Muse Proxy Release Notes

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Notice

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Table of Contents

1.0

Changes in Muse Proxy 3.0 Build 04

Release Date: 2013-08-14

1.1 Bug Fixes:

- Implemented a major improvement in Muse Proxy when handling the HTTP "POST" or HTTP "PUT" requests. Previously such requests were read with a delay of 1 second. This happened no matter whether the requests were addressed to the Proxy Component or to the Web Component of Muse Proxy. This was fixed.

2.0

Changes in Muse Proxy 3.0 Build 03

Release Date: 2013-08-08

2.1 New Features:

- Implemented a PHP script that can be used for integrating in a portal the dynamically rewritten links returned by Muse Proxy for the target Muse Proxy Sources accessed. The "6.5 Portal Integration" section from the "${MUSE_HOME}/proxy/doc/Muse Proxy Advanced Con figuration.pdf" document contains detailed information regarding Muse Proxy Portal Integration and how this PHP script should be used in a portal.
- Created the Anonymous application with the following features: - index page selects au thentication method (IP or U/P); - each authentication group has its own sources group; - no javascript or jquery; - pages are simple and with comments to easily identify each zone; - no GET parameters, only POST; - "light" theme.
- Added a new parameter "DELETE_CLIENT_SESSION_ON_LOGOUT", with possible values true/false in the ${WEB_CONTEXT_HOME}/WEB-INF/web.xml file of the Administrator Web Context and in the existing Muse Proxy Applications. This parameter tells the system whether the Client Session must be deleted after a successful 'logout' action. If this field is missing, the default value used will be 'false' meaning that the Client Session will not be deleted after a successful 'logout' action.
- Added the 'PROXY_USED' field in the Source's profile with the possible values: 'NO_PROXY', 'SOURCE_LEVEL', 'APPLICATION_LEVEL', 'GLOBAL_LEVEL'. Depending on the value of this field there will be used the proxy access details from the corresponding level. Added the 'PROXY_HOST', 'PROXY_PORT', 'PROXY_PAC', 'PROXY_AUTHORIZATION_USER_NAME', 'PROXY_AUTHORIZATION_USER_PASSWORD' and 'PROXY_AUTHORIZATION_SCHEME' parameters in the '${WEB_CONTEXT_HOME}/WEB-INF/web.xml' file for Muse Proxy Applications. These proxy access details will be used by a Muse Proxy Source when the 'PROXY_USED' field from the Source's profiles has the 'APPLICATION_LEVEL' value. Previously, when a set of proxy access details were set at global level and a Muse Proxy source did not used a proxy, all the HTTP requests done by the source did not used a proxy, but, when the rewritten 'Type 2' link was

returned, it was chaining with the globally defined proxy. This was fixed and now if a source does not use a proxy then the rewritten link returned will not chain with a proxy either. Previously if a proxy pac returned a set of proxies and the first one of them failed, the Muse Proxy Source used the second one, but the navigation on the rewritten link was tried to be done using the first proxy returned by the proxy pac and the navigation failed. This was fixed and now all the proxies returned by the proxy pac which failed for the source will be ignored also when the navigation will be done on the rewritten link.

- Previously, the JavaScript content included in the rewritten pages was computed internally in the Muse Navigation Manager code. Now the statical and dynamical parts of this JavaScript content are stored in 2 separate files and these files are included in mnm.jar at the build process. The dynamical part is updated with the run-time information before being appended to the JavaScript content.
- Increased the Client Session Timeout value to 35 minutes. This value must be strictly greater than the Authentication Timeout for all of the existing Web Contexts. Also this value must be strictly greater than the Navigation Session Timeout.
- Added a new chapter named Muse Proxy Features in Muse Proxy.pdf that lists the features supported by Muse Proxy.

2.2 Bug Fixes:

- The file defined by the INDEX_PAGE_RELATIVE_PATH parameter from Application's web.xml file is now served on the root request (e.g. http://proxyHost:proxyPort/AppID/) without checking the level of access. Now, if a Muse Proxy Application has a non-void value for this parameter, the workflow is as follows: - If the user accesses http://proxyHost:proxyPort/AppID/ URL it is read the file defined by this parameter, the freemarker from it is run and the output content is returned; - If the user accesses the http://proxyHost:proxyPort/AppID/index.html URL and the file defined using this parameter is not public a 'Not Found' response is returned.
- Fixed Muse Proxy Application behavior regarding loading login in the sources section div. This happened if after login, Muse Proxy was restarted and then, the first request (an Ajax request) was not authenticated and the login page was returned. This page that was loaded in the div where the authenticated information must have been loaded. This behavior was fixed and now a redirect to the logon page is returned.
- The rewriting of HTTPS sites using proxy chaining did not work. This was fixed for the Proxy IP authorization and for the Proxy Basic authorization with user/password. The rewriting of HTTPS sites when chaining with a proxy using Digest User/Password authorization is still not supported.

2.3 Known Bugs:

- Muse Proxy Sources cannot access successfully target HTTPS sites when chaining with a proxy using Digest user/password authentication.
- Muse Navigation Manager cannot rewrite successfully target HTTPS sites when chaining with a proxy using Digest user/password authentication.

