 'host:port'.
- ✧ Removed test for `obj.history` in the `url2Muse()` method in JavaScript. This way not only URL objects can be converted, but plain strings containing URLs too.
- ✧ Method `fixURL()` wasn't correctly handling URLs starting with `"/"`.
- ✧ Fix background-image: in text/css documents wasn't correctly parsed.
- ✧ Images could be created by means of javascript and their `src` set with something like `img.setAttribute("src", url)`.
- ✧ Called `activeGroupCount()` instead of `activeCount()` in `MuseProxy.interruptThreads()` method. `activeGroupCount()` returns only the count of the threads in the group, while `activeCount()` gives also the number of threads in ancestor groups. This made the shutdown process work.
- ✧ The three Navigation Manager custom hidden fields in forms were only added to forms having the action attribute, now are added to all forms.
- ✧ It is not an error not to have spaces between tag attributes.
- ✧ If the `</SCRIPT>` tag was in a commented JavaScript line (e.g. `/* --> </SCRIPT>`) the end tag wasn't extracted.
- ✧ Work on the `<BODY>` tag processing.
- ✧ In the JavaScript `_cPath_()` function the host can be given in form `host:port`, now the function first strips the `:port` part before using the host.
- ✧ Added space as delimiter in method `MuseProxyHTMLUtils.fixJSProperties()`.
- ✧ Added corresponding functions dealing with an apostrophe, similar to those existing for quote.
- ✧ Content of JavaScript variables in the parsed script is analyzed, and if is found to contain HTML code, that code is also parsed.
- ✧ When an URL contained '?', the `encodeMNMurl()` method wasn't behaving right. This method was called to encode URLs from bridges, so the URLs will pass through MNM.
- ✧ When parsing JavaScript code, if an assignment of form `'a = b'` was made, space was taken as separator, instead of `'='`. This caused that in parsed JavaScript function calls appeared as the left operand of an assignment expression. This generated an error in JavaScript code in browser.
- ✧ If JavaScript was included in a page like `<script src="url_to_script.js">`, and the server served the script, it returned its content type as `'text/plain'` not as `'application/x-javascript'`. The Navigation Manager didn't parse its content. Now it also looks for `".js"` extension.
- ✧ When encoding was null (that is 'use your default encoding' because the reply had no encoding/charset specified), an exception was thrown when fixing JavaScript code.
- ✧ Store in cache the unmodified page (it means unfiltered).
- ✧ In case a request is made for `"/favicon.ico"` respond with 404 Not Found, not 401 Not authorized.
- ✧ When responding with an error (using `HttpError` class) set `keep-alive` to false. Inside, `HttpError` sets the `"Proxy-Connection: close"` header.



- ✧ Supplementary tests for `reply.hasContent()` were needed in `processContent()`.
- ✧ Also called `reply.setStatusCode(HttpURLConnection.HTTP_NOT_MODIFIED)` when the reply from cache is not modified. Only the status line was altered before. Just by setting the status line, the status code is not automatically re-parsed from status line.
- ✧ Removed code of form `'if (log.getLoggingLevel() >= DEBUG) {log.log(log.DEBUG, ...}'`. This was intended for speed, but doesn't work with the log dispatcher.
- ✧ In JavaScript, code of type `document.body.background = "url";` wasn't parsed by Navigation Manager.
- ✧ In `fixScript()` method, the script can be without the ending `"</script>"` part, so added tests to deal with that too.
- ✧ Duplicate headers of Connection, Proxy-Connection, Keep-Alive are first removed before being set by proxy. IIS seems to generate duplicate headers of Connection, but with different case values (keep-alive, Keep-Alive)
- ✧ In some cases the connection was decided to be closed (Connection: Close), but the proxy didn't actually close the connection. This resulted in page not being loaded fully (the progress bar didn't stopped in browser).
- ✧ In `MuseHTMLProxyUtils.extractJSVariableName()` if the line was of form `'var x' - without ;` or a value after it, the name wasn't properly parsed and null was returned. Added extra tests for null variable name, null variable value.
- ✧ HTTP replies that don't have a "Content-Type" header field are now parsed by Muse Navigation Manager filter.

27.1.9 ICE Tools

- ✧ The `while()` loop reading both the error output and the standard output wasn't behaving right; when data was only on error stream and nothing on standard output stream it didn't worked. This affected ICEJournalCreator and Muse Package Builder.

27.1.10 Muse SOAP Bridge

- ✧ Send the IP Address of the SOAP client(`userAddress` parameter) as a `logon` parameter to ICE.

27.1.11 Muse HTTP Server

- ✧ Incremented version to 0.0.1.1.
- ✧ Setting limit on the input stream in `HttpRequest.getInputStream()` method.
- ✧ Removed code on `HttpResponse.endHeaders()` which (badly) calculated the keep-alive/close connections. This was correctly done elsewhere (`HttpConnectionHandler`).
- ✧ Commented out the call to `Socket.setTcpNoDelay(true);` in `TcpConnector` class. Apparently this



was causing a block when the server was on Solaris, and the client was MSIE 6.0 on Windows 2000. Normally the call should be in place, as we do our own buffering and so we don't need the Nagle algorithm in underlying TCP/IP stack.

- ✧ Requests for URL 'http://localhost:8000/xmlldb?/db/' for example, instead of being mapped to the /xmlldb context were mapped to the / context.
- ✧ In some cases the HEAD method failed with '500 Internal Server Error'. Those cases were the ones that involved also a redirect. For example asking for '/' involves (an internal) redirect to '/index.html'.
- ✧ Synchronized the WebappClassLoader.loadClass(classname, resolve) method. It was a race condition causing visible errors on console when simultaneous trying to init the same servlet (having 2 request made in parallel for the same context resulted in this). Very possibly manifested in other situations as well.

27.2 New Features:

27.2.1 Muse Authentication and Authorization Service

- ✧ Changed logger name to log class. Introduced the log dispatcher.

27.2.2 Muse Setup

- ✧ Changes to accommodate Muse Mandarin Bridge.
- ✧ Update the Muse Setup to dynamically add new services to the rc.muse file on a Unix like machine.
- ✧ Change the MuseSerialNumber class to be independent of the number of products and applications.
- ✧ Updated the Muse Setup project to support the new MuseSerialNumber class. The products are now referred in Muse Setup Project by their Java identifiers and the applications by their position number.
- ✧ Add a new Product Registration Form panel confirmation: "If online registration fails for any reason to be delivered or you don't want Muse Setup to send it by email to MuseGlobal, please save the Product Registration Form for later usage and send it by email, mail, facsimile or whatever is more convenient to:"
- ✧ In the registration e-mail the type of the current installation action (installation, update or registration) is emphasized both in the e-mail subject and e-mail body.
- ✧ Update the Muse Setup to install the Muse services on the Windows machines as native services where the operating system supports.
- ✧ Applications Setup has been assigned an index for every application and an application will be



installed if its index is matched by the serial number.

- ✎ A waiting message is displayed to the user when performing actions that take more time to complete.
- ✎ Detects installed services during upgrade and gives the option to uninstall in order to avoid blocked operating system files and overwrite failure.
- ✎ Add the product Muse XML DB Management System product and its Personal Profiles Management System API interface.
- ✎ Improved the support for processing the entries in the file `${MUSE_HOME}/use/ice/jaas.config`.

27.2.3 Muse Search

- ✎ New Procter&Gambler application which uses personalization features and parameter encryption for logon and signin.
- ✎ New MuseSeek application.
- ✎ New Muse Business application.

27.2.4 ICE Server

- ✎ Extend the eMail package in ICE with attachments support.
- ✎ Added ICELoginModuleHTTPAuthentication. Used for Basic and Digest HTTP authentication (see RFC2617). The type of authentication (Basic or Digest) is dictated by the server. The url to authenticate against is given in the jaas.config file by specifying the value of the 'url' parameter. The username and password parameters are designated wwwAuthID and wwwAuthPwd. The output of the module is the value of the HTTP 'Authorization' header. Possibility to use proxy. Two new parameters have appeared proxyHost and proxyPort.
- ✎ Change the log mechanism to permit multiple log levels for a logger. Also the relation between the log levels is a set relation (i.e. a log level can be included/implied in/by another log level - e.g. ERROR is included in DEBUG).
- ✎ Add statistics log on various statistics log levels (STAT_SYSTEM, STAT_SESSIONS, STAT_INSTRUCTIONS, STAT_MODULES).
- ✎ Keep the logs open all the time, thus greatly reducing the time spent inside the log() method.
- ✎ Add support for converting between the ANSEL (American National Standard Extended Latin Alphabet Coded Character Set for Bibliographic Use (<http://www.itscj.ipsj.or.jp/ISO-IR/231.pdf>) and Unicode. The conversion is based on the `${ICE_HOME}/encodings/ansel2unicode.map` and `${ICE_HOME}/encodings/latinNormalizationSubset.map`. For information related to the conversion procedure please see the JavaDoc for the class `com.edulib.ice.util.charsets.ICEANSEL`.
- ✎ Added ICELoginModuleParametersRemap. Used to remap callback parameters for other LoginModules. Remapping is carried out by passing parameters in the jaas.config file. These



parameters have the form `newParameter="oldParameter"`. After calling this module the `newParameter` will be available through the `ICECallback`, having the same value as `oldParameter`.

27.2.5 ICE Server

- ✎ ICELog uses `Locale.US` to format date/time when writing them into log files. Before it used the default locale in the system.

27.2.6 ICE Modules

- ✎ Add statistics log on statistics log level `STAT_MODULES`.
- ✎ New logon module `ICELoginModuleXLogon` to authenticate against an XLogon form via HTTPS server – the result of the authentication is an XML in both cases of success or failure. The response parameter `xLogon.sid` is made persistent in the ICE Session for future possible uses. This module cannot be used via a proxy because HTTPS via proxy is not yet supported – we need to implement our mechanism instead of using Java's URL classes. HTTP via proxy have been implemented as a simple workaround but this workaround does not stand for HTTPS. Java support only the use of the same proxy per the entire JVM.

27.2.7 Muse Web Bridge

- ✎ Consider (if required either by the use of `MNM` or by the `SUPPORT_MUSE_PROXY` switch) the new marker `&StartMuseCharset=`.
- ✎ Use encryption for parameter values in case of `action="signin"` and `action="logon"`. Only DES and 3 DES (DESede) are supported. The modifications are in the servlet sessions classes and in the login modules: `ICELoginModule` and `ICELoginModuleAuthority`. This encryption is used now for P&G application.

27.2.8 Muse Admin Bridge

- ✎ Muse Management Console extended to work with new `Application.xml` file (application index tag).
- ✎ Incremented version to 0.0.1.5.
- ✎ Changed logger name to log class. Introduced the log dispatcher.

27.2.9 Muse Control Center

- ✎ Extend the eMail task with zip attachments support.
- ✎ Add log "Append" option to Ant and Ftp tasks.
- ✎



Changed logger name to log class. Introduced the log dispatcher.

- ✧ Incremented version to 0.0.4.5.

27.2.10 Muse Proxy Server and Navigation Manager

- ✧ Added a new filter HeaderMuseCharset who makes use of &StartMuseCharset= marker. It changes the content of a reply sent by server according to the charset given in marker.
- ✧ Muse Navigation Manager, WilsonWebFilter use the charset (encoding) of the response content.
- ✧ Documentation updated to describe the new &StartMuseCharset=marker.

27.2.11 Muse Z39.50 Bridge

- ✧ Implement triggerResourceControlRequest and resourceReportRequest operations (part of the Accounting/Resource Control Facility) in order to support Progress Information Report for the search operations. The ICE progress information is mapped in a resourceReport which is wrapped either in a ResourceReportResponse or in a ResourceControlRequest. We use the format RSC.2 Resource Report Format Resource-2 for resourceReport. During a Z3950-association:
- ✧ The search operation is now running as a separate thread – searchThread. This makes possible the progress reporting while search is running.
- ✧ The majority of Z39.50 operation methods are now synchronized. This prevents some other operation to be started while search is running.
- ✧ The non-synchronized operation methods are: incomingTriggerResourceControlRequest, accessControlRequest, incomingAccessControlResponse, incomingResourceControlRequest, incomingResourceReportRequest. This means that the enumerated methods can be executed while search is running.
- ✧ The build.xml has been changed to include the oidreg.default file taken from jzkit.jar because we needed to complete it with the OID for Resource Report Format Resource-2 ({1,2,840,10003,7,2})

27.2.12 Muse ENCompass Bridge

- ✧ Changed logger name to log class. Introduced the log dispatcher.
- ✧ Incremented version to 0.0.0.6.

27.2.13 Muse Serial Number Encoder

- ✧ Incremented version to 0.0.0.6.
- ✧ The applications index is used when generating the serial number.



27.2.14 Muse Web2 Bridge

- ✎ Changed logger name to log class. Introduced the log dispatcher.
- ✎ Incremented version to 0.0.0.8.

27.2.15 Muse OpenURL

- ✎ Changed logger name to log class. Introduced the log dispatcher.
- ✎ Incremented version to 0.0.0.6.

27.2.16 Muse Manuals

- ✎ Muse Install.doc updated with FreeBSD specific JVM download URL.
- ✎ Muse Install.doc, Muse Muse Administrator.doc, Muse External HTTP Server (Apache).doc, Muse External HTTP Server (IIS).doc, Muse External Servlets Engine (Tomcat).doc updated to make the distinction between Muse Administration Interface admin API and Muse Management Console, Muse Administrator Console Web applications.
- ✎ Muse Install.doc, Muse External HTTP Server (Apache).doc, Muse External HTTP Server (IIS).doc, Muse External Servlets Engine (Tomcat).doc updated for Muse XML DB Management System.
- ✎ New Muse Administrator Console manual.
- ✎ New Muse Building manual for internal use.
- ✎ Muse Z39.50 Bridge.doc manual updated to include Search Progress Information Handling.
- ✎ Muse Administrator.doc updated to reflect the latest changes in code: XMLDB configuration option in ICECore.xml & MusePeer.xml, also other updates that weren't there.

