APP**DYNAMICS**

AppDynamics App iQ Platform Documentation Release Notes

Version 4.3.8

Release Notes

APPDYNAMICS

This topic covers release information for the AppDynamics App iQ Platform versions 4.3.x. In addition to the enhancements and resolved issues described here, the latest 4.3.x release includes enhancements and resolved issues included in certain limited-availability releases.

The first generally available 4.3.x release is 4.3.0.2, which incorporates fixes to pre-release issues in 4.3.0.0 and 4.3.0.1.

In addition to the enhancements and issues listed below, this release includes several security fixes. For the latest support and security advisories, see Product Announcements and Alerts.

AppDynamics App iQ Platform Notes

The following updates apply to the common components of the AppDynamics App iQ Platform, including changes to the cross-product elements of the Controller UI.

- Enhancements
- Resolved Issues
- Known Issues

Enhancements

Custom Dashboard

- The Health List widget is a new widget that can display the health for applications, business transactions, tiers, nodes, databases, servers, or health rules. The health status can be displayed as a list, status bar, or both.
- The Timeseries Graph widget now groups events on the x-axis when you choose to show events on the widget. Events are grouped by time of resolution. To see the events, hover over the event on the x-axis.
- You can use metric expressions with Custom Dashboards. The behavior is similar to metric expressions for Health Rules.

Health Rules and Policies

- For health rules based on service endpoints, you can now select specific tiers as the scope of the health rule violation. Previously, you could only choose the scope of the entire application or of certain endpoints.
  When you choose tiers for the scope, you can further specify whether the service endpoint health rule considers the average value for the entire tier, a percentage of nodes in the tier, or a specific number of nodes in the tier. This configurability matches the configurability of business transaction-based health rules. Previously service endpoint health rule conditions were evaluated only on the basis of tier average.
- You can now apply health rules based on the Error Rates type to the average value for the entire tier, a percentage of nodes in the tier, or a specific number of nodes in the tier.
- The Evaluation Events table now uses the time range for Health Rules. Previously, it used a custom time range.

Metrics

- A new Controller setting (application.metric.registration.limit) limits the maximum number of metrics that can be registered for a business application in the Controller at 1 million by default. Upon upgrade, existing applications that exceed the limit are not affected by the limit. See Metrics Limits

Scheduled Reports

- Reporting Service supports log file rollover and configurability.

Transaction Snapshots

- Transaction snapshots for the Java applications show thread contention information. See "Thread Contention in Transaction Snapshots" on Thread Contention.

Universal Agent

- The AppDynamics Universal Agent is a deployment tool that automates the tasks of installing, running, and maintaining AppDynamics agents. The Universal Agent runs on Linux and Microsoft Windows systems, and can particularly help you manage agents in a large or dynamic application environment. In its initial release, the Universal Agent can manage Machine Agents and Java Agents.
For more information, see AppDynamics Universal Agent.

License Management

- On the License page, you can now see visualizations of your license consumption, including number of license units used over time. You can also create rules to specify how many Application Performance Monitoring licenses you want to allocate to specified applications and machines.

Resolved Issues

Component	Summary	Key
UI	Controller UI shows "Created successfully" when saving an account with duplicate EUM license key	CORE-56320
UI	Tooltip doesn't work on Scatter plot, Event overlay (timeseries), and Notes (streaming widget)	CORE-59013
UI	Mapped Roles for users are getting updated when roles are getting assigned by using search role feature	CORE-59450
UI	"Created Action" is not displaying under "Actions to Execute"	CORE-60801
UI	CD Template > Gauge series selector shouldn't have "All nodes in this tier" option	CORE-61017
UI	Gauge "Select A Metric" should be a button	CORE-62111
UI	CD Metric Path is not restored on second open of series metric	CORE-62270
UI	Sort doesn't work for "Duration" in "Health Rule Violations" tab.	CORE-62711
UI	Clicking "Show More" on the event list repeatedly results in inaccurate event counts	CORE-64416
UI	Threshold lines appear in charts even when no data is available	CORE-65068
UI	Sometimes UI does not reflect actual affects list and health status in "Current evaluation status" section for health rule selected	CORE-65238
UI	Sometimes custom dashboards stop displaying data after running a few days	CORE-65344
UI	"The WAR Room with key: "" does not exist in persistent store" message is displayed while Save as Template	CORE-65553
UI	Email template text body error	CORE-65845
UI	Time scale not in sync with respect to selected time range in Tiers & Nodes Custom Dashboard	CORE-68016
UI	Background color missing from Design section for grid mode	CORE-68151
UI	Setting a very long name for Threshhold line on timeseries graph throws server-side exception	CORE-69702
UI	Metric Expression > Variable Name field needs max limit on characters	CORE-69742
UI	CD Gauge Selecting a metric with no data available does not set properties label on save	CORE-69769
UI	Hourly send at repeat modified time after closing and reopening the report dialog	CORE-70096
UI	Series Selector > Multi Selector (Business Transactions) sort doesn't work on Business Transaction-type type column	CORE-70100