3.0

Changes in Muse Proxy 3.0 Build 01

Release Date: 2013-06-21

3.1 New Features:

- Updated the descriptive text for MuseProxyFoundation application displayed in the Welcome Page, to provide the default User/Password access details for this application.
- Updated Muse Proxy web interfaces as follows: Added the latest jQuery & jQueryUI Javascript libraries; The Muse Proxy Applications actions (navigation, filter, sort) are now implemented using AJAX; In the Muse Proxy Applications and the Root Web Context, the HTML attributes written in page using Freemarker code are now HTML escaped; The header and footer in all the logon and error pages were uniformized; The "About" floating panel from the Muse Proxy Application web interface is now displayed using tabs, the "Product Information" tab was added; All the files from the Root Web Context can now be accessed also directly using the getResource action; In Muse Proxy Applications, changed the "Muse" text with a Proxy constant obtained by calling a Freemarker function; Added a version for the Muse Proxy Applications, the Muse Proxy Application version is maintained in a Freemarker variable, in the "application.inc" file.
- Added support for allowing Clients to access Muse Proxy using HTTPS protocol.
- Implemented a friendly edit panel for the "Configuration" >> "Administrative Passwords" section from Muse Proxy Administrator Console.
- Added "json" MIME type. Added the possibility that, when running Muse Proxy Application Actions, to take in consideration the extension of the returned template file in order to set the mime type accordingly.
- Updated the Muse Proxy Applications to insert the MUSE_PROTOCOL_KEYWORD marker in all the rewritten URLs that are formed by Muse Proxy Sources in order to correctly handle HTTPS rewritten sites.
- Created the "Muse Proxy Sources Profiling.pdf" document describing the entire sources profiling process.
- Revised and improved the functionality in the "Configuration>> Server IP(s)" section from Muse Proxy Administrator Console.

- Created a root web context for Muse Proxy that handles the requests addressed to the root web page of Muse Proxy (e.g. http://proxyHost:proxyPort/). The root Web Context is used to implement the Muse Proxy Welcome page. Depending if the user which accesses this Web Context is IP authenticated or not, there will be displayed a different amount of information in the Welcome page. For the non IP authenticated users there is displayed a page containing some general information regarding Muse Proxy. For the IP authenticated users there is displayed a page from which the user can access the Muse Proxy Administrator Console logon page, the Muse Proxy Foundation Application web page, the list of Muse Proxy features, the Vendor Contact information and it can access the Muse Proxy documentation.
- Changed Muse Proxy Server term with Muse Proxy term in the web interface, in code and in the Muse Proxy documentation.
- Implemented a login module for FTP authentication in a Muse Proxy Application.
- Implemented a login module for IMAP authentication in a Muse Proxy Application.
- A Client Session is now counted and made persistent in Muse Proxy memory only for requests that serve authenticated content. For the requests to public resources there are created only internal temporary Client Sessions which are not counted, which are released from memory immediately after the request is handled and which do not return a Client Session cookie to the Client (browser) which performed the request.
- Now the unexpected errors encountered by Muse Proxy Applications and by the Root context are displayed using the ProxyError.html freemarker template, instead of the ProxyError.xsl stylesheet. This assures that a skin defined in a freemarker file can be imported and used in the error page returned.
- Changed the look of the Muse Proxy Administrator Console as follows: changed the skin, changed all the Web Context Administrator pages in order to support the new skin, changed the session timeout window to support the new skin, changed the Shut down page.
- Added the NAME and DESCRIPTION fields in the Sources profiles from Muse Proxy Ap plications.
- Added the AUTHENTICATION_TYPE field in the Source profiles from Muse Proxy Ap plications.
- The Services Web Context has 2 Web Modules. For the cases when these Web Modules au thenticate successfully they are now returning in the Content-Type HTTP header the charset=UTF-8.
- Updated the Muse Proxy configuration files to not contain comments outside of the root node.
- Updated all the Muse Proxy XML configuration files to use the UTF-8 encoding.
- Implemented support to expire a Muse Proxy Application at a certain date.
- Added User-Agent HTTP Header support in sources profile. Updated all the profiles in order to contain this new field. Updated the documentation to document this new field. Updated the JMX component to correctly display this field.
- Added Custom HTTP Header support in sources profiles. Updated all the profiles in order to contain this new field. Updated the documentation to document this new field. Updated the JMX component to correctly display this field. Note that the mechanism implemented will skip the

following headers if added by the user: "User-Agent", "Cookie", "Referer", "Authorization", "Proxy-Authorization", "Content-Length", "Host" and "Connection". These are skipped either because there are different fields that are treating them (this is the case for "User-Agent", "Cookie", "Referer") or the fields must be computed inside the proxy modules and so the user cannot set them.

- Added the "encryption" attribute to the GLOBAL_IB_PASSWORD field in MuseProxy.xml file, containing the encryption of the Global InfoBase password. This attribute may have the 'NONE' and 'SHA1' values. The JMX console was updated, in order to provide "get" and "set" operations for this new attribute. The Muse Proxy Server Administration Console was updated, in order to edit this new attribute. The changes were done in the "Muse Navigation Manager/Update" section. Also the "Save" action for the Global InfoBase Access Details was updated in order to automatically encrypt the new password in accordance with the selected encryption.
- Updated the Muse Proxy login modules in order to write in log the cause of the authentication failure. Updated the Authentication Manager to compute the authentication module that made the authentication process to fail and specify it in the message written in log.
- Updated the Muse Proxy Administrator Console so that all the filtering forms to contain a "Reset Filters" button by means of which the user can reset all the filter fields.