27.2.17 Muse HTTP Server

- ✎ New context and changed startup scripts for Muse XML DB Management System.
- ✎ New classloader conforming to the Java Servlet standards. Some Java libraries are not in system classpath anymore. Each context has a classloader that dynamically loads the .jar packages from its WEB-INF/lib directory.
- ✎ Added an application descriptor for the ROOT application in `${MUSE_HOME}/webapps/ROOT`. It is only a skeleton that can be used to easily add a protected area (security constraint). This form changes nothing in the behaviour of the ROOT application.



27.3 Known Bugs:

27.3.1 Muse HTTP Server

- ✎ Duplicate class definition error in WebAppClassLoader.
- ✎ POSTs exceeding 8k (approx) can result in an unexpected error page in Internet Explorer. First seen at Salonica application.
- ✎ Still couldn't find an explanation for the setTcpNoDelay() bug on Solaris. Now with it commented out it doesn't manifest, but it could have an impact on performance. More tests need to be done.

27.4 Notes:

27.4.1 Muse Setup

- ✎ Remove the component for adding drive letter for Windows batch files. Now the Windows batch files uses a new environment variable, MUSE_DRIVE, which is set during installation time.

27.4.2 JavaService

- ✎ This is a new tool to install Java servers like native Windows Services. It is extended to accept JVM options from configuration files and avoid "line too long" limitations.

27.4.3 Muse Search

- ✎ The following applications have been removed from the base package:
 - ✎ Asian Children's Web
 - ✎ Bega Valley Shire Library
 - ✎ Customers of Dynix, Inc.
 - ✎ COMPanion Corporation
 - ✎ COMPanion Corporation Standalone
 - ✎ ENCompass Endeavor's system
 - ✎ Illinois Group Catalog
 - ✎ Kid's Catalog Web



- ✧ MuseSearch for Corporations
- ✧ Newport Beach Public Library

27.4.4 ICE Server

- ✧ Increase the maximum heap size used for the Java Virtual Machine to 512M and also specify the initial Java Heap size to 64M. These changes have been done in the ICE startup scripts (startServer.bat, startServer and startServer.csh).

27.4.5 ICE Modules

- ✧ The variables estimate and totalHits from the connectors have been moved into the connector's base classes (ICEHttpConnector, ICETelnetConnector, Z3950, SQL).

27.4.6 Muse XMLDB Management System

- ✧ This is a new product client API to XML DB (XML:DB API, <http://www.xmldb.org/xapi/>), as now based on Xindice.

27.4.7 Muse Mandarin Bridge

- ✧ This is a new product based on Muse Z39.50 Server.

27.4.8 Personal Profiles Management System

- ✧ This is an API interface of Muse XML DB Management System.

27.4.9 All Muse Products

- ✧ All the Windows batch files now contains the line '%MUSE_DRIVE%:' before the first 'cd ...' line. There is no problem if the MUSE_DRIVE environment variable is not defined – only that the batch files would not work as services (started when the user logs into Windows) in case that Windows is on another drive.
- ✧ All the Muse Products that use the ICE Log now (can) take advantage (but are also subject to the potential bugs) of the log modifications specified under the New Features: for ICE Core.

27.4.10 Muse Web2 Bridge

- ✧



Handle multiple resultSets from here and not from ICE Server.

➤ Incremented version to 0.0.0.9.



28.0

Changes in Muse 1.1.3.2 Release

Release Date: 02.09.2003

28.1 Bug Fixes:

28.1.1 Muse Servlet

- ☞ When an invalid user/password is given, invalidate the session so it will be expired. This cause associated threads to hang for invalid details.

28.1.2 ICE Server

- ☞ Updated `${ICE_HOME}/jaas.policy` and `${ICE_HOME}/jaas.policy.default` to add HTTPS access rights to "guests" group.

28.1.3 Muse Web Bridge

- ☞ When URLs contain '#', put the markers just before it.
- ☞ Added `jakarta-regexp-1.2.jar` in `WEB-INF\lib` directory. Also added it to classpath constructed in start scripts.

28.1.4 Muse Admin Bridge

- ☞ Refer to `MUSE_APPLICATION` instead of `MUSE_HOME` to generate the `${MUSE_HOME}/user.properties` entries when copying an application.

28.1.5 Muse Control Center



- ✧ Invalid archives (use to be created with zero length, or broken in the middle because of an IOException for example) are counted, removed and make a report of them.
- ✧ For invalid existent .jar files (zero length or broken) used to detect that nothing modified inside them, so they didn't get overwritten. Fixed that behaviour.
- ✧ Read the error stream from CVS process as well not only the output stream, or else the CVS process won't terminate.
- ✧ If wanted to find CVS revision for a non existent file, then don't run CVS, just respond with '???'.
- ✧ Fixed a bug in isTimestampModified() method, regarding authenticators. If a new authenticator was introduced in connectors.xml file, when checking for it's modification inside the JAR file, a NullPointerException occurred.
- ✧ TARGET entries in SEARCH.xml may be of form 'jarName.jar:TARGET'.

28.1.6 Muse Control Center

- ✧ Fix loading ConnectorChecker tasks from .tsk files.
- ✧ Fix loading start event and end event (START_CONDITION and END_CONDITION) to all task types excepts ConnectorChecker, which works.
- ✧ Fix code for starting tasks in an specified interval.
- ✧ Incremented version to 0.4.4.

28.1.7 Muse Proxy Server and Navigation Manager

- ✧ Added support to encode text/css documents.
- ✧ Fixed JavaScript generated code to work on all JavaScript string properties.
- ✧ Fixed a bug in processing StartMuseProxyAuthorization marker, when the "Host:" header wasn't present, and request.getHost() returned null.
- ✧ Looking also for marker written as %26StartMuse... instead of &StartMuse....
- ✧ In the authorization filter, the filter wasn't properly decoding the cookie.
- ✧ In the referer filter, everything after the '?' was erased, insted of erasing only the referer marker.
- ✧ Incremented version to 0.1.1.8.
- ✧ In request.getPort(), for HTTPS connections, the default port is 443.

28.1.8 Muse Builder

- ✧ Tools that do not operate on an opened document are enabled in the user interface only when a project is opened.
- ✧



Dialogs now close properly when ESC key is pressed.

28.1.9 Muse SOAP Bridge

- ✎ Make use of ICEConfiguration. The SAX parser used for configuration files was not compatible with java 1.4.
- ✎ Remove com.edulib.muse.soap.configuration and com.edulib.muse.soap.util package contents.
- ✎ Incremented version to 0.0.0.3.

28.1.10 Muse ENCompass Bridge

- ✎ When URLs contain '#', put the markers just before it.
- ✎ Incremented version to 0.0.0.5.
- ✎ Added jakarta-regexp-1.2.jar in WEB-INF\lib directory. Also added it to classpath constructed in start scripts.

28.1.11 Muse Serial Number Encoder

- ✎ Change the error message for invalid Serial Numbers. Use the base package reported error messages.
- ✎ Incremented version to 0.0.0.5.

28.1.12 Muse Web2 Bridge

- ✎ When URLs contain '#', put the markers just before it.
- ✎ Incremented version to 0.0.0.7.
- ✎ Added jakarta-regexp-1.2.jar in WEB-INF\lib directory. Also added it to classpath constructed in start scripts.

28.1.13 Muse HTTP Server

- ✎ Some more information is logged. Moved lot of messages from INFO level to DEBUG level. Logged info about the security manager.
- ✎ Incremented version to 1.0.1.0.
- ✎ There was no need for MuseHttpServletRequest to extend Message class (to get to the headers). We should call methods of the 'request' member, in order to access headers.
- ✎ In HttpRequest class the inputStream was not created as an HttpInputStream, it was a local (and



only initialized to null) member object.

- ✧ Added 2 new classes (BufferedServletInputStream and HttpInputStream) to support input stream operations for servlets.
- ✧ One could call till now both the request.getReader() and request.getInputStream() methods, while only one is allowed to be called, by standard. Now when calling the second, an IllegalStateException is thrown, as specified in the servlets standard.
- ✧ If the caller already called the request.getInputStream() or request.getReader() methods, then we won't supply any parameters from GET or POST data.
- ✧ Parameters of POST data are added after parameters of GET data (if any). Previously only parameters from either GET either POST were available, depending on method the request was made. That was not as specified by the servlets specification.

28.2 New Features:

28.2.1 Muse Authentication and Authorization Service

- ✧ Access rights have been added for Muse Control Center.

28.2.2 Muse Setup

- ✧ Changes to accommodate Muse Builder and Muse Control Center.
- ✧ Changes to accommodate the new \${ICE_HOME}/encodings directory. This stores the external character set tables.

28.2.3 Muse Search

- ✧ New Companion and Companion Standalone applications.
- ✧ Michigan eLibrary(mel) is using the single sign-on feature.

28.2.4 ICE Server

- ✧ Implement a multi-level login for JAAS. The new ICELoginModuleLevel distribute login to other Login Modules. We use a 2-level JAAS login. In jaas.config <context>'!<level> is used to designate a 2 level context. We re-call from here the JAAS login mechanism.
- ✧ Various local properties can be stored at session level for future retrieval and usage. These properties can be set by instructions or by login modules. Outside the ICE Server the availability of these properties can be tested using the new ICEIEAvailable interpreter extension. There is no



interface for this instruction; it can be accessible only via the Available.xml script.

- ✧ Implement the commands Signin and Signoff. Signin authenticates to some login modules by using custom sign-in parameters. These custom sign-in parameters are stored in the session local properties for future use. The sign-in parameters are removed upon Sign-off. There can be multiple Sign-in commands during a session but their corresponding sign-in parameters are collected in the same container so the parameters with the same name are overwritten. A single Signoff command removes all the sign-in parameters no matter of how many Signin commands were previously issued during that session. The login modules used by the Signin commands are selected from the `#{ICE_HOME}/jaas.config` file using entries of the type 'signin.<user>'.
 - ✧ Added support for the Horizon's ISO-8859-7 encoding correction.
 - ✧ Added `ICEConnect.receiveMessage(final String referenceID, int timeout)` method, in order to be able to receive a message with a given reference ID, in a given amount of time. If the amount of time passes, an `InterruptedException` is thrown.
 - ✧ Added session timeout. If an ICE Session doesn't receive any message in a given amount of time, then ICE Sessions Manager forcefully terminates the session.
 - ✧ Incremented to 1.1.3.2 Early Access 2.
 - ✧ Implement a total time to run mechanism for the processing modules. The modules are allowed to run for a maximum period of time; to be more clear this period of time is not the total CPU time allocated to a module but the time the module stay in the ICE system. Right now only the HTTP and Z3950 connectors are subject to this limit. All the other modules have a 0 maximum total time to run which means no limit.
 - ✧ Extend the number of products and applications encoded into Serial Number.

28.2.5 ICE Modules

- ✧ New login modules for the circulation systems Kellogg, MSU and Superiorland (`ICELoginModuleKellogg`, `ICELoginModuleMSU`, `ICELoginModuleSuperiorland`). These modules store the patron barcode as a local property from the current session to allow for single sign-on feature.
- ✧ The circulation modules for Kellogg, MSU and Superiorland are using the single sign-on feature.

28.2.6 Muse Web Bridge

- ✧ Added the actions Signin, Signoff and Available for the corresponding ICE Server commands Signin, Signoff and Available.
- ✧ When performing the filter operation we are waiting for the search identified by the given filter `SearchReferenceID` to complete. This way if one invokes a DeDupe/Ranking/Filter operation while the search is on progress we delay this operation until the search is finished. The user will notice a small delay (the period in which all the remaining records are arriving) when performing these operations during an on progress Search.



New TIMEOUT parameter in configuration file.

- ✧ All messages that are read from ICE are expected in a given TIMEOUT period. If that period passes and the message expected is not received a suitable error is displayed to user.

28.2.7 Muse Admin Bridge

- ✧ Muse Management Console extended to handle Muse Control Center configuration file.

28.2.8 Muse Control Center

- ✧ Added 'journal.txt' to modules.jar. In this file there is the build date, and for each file in the archive, the revision as taken from CVS.
- ✧ "Build compiler:" field it is available into 'journal.txt' file.

28.2.9 Muse Control Center

- ✧ Added new task type: FTP Task based on Ant.
- ✧ Added new task type: Ant Task based on Ant.

28.2.10 Muse Proxy Server and Navigation Manager

- ✧ New WilsonWeb specialized filter to solve the navigation of full record URL links into inner HTML frame set of WilsonWeb native interface.

28.2.11 ICE Tools

- ✧ System Information scripts have been updated to report Muse Control Center version.

28.2.12 Muse Builder

- ✧ Added the browserlauncher.jar library to the lib directory. BrowserLauncher is a Java class designed to allow programmers to open a user's default web browser entirely through Java, without requiring that any supplemental libraries be present and without stepping outside of JDK 1.1. For more information see: <http://browserlauncher.sourceforge.net/>. Files can now be viewed by using an explicit browser or by using the default browser detected by BrowserLauncher.
- ✧ The application has two initial project resources. One resource filters all the HTML files and the other one filters all the images from the project.
- ✧ The wizard used to create a generic Muse Application has been improved. Two new steps have been added to the wizard. One to specify a theme for the application and another one to specify



the ILS Circulation operations. The wizard actions' descriptions are the same as those found in a Muse Application. The generic Muse Application wizard is serialized between successive runs of the Muse Builder application.

