

## Attunity Enterprise Manager 6.3 Release Notes - December 2018

Attunity Enterprise Manager 6.3 introduces several important features and enhancements including new .NET and Python SDKs, new notification types, error consolidation, enhancements to the SDKs, and improvements to the Analytics and Metadata modules.

### Notes

- » **License(s):** From AEM 6.1, in order to use AEM, new and existing customers will need to install a valid "Replication Management" license.  
Customers (new and existing) who wish to use the optional Replication Analytics module will also need to install a "Replication Analytics" license to enable the module's features.
- » **Beta features:** The Metadata Module and Compose Monitoring features are in Beta.
- » **Skipping versions:** Customers who are skipping versions (i.e. not upgrading from the last released version) are strongly encouraged to review the release notes for all versions higher than their currently installed version.

In these release notes:

- » [Migration and Upgrade](#)
- » [Replicate and Compose for Data Lakes Compatibility](#)
- » [New .NET and Python SDKs](#)
- » [Log Stream Staging Support](#)
- » [Enhanced Notification Support](#)
- » [Event IDs in Windows Event Log](#)
- » [Error Consolidation](#)
- » [Indication when Information is Not Available](#)
- » [Support for Setting or Disabling the User-Idle Timeout](#)
- » [API Monitoring Enhancements](#)
- » [Support for Export and Importing Tasks](#)
- » [Task Description](#)
- » [Monitoring Enhancements](#)
- » [Permission Changes](#)
- » [Analytics Improvements](#)
- » [Metadata Improvements](#)
- » [Supported PostgreSQL Version](#)
- » [Resolved Issues and Customer Requested Enhancements](#)
- » [Known Issues](#)

For more information about a particular feature, please refer to the *Attunity Enterprise Manager Setup and User Guide*.

## Migration and Upgrade

This section describes various upgrade scenarios and considerations.

### Upgrading from an Unsupported Version

If your current AEM version is no longer supported, you need to perform two upgrades. First, upgrade to any supported version (excluding this version), and then upgrade to this version. If you are unsure what version you need to upgrade to first, contact Attunity Support.

### Using the Metadata Module after Upgrade

The following procedures that must be performed should you wish to continue using the Metadata module after upgrading to AEM 6.3.

#### Upgrading from AEM 6.2 to AEM 6.3:

If AEM 6.2 was configured with both Analytics and Metadata or with Analytics only, perform the following procedure after upgrading to AEM 6.3:

1. Open the AEM **Settings** window.
2. Select the **Repository Connection** tab.
3. Click **Test Connection** and then click **Initialize Metadata Repository**.

Note that this will delete any existing Metadata data from the repository.

If AEM 6.2 was configured with Metadata only (i.e. without Analytics), perform the following procedure after upgrading to AEM 6.3:

1. Open the AEM **Settings** window.
2. Select the **Repository Connection** tab.
3. Re-enter any of the connection settings (it doesn't matter which).
4. Click **Test Connection** and then click **Save**.
5. Click **Initialize Metadata Repository**.

Note that this will delete any existing Metadata data from the repository.

#### Upgrading from AEM 6.1 to AEM 6.3:

If AEM 6.1 was configured with Analytics, in order to be able to use Metadata module, perform the following procedure after upgrading to AEM 6.3:

1. Open the AEM **Settings** window.
2. Select the **Repository Connection** tab.
3. Click **Test Connection**.
4. Click **Initialize Metadata Repository**.

## Replicate and Compose for Data Lakes Compatibility

### » **Replicate Compatibility**

- » AEM 6.3 is now compatible with Replicate 5.5, 6.2, and 6.3 for all functionality, with the exception of the **Metadata** feature which is only supported from Replicate 6.2.
- » The **Resuming an Incomplete Full Load** task settings option was deprecated in Replicate 6.1. Consequently, drilling down to the Replicate task settings *from within AEM 6.3* will not show this option. The same holds true, even when drilling down to an older Replicate version that supported this option.
- » **Compose for Data Lakes Compatibility** - AEM 6.3 is compatible with Compose 6.3 only.