3.2 Bug Fixes:

- The "About >> License Details" section from Muse Proxy Administrator Console, now displays well the License Key File properties containing non-ASCII characters or which contain the quote (\"), \r or \n characters.
- The logout action for Muse Proxy Applications is allowed to be run also when the user is not au thenticated. The javascript timer which counts the period of time until the session expires is now reset when an AJAX call is run.
- Implemented a major improvement in the Muse Proxy rewriting mechanism, especially when rewriting web pages which load many JS files and which perform many AJAX calls. Technically the improvement was related to the usage of the queue concurrency mechanism from the java.concurrent.util package. There are situations with complex web pages for which the rewriting time was reduced from 20s to 3s. With other words the web pages rewriting got faster, the end user waits less when clicking on links which are rewritten through the Muse Navigation Manager.
- Updated the Muse Proxy code in order to update the last access time of the Authentication Token each time a successful authentication using that Authentication Token was performed. Also, each time a Navigation Link is processed, if the Navigation Session associated with that link has an Au thentication Token then that Authentication Token's validity period will be extended.
- Now when a Tiny URL is generated using the "Utilities >> Rewrite URL" section from Muse Proxy Administrator Console the URL is computed entirely directly without being made an internal request to the /TinyURLGenerator service.
- Updated the Muse Proxy code so that all the start-up parameters documented in the "Muse Proxy Install.pdf" document to work well. Removed some of the start-up parameters which were too

particular and they were not needed to be supported by the start-up script, but they can be set in the Muse Proxy configuration files.

- Updated some Muse Proxy stylesheet files in order to bring some improvements to the Muse Proxy Admin interface such as: align the confirmation message in the "Statistics / Server" section; in the "Utilities / RewriteURL" section, the Cookies table, in some cases there was a minor problem with the table color, this was fixed; in the "Maintenance / Servers" section fixed the border dimension of the table.
- When the request to /ProxyInformation is successful, now there is also verified the structure of the content received. This is done to exclude the case when the content received can be a logon page.
- Updated Muse Proxy code to not chain anymore exception messages, when creating the full error message, unless it is important to have them chained. In this way, the error message written in the Muse Proxy log file is better understood by the Muse Proxy Administrator.
- Updated the Muse Proxy Advanced Configuration manual to document the complex FreeMarker objects used at the interface level in Muse Proxy Applications.

3.3 Known Bugs:

- If a Muse Proxy Source accesses a HTTPS site and is configured to use proxy access details (e.g. Proxy Host/Proxy Port or Proxy PAC), the rewritten links returned by that Muse Proxy Source cannot be navigated successfully through Muse Navigation Manager.

4.0

Changes in Muse Proxy 2.6 Build 20

Release Date: 2013-03-11

4.1 New Features:

- Updated Muse Proxy Administrator Console web interface: updated "Login" and "Retry" buttons from the login pages to have the same look and feel as the whole console, added pop-up messages using jQuery code, added default values for the "Rewriting Patterns" and "Muse Proxy Au thentication Token" fields in "Utilities >> Rewrite URL" section, added confirmation pop-up for the "Run Garbage Collector" action in the "Advanced >> Virtual Machine" section.
- Implemented support to reload the Muse Proxy Applications at run-time.
- Implemented support for Muse Proxy Applications.
- Added support in Muse Proxy Administrator Console for editing the ${MUSE_HOME}/proxy/passwords.xml file. Created the "Utilities >> Encrypt Password" section that can be used to generate an encrypted password using the "MD5" or "SHA1" algorithms.
- Extended the "Monitoring >> Client Sessions" section of Muse Proxy Admin. Now for each Client Session that handled access to one of the Web Contexts: "administrator", "naviga tionManager" or "services" there is displayed the authentication meta-information in the Client Session details page. New filters were added for filtering the Client Sessions using the au thentication meta-information fields.
- Extended the "Rewrite URL" section from Muse Proxy Admin to allow the generation of Tiny URLs on demand.
- The "MuseKey" HTTP Header will no longer be used when generating a Tiny URL for all Muse Proxy Server versions 2.6.1.1 or above version. For the previous versions of Muse Proxy Server the "MuseKey" HTTP request header will still be used. The changes are available in modulesutil.jar version 1.2209.
- Removed the Start prefix from the Muse Navigation Manager markers which contain it.
- The "Rewritten Request Initial" term was replaced with the "Rewritten Request Type 1" term,

meaning that all the references of the "Rewritten Request initial" (property names, class name etc.) were replaced with the "Rewritten Request Type 1" term. The "Rewritten Request Other" term was replaced with the "Rewritten Request Type 2" term, meaning that all the references of the "Rewritten Request Other" (property names, class name etc.) were replaced with the "Rewritten Request Type 2" term. The "Rewritten Request Type 2" Web Module now supports its own au thentication process. This means that, unlike the older version, now the Muse Proxy administrator can setup different authentication for the "Rewritten Request Type 1" and for the "Rewritten Request Type 2" Web Modules. In the Web Module configuration file (i.e. ${WEB_CONTEXT_HOME}/WEB-INF/web.xml) it was added the "WEB_MODULE_AUTHENTICATION_RELATIONS" element. By means of this element, Muse Proxy Server administrators can establish different authentication relations between Web Modules (See Muse Proxy documentation for more details). In the Navigation Manager Web Context configuration file (i.e. ${MUSE_HOME}/proxy/webcontexts/NavigationManager/WEB-INF/web.xml), for the re writtenRequestType2 Web Module, it was added a new configuration field, named NAVIGATION_SESSION_CONFIGURATION_FILE, having as default value "${WEB_CONTEXT_HOME}/profiles/NavigationSession.xml", which specifies the path to the configuration file where there are stored the settings related to Navigation Sessions. In this file there was moved the NAVIGATION_SESSION_TIMEOUT parameter of the rewritten RequestType2 Web Module and there were added other parameters which describe how Muse Proxy Server should behave in situations when a rewritten link either does not contain a Navigation Session ID, either it contains a Navigation Session ID which is expired or which does not match the rewritten URL. The Muse Proxy Server access details (the ones which are used for authenticating the user to the Muse Proxy) are now extracted and removed from the requests mapped to 'administrator', 'navigationManager' and 'services' Web Contexts. This process is performed for any request no matter if that request is authenticated directly or if it is authenticated based on the data in the authentication cache. The JMX console MBean structure has been updated to reflect the latest changes. The Muse Proxy Statistics log message structure was also updated.