- ✧ The tools from the Muse Tools toolbar that must be configured are stated explicitly in the tools.xml configuration file. A tool can be configured from the toolbar when its action tag from tools.xml has the "configurable" attribute set on true.
- ✧ New Wizard API that offers greater flexibility. Wizard pages can be added and removed dynamically. The pages are organized in a tree structure. A tree node represents a page and its children are the pages that must be visited after it. When a wizard page is removed, all its child wizard pages are removed.
- ✧ The XML scripts that configure a wizard can now contain a BeanShell script. From the script one can enhance the behavior of the wizard and of the UI components. Depending on local conditions, wizard pages can be added or removed, components can be enabled or disabled, etc. From the BeanShell script, one has direct access to the Wizard API.
- ✧ Wizard Serialization. The Generic Application Wizard stores its settings in each project. So, the wizard uses the settings from the previous run each time it is used.
- ✧ Components Layout. The components of a Panel container may now be arranged vertically or horizontally. The radio buttons of a RadioGroup component may now be arranged vertically or horizontally.
- ✧ Crimson independence.
- ✧ Accessibility for Project & File History menu improved. Tooltips for clear commands. The name of the files are displayed with their canonical form.

28.2.13 Muse HTTP Server

- ✧ Added Muse Control Center context.
- ✧ Startup scripts have been updated with Muse Control Center packages.
- ✧ Startup scripts have been updated with ant.jar and NetComponents.jar packages needed by FTP task from Muse Control Center.

28.2.14 Muse Manuals

- ✧ Updated Muse Install.doc, Muse External HTTP Server (Apache).doc, Muse External HTTP Server (IIS).doc, Muse External Servlets Engine (Tomcat).doc for Muse Control Center integration.
- ✧ Updated Muse Administrator.doc to include latest changes regarding TIMEOUT parameter in MusePeer.xml configuration file.

28.3 Notes:



-
- ✦ Muse Control Center has been extended and moved under `${MUSE_HOME}/center`.
 - ✦ The `tools.jar` package has been renamed to `musetools.jar`.



29.0

Changes in Muse 1.1.3.1 Release

Release Date: 11.06.2003

29.1 Bug Fixes:

29.1.1 Muse Setup

- ☞ Fixes to properly report bad configuration of local hosts file when the 127.0.0.1 is reported instead of the real IP address.

29.1.2 ICE Modules

- ☞ For Z3950 connector Database Names may contain '_'.

29.1.3 Muse Admin Bridge

- ☞ Allow apostrophes, quotes and spaces part of source group names.

29.1.4 Muse Control Center

- ☞ Solved java.lang.OutOfMemory bug (length of CVS status string was not checked; always appended 8k to output buffer).

29.1.5 Muse Proxy Server and Navigation Manager

- ☞ Changed the endJavaScript() method, which wasn't correctly determining the </script> tag, when it had a new line embedded in it (or other white space). Used the isSpace() method already implemented in Muse Proxy.



- ✎ In `urlForMNM()` method both the pattern and the source host are tested in lowercase as hostnames are case insensitive.
- ✎ In `endJavaScript()` method used the `isSpace()` method already written to determine (and skip) whitespaces. The skipping of `</script>` terminator inside quoted strings wasn't done correctly.

29.1.6 Muse Serial Number Encoder

- ✎ Do not remove Serial Number when performing actions in the Registered IPs panel.
- ✎ Do not allow saving a serial file with no Serial Number present.
- ✎ Change validation mechanism for Customer Code, ICE Version and IP Address edit boxes. The old mechanism (using some validation threads) made the Muse Serial Number Encoder unusable on Windows NT.

29.1.7 Muse HTTP Server

- ✎ A session which was previously invalidated is considered expired.
- ✎ Some stack traces were printed on screen too, now they are only logged.
- ✎ Don't raise an exception for invalid query string, just parse all key/value pairs and set empty value for the broken keys.

29.2 New Features:

29.2.1 Muse Search

- ✎ Michigan eLibrary(mel) has been replaced by the mel2 which has been erased.
- ✎ New application based on academic one: Greek University Libraries.
- ✎ The application medic has been replaced by a new application, MuseSearch Medical, based on the application.

29.2.2 Muse Authentication and Authorization Service

- ✎ Work has been done to refresh the policy files (`jaas.config`, `jaas.policy`, `java.policy`); this gets us the benefit of not restarting the Servlets server when new users or rights are to be added.

29.2.3 Muse Setup

✎



Changes to support separate installation of Muse Administrator Console and Muse Management Console (Guru) interfaces.

- ✎ Add Muse Source Factory as a separate product.

29.2.4 ICE Server

- ✎ Work has been done to refresh the policy files (jaas.config, jaas.policy, java.policy); this gets us the benefit of not restarting the ICE server when new users or rights are to be add.
- ✎ Support to log out more on stalled helper threads used for GetInputStream, respectively GetOutputStream methods.
- ✎ Implement the aliases.properties mechanism part of modules.jar to allow for remapping the class names.

29.2.5 Muse Web Bridge

- ✎ Added support for SUPPORT_MUSE_PROXY configuration option. (A yes/no switch controlling if Muse markers are appended to URLs when Muse Proxy is used. It is required only for Muse Proxy usage. It defaults to no.)

29.2.6 Muse Control Center

- ✎ Added 'journal.txt' to .jar files created. In this file there is the build date, and for each file in the archive, the revision as taken from CVS.
- ✎ Source Packages are created only if timestamps are changed. Changes file has precedence.

29.2.7 Muse Z39.50 Bridge

- ✎ Added support for supportMuseProxy configuration option (A yes/no switch controlling if Muse markers are appended to URLs when Muse Proxy is used. It is required only for Muse Proxy usage. It defaults to no.).

29.2.8 Muse ENCompass Bridge

- ✎ Added support for SUPPORT_MUSE_PROXY configuration option. (A yes/no switch controlling if Muse markers are appended to URLs when Muse Proxy is used. It is required only for Muse Proxy usage. It defaults to no.)

29.2.9 Muse Serial Number Encoder



- ✧ Re-arrange the GUI: added a file menu (New, Load, Save, Save As, Configuration, Exit); remove Load from File; Write to File and Exit buttons;

29.2.10 Muse Web2 Bridge

- ✧ Added support for SUPPORT_MUSE_PROXY configuration option. (A yes/no switch controlling if Muse markers are appended to URLs when Muse Proxy is used. It is required only for Muse Proxy usage. It defaults to no.)

29.3 Notes:

- ✧ Z39.50 target names has been suffixed with Z. Changes has been done both to SEARCH.xml profiles (except the ones from Source Packages) and to Muse Web Bridge interfaces.
- ✧ New "ftp" target to upload packages is available part of \${MODULES_HOME}/build.xml. The Ant Install.doc has been updated for this feature.
- ✧ The enrichment for all Muse Applications is using, by default, the server juniper.museglobal.com. If a change is desired modify the
\${APPLICATION_HOME}/profiles/jitterbugkeys/SyndeticKey.xml profiles.



30.0

Changes in Muse 1.1.3.0 Release

Release Date: 29.04.2003

30.1 Bug Fixes:

30.1.1 ICE Server

- ☞ ICE Logger changed XML parser; now is using DOM.
- ☞ Fix the account expiry date to use MM/DD/YYYY format.

30.1.2 Muse Proxy Server and Navigation Manager

- ☞ Authentication wasn't done when requests came for Navigation Manager filter.

30.2 New Features:

30.2.1 Muse Search

- ☞ New Intermountain Health Care, Vivisimo, MuseSearch Standard Library Applications.

30.2.2 Muse Authentication and Authorization Service

- ☞ All java.*.policy files have been updated to accomodate the new Muse Web Bridge directory.
- ☞ New ICELoginModuleAuthority to be used for individual users authentication.
- ☞ The jaas.config has been updated to use the individual user validation for the "other" context (the



fall through).

30.2.3 Muse Setup

- ✎ Changed to accomodate the new Muse Web Bridge directory.
- ✎ No longer present to the user the Users.properties file update option.
- ✎ Changes to support the new `${MODULES_HOME}/jssecacerts` file required for SSL connections.
- ✎ Refine some error messages regarding missing installed components.
- ✎ Implement the allowed administrator IP along the password to be set at the install time.
- ✎ Register the IP address of the host (on which one runs the setup) into the `${ICE_HOME}/serial.properties` file.

30.2.4 ICE Modules

- ✎ Version scripts; prints out this information.
- ✎ New `ICELoginModuleDriverLicence` for the state of Michigan.

30.2.5 ICE Server

- ✎ Startup scripts changed in order to use local stored trusted certificates for HTTPS.
- ✎ Version scripts; prints out this information.
- ✎ The util package (`com.edulib.ice.util.*`) goes into a different jar, `iceutil.jar` which is used by all the other Muse products. The ICE Project remains the same - only the ant file `build.xml` has been modified. The conversion tables `ccci2unicode.map` and `unicode2ccci.map` were also moved to the new `iceutil.jar` because they are used by util classes.
- ✎ Implement an IP registration mechanism. `${ICE_HOME}/serial.properties` is encrypted and contains the IP addresses for which the ICE Server is registered to run. When starting ICE Server the IP address of the local machine is searched in the encrypted `${ICE_HOME}/serial.properties` file. If it is not found then the server sends an e-mail to `support@museglobal.com` containing the serial number, the registered IP addresses and the IP address on which the server tries to startup.
- ✎ Implement the auto reload mechanism that works starting with JDK1.4. That is because JDK1.3 keeps some static non-documented things for loaded classes. Everytime `ICESession` needs to load something, it first asks the ICE class loader if its repository was modified, and if so, it will create a new class loader which will load the requested resource. Modifications are detected only for local(i.e. not remote) jar files. On the fly reloading of classes is not yet supported as it means too much time for the verification of individual class files - they are however taken into consideration on a new reload. The following modification are detected: a jar file date has changed (usually when it had been overwritten), a jar file has appear, a jar file was deleted. This mechanism allows changing the classes almost on the fly, without the need to re-logon into the application. If a class



(e.g. a connector) is in progress its new version will be taken into account on the next use (e.g. on the next search), or if the system is very busy on the next few uses. There exist however the possibility for a .jar file to be in an invalid state due to an update in progress. If in this very moment a class is needed then a `ClassFormatError` is usually thrown. We catch this exception and give a corresponding error message. The probability is however very low for this because we test the validity of the .jar files using the `Java JarFile` class and only if a .jar is found valid on incompleteness we can talk about this exception in this case. This exception, `ClassFormatError`, may also be thrown when a .jar file is overwritten for many times very quickly – because between the time we detect a modification and the effective use of the classloader another invalid .jar will be instead in there. If there happens unpredictable things (i.e. ones we could not think of now) everything will be OK on the next application logon.

30.2.6 Muse Web Bridge

- ✎ The `doSetBase()` method has been moved to the base class under Muse Servlet.

30.2.7 Muse Admin Bridge

- ✎ New Features: in order to support some of the Muse Administrator Console requirements.

30.2.8 Muse Z39.50 Bridge

- ✎ Implemented Scan facility.
- ✎ Implemented Explain facility (only `CategoryList`, `TargetInfo` and `DatabaseInfo` are supported).

30.2.9 Muse Serial Number Encoder

- ✎ Add support for manually registration of IP addresses into the encrypted `${ICE_HOME}/serial.properties` like files.

30.2.10 Muse HTTP Server

- ✎ Startup scripts and contexts have been changed to accomodate the new Muse Web Bridge directory (`${MUSE_HOME}/web`).
- ✎ Classes cache is done when they are needed, not at startup. This greatly reduced Muse HTTP Server startup time.

30.2.11 Muse Manuals

- ✎ `${MUSE_HOME}/doc/Muse Administrator.doc` has been updated for the new Muse Web Bridge



directory.

- ✧ `${MUSE_HOME}/doc/Muse External HTTP Server (Apache).doc` has been updated for the new Muse Web Bridge directory.
- ✧ `${MUSE_HOME}/doc/Muse External HTTP Server (IIS).doc` has been updated for the new Muse Web Bridge directory.
- ✧ `${MUSE_HOME}/doc/Muse External Servlets Engine (Tomcat).doc` has been updated for the new Muse Web Bridge directory.
- ✧ `${MUSE_HOME}/http/doc/Muse HTTP Server.doc` has been updated for the new Muse Web Bridge directory.

30.2.12 Muse Management Console

- ✧ Its interface has been relocated from `${MUSE_HOME}/admin/www` to `${MUSE_HOME}/admin/www/guru`.

30.3 Notes:

- ✧ Muse Web Bridge has been moved from `${MUSE_HOME}` to `${MUSE_HOME}/web` directory.
- ✧ All the Muse products has been modified to use the new utility package `iceutil.jar`. The changes includes shell scripts and JBuilder project modifications.
- ✧ Muse External Servlets Engine JRun is no longer mentained. All references to JRun has been removed.



31.0

Changes in Muse 1.1.2.9 Release

Release Date: 12.03.2003

31.1 Bug Fixes:

31.1.1 Muse Search

- ☞ All Muse Applications have been implemented a unique child window name for user multi-sessions. Session identifier has been used.

31.1.2 Muse Setup

- ☞ Make it more tolerant to exceptions generated on unsupported platforms.
- ☞ Install the Muse installations manual for any component. They were installed only for Muse Web Bridge.