UI	Context-based right-click menu on a widget doesn't work as expected	CORE-70167
UI	Sometimes the top navigation bar doesn't render properly in IE 9	CORE-70200
UI	In APM App Dashboard, Event Counts do not match events in event list	CORE-70252
UI	No tool tip is shown on Health Status widget in view mode on configuring Drilldown URL and description under MISC in absolute mode	CORE-70264
UI	Gauge doesn't work when Metric Expression evaluates to a negative number	CORE-70354
UI	Series Selector > Select Data Filter > Display the first "n" metric series field has no max-length chars defined	CORE-70373
UI	Metric Selection needs to reset to "Single Metric" and "Select Metric" when App or Category changes	CORE-70433
UI	Custom time range does not work	CORE-70569
UI	Custom Dashboard filter by tier search-suggestions not working	CORE-70913
UI	Custom time range option not working in Health rule Evaluation Events	CORE-71194
UI	Metric Browser when opened multiple times (with different apps) doesn't work correctly	CORE-71266
UI	Health Rule > Tier is not displaying for all server health rules	CORE-71429
UI	Series Selector > Select Metric > Single Metric [edit mode] > doesn't show the selected metric	CORE-71649
UI	Error while saving Custom Dashboard series without selecting metric	CORE-71786
UI	SAML user cannot set default landing page	CORE-72254
UI	Default roles are missing suffix on admin page	CORE-72271
UI	Custom Dashboard > Add/Export of Analytics widget to dashboard with Absolute layout not visible	CORE-72745
UI	Cancelled edit of existing Browser App Report does not revert to original app name	CORE-73829
UI	Reselecting a saved DB Monitoring metric after choosing SIM doesn't show the specific DBs	CORE-74490
UI	Health Rule evaluation status table sometimes doesn't fetch and refresh	CORE-74916
UI	Error while trying to edit custom dashboard	CORE-75723
UI	Database list is empty in Object scope tab of create action supression window	CORE-75817
UI	Issue with Dashboard pop-up legend transparency change	CORE-76010
UI	EventListWidget shows events from across apps when Health Rule Violation filter is selected	CORE-76319
UI	Lot of white space before and after report titles	CORE-76516
UI	External links clickable in the Controller UI	CORE-78227
UI	Custom Shared Dashboard doesn't open up metric browser for time series widget on double-click	CORE-78480
UI	Custom dashboard doesn't show iFrame content in IE 11	CORE-79711
UI	Custom Time Range not visible for Health rules evaluation	CORE-81311
UI	Metric expression in dashboard widget does not show relative metric path after selection	CORE-82281
UI	Inconsistency in widget (pie and time series) legend	CORE-86242
UI	Can't edit a report second time without in-app or browser refresh	CORE-86835
UI	Slow user list loading due to extra calls to getAllAccountRoles/getAllGroups	CORE-87300
UI	Status By Node image in Current Evaluation Status window in health rule screen is not displayed	CORE-88227

UI	Time range widget disappears with lengthy Business Transaction names	CORE89249

Known Issues

- Controllers that use SAML for UI authentication may not work after 4.3 upgrade, with a "validateRequestedUrl failed error" in the server log. In 4.3, Controller SAML authentication now validates the request URL against the internal Controller URL setting. This issue results from request URLs that differ from internal Controller URL, whether due to a proxy or to accounts in a multi-tenant Controller with different URLs per account. See Support Advisory: SAML Authentication Fails after 4.3 Upgrade for more information on symptoms and a workaround.
- Universal Agent: versions prior to 4.3.7 are not supported on Java 5.

Application Performance Management Notes

- Enhancements
- Upgrade Notes
- Resolved Issues
- Known Issues

Enhancements

Controller Enhancements

- With the new AppDynamics APM Any Language license, you can swap between license units of different App Agent types as your application environment changes, without requesting a license change from AppDynamics.