- Updated the filter classes to not add a prefix (&) and a suffix (=) to marker's name. Updated the MuseProxyUtils and MuseProxyServerUtils classes to correctly process both the markers containing a prefix and a suffix and the markers without a prefix and a suffix.
- Updated the Proxy Admin "Maintenance >> Update" section by adding a "more" link. Created a JQuery help pop-up which is opened when the user navigates on this "more" link.
- Updated the encodeMNMurl methods from the MuseProxyUtils class to not add anymore the "MuseFirst" marker in the rewritten links. Removed the "MuseFirst" marker from several example links from the comments present in several classes.
- Changed the value stored in the authorization markers to no longer contain the "Basic" prefix.
- Done some small changes in Muse Proxy Admin interface in "Rewrite URL" and "Unrewrite URL" sections.
- Transformed the help windows in the Muse Proxy Admin interface into internal JavaScript windows.
- Created a generic mechanism for managing lists of data in Muse Proxy Administrator Console.
- Created an "Advanced" section in the Muse Proxy Administrator Console interface, placed after

the "Utilities" section, which contains the following subsections: the "Operations" subsection and the "Virtual Machine" subsection.

- Extended the "Configuring Multiple IP addresses.pdf" and "Muse Proxy Backup.pdf" documents with the latest functionalities.
- Implemented an authentication token marker in Muse Proxy to be used for authenticating the rewritten links.
- Updated the Request Handlers configuration files to replace the AU THENTICATION_CACHE_INTERVAL node with the AUTHENTICATION_TIMEOUT node. The values of the these nodes have remained the same. Updated all the Web Contexts con figuration files to add the new AUTHENTICATION_TIMEOUT node. This field was left empty by default. Updated the Muse Proxy Server code accordingly. Small updates with regard to the statistics messages: the 211 code was displaying the wrong number of active requests; the 214 code was missing from the log files; the 210 code was supposed to also display the IP address of the server which received the request.
- Updated the Muse Proxy code to not take into consideration the request header when generating a Navigation Session ID, but a Navigation Sessions counter will be used instead.
- Revised the usage of the Httpd class in Muse Proxy.
- Implemented a Muse Proxy Administrator Console time-out reminder pop-up which warns the user that the Muse Proxy Administrator Console session is close to end. The mechanism includes the possibility to configure the time when the popup must appear.
- Extended the #210 statistics code to include the server IP. Now, the format of the message is : <connection_id><server_ip_address> where: #connection_id - The ID of the connection on which the new data was received; #server_ip_address - The server IP address which was accessed for that connection id.
- Revised the "getParameters", "getGETParameters" and "getPOSTParameters" methods from the Request class to correctly work when a parameter has multiple values.
- Changed the entries from ${MUSE_HOME}/proxy/jaas.config file to use "requisite" instead of "required".
- Done some clean-up work for the Handler class.

4.2 Bug Fixes:

- Fixed some small problems found when testing Muse Proxy 2.6 Build 1.2.
- Removed the unnecessary namespaces from all the stylesheet files. Updated the MuseProxyUtils class, in order to avoid download of unnecessary XML entity files when the request to http://${proxyHost}:${proxyPort}/ProxyInformation or http://${proxyHost}:${proxyPort}/TinyURLGenerator returns an error page which refers a ".dtd" file.
- Fixed somes issue that appeared while testing internal Muse Proxy build.

- There was a small problem encountered to the record links rewriting when the ICE Server was not IP authenticated for Proxy Services. This was fixed.
- In the "Admin >> Utilities >> Rewrite URL" section a rewritten URL could not be generated immediately after the update of the mnm.jar file from Global InfoBase and before any navigation on a rewritten link was performed. When the "Generate" button was clicked, there was not displayed any error message in the www interface but the following message is written in the log file: "Handler@17070e7: [connection.id=7253919C5A5D6EC] Muse Proxy Server encountered an unexpected error which prevented it from fulfilling the request.". This was fixed.
- A problem with the cache mechanism was encountered when the resources served by Muse Navigation Manager were saved in cache and they were later served from cache. The encountered problem was fixed. The cache mechanism was updated in order to completely delete the cached files and their references when they are removed from cache. Updated the web modules that are using cache to synchronize the access to the cache.
- Corrected the information written in the MuseProxyStatistics log for 310 and 311 statistics codes. Previously, for these statistics codes, instead of being written in the MuseProxyStatistics log the "user IP address", it was written the "server IP address". This was fixed.
- Updated the Muse Navigation Manager cookie mechanism to support more date formats for expired cookies dates.