31.1.3 Muse Authentication and Authorization Service

- ☞ Stylesheets directory for display did not change on language switching.
- ☞ Requester's IP not passed over to ICELoginModuleIP.

31.1.4 ICE Modules

- ☞ Changed all connectors for backward compatibility with 1.1.2.8 and less.

31.1.5 ICE Server

- ☞



Improved cleanup of session threads.

- ✎ Z39.50 client handles partial result sets (Do not consider failure the case when searchStatus is false (search failed) but partial results set is created (resultSetStatus=subset or interim)).

31.1.6 Muse Web Bridge

- ✎ The user.navigationManagerMode field did not take precedence over default.navigationManagerMode under Users.properties.
- ✎ NAVIGATION_MANAGER_HOST, MODE and PORT not being used under MusePeer.xml.
- ✎ Added another search parameter (queryType). Default is Muse for doSearch() and Scan for doScan().
- ✎ Muse HTTP Server is also taken into consideration when checking i18n support.

31.1.7 Muse Admin Bridge

- ✎ No longer passes itself the requester's IP (this is due to Muse Authentication and Authorization Service bug fix).

31.1.8 Muse Proxy Server and Navigation Manager

- ✎ We only understand the gzip encoding, and in some cases content encoded with 'deflate' encoding was thought to be unencoded, so passed to content filters as it was. Now we ask the origin server or the next proxy (also if the client requests/knows) to only use gzip or no encoding at all.
- ✎ When calling encodeHTML() the host name is first converted to lower case.
- ✎ The urlForMNM() method didn't properly interpret (and backwards compatible) the navigation manager mode.
- ✎ When dealing with host names, treat them in lower case as they are not case sensitive. We use host names to make cookie paths, which are case sensitive, so work in lowercase in both cases.
- ✎ Some sites have HTML documents linking to URLs with '\' as a path separator, which is a violation of the protocol : RFC 1738, Section 2.3 Hierarchical schemes and relative links : Some URL schemes (such as the ftp, http, and file schemes) contain names that can be considered hierarchical; the components of the hierarchy are separated by "/".
- ✎ When parsing a construction like document.write(""); , the src_url wasn't modified.
- ✎ When isolating host name in urlID2Muse(), '/' was used for path separator, but it's encoded form (%2F) was not.
- ✎ museDurl() didn't tested for urls in the domain, it tried to alter urls which were not related to current page. (it failed for this urls).
- ✎



Added imageData() method to deal with :imagedata tag from MSOffice extensions, interpreted by MSIE.

- ✧ IMAGE tag is now processed, not only IMG.
- ✧ Setting also "Connection" header field, along with "Proxy-Connection".
- ✧ The Accept-Encoding header field added at previous version didn't had 'identity' encoding, which means no encoding at all. Some servers ignored this bad header, but others used it, replying that they cannot serve the content in a suitable encoding.
- ✧ Modified the Http.dsendmc() method to use new 'algorithm' for correctly identifying a request that is to be served by the admin interface.
- ✧ The Request.getPort() method was improved to get the port first from the URL, then from the Host header if exists.
- ✧ When making the Cookie: header field, removed the last ';'.
 - ✧ TABLE,TD,DIV,SPAN,IFRAME,META tags are now processed.
- ✧ When parsing javascript, after a HTML comment may follow valid JS code, which is now parsed.
- ✧ When parsing possible HTML code inside document.write() JS method, verify that the code can have escaped quotes. Unescape them first, then escape them back if there were any escaped.
- ✧ When parsing a line such as 'return document.location.href;' the object was not properly parsed.
- ✧ Now also this.href is parsed.
- ✧ In MuseProxyHTMLUtils.fixJSPropertyUpdate() a test is now made that the property is not empty string. In that case broken JS code was generated.
- ✧ Changed JS function srcUrl2Muse() to handle all properties, not only if they have a complete & visible attribute.
- ✧ The shutdown didn't worked, from the last version.
- ✧ When parsing JavaScript code, multiple consecutive lines of document.write() are transformed into a single one, and the string inside is parsed as being HTML string.
- ✧ Multi-line assignment of JavaScript variable is now more elaborated and works in all cases.
- ✧ The proxy:pac interpreter is now created only once per Proxy PAC Filter.

31.1.9 Muse HTTP Server

- ✧ All console error messages have been redirected to the log file.

31.2 New Features:



31.2.1 Muse Setup

- ✎ Preservers all the input form fields for upgrade (no longer need to enter the registration fields for upgrade; they will be available from the previous installation).
- ✎ Changes to comply with the new packages directory.

31.2.2 Muse Install

- ✎ Compliant with InstallShield 5.0.
- ✎ New improved Swing interface.
- ✎ All the panels of the setup has been redesigned to support the three interfaces: swing, awt and console.
- ✎ Now the following platforms are supported: AIX, Generic Unix, HP-UX, Linux Caldera, Linux Mandrake, SuSE Linux, Red Hat 6.x, Red Hat 7.x, 8.x, Mac OS, Solaris Sparc, Solaris X86, Windows 9x, Windows Me, Windows 2000, Windows NT 4.0+, Windows XP (32-bit).

31.2.3 Muse Authentication and Authorization Service

- ✎ Uses the new ICE Logger package.

31.2.4 ICE Server

- ✎ Implemented the package mechanism. There is a new directory under `${MODULES_HOME}` and under each application, named `sources/lib` (i.e. `${MODULES_HOME}/sources/lib` respectively `${APPLICATION_HOME}/sources/lib`) in which Source Packages (.jar files) are stored. Currently a package contains the Java class for the connector, the Java classes for all the source supported authenticators, the profile without any customer specific data, the translator and other mapping files (like Z39.50 map and DTD).

Only the Java code is qualified (i.e. placed in directories). The others are placed in the .jar's root.

The loading algorithm firstly tries to load the Java classes from their corresponding package while the other resources (profile, translator, mapping) are loaded from the package only if they are not locally found (i.e. under `profiles/connectors`, `profiles/connectors/authentication`, `profiles/stylesheets` directory).

The .jar for each source is identified by its target name in SEARCH.xml profile. For example the source below uses ACBLZ.jar:

```
<MAP> <TARGET>ACBLZ</TARGET>  
      <DESCRIPTION>A C Bilbrew Library Z39.50
```



```
server.</DESCRIPTION>
<MODULE>com.edulib.ice.modules.connectors.Z3950</MODULE>
<CONFIGURATION_FILE>${MODULES_HOME}/profiles/connectors/ACBLZ.xml</CON
FIGURATION_FILE>
</MAP>
```

This convention can be overridden if one specifies a module name preceded by a .jar file (like a namespace). For example:

```
<MODULE>ACBLZ.jar:com.edulib.ice.modules.connectors.Z3950</MODULE>
```

All the connectors and all the authenticators required changes.

\${ICE_HOME}/jaas.policy and \${ICE_HOME}/jaas.policy.default added the following permission to users and guests groups:

```
permission java.io.FilePermission
"${MODULES_HOME}${/}sources${/}lib${/}-", "read";
```

31.2.5 ICE Modules

- ☞ New Scan processing module.

31.2.6 Muse Web Bridge

- ☞ Uses the new ICE Logger package.
- ☞ Uses the new Muse Proxy.
- ☞ Users.properties has been updated to use the navigation mode for required domains on all our applications.
- ☞ Implemented the doScan() action.

31.2.7 Muse Proxy Server and Navigation Manager

- ☞ New Navigation filter (the old Muse Navigation Manager).
- ☞ Added some cleanup to object references, to speed up their release by garbage collector.
- ☞ When logging is set to DEBUG, the Navigation filter writes the HTML stream to log file, before and after altering. Now the evaluation of the HTML stream is done only if logging is set to DEBUG (or more detailed), this speeds up a lot when running in normal (deployed at customer) operation, and works the same when logging level is set to DEBUG.
- ☞ Cache consistency at startup is now done much more efficiently, resulting a speed increase around 3-4 times as before.
- ☞ Improved speed dealing with a connection.



31.2.8 ICE Tools

- ✎ New ICEPackageBuilder used to build Source Packages (jars). Use startPackageBuilder(.bat/csh) to invoke it.

31.2.9 Muse Z39.50 Bridge

- ✎ Uses the new Muse Proxy.

31.2.10 Muse ENCompass Bridge

- ✎ Uses the new ICE Logger package.
- ✎ Uses the new Muse Proxy.
- ✎ Changes to manual concerning configuration.

31.2.11 Muse OpenURL

- ✎ Uses the new ICE Logger package.

31.2.12 Muse Web2 Bridge

- ✎ Uses the new ICE Logger package.
- ✎ Uses the new Muse Proxy.
- ✎ Changes to manual concerning configuration.

31.3 Notes:

- ✎ Muse Navigator Manager (based on ICE Proxy Wrapper) has been integrated into Muse Proxy.
- ✎ The following applications have been removed from the base package: Corvallis, MyCommunity, Nionex, Richland, Uncc, Xipolis, Phoenix.
- ✎ Muse has been integrated into CVS (versions control system).



32.0

Changes in Muse 1.1.2.8 Release

Release Date: 27.01.2003

32.1 Bug Fixes:

32.1.1 Muse Authentication and Authorization Service

- ☞ Synchronized the displayFile() method.

32.1.2 Muse Install

- ☞ Muse Setup has been changed to prevent running against less than JVM 1.3.1.

32.1.3 ICE Modules

- ☞ Usage of stop words list for ICERankingKeyTitle

32.1.4 Muse HTTP Server

- ☞ Fix regarding HTTP authentication.
- ☞ New <SERVER_NAME> field; If you want your HTTP server to be accessible from other computer than the same it is installed on.

32.1.5 Muse Enrichment Service

- ☞ Fixed to work with the new Syndetic access URL.



32.2 New Features:

32.2.1 Muse Search

- ☞ MuseSearch for Academic Libraries has been completely re-designed.

32.2.2 Muse Proxy Server and Navigation Manager

- ☞ New guest user to be used for demonstrations out of EduLib or MuseGlobal domains.

32.2.3 Muse ENCompass Bridge

- ☞ It implements the same ICE Communication Protocol as before 1.1.2.6 release.

32.2.4 Muse OpenURL

- ☞ Context sensitive linking based on Service Identifier (sid).

32.3 Notes:

- ☞ Muse External Servlets Engine (JRun).doc is no longer mentained into the released package.



33.0

Changes in Muse 1.1.2.7 Release

Release Date: 14.01.2003

33.1 Bug Fixes:

33.1.1 ICE Modules

- ✎ Various fixes on different connectors.

33.1.2 ICE Server

- ✎ New java.policy access rights for unjce_provider.jar package used from JDK 1.4.

33.2 New Features:

33.2.1 Muse Search

- ✎ New Medical Demo and Grace Sandlin Memorial Library applications.
- ✎ CODI has got a new tabbed display of results sets.

33.2.2 Muse Authentication and Authorization Service

- ✎ Its standard actions are logon, logoff and display. The actions logon and logoff now implies system actions that permit entering and exiting a particular user frame from within the system frame. That is why the error files in the logon action and the files referred to by the logoff action are to be taken from the system document root and not from the user's document root.



33.2.3 Muse Setup

- ✎ InstallShield 4.53 compliance and silent install mode implemented.

33.2.4 Muse Web Bridge

- ✎ Remove DOCUMENT_ROOT from configuration file.
- ✎ `${MUSE_HOME}/www/anonymous` moved to `${MUSE_HOME}/www/anonymous/js` whilst `${MUSE_HOME}/www/default` has moved to `${MUSE_HOME}/www/anonymous`. The corresponding default entries from `Users.properties` now points to `${MUSE_HOME}/www` and `${MUSE_HOME}/www/stylesheets`.
- ✎ Integration of Muse Navigator Manager.

33.2.5 Muse Z39.50 Bridge

- ✎ Integration of Muse Navigator Manager.

33.2.6 Muse ENCompass Bridge

- ✎ Integration of Muse Navigator Manager.

33.2.7 Muse Web2 Bridge

- ✎ Integration of Muse Navigator Manager.

33.2.8 Muse Management Console

- ✎ Remove DOCUMENT_ROOT from configuration file.
- ✎ Changes for integration of Muse Navigator Manager into Muse Web Bridge, Muse Z39.50 Bridge, Muse Web2 Bridge and Muse ENCompass.

33.2.9 Muse Enrichment Service

- ✎ Modification in the configuration file: `<DOCUMENT_ROOT>` changed to `<INDEXES_ROOT>` `<WEB_ROOT>` has disappeared. Add `<USERS>`
`${MUSE_HOME}/enrich/Users.properties</USERS>`
- ✎ Remove Log4j package. Logging is done with ICELog. Remove file `log4j.properties` and add entries for ICELog in the configuration file.



- ✧ Remove com.edulib.muse.http.modules.EnrichHttpModule from project.
- ✧ Remove DOCUMENT_ROOT from configuration file.

33.2.10 Muse OpenURL

- ✧ Move Muse OpenURL Generator to \${MUSE_HOME}/openurl/generator/

33.2.11 Muse HTTP Server

- ✧ Modified the scripts to include museservlet.jar in the classpath.
- ✧ Add support for HTTP authentication.

33.2.12 Muse Manuals

- ✧ Muse Install.doc changed for silent install mode.

33.3 Notes:

- ✧ Muse Navigation Manager has been integrated into system.