  A unit of the AppDynamics APM Any Language license entitles you to a single license unit from among the following agent types:
  - Java Agent
  - .NET Agent
  - PHP Agent
  - Python Agent
  - Node.js Agent
  - C/C++ Application Agent
  - Go Language Agent
  - Apache Web Server Agent

  The following agent types are not covered by the APM Any Language license:

  - Standalone Machine Agent
  - Database Agent

  After upgrading to AppDynamics 4.3, you have the option of updating legacy application monitoring license units to APM Any Language license units. For information on updating licenses, see https://portal.appdynamics.com/apm-license.
- The Controller UI includes updated tools for interactive transaction discovery. During a transaction discovery session, you can:
  - Edit Java Agent transaction detection rules and preview the resulting Java business transactions.
  - Identify POJO or POCO entry points based on uninstrumented code detection.
  - Use the Class/Method browser to search for Java or .NET entry points to instrument.
  See Business Transaction Discovery Sessions for more information.
  When you create POJO or Servlet custom rules, you can launch a live preview session to see resulting business transactions. The Controller UI idetnifes resulting entry points and marks the as masked when they are hidden by upstream business transaction entry points. See Custom Match Rules for more detail.
- Previously, you could only enable development level monitoring at the business application level. Now you can now enable it based upon a combination of a particular business transaction and its originating node. This limits the effects of development level monitoring to specific nodes. This lets you minimize the resource overhead associated with development level monitoring.
  Additionally, the Controller now monitors the number of snapshot segments generated during development level monitoring. It automatically disables development level monitoring for the business transaction contributing the most segments when the threshold is exceeded. The new snapshot segment limit helps prevent excessive resource consumption during development

level monitoring.

See Development Level Monitoring for more information. Also, see Upgrade Notes for upgrade considerations.

- The scope configuration model allows you to bundle multiple tiers into a scope, and apply transaction detection rules to that scope. Prior to 4.3, all applications adhered to the hierarchical inheritance model, which limits you to applying rules to one tier at a time. Starting from 4.3, existing applications follow the hierarchical inheritance model, and new applications that you add follow the scope configuration model. If you disable the scope configuration option, you will lose any transaction detection rule configurations you applied after migrating to 4.3.

  The scope configuration model currently applies to transaction detection settings only for applications you create in AppDynamics 4.3.
- You can enable automatic cleanup (deletion) of stale business transactions at the frequency and timeframe you specify. A stale business transcation is one that has not been called in the configured time period. Automatic cleanup works only if the Scope Configuration Model is enabled. See Organize Business Transactions for more information.
- The card view and list view for the **Applications** page in the Controller UI are paginated. Controls for increasing the number of applications shown at a time or showing the next or previous set of business applications appear at the bottom of the page. Pagination makes it easier to browse the **Applications** page when there are a large number of business applications. Note that the search field at the top right now searches only by Application name, and the search filter is applied in the Controller. Previously, the search applied a free-text search to the results in the context of the browser.
- When importing a business application configuration, you can now choose the type of configuration settings that you want to import from the business application, such as transaction detection rules, errors threshold, and so on. The application import dialog box shows the status for each type of setting as it is imported. In addition, instead of creating a new business application, you can choose to merge the imported configuration artifacts to an existing business application. Also this release improves validation of the import source file.
- When you import a configuration file from 4.2.x or earlier for a new application, all hierarchical transaction detection rules are converted to scoped rules. When you import a configuration file from 4.3 or later for a new application, all hierarchical transaction rules are converted to scoped rules, unless you select the mds_config option in the Controller during import. The conversion puts all tier-level rules into the default scope. One exception: if there is custom configuration at the tier level, then a new scope is created for the custom tier during conversion.
- MySQL has been updated to version 5.5.54 to fix security vulnerabilities.

AppDynamics Mobile App

- Native iPad support with a bigger real estate for better visibility across different product areas.
- Full-fledged AppDynamics flow maps on iPad devices, allowing you to view dynamic, visual representations of the components and activities of your monitored application environment on your iPad.
- End-User Monitoring (EUM) data support, allowing for seamless on-the-go EUM tracking.

C/C++ Agent Enhancements

- C/C++ API function added for overriding the response time for a business transaction, appd_bt_override_time_ms. For more information, see the C/C++ Agent SDK Reference.
- Added a backend type for JMS services, APPD_BACKEND_JMS.
- Cross app correlation is now supported for C/C++ agents. Specifically, transactions are correlated across business applications in which the originating tier in the downstream application is a C/C++ Node.