5.0

Changes in Muse Proxy 2.6 Build 10

Release Date: 2012-08-24

5.1 New Features:

- Renamed the Client Session cookie name from "MNMSESSIONID" into "CLIENT_SESSION_ID". This cookie is returned by Muse Proxy to the Client when a request to the web component of Muse Proxy is made and that request does not contain this cookie.
- The following changes were done in Muse Proxy:
  - Now the authentication for the Muse Proxy users, for the Muse Navigation Manager users, for the Muse Proxy Admin users and for the Muse Proxy Services (ProxyInformation, Tiny URLGenerator) users is done separately. For example an user who is authenticated to use Muse Proxy as a regular proxy may be set to not be authenticated to perform the http://${PROXY_HOST}:${PROXY_PORT}/ProxyInformation request.
  - Implemented Web Contexts for all the web components of the Muse Proxy: Muse Proxy Admin, Muse Navigation Manager, Public requests, Services requests and requests which must return a Not Found response page. Any request received by Muse Proxy is categorized and directed either to the proxy component or either to one of the existent Web Contexts in order to be processed.
  - The logon to Muse Proxy Admin requires both IP and user/password authentication. The logon to Muse Proxy Admin interface is now handled using a logon page instead of a Proxy Authorization pop-up. Implemented the logoff action in Muse Proxy Admin. In the "Monitoring" -> "Client Sessions" section, the link to the list of Navigations Sessions for a Client Session is now displayed only when the current Client Session contains at least one Navigation Session inside it.
  - The logon to Muse Navigation Manager requires either IP or user/password authentication. By default the requests handled by the Muse Navigation Manager are IP authenticated from any IP (this is similar to the previous configuration from Muse Proxy 2.6 Build 0.0 or older) so the user/password authentication is not used by default. But if one will restrict the IP au thentication rights for the Muse Navigation Manager, the off-campus users will receive a logon page where they can logon using their user/password access details.

- The logon to Muse Proxy Services (ProxyInformation, TinyURLGenerator) requires either IP or user/password authentication. The users who are not IP authenticated will receive a logon page where they can logon using their user/password access details.
- The requests to URLs of the form http://${PROXY_HOST}:${PROXY_PORT}/${unknownPath} where ${unknownPath} is an URL path not handled explicitly by Muse Proxy will return a "Not Found" response page. In the previous versions of Muse Proxy (2.6 Build 0.0 or below) such a request returned a Proxy Authorization pop-up.
- Removed the DOCUMENT_ROOT, STYLESHEETS, PASSTHRU, MULTIPLE_FILTER_INSTANCES fields. The PROXY_KEEPALIVE field was renamed to KEEP_ALIVE to match the name of other configuration fields. The SESSION_TIMEOUT field was moved in the ${MUSE_HOME}/proxy/modules/handlers/RequestHandlerWeb.xml file in the CLIENT_SESSION_TIMEOUT field. The AUTHENTICATION_CACHE_INTERVAL field was removed from ${MUSE_HOME}/proxy/MuseProxy.xml and there were added the following other similar fields: AUTHENTICATION_CACHE_INTERVAL field in the ${MUSE_HOME}/proxy/modules/handlers/RequestHandlerProxy.xml file and the AU THENTICATION_CACHE_INTERVAL field in the ${MUSE_HOME}/proxy/modules/handlers/RequestHandlerWeb.xml file having separate values. The requests for the proxy and web components of Muse Proxy use now separated au thentication mechanisms. The SUPPORTED_FILTERS and ENABLED_FILTERS fields were moved in the ${MUSE_HOME}/proxy/webcontexts/NavigationManager/profiles/Filters.xml file and re structured as multi-level elements.
- Updated the information written in Muse Proxy Statistics log for the following codes: 212, 280, 281. Added the following new codes for the additional information written in the Muse Proxy Statistics log: 213, 214, 215, 216, 284, 311, 391.

- It was implemented a timeout mechanism for the Navigations Sessions separated from the timeout mechanism for the Client Sessions.
- Now the mnm.jar code is obfuscated.
- Added support to Muse Proxy server to not count the traffic with specific IPs (Target or Client). This is useful in order to allow the Muse Proxy administrator to exclude from traffic counting the local IPs for which there is not done real "internet" traffic. For example if the ICE Server and Muse Proxy server run both in a local network, the Muse Proxy server can be set to exclude the traffic counting with the ICE server. The IPs (Target or Client) for which the traffic counting is excluded can be set using the Muse Proxy Admin interface. By excluding the local IPs from traffic counting, the graphs created in Muse Statistics Monitor for the network statistics data exported by Muse Proxy JMX will show the real internet network traffic. Note: The bytes counted by the traffic attributes exported using Muse Proxy JMX are for the effective data without going deeper into the underlying protocols. They are the effective payload of the TCP/IP packets transferred between the Muse Proxy and the hosts involved in the communication. So they actually represent less data than what is effectively transferred over the network.
- Extended the patterns supported by the Navigation Manager Mode field. Added support for the following escape characters:

- * for the asterisk (*) character;
- \? for the question mark (?) character;
- \\ for the backslash (\) character.