34.0

Changes in Muse 1.1.2.6 Release

Release Date: 02.12.2002

34.1 Bug Fixes:

34.1.1 ICE Modules

- ✧ Various fixes on different connectors.
- ✧ Fix SendMail module to allow different configuration parameters on different instances. Use `Session.getInstance()` instead of `Session.getDefaultInstance()`.
- ✧ The ICELoginModules from `com.edulib.ice.modules.security.authentication` package which are custom to different parties are stored in a different jar, namely `${MODULES_HOME}/lib/musellogin.jar` which is added in the classpath of the ICE server. Otherwise, being stored in `modules.jar` it was not possible to invoke the login modules via JAAS mechanism - that is because `modules.jar` is not placed in `CLASSPATH` and only login modules from classpath can be loaded via JAAS. This modification is reflected in the new `${MODULES_HOME}/build.xml` for Ant and the ICE starting scripts from `${ICE_HOME}`.

34.1.2 ICE Server

- ✧ Change the position of `REFERENCE_ID` in ICE Output messages. It is placed at the same level as the command. Now an ICE Output message is symmetric with an ICE Input message. Changes have been done to `ICEXmlOutput` class and to `*Output.xml` stylesheets from `${ICE_HOME}/stylesheets` and `ULES_HOME}/stylesheets`.
- ✧ Conversion to MARC fixed (automatic type conversion generated the right binary from JBuilder; the Java code was bad anyway).
- ✧ New `java.policy` and `jaas.policy` access rights for SendMail package (These rights are necessary on some platforms).
- ✧ Added `${MODULES_HOME}/lib/musellogin.jar` in the classpath from the ICE starting scripts.



34.1.3 Muse Proxy Server and Navigation Manager

- ✎ Added proxy authentication support through a new request filter.
- ✎ Added a new Muse marker, &StartMuseProxyAuthorization=

34.2 New Features:

34.2.1 Muse Search

- ✎ New sources for NBPL (Newport Beach Public Library) Muse Applications.
- ✎ Changes to CODI regarding tabbed sources display.
- ✎ Changes to WSL (Westchester Library System) Muse Applications based on MuseSearch for Libraries.

34.2.2 Muse Search

- ✎ New MSC (MuseSearch for Corporations) Muse Applications based on CODI.

34.2.3 ICE Server

- ✎ Add method receiveMessage(final String[] referenceIDs) to ICEConnect class to receive a request string message identified by one of the provided references from an array.
- ✎ Add support for converting between the chinese CCCII charset and UNICODE. This charset and others which are not supported by JDK are to be handled by using com.edulib.ice.util.charsets.ICEUnicodeUtil. For CCCII the class com.edulib.ice.util.charsets.ICECCII is delegated to do the conversion between CCCII and UNICODE based on the algorithm and the mapping table described in the Muse I18n.doc. The conversion tables ccii2unicode.map and unicode2ccii.map are stored in the ice.jar - for this build.xml for Ant was modified to include these two files from \${ICE_HOME} in the ice.jar. There are also modifications in the Z3950 util classes in com.edulib.ice.util.ICEMarc2Xml and ORG.oclc.ber.DataDir(from OCLC package - the source is also in oclc.jar) to use ICEUnicodeUtil in case the encoding is not supported by JDK.

34.2.4 ICE Modules

- ✎ Z3950 module takes into account the new <REQUEST_ENCODING> tag from profiles which represent the encoding of the query which may be different from the encoding of the results.



New connectors for various applications.

- ✧ Hyperion connector changes based on SIRSI specification.
- ✧ New DISCOVER module used to get all search targets of the current user.
- ✧ Modify ResultSets module to consider a space separated list of result set names and to consider '*' as all the result sets from the workroom.
- ✧ Modify OpenURLGenerator to support i18n. Use URLEncoderUtil to encode URL parameters using UTF-8.

34.2.5 Muse Web Bridge

- ✧ Support freemaker include instruction from within formatting stylesheets.
- ✧ Change its name into Muse Web Bridge.

34.2.6 Muse Proxy Server and Navigation Manager

- ✧ Fixed a deadlock in the caching code.
- ✧ Fixed a bug dealing with keep-alive connections with the origin server side (or next proxy), causing incorrect objects to be returned for a request.

34.2.7 Muse SOAP Bridge

- ✧ Change its name into Muse Z3950 Bridge.

34.2.8 Muse Z39.50 Server

- ✧ Change its name into Muse Z3950 Bridge.

34.2.9 Muse Serial Number Encoder

- ✧ Changes to allow version semantic validation and persistent logging.

34.2.10 Muse HTTP Server

- ✧ Add support for servlets using XML messages protocol. Such a protocol can be placed direct on TCP/IP (the XML messages are escaped to delimit them) or can be on top of HTTP. In either of the cases the servlet has access to the XML Message of a request via the Servlet request parameter xmlMessage. The distinction between the two protocols HTTP and XML is done via connectors (server entry points). See Muse HTTP Server.doc for details.



34.2.11 Muse Web2 Bridge

- ☞ Change its name into Muse Web2 Bridge.

34.2.12 Muse Management Console

- ☞ Loads to configure only the installed available Muse Products.
- ☞ Add Muse Web2 Server settings.
- ☞ Chnages to handle Muse Proxy users.

34.2.13 Muse Manuals

- ☞ New Muse External HTTP Server (IIS).doc.
- ☞ Changes to Muse External Servlets Engine (Tomcat).doc for IIS install.
- ☞ Changes to Muse Proxy.doc regarding New Features:.
- ☞ Changes to Muse I18n.doc regarding CCCII to Unicode translation support.

34.2.14 Muse OpenURL

- ☞ Internationalization support for Muse OpenURL Resolver. The resolver accepts UTF-8 encoded unicode parameters values.



35.0

Changes in Muse 1.1.2.5 Release

Release Date: 07.11.2002

35.1 Bug Fixes:

35.1.1 ICE Modules

- ☞ Work around a JDK 1.3 bug regarding the URL formed out of a base URL and another relative or absolute path for all connectors.
- ☞ Various fixes on different connectors.

35.1.2 ICE Server

- ☞ Resolve the client search query escaping problem. Modified the ICE stylesheet SEARCHInput.xsl to do the escaping. Modified the clients Muse Web Client, Muse Z3950 Server, ICE Text Client.

35.1.3 Muse Web Bridge

- ☞ Use mime type obtained dinamically via servlet API. Add to all the WEB-INF/web.xml files the mime-mapping for css. Web.xml is the recommended place were to put it.

35.1.4 Muse Manuals

- ☞ Modify ICE Communication Interface.doc to state the necessity of escaping the SCRIPT_ARGUMENTS for the SCRIPT operation.

35.2 New Features:



35.2.1 Muse Search

- Anonymous has been changed to fit the new MuseGlobal look and feel (both, Freemarker and JSP version).

35.2.2 Muse Search

- All Muse applications have got the auto-logon code.
- New NBPL (Newport Beach Public Library) Muse Applications based on MuseSearch for Libraries.
- Restructure Anonymous Muse Applications.
- New CODI (Customers of Dynix, Inc.) Muse Applications based on MuseSearch for Libraries.

35.2.3 Muse Setup

- Proper usage of Serial Number. Products are made available based on System Code part of Serial Number.

35.2.4 ICE Server

- Modules access list mechanism implemented.

New parameter for ICECore:

- command line: `-ma [modules access list]`
- configuration file, `ICECore.xml`: `<MODULES_ACL> URL to the modules access list containing rules for modules to be loaded by certain users.</MODULES_ACL>`.

Encrypted file to store modules access list on a per user basis:

`${MODULES_HOME}/modules.acl`.

`${ICE_HOME}/java.policy` modified to include permissions for the following libraries:

`file:/// ${ICE_HOME}/lib/jakarta-regexp-1.2.jar,`

`file:/// ${ICE_HOME}/lib/jce1_2_1.jar,`

`file:/// ${ICE_HOME}/lib/sunjce_provider.jar`

ICE startup script files (`startServer.bat`, `startServer` and `startServer.csh`) modified to include

`${ICE_HOME}\lib\jce1_2_1.jar` and `${ICE_HOME}\lib\sunjce_provider.jar` into



classpath.

The modules access list mechanism is used to control classes that can be loaded by a certain user. By default a user has access to all the classes. Using this mechanism one can place restrictions. The rules for a user are interpreted on a first match principle. For example:

```
<USER_RULE> <ID>anonymous</ID>
             <DENY>*.patron.*</DENY>
             <DENY>*.hold.*</DENY>
             <ALLOW>*.circulation.*</ALLOW>
</USER_RULE>
```

states that for anonymous user all the classes from com.edulib.ice.modules.circulation.patron and com.edulib.ice.modules.circulation.hold are denied while anything else under com.edulib.ice.modules.circulation package is allowed (e.g. com.edulib.ice.modules.circulation.purchase)

35.2.5 ICE Modules

- ✎ New connectors for various applications.
- ✎ Jitterbug, DeDupe, Ranking, SEARCH and all the connectors have been updated to interpret the <REPORT_STATUS>, <NAME> configuration file parameters.

35.2.6 ICE Scripts

- ✎ New HoldMarkedRecords.xml for multiple holds on marked records.

35.2.7 ICE Tools

- ✎ New ICEFileEncoder utility used for encryption/decryption of a file.

35.2.8 Muse Z39.50 Server

- ✎ It is using the latest log4j-1.2.4.jar package.

35.2.9 Muse Serial Number Encoder

- ✎ This is an internal MuseGlobal utility used to generate appropriate Serial Numbers. They encode customer specific information as well as the licensed Muse products.



35.2.10 Muse Management Console

- ✎ Changes to accommodate the new <REPORT_STATUS>, <NAME> configuration file parameters.
- ✎ New [eyeshot] user with read only rights from any IP. This would give the sales people what they need to be able to show Muse Management Console. This user could be allowed access from any IP address since it would be 'harmless'.

35.2.11 Muse Manuals

- ✎ All manuals updated for the new address and telephones of MuseGlobal.
- ✎ Changes to Muse External HTTP Engine (Apache).doc for Apache 2.
- ✎ New Muse HTTP Sources.doc manual.
- ✎ Muse Authenticators.doc has been renamed to Muse HTTP Authenticators.doc.
- ✎ MusePeer Communication Interface.doc has got the Auto-Logon mechanism section.
- ✎ Muse SOAP Server.doc has been updated for the new servlets feature of Muse HTTP Server.
- ✎ Muse Install.doc has been updated for the new servlets feature of Muse HTTP Server.

35.2.12 Muse HTTP Server

- ✎ Implements servlets support.

35.3 Notes:

- ✎ Apache Ant and AntRunner are used on Muse development. Ant projects have been set for all the separate products.
- ✎ Consistent use of Readme.txt files to describe directories content.
- ✎ All the appropriate /lib content from Muse Web Applications has been moved to corresponding /WEB-INF/lib directory to comply with the new servlets containers.
- ✎ All Muse Web Applications has been cleaned by the proprietary Muse HTTP Server modules code being preserved just the servlets, which are now running under Muse HTTP Server.
- ✎ All Muse JBuilder Projects store the required libraries (.jar) into local *.library files instead of global once.



36.0

Changes in Muse 1.1.2.4 Release

Release Date: 09.10.2002

36.1 Bug Fixes:

36.1.1 ICE Server

- ✧ ICE startup scripts have been updated to 192MB maximum heap from the default 64MB that easily caused OutOfMemory.

36.1.2 ICE Modules

- ✧ Various fixes on different connectors.
- ✧ All the Jitterbug and Telnet connectors have been restructured to inherit from a base class.
- ✧ Results Set scripts have been updated to report Save errors.
- ✧ Add protection for URL looping.
- ✧ Z39.50 database name with spaces in it used to be handled like multiple databases.
- ✧ All the HTTP authenticators have been changed to throw all the various exceptions wrapped under ICEAuthenticatorException.
- ✧ Z39.50 connector: "<PREFERRED_MESSAGE_SIZE>" should be "<PREFERRED_MESSAGE_SIZE>". This required profiles changes as well.
- ✧ ICERankingKeyDate has been extended to handle more date formats in order of proper sorting.

36.1.3 Muse Proxy Server and Navigation Manager

- ✧ IIS returns a Content-Length: 0 along with a 304 Not Modified response. This is explicitly forbidden by RFC 2616, section 10.3.5 304 Not Modified. So we have to work around the error,



and pass the correct form to our client.

- ✎ Added a synchronization on `httpLock` in the `close()` function. Before this synchronization it was possible on rare occasions that the server closed a valid opened connection (with data transferring on it), and the transfer was terminated. `java.net.SocketException: Bad file descriptor` was thrown in the next write operation.
- ✎ Fixes required to `AuthorizationFilter` and `RefererFilter`.

36.2 New Features:

36.2.1 Muse Search

- ✎ New connectors for various applications.
- ✎ Z39.50 has been added support for different MARC syntaxes for the same retrieved result set. This includes modifications in the OCLC package:
 - ✎ in file `ORG/oclc/z39/client/Z39present.java`(line 716): also test for CMARC syntax.
 - ✎ in file `ORG/oclc/z39/client/Z39presentApi.java`(line 107): add CMARC syntax constant.

36.2.2 Muse Setup

- ✎ Changes to install Muse Enrichment Service and Muse OpenURL.
- ✎ Menu items have been restructured.
- ✎ New Muse Services Setup package to allow services to be automatically started at bootup.
- ✎ Muse Web Application's library packages are stored under appropriated `WEB-INF/lib` directory too.

36.2.3 Muse Search

- ✎ MuseSearch for Libraries and ZLOT have got OpenURL Lynx button, Export by Email and to an URL implemented.
- ✎ New ZLOT (The Z Texas Implementation Component of the Library of Texas) Muse Applications.