Go Agent Enhancements

- The Go Agent is introduced. You can use the Go Agent SDK to configure monitoring Google Go Applications. With the Go Agent, you can:
  - Trace transactions through Go tiers
  - Surface Go runtime errors
  - Report backend calls made by Go services

  See Go Language Agent for more information.

Java Agent Enhancements

- The Java Agent collects additional JMX metrics related to memory and garbage collection: Allocated Objects, Promoted Objects, Freed Objects, and LiveData.
- A new node property, logbased-visibility-log-check-interval-in-millis, lets you specify how often the Java agent checks application logs for information related to garbage collection performance.

- The Java agent installation process has been simplified for OSGI-compliant versions of JBoss/Wildfly by removing the necessity for specifying AppDynamics packages as system packages in the startup configuration.
- The Java Agent distinguishes between the different nodes in an Oracle RAC backend.
- The Java Agent supports the following frameworks:
    - Play framework versions 2.4 and 2.5.
    - Netty 3.x
- The Java Agent adds the following backend support:
    - Tracking for asynchronous Ribbon HTTP client requests.
    - Jetty asynchronous HTTP client versions 8.x and 9.x.
    - Automatic detection for Kafka producer requests. You can configure the agent to discover Kafka consumer requests. See "Kafka" on Java Backend Detection.
- The Java Agent supports mutual TLS authentication with the Controller.

.NET Agent Enhancements

- You can use the AppDynamics for Windows Azure NuGet package to instrument Azure Web Applications, Web Jobs, and API Apps. See Install the AppDynamics for Windows Azure NuGet Package.
- The .NET Agent automatically discovers Open Web Interface for .NET (OWIN) web api calls for both self-hosted OWIN and OWIN hosted on IIS.
- .NET now supports end-to-end transaction latency monitoring using method-based transaction demarcators. See End-to-End Transaction Latency for more information.
- AppDynamic reports end-to-end transaction metrics for custom POCO entry points on asynchronous task-based methods. For more information, see POCO Entry Points.
- The .NET Agent now supports SQL Data collectors for Application Analytics.
- The .NET Agent automatically enables multithreaded correlation for `Task.Start`, `Task.Run`, and `TaskFactory.StartNew` on the Common Language Runtime (CLR) 4.x and later. If you are upgrading from a previous version, see Upgrade Notes. The `thread-correlation` node property is no longer required to enable thread correlation.

Node.js Agent Enhancements

- The Node.js agent now supports logging levels. Previously, the agent offered only debug level logging written to standard output (stdout). See Node.js Agent Logging for more information.
- The Node.js automatically detects the following backends:
    - MongoDB database
    - Apache Cassandra
- The agent detects applications running in PM2 process manager environments and names nodes after the process.env.pm_id value, which ensures node name uniqueness for Node.js applications.

PHP Agent Enhancements

- The PHP Agent now supports PHP 7 and Drupal 8.

Python Agent Enhancements

- Python 3 support added.
- Support for Tornado (http://www.tornadoweb.org/). The Python Agent supports business transaction detection for Tornado applications as follows:
    - Business Transaction detection from Tornado 3.2 and later.
    - Asynchronous HTTP client exit call detection from Tornado 4.1 and later.
- Support for detecting Oracle DB for Python (cx_Oracle) as a backend service.
- More than one exit call can now be active at a time for a business transaction. Previously, only one exit call was reported for a business transaction associated with an application that uses threads or greenlets to perform multiple exit calls concurrently.

Apache Web Server Agent Enhancements

- Cross app correlation is now supported for Apache Web Server agents. Specifically, transactions are correlated across business applications in which the originating tier in the downstream application is Apache Web Server node.

Upgrade Notes

- Development Mode has been enhanced in 4.3 to enable development level monitoring at the business transaction and node combination. When upgrading a Controller that has development mode enabled, individual business transactions will not have development level monitoring enabled after upgrade. You need to enable development monitoring for the business transactions individually. Development level monitoring mode will still be enabled at the application level.
- The Controller only enables scope based configuration for applications you create in AppDynamics 4.3. Upgraded applications continue to use the hierarchical model. Refer to the AppDynamics 4.2 Transaction Detection documentation.
- In previous versions of AppDynamics, the .NET Agent you did not need to configure correlation for `ThreadPool.QueueUser WorkItem` for the CLR 4 in the config.xml. If you explicitly call `ThreadPool.QueueUserWorkItem` on the CLR 4, when you upgrade to the .NET Agent 4.3, you must enable the instrumentor for `ThreadPool.QueueUserWorkItem` for the CLR 4 in the config.xml. See Thread Correlation for .NET.
- If you use the AppDynamics Azure Site Extension with environment variable configuration, you need to update the environment variables when you upgrade to the 4.3 site extension. See Install the AppDynamics Azure Site Extension.