- Added AUTHORIZATION_SCHEME_PARAMETER constant and its associated marker in Muse Proxy. This allows Muse Proxy to rewrite successfully pages which are authorized using either "Basic" and "Digest" authorization methods. Previously only the "Basic" HTTP au thorization was supported for the target sites accessed using rewritten links.
- Updated Muse Navigation Manager to add support for quotes in cookies values.
- Now, the functionality of the HTMLObjectTag filter include the functionality of the Embedde dObjectMovie filter and the latter one was deleted.
- There were some code improvements in the NavigationFilter class. These improvements are delivered through a mnm.jar update.
- Updated Muse Proxy Admin as follows:
  - Updated the "Maintenance -> Update" section in order to use a password control for the "Password" field;
  - Updated the "Backup/Restore" section in order to display the creation date in ISO8601 format for the backup files;
  - Remade the functionality of the "Reset" button of the "Edit" window in "Servers -> Pattern" section;
  - In the "Client Sessions" -> "Navigation Session" section, displayed the value for the following properties stored in the Navigation Session: "REWRITING_PATTERNS", "UID", "charset", "ID". The "ID" field is displayed only if this is not void. Also displayed a bullet before each cookie from the "Cookies" section.
- Added the SOCKET_BACKLOG field in the MuseProxy.xml configuration file. Its default value is 1024. The value of this field is used when creating the ServerSocket objects.
- Created a new Muse Proxy Statistics log which logs in detail all the Muse Proxy run-time activity. The numeric codes used by the Muse Proxy Statistics log are detailed in the Muse Proxy manual. This log is very useful when investigating the Muse Proxy activity for various reasons.
- Created new Muse Statistics Monitor statistics graphs and updated the existing ones for the statistics data exported by Muse Proxy JMX.
- Updated the JMX (for both the monitor and control users) to contain functions for retrieving statistical information. Updated the traffic counting mechanism to split the counted "bytes" section, into 6 sections: "TotalBytesIn", "TotalBytesOut", "TotalClientBytesIn", "TotalClientBytesOut", "TotalTargetBytesIn", "TotalTargetBytesOut". These properties are also exported per each IP in part, on which Muse Proxy listens.
- Added support in Navigation Manager to remove some HTTP Headers when forwarding a request to the Target server. The list of HTTP headers that are removed from the request is configurable at run-time through JMX.
- When the request's Content-Type HTTP header contains Unknown as part of it or if it is not

present then the response is no longer rewritten when its Content-Length exceeds a configured value. This value can be configured at run-time through JMX.

- Previously, the extension of the "filename" attribute from the Content-Disposition response header was considered in deciding whether the content will be rewritten. The code was updated in order to no longer take any decision whether the content will be rewritten or not based on the value of the Content-Disposition HTTP header.
- Added an "Utilities" section in Muse Proxy Admin which can be used to Rewrite/Un-Rewrite an URL through Muse Navigation Manager.
- Added the MusePostID filter in Muse Proxy which is used to rewrite through Muse Navigation Manager the HTTP POST requests done to an URL relative to "/", in the Muse Navigation Manager rewritten pages. This improves pages rewriting for cases when HTTP POST requests to URLs starting with "/" are performed from JavaScript or from Flash components embedded in the page.
- Revised the Muse Proxy code so that for all the actions related to Muse Navigation Manager link navigation to be called a section of code from mnm.jar.

5.2 Bug Fixes:

- Various fixes done to Muse Proxy.
- Previously, for each logon to Muse Proxy a string of the following form: user:password-address:remotePort was written in the log. But this was wrong because the password was written in clear in the Muse Proxy log. This was fixed, and now the password is no longer written in the Muse Proxy log.
- Now, the Muse Proxy Admin is implemented using the "administrator" Web Context and this Web Context has dedicated security rules. In the old implementation in order for an user to be able to logon in the Muse Proxy Admin section, he/she was authenticated twice: once using the rules for the "default" user and a second time using the rules for the "administrator" user.
- Updated the Muse Proxy server code, so that a Navigation Session may be used only by the user for which it was created. This means a Navigation Session can be used only as part of the Client Session which created it, and not by any Client Session.
- A Navigation Session is now reused only when all the request headers and attributes have the same values. This excludes the "Cache-Control" and "Pragma" HTTP headers which change for each request.
- Fixed some small Muse Navigation Manager problems related to the handling of the rewriting patterns: If the value of the NAVIGATION_MANAGER_MODE field in the Source Package profile ended with an "exclude:" pattern which had a space before it, that exclude pattern was interpreted as an include pattern but leaving the "exclude:" part as part of the pattern (so such a pattern did not match any URL). Transformed the relative URLs that were not matched by the rewriting patterns into full native URLs.
- Fixed some small problems found while testing the Muse Proxy functionality.

- Verified all the Muse Proxy code sections where the Iterator or Enumeration classes are used, in order to see if that code could be used in a multi-threaded scenario and if yes added syn chronization to that code.
- Updated Muse Navigation Manager to no longer rewrite the pages for which there will be performed a redirect to the original site, after the request will be handled.
- Fixed some Muse Proxy Statistics log inconsistencies such as:
  - a line had the "client_session_id" and "the client_ip" parameters missing;
  - a message having code 283 was missing when deleting a Client Session from the Muse Proxy Session admin console.
- Reduced the memory used by Muse Navigation Manager when the Client requested a large binary file, but reads just a part of it. Also some threads which remain blocked in certain conditions now are released successfully.
- Every time when there is encountered an error, Muse Proxy displays an error page. The "error" method from the "Handler" class creates the reply and writes it to the client object. The problem was that this method only wrote the reply headers and not also the reply content. This was fixed now and the "error" method was updated to write both the headers and the content of the reply.
- Updated the "save" method from the "Updater" class in order to save the value of the "day of week" in the correct field "DAY_OF_WEEK" and not in the field "DAY_OF_MONTH" as previously did. Updated the "schedule" method from the "Schedule" class to assign a default value for a field which is not in the list of fields associated with a moment of type. If the field is missing a message is written in the log file.
- Previously, when a rewriting pattern from the Navigation Manager Mode field was too general a regular expression error was encountered for specific cases. Now the matching code was updated to check the simple cases without regular expressions and to reject them directly if they do not match. Only the expressions which have passed the initial check will be checked using the regular expressions created based on the received rewriting patterns.
- Updated the Muse Proxy manual so that the Muse Proxy filters to have the same order as they have in the MuseProxy.xml configuration file in the SUPPORTED_FILTERS element.
- Revised some old sections of Muse Proxy code in order to work better.
- There was done a small update to the algorithm which rewrites the record links through Muse Navigation Manager in order to better identify the markers names in the URL and place them in the rewritten URL (according with the rewritten URL construction algorithm).
- The getParameter method from the ProxyAdminFilter class is now used to get the value of the URL from request. This method decodes the input parameter before applying the StringTokenizer object over it. If the parameter, the URL in this case, contains "&" then the value of the URL will be truncated to the first encountered "&" character. A new method getParameter has been constructed which has a boolean parameter which specifies if the input parameter must be decoded or not.
- Improved the Navigation Manager code to better handle the Cookie HTTP header .
- Previously, when from Muse Proxy Admin interface, in the "Maintenance" -> "Servers" section,

there was updated a pattern with a value which matched one of the previously matched IPs, Muse Proxy server was shutting down. This was fixed.