36.2.4 ICE Modules

- ✎ New `OpenURLGenerator` module.
- ✎ New `ICEBibliographicKey` used for bibliographic enrichment.



- ✧ New modules for Patron Information, Holds, Purchase against Totals2.

36.2.5 Muse Web Bridge

- ✧ Handles \${APPLICATION_HOME} property.

36.2.6 Muse Admin Bridge

- ✧ Allow Muse services to be controlled (stopped, started, restarted) from space separated directory names.

36.2.7 ICE Tools

- ✧ New Muse Enrichment Service generated from Syndetic Enrichment Service. Log for Java package has been included.
- ✧ Muse Enrichment Service, Muse SOAP Server, Muse HTTP Server have been fixed to allow environment variables to be resolved into Log for Java package. This prevented the log files to be created into the Muse's local directory structure.

36.2.8 Muse Management Console

- ✧ Muse Enrichment Service and Muse OpenURL settings available.

36.2.9 Muse OpenURL

- ✧ This is a new package that includes Muse OpenURL Generator Web application and Muse OpenURL Resolver.

36.2.10 Muse Manuals

- ✧ Changes to Muse Install.doc for the new Muse Enrichment Service and Muse OpenURL.
- ✧ Changes to Muse Install.doc for JDK 1.4.
- ✧ Changes to Muse Administrator.doc for the new Muse Enrichment Server and Muse OpenURL.
- ✧ Muse Install.doc has been split into Muse Install.doc that includes only Muse installation based on Muse HTTP Server that does not require any other HTTP or Servlets Engine, Muse External Servlets Engine (Tomcat).doc, Muse External Servlets Engine (JRun).doc and Muse External HTTP Server (Apache).doc if Muse is required to work with any of these.
- ✧ Changes to Muse External Servlets Engine (Tomcat).doc for Tomcat 4.x.



36.3 Notes:

- ✦ Syndetic Enrichment Service has been changed to Muse Enrichment Service and it is now part of the Muse package.
- ✦ New oclc.jar package to be used.
- ✦ New upgrades.txt file under Muse's root to hold settings required to be done to upgrade from one version to another.
- ✦ Toronto Muse Applications have been removed from the standard package.



37.0

Changes in Muse 1.1.2.3 Release

Release Date: 15.08.2002

37.1 Bug Fixes:

37.1.1 Muse Search

- Various fixes on different connectors.

37.1.2 Muse Proxy Server and Navigation Manager

- When a socket was closed its close() method was called. However, this was not enough, and Mozilla & MSIE when talking HTTP 1.0 protocol didn't see the socket closing (on HTTPS connection only). Now we do shutdownInput() & shutdownOutput() on it, then close().
- HTTP headers are now handled with ISO-8859-1 encoding, not default US-ASCII7.
- The cache was asked about HTTPS urls if they are to be served from cache. Since we know HTTPS urls are not cacheable, we won't ask the cache about them resulting lower times.

37.1.3 Muse Proxy Server and Navigation Manager

- Various fixes based on bug reports.

37.2 New Features:

37.2.1 Muse Search



- ✧ New connectors for various applications.
- ✧ All the HTTP connectors have been restructured to inherit from a base class.
- ✧ Jitterbug, DeDupe and Ranking connectors report progress information.
- ✧ Records export feature implemented by SendMail.

37.2.2 Muse Search

- ✧ New BVSL (Bega Valley Shire Library) Muse Applications.
- ✧ Various changes to NYPL (New York Public Library).

37.2.3 Muse Web Bridge

- ✧ Updated Muse Peer to keep up with FreeMarker 2.03 changes.

37.2.4 Muse Management Console

- ✧ Updated Muse Admin to keep up with FreeMarker 2.03 changes.



38.0

Changes in Muse 1.1.2.2 Release

Release Date: 16.07.2002

38.1 Bug Fixes:

38.1.1 Muse Search

- ✎ Various fixes on different connectors.

38.1.2 Muse Proxy Server and Navigation Manager

- ✎ When cache was disabled in the configuration file, the web interface tried to access it, resulting in an exception. Now it displays a message: 'Cache is disabled in the configuration file.' as the cache status, and the cache file sections.
- ✎ Dealing with the client side using keepalive feature was buggy. Sometimes even if MuseProxy negotiated a close connection, it didn't actually closed when finished. This manifested as not every image on a page to be loaded, or the page to (visually) be loaded, but the browser to say it is not (by its progress bar).
- ✎ HeaderMuseRefererFilter wasn't removing all Muse markers from the Referer: header.
- ✎ MuseProxyError.xsl was using relative URLs to display images. However, the xsl was used to display errors of type 'Host not found', in which the URL in the browser navigation bar was the one not to be found. This resulted in images not loading in case of an error.
- ✎ Removed authentication for the files/images found inside the www directory, so when showing an error the client does not have to be authenticated as an administrator. Administrator authentication is only required for URLs that are actually used for administration (starting with /admin , that is).
- ✎ More than necessary misses from cache were counted. Now only objects that are not in cache, but are cacheable are counted. This eliminated requests when administering MuseProxy.
- ✎ In some cases, when keepalive was maintained with the client, and the server closed the connection, this wasn't reported (like closing the connection) to the client. The connection was



closed when the READ_TIMEOUT value was reached.

- ✧ When going to non-http links, and not having set up to use a proxy server, an error was never returned because of an incorrect if() test. It tried to handle the url as an http url, so resulted a mess.
- ✧ When PASSTHRU was set, cache was disabled. PASSTHRU should as it is now refer only to filtering, and CACHE_ENABLED to caching.
- ✧ OutOfMemoryError exception is now caught and reported. This is done when a new client connects, and we have to create a new Handler object to handle the connection.
- ✧ Added a Content-Length header when objects are served from cache, and they don't have a Content-Length. Since we have the object on disk (all of it) we can compute the Content-Length.

38.2 New Features:

38.2.1 Muse Search

- ✧ New connectors for various applications.

38.2.2 Muse Setup

- ✧ Changes to install Muse HTTP Server.

38.2.3 ICE Server

- ✧ Some of the Muse related packages have been moved from ice.jar to modules.jar, which no longer requires to update ice.jar when various connectors are written.

38.2.4 ICE Scripts

- ✧ New scripts to support selected items manipulation in the results list (DeleteMarkedRecords.xml, KeepMarkedRecords.xml).

38.2.5 Muse Proxy Server and Navigation Manager

- ✧ Added heuristic expiration to cache (As described in RFC 2616 : 13.2.2 Heuristic Expiration & 13.2.4 Expiration Calculations).
- ✧ Added some more information for the DEBUG level (the request/reply).



38.2.6 ICE Tools

- ☞ New Muse HTTP Server.
- ☞ Muse SOAP Server changed to use Muse HTTP Server for the standalone version.

38.2.7 Muse Manuals

- ☞ Changes to Muse Install.doc for the new Muse HTTP Server.
- ☞ Changes to Muse Administrator.doc for the new Muse HTTP Server.
- ☞ Changes to Muse SOAP Server.doc for the new Muse HTTP Server.

38.2.8 Muse Management Console

- ☞ Muse HTTP Server settings available.

38.3 Notes:

38.3.1 Muse Search

- ☞ The following Muse Applications have been removed from the standard package: bpl, ccpl, iii, iiispanish, nebraska, noala, orange, siemens, vancouver, ggln, merln, scelc.





39.0

Changes in Muse 1.1.2.1 Release

Release Date: 05.07.2002

39.1 Bug Fixes:

39.1.1 Muse Search

- ✎ Various fixes on different connectors.

39.1.2 ICE Server

- ✎ Sporadic login failures fixed. It required a workaround for JDK 1.3 regarding the synchronized access to jaas.config file.

39.1.3 ICE Tools

- ✎ ICE Control Center, ConnectorChecker task fixed a bug regarding the session closing after logoff. This caused OutOfMemory messages against the test server.
- ✎ ICE Proxy Wrapper handles HTTPS requests.

39.2 New Features:

39.2.1 Muse Search

- ✎ New connectors for various applications.
- ✎ Save and Results modules changed in order to handle Description and Time Stamp for Results Set.



39.2.2 Muse Search

- ✧ New Toronto Muse Applications.
- ✧ New Xipolis Muse Application.
- ✧ New Corvallis Muse Application.
- ✧ New MuseSearch for Libraries Muse Application.
- ✧ Changed logon page layout to fit with the new MuseGlobal style.
- ✧ Changes to NYPL Muse Application.

39.2.3 Muse Setup

- ✧ Changed to include the Muse Setup Report as part of the Muse Install Registration Form.
- ✧ Changes to install Muse SOAP Server.
- ✧ Installs the new C-Shell scripts for any Unix platform.

39.2.4 Muse Startup Scripts

- ✧ New C-Shell compatible scripts.

39.2.5 ICE Server

- ✧ Added support for UTF-8 query strings.

39.2.6 ICE Scripts

- ✧ New CombineResultSets.xml, ModifyResultSet.xml and SaveResultSetEx.xml scripts for Results Set manipulation.
- ✧ New scripts to support selected items manipulation in the results list.

39.2.7 Muse Web Bridge

- ✧ Added support for UTF-8 query strings (depending on the server version and servlet API version).

39.2.8 ICE Tools

- ✧ Updated to be used for ICE Communication Interface tests.



39.2.9 ICE Tools

- ✎ New Muse Proxy with cache, filtering, statistics and other features as into the updated Muse Proxy.doc manual. It has been moved from \${USE_HOME}/tools to \${MUSE_HOME}/proxy.
- ✎ New Muse SOAP Server.

39.2.10 Muse Manuals

- ✎ ICE Communication Interface.doc updated.
- ✎ All the manuals have been updated to use the new Industria font.
- ✎ Muse Proxy.doc updated for the new 0.1.0.1 version.
- ✎ New Muse i18n.doc describing the Muse Internationalization Procedure.
- ✎ New Muse Navigation Manager.doc manual.
- ✎ Changes to Muse Install.doc for the new Muse SOAP Server.
- ✎ Changes to Muse Administrator.doc for the new Muse SOAP Server.
- ✎ New Muse Authenticators.doc manual.

39.2.11 Muse Management Console

- ✎ Implements inactivity session time out.
- ✎ Changed logon page layout to fit with the new MuseGlobal style.
- ✎ Import, Export operations available.
- ✎ New startMuseAdmin and startMuseAdmin.bat scripts for command line import, export and various checking.
- ✎ Interface coding restructure to use FreeMarker include directive.
- ✎ Muse SOAP Server settings available.
- ✎ Muse Proxy new settings available.
- ✎ Muse Applications section restructured.

39.3 Notes:

39.3.1 Muse Setup

✎



Requires changes to jaas.config in order to run the Mail module.

39.3.2 Muse Search

- ✦ Phoenix, MyCommunity and Richland Muse Application have been reinstalled into the standard package.

39.3.3 Muse System

- ✦ Support for UTF-8 query encoding requires changes to oclc.jar package.



40.0

Changes in Muse 1.1.2.0 Release

Release Date: 05.15.2002

40.1 Bug Fixes:

40.1.1 Muse Search

- ✎ Various fixes on different connectors.
- ✎ The SindeticKey has been fixed and no longer generates the </meta> error.

40.1.2 ICE Server

- ✎ Allow the modules.jar package from the system level to be used if the one under user's level is missing.

40.2 New Features:

40.2.1 Muse Search

- ✎ New connectors for various applications.

40.2.2 Muse Setup

- ✎ Changed to include the version and installation date as part of the Muse Install Registration Form.
- ✎ Muse Setup is using the new Muse Logo.



40.2.3 Muse Search

- ☞ New Merln Muse Applications.
- ☞ All the Muse Applications are using the new Muse Logo.

40.2.4 ICE Server

- ☞ Log files rotation up to a specified limit.
- ☞ Configured to handle HTTPS connectors.

40.2.5 Muse Web Bridge

- ☞ Encrypted passwords to be used in browser for pass-through searches and normal login.
- ☞ Log files rotation up to a specified limit.

40.2.6 ICE Tools

- ☞ Log files rotation up to a specified limit.

40.2.7 Muse Manuals

- ☞ MuseAdmin Communication Interface.doc updated.
- ☞ All the manuals are using the new Muse Logo.

40.2.8 Muse Management Console

- ☞ Muse Management Console is using the new Muse Logo.
- ☞ Log files rotation up to a specified limit.

40.3 Notes:

40.3.1 Muse Search

- ☞ MyCommunity and Richland Muse Application have been removed from the standard package.
- ☞



The modules.jar package from the Applications level has been removed.

40.3.2 Muse Setup

- ✎ Requires changes to jaas.config and java.policy in order to run HTTPS connectors.





41.0

Changes in Muse 1.1.1.9 Release

Release Date: 04.25.2002

41.1 Bug Fixes:

41.1.1 Muse Search

- ☞ Various fixes on different connectors.

41.1.2 ICE Server

- ☞ Clears temporary Result Sets.
- ☞ Extended ISR syntax.

41.1.3 Muse Proxy Server and Navigation Manager

- ☞ Cleared MuseCookies, MuseReferer and MuseAuthorization strings from the referer field of all HTTP requests.

41.2 New Features:

41.2.1 Muse Setup

- ☞ Changed to include the new batch files.
- ☞ Changes to support JDK 1.4.



41.2.2 Muse Search

- ✧ Changes to CalZIG to allow a new Alphabetical selection and Progress Box.
- ✧ Chinese support for Academic Muse Application.
- ✧ New Asian Children's Web and Kids Catalog's Web Muse Applications.