## New .NET and Python SDKs

The new .NET and Python SDKs complement the existing REST SDK by allowing organizations to incorporate AEM functionality and monitoring features into other systems as well as providing an easy way of running batch operations.

Resources (sample code, Help, etc.) for the .NET and Python SDKs can be found in the following location:

C:\Program Files\Attunity\Enterprise Manager\clients

## Log Stream Staging Support

To support the new Replicate **Log Stream Staging** feature, the following options have been added to the AEM Console:

### **In the Task List:**

A new **Log Stream Staging** column (hidden by default) has been added. The new column displays the name of the Log Stream Staging task, both for the actual Log Stream Staging task and for any tasks associated with the Log Stream Staging task.

### **New tags in the left pane:**

- » Under **Task Profile**: Log Stream Staging
- » Under **Target DB Type**: Log Stream

### New tags category - "Log Stream Staging":

- » One tag for each Log Stream Staging task. Selecting a tag in this category will show all tasks that are associated with the Log Stream Staging task (i.e. the Log Stream Staging task and all tasks that read from the same Log Stream staging folder).
- » Selecting **Other Tasks** will show tasks that are not reading from Log Stream or tasks that are defined as Log Stream Staging tasks but that do not currently have a Log Stream target endpoint.

### API Support:

See [API Monitoring Enhancements](#) below.

For more information about the Log Stream Staging feature, refer to the *Attunity Replicate Setup and User Guide*.

## Enhanced Notification Support

### Task Notifications

The following notification types are now available:

**Any Error:** Sends a notification when any error occurs in the system. Note that notifications will not be sent for the following error types:

- » Recoverable errors. Recoverable errors are printed as INFO in the log (unless the task logging is set to TRACE, in which case they will be printed as ERROR).
- » Certain user-defined error handling policies. For example, if the Duplicate key when applying INSERT Apply Conflicts handling option is set to Log record to the exceptions table, no notification will be sent. However, if it set to Stop task, a notification will be sent.

**Errors containing one of these codes:** Sends a notification whenever an error matching one of the specified error codes occurs. Error codes for tasks that encountered an error are shown in the Message Center for the corresponding task. You can copy the desired codes from the Message Center and paste them into this field.

**Note** The **Errors containing one of these codes** notification type is supported for tasks running on Replicate 6.2 and above only.

### New Notification Variables

#### » Task Notifications:

\$(CPU\_USAGE\_PERCENTAGE) - The percentage of CPU utilized by the task.

» **Server Notifications:**

\$(ATTUNITY\_CPU\_USAGE\_PERCENTAGE) - Total percentage of CPU utilized by the Replicate Server's services and tasks.

\$(MACHINE\_CPU\_USAGE\_PERCENTAGE) - Total percentage of CPU utilized by all processes running on the server machine.

**Note** These variables are supported only for Replicate and only for Replicate 6.2 and above.

## Event IDs in Windows Event Log

Notification events reported to Windows Event Log are now reported with a unique ID, thereby enabling users to easily identify the reported events.

For a full list of the Event IDs, refer to the section **Event IDs in Windows Event Log** in the *Attunity Enterprise Manager Setup and User Guide*.

## Error Consolidation

Messages related to the same issue that were previously reported as separate errors will now be consolidated into a single message with a single code. This will reduce the number of entries in the Message Center as well as the number of notifications sent.

## Indication when Information is Not Available

In the following scenarios, the value of -1 is now used in order to represent N/A:

- » **Server/Task notifications:** The variables of Disk, Memory, CPU, Machine CPU usage for Compose servers/tasks.
- » **Server/Task notifications:** The variables of CPU, Machine CPU usage for Replicate versions lower than 6.2.
- » Public APIs **AemGetServerDetails** and **AemGetTaskDetails**: The metrics of CPU and Machine CPU usage for Replicate versions lower than 6.2, or for Compose servers/tasks.

For Compose servers, **AemGetServerDetails** will return the disk usage and memory consumption metrics as -1 (since these metrics are only available for Replicate servers).

## Support for Setting or Disabling the User-Idle Timeout

When Form authentication is set, you can use the `--user_timeout (-u)` AEM CLI parameter to override the default user idle timeout period (5 minutes) or to disable user idle timeout entirely.