6.0

Changes in Muse Proxy 2.5 Build 09

Release Date: 2011-08-18

6.1 New Features:

- Created package-info.java classes for the packages from Muse Proxy included in modulesutil.jar.

6.2 Bug Fixes:

- We now add a default Navigation Manager Mode pattern in the Navigation Session even if there is no pattern defined in the Source Package configuration file. Needed by all sources which use TinyURLs and do not have a rewriting pattern in the Source Package configuration file.

7.0

Changes in Muse Proxy Server 2.5 Build 06

Release Date: 2011-06-16

7.1 Bug Fixes:

8.0

Changes in Muse Proxy Server 2.5 Build 05

Release Date: 2011-05-26

8.1 New Features:

- Added a "Reload Patterns" button in the Muse Proxy Admin/Maintenance/Servers section. This feature can be used when new IPs are added to the physical machine where Muse Proxy runs and the system administrator wants that Muse Proxy to start listening on the new IPs matched by the existing patterns without restarting it.
- When mnm.jar is updated from Source Factory using the Muse Proxy Admin console now it is sent to the Source Factory a corresponding code. In this way, the Source Factory will identify correctly the cases when the mnm.jar was updated using the Muse Proxy Admin interface.
- Used the new MusePostID filter when handling TinyURLs, in order to prevent the cases when the POST data of a TinyURL may be consumed from the NavigationSession by other requests, before being used by the current request.
- Previously, the Muse Navigation Manager could not handle the case when a cookie having a domain property was stored from JavaScript in the document.cookie. The native site sends that cookie to the server at the future requests, but the Muse Navigation Manager was losing it. Because of this the functionality was affected. This was fixed by improving the way in which the cookies from JavaScript are handled in the Muse Navigation Manager rewritten pages.

9.0

Changes in Muse Proxy 2.5 Build 04

Release Date: 2011-03-31

9.1 New Features:

- Now, when interpreting the value of the `StartMuseNavigationManagerMode` marker (which contains the value of the `NAVIGATION_MANAGER_MODE` field from the Source Package profile) the matching is also done against the port and the file part of the `URL` to be matched.

10.0

Changes in Muse Proxy Server 2.5 Build 03

Release Date: 2011-02-22

10.1 New Features:

- The IP of the secure.museglobal.com host was changed so the ${MUSE_HOME}/proxy/hosts.xml* files were updated accordingly.
- Removed the UNCOMPRESS field from Muse Proxy configuration file. This was done because the proxy component from Muse Proxy must not uncompress the content processed. The Muse Navigation Manager component of Muse Proxy will uncompress only the pages that will be rewritten.
- Removed the unused Muse Navigation Manager filters: DejaVu.java, Edina.java, NetLibrary.java, NewsBank.java, RefWorks.java, WilsonWeb.java.

10.2 Bug Fixes:

- Previously, when processing cookies containing the HTTPOnly attribute a NullPointerException was thrown. This was fixed.
- Updated some images included in the Muse Proxy.pdf document to not contain the title of the Muse Proxy setup window. Also another image which contained the wrongly spelled text "passowrd" instead of "password" was updated.
- Improved the Muse Proxy cookies management by preserving the cookies sequence, as it is received from the native site, when sending them to the native site.

11.0

Changes in Muse Proxy 2.5 Build 00

Release Date: 2010-10-07

11.1 New Features:

- Updated the Muse Proxy start scripts to match the latest ICE Server start scripts which ensure a better way of handling the messages written to the stdout and stderr streams.
- In JMX, under com.edulib.muse.proxy.update.Updater / mnm / Operations / updatePackage, an error was encounterred "Problem invoking updatePackage: java.lang.NoSuchMethodException:". This was fixed. Now, only a newer version of the mnm.jar file will be downloaded/installed.
- When a domain could not be accessed using Muse Proxy either because of network connection problems with that domain, either because that domain did not exist, the Muse Proxy returned the HTTP/1.0 504 Gateway Timeout response code. Now, in case the connection error with the target host is immediately received the response code is HTTP/1.0 503 Service Unavailable instead of HTTP/1.0 504 Gateway Timeout response code.

11.2 Bug Fixes:

- Now, all the accesses to mnm.jar are made exclusively through the Classloader. This was done in order to prevent the Java Bug which leads to a JVM crash.
- Improvements were done to the Muse Proxy Server Admin sections.