41.2.3 ICE Modules

- ✧ The SEARCH, Ranking and Grouping modules have been changed to accept ascending, descending sort.
- ✧ All the connectors which are using cookies, set now the path field.
- ✧ New Jitterbug Keys: AlibrisKey, BarnesAndNobleKey, EBSCOKey, PowellsKey and WHSmithKey.

41.2.4 ICE Tools

- ✧ All of the utility tools include the -v command line parameter to list the version number.
- ✧ New startSystemInformation.bat, startSystemInformation batch files that list the version of all the main modules in Muse environment.
- ✧ Small fixes to SQTG.

41.2.5 Muse Manuals

- ✧ ICE Control Center.doc manual updated with the latest changes regarding ConnectorsChecker and Log tasks.
- ✧ Muse Install.doc manual updated with the JDK 1.4 compliance.
- ✧ Muse Administrator.doc updated.
- ✧ New ICE Server.doc and Muse Z39.50 Server.doc manuals.

41.3 Notes:

41.3.1 Muse Search

- ✧ Atlas Muse Application removed from the standard package.
- ✧ All the code is now Java 1.4 compliant.



42.0

Changes in Muse 1.1.1.8 Release

Release Date: 03.19.2002

42.1 Bug Fixes:

42.1.1 Muse Search

- ✎ Various fixes on different connectors.

42.2 New Features:

42.2.1 Muse Search

- ✎ New MuseSearch for Academic Libraries, UNCC and Atlas for Library of Michigan application.

42.2.2 Muse Setup

- ✎ Changed to include the new manual and the new Muse Management Console files.

42.2.3 ICE Server

- ✎ Z39.50 code was made more fault tolerant. Changes in packages oclc and xmlmarc were necessary:
 - ✎ Package oclc, file Z39present.java (lines 749-759): when creating an OPAC record there could have been problems (for example in case of a void MARC record) which could have cancelled all the presented information.
 - ✎ Package oclc, file Z39init.java (lines 444-462): also handle other types of userInformation on



Init.

- ✧ Package xmlmarc, file MARC.java (lines 32-34 and 51-61): directory and fields end with 1eh character. Do not always rely on length computations because it may be corrupted and no (or less) records would be displayed.
- ✧ Source files Z39present.java, Z39init.java and MARC.java are placed in their corresponding jars (oclc.jar and xmlmarc.jar).
- ✧ Z39.50 error system is enhanced. We translate from error codes to messages according to bib-1 diagnostics to which we concatenate additional information. Sometimes additional information is the same with the error code message.

42.2.4 Muse Manuals

- ✧ New Muse Z39.50 Bath Conformance.doc manual.
- ✧ Muse Administrator.doc manual updated with the latest Muse Management console changes.
- ✧ New MuseAdmin Communication Interface.doc manual.
- ✧ Muse Administrator.doc manual has been split into Muse Administrator.doc and MusePeer Communication Interface.doc.

42.2.5 Muse Management Console

- ✧ Validates against a list of allowed and denied IP or network masks which get connected to MuseAdmin.



43.0

Changes in Muse 1.1.1.7 Release

Release Date: 02.15.2002

43.1 Bug Fixes:

43.1.1 Muse Setup

- ☞ Product Registration Form fixes the IP retrieved from the local system on Windows 2000.

43.1.2 Muse Search

- ☞ Various fixes on different connectors.

43.1.3 Muse Search

- ☞ All of the applications have got a bug fixed regarding the start parameter for More functionality.

43.2 New Features:

43.2.1 Muse Search

- ☞ New CalZIG, Orange and Richland Muse Applications.

43.2.2 ICE Modules

- ☞ New MARCConverter module for Marc display.



43.2.3 ICE Tools

- ✎ ICESerialEncoder is using a bi-directional encryption algorithm, which so allows decryption.

43.2.4 Muse Manuals

- ✎ Muse Install has got instructions for Tomcat 3.x install.
- ✎ ICE Communication Interface updated.

43.2.5 Muse Management Console

- ✎ ICE Proxy Wrapper settings available. Start, Stop, Restart actions available on all of the Muse services.

43.3 Notes:

43.3.1 Muse Search

- ✎ NSLS, Phoenix and Drexel Muse Application removed from the standard package.



44.0

Changes in Muse 1.1.1.6 Release

Release Date: 01.25.2002

44.1 Bug Fixes:

44.1.1 Muse Setup

- ☞ Product Registration Form fixes the IP retrieved from the local system on some Linux configurations.

44.1.2 Muse Search

- ☞ Various fixes on different connectors (mostly Drexel's).

44.1.3 Muse Search

- ☞ The progress box it is now preserved for various forms of navigation. Changes to all of the applications, which implement the progress box. (Drexel's progress box has been completely redesigned underneath.)

44.2 New Features:

44.2.1 Muse Application

- ☞ New Siemens Muse Application based on Nionex.
- ☞ Westchester Library System has got a new interface.



- ✎ Phoenix interface has got anchors from the progress box.

44.2.2 ICE Tools

- ✎ Muse Proxy Wrapper startup files are using DNS cache timeout.
- ✎ Muse Z39.50 Server closes sockets on unexpected exceptions. It now returns login failure messages.



45.0

Changes in Muse 1.1.1.5 Release

Release Date: 01.15.2002

45.1 Bug Fixes:

45.1.1 Muse Search

- ☞ All of the applications allow the ' and " characters as part of the query string.

45.1.2 Muse Setup

- ☞ Fixed the encryption algorithm attribute for the password field.
- ☞ Product Registration Form panel is now available.

45.1.3 Muse Search

- ☞ All of them are no longer using references to customer names.

45.1.4 Muse Search

- ☞ Interpac fixes to retrieve images.

45.1.5 Muse Management Console

- ☞ Changes to allow users to be add to applications.

45.2 New Features:



45.2.1 Muse Search

- ENCompass has got few more sources to search.

45.2.2 ICE Server

- Multiple module packages and directories allowed to be specified into user's profile for the class loader.

45.2.3 Muse Web Bridge

- FreemarkerSessionEx and FreemarkerSession interfaces are interchangeable.

45.2.4 Muse Admin Bridge

- Implements different interfaces for different users.

45.2.5 ICE Tools

- Muse Proxy Wrapper can be using a PAC file.
- Startup and Shutdown wrappers for Muse Z39.50 Server and Muse Proxy Wrapper.

45.3 Notes:

All the compile.bat files are using now JBUILDER_HOME environment variable.



46.0

Changes in Muse 1.1.1.4 Release

Release Date: 12.20.2001

46.1 Bug Fixes:

46.1.1 Muse Search

- ☞ Some of the applications allow the ' and " characters as part of the query string (all will be completed with the next release).
- ☞ Fixes on the Drexel sources.

46.1.2 Muse Management Console

- ☞ Changes to allow proper default settings for ordinary users.

46.2 New Features:

46.2.1 Muse Setup

- ☞ Includes the new Passwords Encoder utility tool.

46.2.2 ICE Server

- ☞ All the passwords are stored in encrypted form.



46.2.3 ICE Tools

- ✎ New Passwords Encoder utility tool.

46.2.4 Muse Management Console

- ✎ All the passwords are stored in encrypted form.

46.2.5 Muse Manuals

- ✎ Changes to Muse Administrator.doc which include Muse Z39.50 Server files description.



47.0

Changes in Muse 1.1.1.3 Release

Release Date: 12.13.2001

47.1 Bug Fixes:

47.1.1 ICE Tools

- ☞ SQTG fix regarding translators (style sheets) generation.

47.2 New Features:

47.2.1 Muse Search

- ☞ New ENCompass application.
- ☞ Changes to Phoenix and Drexel applications.
- ☞ Changes to III application to include the number of records per source to be retrieved.

47.2.2 Muse Setup

- ☞ Muse Setup changes so that the hard-wired class names are specified as bean properties in the project.

47.2.3 ICE Tools

- ☞ ICE Proxy Wrapper support for Referral URL and Authorization field.



47.2.4 Muse Z39.50 Server

- ✎ External mapping from Dublin Core to USMARC.

47.2.5 Muse Management Console

- ✎ Better errors management.

47.2.6 Muse Manuals

- ✎ ICE Proxy.doc has been updated according with the changes for Referral URL and Authorization field.

47.3 Notes:

- ✎ Some of the Muse applications have been taken out from the basee package: iiitest, iiipublic, sfpl, teacher, queens, abc.
- ✎ New compile.bat batch files for all of our projects.



48.0

Changes in Muse 1.1.1.2 Release

Release Date: 11.30.2001

48.1 Bug Fixes:

48.1.1 Muse Search

- ISR.Columbus.xml encoding fixes.

48.1.2 Muse Search

- Patron Information for Westchester fixed.
- AltaVista, Excite keep up with changes.
- ABI/INFORM Business Periodicals and National Newspapers fixed an all Applications.
- Library.Request ILL updated to the last API changes.

48.2 New Features:

48.2.1 Muse Search

- New NBCLS connector.

48.2.2 Muse Search

- GGLN has got two more sources (Silicon Valley Library System Net, North Bay Cooperative



Library System).

- ☞ All of the applications have got the code required for MuseSearch Toolbar auto login.

48.2.3 Muse Setup

- ☞ Includes Muse Z39.50 Server installation option.

48.2.4 ICE Server

- ☞ New authentication method which allows PIN along the user name and password.

48.2.5 ICE Tools

- ☞ Muse Search Query Translator Generator has got an ISR builder which will allow the generated translators to be test for different ISR structures.

48.2.6 Muse Z39.50 Server

- ☞ First version available with this release.

48.2.7 Muse Manuals

- ☞ New MARC to XML Converter.doc, ICE Logs Monitor.doc, ICE Control Center.doc and ICE Z39.50 Client.doc manuals.

48.2.8 Muse Management Console

- ☞ Interface changes and help improvements.



49.0

Changes in Muse 1.1.1.1 Release

Release Date: 10.24.2001

49.1 Bug Fixes:

49.1.1 Muse Web Bridge

- Fixed the totalEstimates parameter for FreemarkerSessionEx on Next and Prev actions.

49.2 New Features:

49.2.1 Muse Search

- Changes to MyCommunity Application to include the new MyCommunity Lotus Domino source.
- New Libero Library Network Application.
- New Brooklyn Public Library Application.

49.2.2 ICE Modules

- New MyCommunity connector.
- AltaVista and HotBot connectors keep up with changes.
- New LiberoOPAC, ALEPHDE and BSZ (Katalog des Sudwestdeutschen Bibliotheksverbundes).
- New ICERankingKeyRetrieved to sort the result set in the retrieved order of the records.
- More connectors to be used for Drexel (AGRICOLA, BioOne, CBD, EPrint, IOP, PATFT, Popindex, Springer, TESS).



49.2.3 ICE Tools

- ✎ Search Query Translator Generator and MARC to XML Converter changes.

49.2.4 Muse Management Console

- ✎ Interface changes.

49.2.5 Muse Manuals

- ✎ Muse Proxy.doc new sections which include ICE Proxy Wrapper description.



50.0

Changes in Muse 1.1.1.0 Release

Release Date: 10.12.2001

50.1 Bug Fixes:

50.1.1 Muse Search

- ☞ Anonymous Application fixed the numbers displayed on the first search page.
- ☞ Drexel problem caused by the last version's flush() change has been fixed.

50.1.2 ICE Server

- ☞ ICE Util FTP package fixed to work on different FTP servers.

50.1.3 ICE Modules

- ☞ All the modules error messages have been reviewed for better reports.
- ☞ New connectors for Biography Resource Center, FISOnline, Literature Resource Center required for Westchester.

50.2 New Features:

50.2.1 Muse Setup

- ☞ Rebuild to work on InstallShield MultiPlatform Edition 4.5 as well with the current beta one we use. (The evaluation version has been used.).



50.2.2 Muse Web Bridge

- ✎ Changes which allow a FreemarkerSessionEx interface to work with FreemarkerSession class.

50.2.3 ICE Tools

- ✎ First version of Search Query Translator Generator tool is now available.

50.2.4 Muse Manuals

- ✎ Muse Description and Specification.doc.
- ✎ ICE Communication Interface.doc.
- ✎ ICE Scripts.doc.
- ✎ Muse SQTG.doc.

50.2.5 Muse Management Console

- ✎ Improved help messages and interface.



51.0

Changes in Muse 1.1.0.9 Release

Release Date: 10.04.2001

51.1 Bug Fixes:

51.1.1 Muse Search

- III Applications have got style sheets which maps to keyword for unknown attributes avoiding "unsupported query" messages.

51.1.2 ICE Server

- ICE Sessions Manager work around to close down the accept() blockage. Shutdown should work now properly on Linux.

51.1.3 Muse Web Bridge

- The latest servlets package 2.3 is used. This does properly flush the output buffer.

51.2 New Features:

51.2.1 Muse Management Console

- New Features: regarding files editing.





52.0

Changes in Muse 1.1.0.8 Release

Release Date: 10.02.2001

52.1 Bug Fixes:

52.1.1 ICE Server

- Invalid character error has been found a temporary work around.

52.1.2 ICE Modules

- Z30.50 module change to preserve SUTRS record new lines.
- All the modules report more significant error messages instead of the Internal Error message.
- EBSCOhost authenticator fixed.
- Yahoo connector fixes to keep up changes.

52.2 New Features:

52.2.1 Muse Search

- New Anonymous JSP Application.
- New iispublic, iispanish, iitest Applications.
- All Applications have been changed to use the URL qualifier and the multiple SUTRS fields.