When a user idle timeout value is specified, AEM will automatically log out users that have been inactive for the specified time period.

## API Monitoring Enhancements

The following methods have been enhanced:

- » **AemGetTaskList** now returns:
  - » A **message** containing detailed information about any errors that occurred.
  - » A list of custom tags assigned to the task.
- » **AemGetTaskDetails** now returns:
  - » Information about the **task\_stop\_reason** and the **message** in case an error occurred. In addition, the current CPU usage of the Replicate tasks process is also returned (**cpu\_percentage**).
  - » The name of the related Log Stream Staging task for tasks that read from or write to the Log Stream Staging folder.
  - » A list of custom tags assigned to the task.
- » **AemGetServerDetails** - Now returns the CPU usage of Replicate server and task processes (**attunity\_cpu\_percentage**), and the total CPU of all processes running on the server machine (**machine\_cpu\_percentage**).

**Note** Parameters/return values related to CPU are supported only for Replicate and only for Replicate 6.2 and above.

## Support for Export and Importing Tasks

The ability to export and import tasks with or without endpoints has been added to the AEM Console. The new **Export Task** and **Import Task** options can be accessed from the **Tasks** and **Servers** tabs respectively.

The ability to export tasks is useful if you need to migrate tasks between different AEM machines, which may be necessary if you need to decommission a machine or move from a test machine to a production machine, for example.

**Note** This features is supported with Replicate tasks only.

## Task Description

The ability to create, view, and edit a task description has been added to the AEM Console. This feature can be accessed via the  icon in left side of the toolbar after opening a task in Monitor/Designer mode.

## Monitoring Enhancements

The following monitoring and control functionality is now supported with Compose tasks:

- » Stop Task
- » Run Task
- » View Task Logs

## Permission Changes

Users with the effective role of **Viewer on All Endpoints** can now open Manage Endpoint Connections to view an endpoint's basic details: Name, Description, Role, Type. This is supported only for Replicate servers 6.2 and above.

## Analytics Improvements

- » The Analytics Collector now stores data in memory for a configured number of minutes if the Repository is not available and will insert it when the Repository is back online.
- » **Log File Management** - The **Logging Levels** and **Log File Management** sub-tabs have been added to the **Analytics** tab in the AEM **Settings** window.
- » The Log Viewer under Operations now displays a toggle that lets you view either the AEM Operational log files or the AEM Analytics log files.
- » There is new **Analyze database tables during data collection** option in the **Analytics** tab. This option controls whether or not the Collector automatically analyzes the database tables in the Analytics Repository. The option is enabled by default but can be disabled if the collection process is running for too long.
- » Attunity CPU and Machine CPU metrics have been added to the **Trends, Trends by Server** and **Top Servers** dashboards within Analytics.
- » There is a new **Rank By** option on **Trends by Server** and **Trends by Task** dashboards. The selected metric is used to determine the top 10 servers or tasks to be displayed on all charts on the dashboard.

- » Memory, Disk Usage and Change Volume metrics are now automatically displayed in the appropriate unit (MB, GB, etc) on the Analytics dashboards.

## Metadata Improvements

- » A Log Viewer has been added to provide logs for metadata related issues
- » Tag improvements - the following functionality has been added:
  - » The ability to create a tag by right-clicking a Data Set or Collection
  - » A new **Untagged** tag has been added.
  - » The ability to clear all filters by clicking the **Clear all filters** link below the search box

## Supported PostgreSQL Version

Starting from AEM 6.3, only PostgreSQL 10.1 and above will be supported for the Analytics and Metadata repository.

## Resolved Issues and Customer Requested Enhancements

The table below lists the resolved issues and customer requested enhancements/features for this release.