12.0

Changes in Muse Proxy Server 2.4 Build 09

Release Date: 2010-09-01

12.1 New Features:

- Small changes done for Muse Proxy JMX: removed the method "saveToDisk" from ServersMBean; corrected the stylesheets for JMX, as the XML format of the response was changed; returned also version and comment for "listBackupFiles" in Updater; updated the functions which retrieve information about: session, connection, Tiny URLs and cache files (search filters, sorting, start, per page); added setter for NAVIGATION_ENABLED_FILTERS and ENABLED_FILTERS, the new value set is a list of coma separated filters; registered to JMX the Navigation preferences; made the TINY_URLS_DIRECTORY read only; when a method encounters an error condition and the operation fails an exception is thrown to the JMX client.
- Added support to rewrite the favicon links.
- Updated the Muse Proxy manual to describe the latest features added in Muse Proxy Admin.
- In Muse Proxy Admin interface there was added the Java Virtual Machine tab with information about the Java Virtual Machine.
- The Muse Proxy Admin interface was recreated to have the Muse Consoles look and feel. Filters and sorting were added to various fields. Added a help for each section. Added a section to display the Muse Proxy configuration file.
- Updated the Muse Proxy manual to document all the attributes and methods exposed through JMX.
- Updated Muse Proxy manual to document the Muse Proxy Admin interface. Added subsections to "2.8 Muse Proxy Admin" section.

12.2 Bug Fixes:

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Fixed a problem that appeared when backing up mnm.jar and no write access was present. Now when there is no write access in the backup directory a corresponding error message is returned.

- Improved the Muse Proxy stop mechanism. Now the user/pass for the administrator user are no longer passed as command line parameters in the stopMuseProxy script, but they are read from the ${MUSE_HOME}/proxy/password.xml file.
- Muse Proxy Admin: Various small fixes were done especially for the filters, sorting, navigation and update on various pages. Additional error messages are now displayed in the www interface when an error occurs. A couple new filters were added for some fields.
- When having a non-void value for the RMI_SERVER_ADDRESS field the JMX Server did not start successfully. This was fixed.

13.0

Changes in Muse Proxy Server 2.4 Build 06

Release Date: 2010-06-10

13.1 New Features:

- Now, Muse Navigation Manager serves to the client the binary files as they are read. This improves the speed of image loading in the rewritten pages, the media files are now loaded on the fly. This greatly reduces the memory used by Muse Navigation Manager when serving the binary content since this content is no longer entirely read and stored in memory before serving it.
- More timeout error codes are now returned by Muse Proxy such as: error code 504(Gateway Timeout - The server was acting as a gateway or proxy and did not receive a timely request from the upstream server) and error code 408 (Request Timeout - The server timed out waiting for the request. The client did not produce a request within the time that the server was prepared to wait. The client MAY repeat the request without modifications at any later time.).
- Previously, the JMX port was only used for "RMI Registry" while for "RMI Server" it was automatically assigned a port which could not be accessed in case of a firewall. This problem is now avoided by assigning the same port for both "RMI Registry" and "RMI Server".
- Removed the CONNECT_TIMEOUT parameter from Muse Proxy configuration file. The Muse Proxy runs as a server and it can only have with a client a read timeout (a server waits forever for any client to come so a server does not have a connect timeout).
- All Muse Proxy parameters defined in the Muse Proxy configuration files and/or in the filters con figuration files are now published through JMX. Changing a parameter value through JMX, will be logged and automatically used on the fly. A new field AU THENTICATION_CACHE_INTERVAL was added to Muse Proxy configuration file; this field specifies the period of time in milliseconds while an authenticated user will be cached.
- Reorganized the Muse Proxy clean-up threads. Added CLEANUP_INTERVAL field in Muse Proxy configuration file which defines the period of time when the clean up runs. Removed SESSION_TIMEOUT_CHECK field from Muse Proxy configuration file and removed TIME_OUT_CHECK field from TinyURL.xml, since they are no longer used.
- Added the TARGET_CONNECT_TIMEOUT, TARGET_READ_TIMEOUT and

KEEP_ALIVE_INTERVAL in MuseProxy.xml and exported them through JMX. TARGET_CONNECT_TIMEOUT and TARGET_READ_TIMEOUT set the connect/read timeout, in milliseconds, for connections made by Muse Proxy to the target sites. KEEP_ALIVE_INTERVAL sets the keep alive requests timeout, in milliseconds, for connections made by Muse Proxy to the target sites.

13.2 Bug Fixes:

- Revised the Muse Proxy log messages to outline the necessary information needed for the Muse Proxy investigation.
- Updated the Muse Proxy start/stop scripts to remove the reference to the libraries that are no longer present in proxy/lib directory.
- Improved the JavaScript parser: the parsing of a JavaScript file of about 1MB now takes less than 1 second, also, now, the JavaScript parsing time is directly proportional with the JavaScript input size.
- Added an additional error condition that fixed a Muse Proxy "NullPointerException" error.
- Fixed the processor spikes problem produced by Muse Proxy when a binary file with no Content-Type but with a Content-Disposition header was rewritten through Muse Navigation Manager. More information(regarding the connection id, the client session id, the navigation session id and the url navigated, also the stream size, the stream read duration and the processing duration) is now written in Muse Proxy log. Now, the thread name for page rewriting threads is set to contain the connection id, the client session id, the navigation session id and the url navigated. This information will appear also through JMX because JMX shows the Thread Name in the Threads information section. The javascript parser code was greatly improved. Added a protection for the cases when a binary content will still reach the rewriting code. If no rewriting is done and the output buffer contains the same characters as the input buffer the output characters are no longer written in the stream. In this way binary streams which would reach the rewriting code will be left untouched and will not be corrupted.
- When having just few idle threads the maximum threads created may exceed the MAX_THREADS configured value. This happened when the number of idle threads is less than MIN_IDLE_THREADS. In this case there were created a number of threads to reach MIN_IDLE_THREADS idle threads. But this was done without checking to not exceed MAX_THREADS. This was fixed.