52.2.2 Muse Search

- ✎ Allows selective install of Applications according with a serial number.
- ✎ Errors messages are now available to the user.

52.2.3 ICE Modules

- ✎ All the connectors have been revised to generate the URL qualifier for the files which store URL data.
- ✎ DeDupe module supports [-mm style sheet] optional parameter; Counts the duplicated records and combine their files to the original record.
- ✎ SEARCH module changes to support the new DeDupe module.
- ✎ New SVLSNet connector to search Silicon Valley Library System Net.

52.2.4 Muse Manuals

- ✎ Updated Muse Administrator manual with JSPSession servlet parameters.
- ✎ Updated Muse Install manual.

52.2.5 Muse Management Console

- ✎ More help messages on different panels.
- ✎ Authentication mechanism has been added. Still some work on the authorization side.



53.0

Changes in Muse 1.1.0.7 Release

Release Date: 09.21.2001

53.1 Bug Fixes:

53.1.1 ICE Modules

- ☞ New IDR.HTML.xml, IDR.MARC21.xml, Westchester.dtd Westchester.map conversion style sheets.

53.2 New Features:

53.2.1 Muse Search

- ☞ New GGLN demo application.

53.2.2 Muse Setup

- ☞ New Install ICE Services panel to start ICE automatically during bootup.

53.2.3 ICE Modules

- ☞ DeDupe module supports [-a action] optional parameter; The 'drop' (the existent one), 'count' (counts the duplicated records) and 'link' (counts the duplicated records and links them to the original record) actions supported.
- ☞ SEARCH module changes to support the new DeDupe module.



53.2.4 Muse Manuals

- ✎ Updated Muse Install manual.

53.3 Known Bugs:

53.3.1 ICE Server

- ✎ SUTRS records do not preserve new lines.



54.0

Changes in Muse 1.1.0.6 Release

Release Date: 09.14.2001

54.1 Bug Fixes:

54.1.1 Muse Search

- ☞ Anonymous Application fixed the JavaScript error when no hits retrieved.
- ☞ NYPL allows to cancel holds from the Patron Information page.
- ☞ III has got EBSCOhost, ProQuest, Electric Library, FirstSearch sources set in.

54.1.2 Muse Setup

- ☞ New Setup packages using the InstallShield MultiPlatform Enterprise beta 2.

54.1.3 ICE Modules

- ☞ Fixed LookSmart to keep up changes.
- ☞ CCRIS and DART have been replaced by Toxnet.
- ☞ QueensLibrary and SFPL have been replaced by DRA.
- ☞ SEARCH, Ranking and DeDupe changed to accept command line parameters from their associated keys.
- ☞ All the modules and their profiles have been changed to handle local properties.

54.1.4 Muse Web Bridge

- ☞ New JSPSession rewritten starting from FreemarkerSessionEx and the old JSPSession.



54.1.5 Muse Management Console

- ✎ Structure changes to allow multi-level edit. New Circulation panel.

54.2 New Features:

54.2.1 Muse Manuals

- ✎ Updated Muse Administrator manual.
- ✎ Updated Muse Install manual.

54.3 Known Bugs:

54.3.1 ICE Server

- ✎ SUTRS records do not preserve new lines.



55.0

Changes in Muse 1.1.0.5 Release

Release Date: 09.06.2001

55.1 Bug Fixes:

55.1.1 Muse Search

- ☞ New NSLS demo application which includes ILL functionality and new Availability windows.
- ☞ III, NSLS and Anonymous has got HTML code for pass through searches. The code can be used for any other Application.

55.1.2 ICE Profiles

- ☞ Take out of the system profiles all the user names and passwords values.
- ☞ Take out of the system profiles all ITS.Marc profiles and conversion style sheets.
- ☞ Add more target description into SEARCH.xml profile.

55.1.3 ICE Modules

- ☞ Interpac fixes regarding cover image retrieval.
- ☞ New ILL and ILLLibraryRequest modules to handle Inter Library Loan.

55.2 New Features:

55.2.1 ICE Modules



- New ICEKeyField dedupe key.
- New ICERankingKeySource, ICERankingKeyField ranking keys.

55.3 Known Bugs:

55.3.1 ICE Server

- SUTRS records do not preserve new lines.



56.0

Changes in Muse 1.1.0.4 Release

Release Date: 09.01.2001

56.1 Bug Fixes:

56.1.1 Muse Search

- ☞ Drexel 'more' function fixed.
- ☞ Nebraska has got a new image for Nebraska Library Commission.

56.1.2 ICE Server

- ☞ Style sheets cache gets updated if style sheet files changed. No more need to restart the server or client if style sheets changed.

56.1.3 ICE Modules

- ☞ Kanoodle conversion style sheet updated to keep up with changes.
- ☞ DirectHit, EducationWorld fixes.
- ☞ EBSCO changed to accept different connectors.

56.1.4 Muse Web Bridge

- ☞ Check on optional parameters so that error log messages are written only when real error occurs.

56.1.5 ICE Tools



- ✎ ICE Monitor fixed the filters search into classpath.
- ✎ ICE Control Center fixed the tasks search into classpath.
- ✎ ICE Z39.50 Client preserves query into the query builder;

56.2 New Features:

56.2.1 Muse Search

- ✎ New CCPL demo application.
- ✎ New NSLS demo application.

56.2.2 ICE Modules

- ✎ New Dictionary (www.dictionary.com) connector.

56.2.3 Muse Web Bridge

- ✎ Make it compliant with the latest FreeMarker 1.6.1 package.

56.2.4 Muse

- ✎ Make all the code compatible with the latest JAXP 1.1 from Sun (this will be part of JDK 1.4). JRUN new settings are required according with the Muse Install manual; new jaxp.jar, crimson.jar packages.

56.2.5 Muse Management Console

- ✎ Warning dialog to prevent unsaved changes when leaving the current context.

56.3 Known Bugs:

56.3.1 ICE Server

- ✎ SUTRS records do not preserve new lines.



56.4 Notes:

- ☞ Muse Setup bugs reported in a separate file.





57.0

Changes in Muse 1.1.0.3 Release

Release Date: 08.25.2001

57.1 Bug Fixes:

57.1.1 Muse Search

- ☞ NYPL concurrent actions (availability request stopped results retrieval display).
- ☞ III concurrent actions (availability request stopped results retrieval display).
- ☞ NYPL have got interface for Patron Information.
- ☞ MyCommunity got an working ISR conversion style sheet.

57.1.2 Muse Setup

- ☞ JVM search tips for JRE 1.3.

57.1.3 ICE Modules

- ☞ Fixed AllTheWeb, AltaVista, ElectricLibrary, CarlWeb and Google connectors.
- ☞ SCRIPT module fixed to load full qualified Processing Modules.
- ☞ HoldTelnetWestchester improved the title search match using the Reminder of Title from Z39.50.
- ☞ New Patron, PatronSIP and PatronTelnetWestchester modules to handle Patron Information.

57.1.4 Muse Management Console

- ☞ XML edit functions for configuration files and profiles. ICE Server Settings, Muse Web Client Settings.



57.2 Known Bugs:

57.2.1 Muse Setup

Windows 9x:

- ✎ The uninstaller does not remove the environment variables set in autoexec.bat file.
- ✎ The uninstaller does not remove the icons in start menu.
- ✎ On console mode the installer does not restart Windows and does not update the environment variables.

Linux:

- ✎ As a normal user it cannot install the desktop icons. The environment variables are written one time at install as (e.g):

```
MUSE_HOME = /opt/muse ICE_HOME =  
              /opt/muse/use/ice ...
```

- ✎ and the second time at uninstall:

```
MUSE_HOME = null ICE_HOME = null  
              ...
```

In that way the operation system's configuration files are growing. (Installed application still works well.)

Solaris:

- ✎ On the finish panel it displays error messages because it cannot install the shortcut icons.

Note: These all look to be InstallShield problems which have been posted on their lists.

57.2.2 ICE Server

- ✎ SUTRS records do not preserve new lines.



58.0

Changes in Muse 1.1.0.2 Release

Release Date: 08.17.2001

58.1 Bug Fixes:

58.1.1 Muse Search

- ☞ III Application startup on Netscape fixed (index.html).

58.1.2 ICE Modules

- ☞ Fixed Google, Yahoo, AltaVista and Millenium connectors. Millenium substitutes Tripod connector.

58.1.3 ICE Tools

- ☞ ICE Logs Monitor Date Filter fix; FTP accessed fixed.
- ☞ ICE Tools Linux launchers fixes.

58.2 New Features:

58.2.1 Muse Setup

- ☞ Serial Number used by ICECore and Muse Setup. Includes jaas.config file.



58.2.2 Muse Search

- NYPL have got interface for holds placing.

58.2.3 ICE Server

- JAAS Authentication mechanism. New ICELoginModuleXml module.
- Serial Number used by ICECore and Muse Setup.

58.2.4 ICE Modules

- New GoogleImages, AltaVistaImages, Columbus connectors.
- Hold, HoldSIP, HoldTelnetWestchester module to handle holds.

58.2.5 ICE Tools

- ICE Control Center changes. New Alert task; new ICE Script task; persistent enable state; custom event;
- ICE Logs Monitor changes; Move Up, Move Down buttons; double buffer display.

58.2.6 Muse Manuals

- Muse Install updated.

58.3 Known Bugs:

58.3.1 Muse Setup

- Windows 9x:
 - The uninstaller does not remove the environment variables set in autoexec.bat file.
 - The uninstaller does not remove the icons in start menu.
 - On console mode the installer does not restart Windows and does not update the environment variables.
- Linux:
 - As a normal user it cannot install the desktop icons.



- ✧ The environment variables are written one time at install as (e.g):

```
MUSE_HOME = /opt/muse ICE_HOME =  
            /opt/muse/use/ice ...
```

- ✧ and the second time at uninstall:

```
MUSE_HOME = null ICE_HOME = null  
            ...
```

In that way the operation system's configuration files are growing. (Installed application still works well.)

- ✧ Solaris:

- ✧ On the finish panel it displays error messages because it cannot install the shortcut icons.

Note: These all look to be InstallShield problems which have been posted on their lists.

58.3.2 ICE Server

- ✧ SUTRS records do not preserve new lines.





59.0

Changes in Muse 1.1.0.1 Release

Release Date: 08.10.2001

59.1 New Features:

59.1.1 Muse Search

- ✧ Anonymous application is using the new FreemarkerSessionEx.
- ✧ New application for San Francisco Public Library.
- ✧ Changes to the HTML code to be more clear and easy maintainable (III, MyCommunity, Nebraska, NYPL, Phoenix and Queens).
- ✧ Phoenix changes as required by TLC (new Northeast Union Catalog source; new page header).
- ✧ Drexel "next" operation fixed on Netscape. ProQuest, InterScience keep up with changes.
- ✧ All the requests to /servlet/MusePeer has been replaced by /muse/servlet/MusePeer to allow a different root mapping on the same HTTP and JRun servers for Muse Management Console (/mmc/servlet/MuseAdmin).

59.1.2 Muse Setup

- ✧ Detailed settings for components, subcomponents.
- ✧ Support for more operating systems (OS/2, AIX Power, AIX IA64, Solaris Sparc, OS/2).
- ✧ Applet installation.
- ✧ No bundled JVM which significantly decreased the size of the package.
- ✧ New Muse Management Console component selection.

59.1.3 ICE Modules



- ✧ New Kiplinger, Medline Plus and Wilson Web connectors (and authenticators) used for Nebraska.
- ✧ All connectors are using disconnect() instead of close() which caused runaway modules.

59.1.4 Muse Web Bridge

- ✧ New FreemarkerSessionEx which gives the control back after the first retrieved hits before search completes.
- ✧ Connects to the next host available in the list if the previous host failed.

59.1.5 ICE Tools

- ✧ ICE Z39.50 client got Tile and Cascade Windows features; new Query Builder; new session options; starts without configuration file; many more Z39.50 sources available from the configuration file.
- ✧ Changes to ICE Logs Monitor which improves functionality; new Tail Filter; starts without configuration file; FTP, HTTP for remote access to log files; HTML, RTF and Plain Text logs view.
- ✧ Changes to ICE MARC to Xml which improves functionality; saves the last settings; starts without configuration file.
- ✧ Package changes and improvements to ICE Control Center. Available for comments.

59.1.6 Muse Management Console

- ✧ Available for comments.

59.1.7 Muse Manuals

- ✧ New Muse Proxy.doc manual.
- ✧ Changes to Muse Install.doc according with the new Muse Setup program.
- ✧ New Muse Administrator.doc manual.

59.2 Known Bugs:

59.2.1 Muse Setup

- ✧ Windows 9x:
 - ✧ The uninstaller does not remove the environment variables set in autoexec.bat file.



- ✧ The uninstaller does not remove the icons in start menu.
 - ✧ On console mode the installer does not restart Windows and does not update the environment variables.
 - ✧ Linux:
 - ✧ As a normal user it cannot install the desktop icons.
 - ✧ The environment variables are written one time at install as (e.g):

```
MUSE_HOME = /opt/muse ICE_HOME =  
              /opt/muse/use/ice ...
```
 - ✧ and the second time at uninstall:

```
MUSE_HOME = null ICE_HOME = null  
              ...
```
- In that way the operation system's configuration files are growing. (Installed application still works well.)
- ✧ Solaris:
 - ✧ On the finish panel it displays error messages because it cannot install the shortcut icons.

Note: These all look to be InstallShield problems which have been posted on their lists.

59.2.2 ICE Server

- ✧ SUTRS records do not preserve new lines.

59.3 Notes:

- ✧ One more digit to store system's version number in the less significant position.