Resolved Issues

Component	Summary	Key
.NET Agent	.NET Agent is not downloading custom entry / exit definitions with 4.2.15 controller	CORE-97514
.NET Agent	Process hanging with analytics namespaces in dump	CORE91047
.NET Agent	Standalone application running SSIS package hangs randomly when instrumented	CORE-87892
.NET Agent	.NET Agent Configuration Utility: while loading tiers for existing Controller, application returns "(400) Bad Request" when application name contains Ø (character used in Danish, Norwegian, Faroese, and Southern Sami languages)	CORE-87179
.NET Agent	RabbitMq SEP with Message Property has no correlation	CORE-87115
.NET Agent	CONFIGUPDATE at startup.cmd does not work correctly in some cases	CORE-86625
.NET Agent	Agent Registration should respect environment variable when setting node name	CORE-86331
.NET Agent	Azure PaaS Agent - Swap Slot Causing Agent Fails to Start	CORE-86022
.NET Agent	Do not run CLRPerfCountersManager in Azure webapp	CORE-85886
.NET Agent	ReJIT - MIDC fails if downstream BT registered	CORE-84723
.NET Agent	ReJIT - Slow Startup and Performance	CORE-81496
.NET Agent	.NET Agent > Analytics - 'Thread local string builder is not empty'	CORE-79607
.NET Agent	Callback detected as Exit hides exits downstream	CORE-79145
.NET Agent	Memory (Private Working Set) growing when ASP.NET web forms app has no load	CORE-78317
.NET Agent	Native memory overhead with Non Legacy instrumentation	CORE-77709
.NET Agent	Negative value for 'CpuTimeTakenInMilliSecs' for Request Data	CORE-77616
.NET Agent	.NET Agent Configuration Utility: valid IIS applications not listed in configuration wizard	CORE-75340
.NET Agent	.NET Agent Configuration Utility: valid IIS application grayed out in configuration wizard	CORE-75294
.NET Agent	w3wp crash with invalid NLOG configuration on web.config	CORE-73405
.NET Agent	Profiler shutdown crashing app pool during recycle	CORE-72954
.NET Agent	.NET Agent is sending the virtual name of the cluster in registration request	CORE-72861
.NET Agent	.NET Agent Configuration Utility needs to support TLS 1.2	CORE-70723

.NET Agent	AppDynamics profiler blocking finalizer thread	CORE-70397
.NET Agent	Profiler causes application hang	CORE-67507
.NET Agent	ConfigurationLoader unable to obtain MD5 hash of configuration file	CORE-65000
.NET Agent	Service Endpoint does not get picked by agent when re-instrumentation is enabled	CORE-64980
.NET Agent	Missing logging with runtime-reinstrumentation	CORE-64594
.NET Agent	Coordinator fails to start with NLog config section in machine.config	CORE-63120
.NET Agent	GA Agent version number does not match actual build	CORE-62305
.NET Agent	Heap usage incorrect when two processes of same name are running	CORE-61536
.NET Agent	Multiple MEE instrumentation can happen for generic methods with value type type arguments	CORE-61331
.NET Agent	Custom POCO entry point doesn't monitor all async calls called internally	CORE-60258
.NET Agent	Custom correlation stopped supporting Add(String,String) method with key and value parameters	CORE-60256
.NET Agent	.NET Agent Configuration Utility skips upgrade if config.xml is invalid or missing	CORE-60063
.NET Agent	Custom match rule on HTTP parameter breaks Upload file functionality	CORE-57627
.NET Agent	.NET Message Queue SEP fails for message content definition	CORE-32086
.NET Agent	Service Endpoint does not get picked by agent when re-instrumentation is enabled	CORE-64980
Agent	Backend instrumentation is apparently causing thread contention and locking in JVM	CORE-88506
Agent	IllegalStateException in CallGraphGeneratorTask	CORE-90243
Agent	Agent log entries get printed in application log files	CORE-89633
Agent	JVM InternalError causes batch retransform task to get stuck, preventing instrumentation for information points	CORE-88483
Agent	Potential issues section lists "\N" as one of the values	CORE-87717
Agent	Thread dumps not collecting from Controller UI when Auto Naming feature enabled (stuck at "in progress")	CORE-87620
Agent	Batch BT does not have snapshots with java 1.7	CORE-85177
.NET Agent, Agent	No machine metrics reported after disabling and re-enabling the Machine Agent	CORE-84992
Agent	Custom Correlation/Getter needs instruction to not split escaped dots	CORE-84340
Agent	Number of async segments are half the expected number in case of RecursiveTask	CORE-78683
Agent	'max-in-process-segments' node property is off by 1	CORE-78682
Agent	NullPointerException in SQLNormalizerHelper#getUnderlyingCharArrayOfString	CORE-76907
Agent	Custom Correlation for Cross App not working for pojo-entry and activity-demarcator	CORE-75511
Agent	NullPointerException in Servlet Entry point	CORE-73924
Agent	check-bt-excludes-early node property is not working, getting UNKNOWN value	CORE-73860
Agent	BCI Fixer Removing the already added Rules	CORE-73452
Agent	Java Agent is not considering environment variables	CORE-72993
Agent	ClassCastException exceptions related to JMS exit calls	CORE-70470
Agent	Instrumentation issues breaking tier-to-tier correlation	CORE-70161