Component/Process	Type	Description	Ref #
Monitoring	Enhancement	A <b>message</b> containing detailed information about any errors that occurred is now returned. See <a href="#">API Monitoring Enhancements</a> .	162389
Task Description	Enhancement	See <a href="#">Task Description</a> .	143726 146491
Export and Importing Tasks	Enhancement	See <a href="#">Support for Export and Importing Tasks</a> .	162921 158037 160160 154785 183572 185908
Monitoring	Enhancement	AemGetTaskDetails and AemGetTaskList now return the list of custom tags assigned to the task(s). See <a href="#">API Monitoring Enhancements</a> .	157742
Form Authentication	Enhancement	See <a href="#">Support for Setting or Disabling the User-Idle Timeout</a> .	182734
Notifications	Enhancement	See <a href="#">Event IDs in Windows Event Log</a> .	161349
Metadata Repository	Issue	After clicking <b>Initialize Metadata Repository</b> , a "Failed to initialize the metadata repository" error would be encountered, despite the correct credentials being provided.	182973

## Known Issues

The table below lists the known issues for this release.

Component/Process	Description	Reference
<b>KNOWN ISSUES FOR THE OPERATIONS MODULE</b>		
Compose Task Run	The <b>Run</b> button is sometimes enabled for Compose tasks that have not been configured correctly. In such cases, running the task will result in task failure. Hovering over the error state icon will show a tooltip with the relevant error message.	AEM-5224
User Preferences	Sometimes, when closing and then reopening the AEM Console, the last opened tabs will not be reopened.	AEM-4823
User Preferences	When Switching from Operations View to Metadata View and then back again to Operations View, the focus will always be on the <b>Tasks</b> tab, regardless of the last tab you were focused on (before switching to Metadata View).	AEM-4785
Task Metrics	Some of the task list values that are not applicable to Compose tasks may appear as "0" while they should actually be N/A (not applicable). The same is true of task list values that are not applicable to Replicate tasks.	AEM-4821
Log Stream Staging	Two Log Stream Staging tasks with the same name but on different servers will be represented by the same Log Stream Staging tag even though they do not write/read to/from the same Log Stream.	AEM-5225
Internet Explorer	Performance (such as scrolling and switching between tabs/views) is impacted when over 2000 tasks are being monitored.	AEM-4819
<b>KNOWN ISSUES FOR THE METADATA MODULE</b>		
Repository Initialization	After editing the Repository Connection properties for PostgreSQL and clicking the <b>Test Connection</b> button, the <b>Initialize Metadata Repository</b> button is enabled.  However, before clicking the <b>Initialize Metadata Repository</b> button, you must also click <b>Save</b> or you will get an error on the Initialize action.	MM-590
Rename	If a transformation is being done within Replicate	MM-561

<b>Component/Process</b>	<b>Description</b>	<b>Reference</b>
Transformations	<p>or Compose to rename a table or column, the lineage and impact analysis will not be correct.</p> <p>The relationship between the source and target objects will not be reflected in the Metadata perspective in this case.</p>	
Replicate CDC Staging Tasks	<p>Replicate Log Stream Staging tasks are not reflected as such in Metadata.</p> <p>Each task associated with a CDC Staging endpoint will be shown in Metadata and you can register collections for each task, but the connection and relationship between tasks is not reflected.</p>	MM-505
Lineage for Compose tasks	Only the first data storage Compose task is shown in the lineage.	MM-433
Performance	To ensure acceptable performance, a maximum of 40,000 data sets is currently supported.	MM-343
Lineage	The current data set lineage may show unrelated tasks if they write to the same collection but to different data sets.	MM-156
Compose	Compose data storage tasks that move data from a Landing Zone that is not associated with a Replicate task are not supported.	MM-148
Replicate Compatibility	Replicate 6.2 and above is required	MM-117
Collections	When two tasks are reading from same source, two collections are created instead of a single merged collection.	MM-100

#### **KNOWN ISSUES RELEVANT TO BOTH OPERATIONS AND METADATA**

PostgreSQL Repository	<p>If the PostgreSQL Repository is unavailable, updates sent from Replicate and Compose to the Metadata module and updates sent from Replicate to the Analytics module may be lost.</p> <p>Therefore, it is recommended to only bring the PostgreSQL Repository down during maintenance windows when there are no changes being applied to Replicate and/or Compose projects.</p>	MM-599
-----------------------	---	--------