Agent	Unable to ignore AxisFault	CORE-69840
Agent	Spaces " " and "/" in application name breaks thread dumps or log creation for agents	CORE-69208
Agent	Memory leak with ExtendedPSquareAlgorithm objects filling up JVM	CORE-67362
Agent	CXF Entry Interceptor: Blocking thread	CORE-66622
Agent	Incorrect variable name in controller-info.xml comment for Java, database and machine agent	CORE-65786
Agent	NoClassDefFoundError in version 4.1.8 (but 4.1.3 works fine)	CORE-65621
Agent	Missing memory (heap) metrics caused by JBoss JMX latency	CORE-65560
.NET Agent, Agent	NullPointerException thrown by ETELatencyDemarcatorInterceptor when there is no BT context	CORE-63501
Agent	Secure Credential Store must always generate a unique and fully random cipher string after encryption	CORE-62651
Agent	Java Agent miscalculates average times for top summary stats	CORE-62467
Agent	Cannot have spaces in path of Application Agent	CORE-61938
Agent	Snapshots show incorrect time periods for threshold calculation	CORE-61843
Agent	Agent breaks a specific application with NullPointerException	CORE-61819
Agent	Many log messages generated: "WARN CallStackSampler - Unable to acquire CSS Lock for CallStackSampler"	CORE-60948
Agent	Access denied when using REST API for hotspot	CORE-60790
Agent	NullPointerException in WebObjectsURIScheme.<init>	CORE-60368
Agent	Error: Timeout waiting for lock BCILock for TransformationRuleEngine	CORE-59593
Agent	Agent causing high CPU	CORE-59269
Agent	Need to enforce maximum length for custom BT match rule names	CORE-58877
Agent	Some missed SQL queries due to missing instrumentation on JtdsConnection.java class	CORE-58362
Agent	Entry point instrumentation disabled due to NumberFormatException	CORE-57899
Agent	Exit not detected when called from CompletableFuture#acceptEither acting as a callback	CORE-55474
Agent	Async activity not detected with parallel streams	CORE-55387
Agent	Exit call URL shows host as "unresolved_server"	CORE-54844
Agent	error-safety : NPE in ReTransformNeutralizerStrategy	CORE-54275
Agent	NullPointerException for instrumenting webObject	CORE-53769
Agent	HotspotData throws ArrayIndexOutOfBoundsException on agent shutdown	CORE-52966
Agent	Inconsistency in monitoring of servlet filter traffic	CORE-52754
Agent	Slow Calls RMI shows \N as part of the Snapshot overview section	CORE-51112
Agent	appdynamics.cron.vm option does not honor node name reuse feature	CORE-50120
Agent	Java Agents 4.1.x showing extra fields in JVM version	CORE-49781
Agent	Agent Retaining significant chunk of memory even after garbage collection	CORE-47544
Analytics, Node.js Agent	"500 Internal Server Error displayed" in transaction snapshot details for node.js application	CORE-88689

Apache Web Server Agent	Web Server Agent doesn't send correct ADRUM response headers	CORE-68481
Controller-APM	Fix name_value_pair upgrade issue	CORE-88815
Controller-APM	Bulk Enable/Disable for application throws NullPointerException if one of the application's machines is not found	CORE-87061
Controller-APM	Remote Services Calls tab on the snapshot screens truncates url/operation (depending on exit call)	CORE-86978
Controller-APM	Metadata churn creates memory leak in AsyncTransactionConfigManagerBean	CORE-86874
Controller-APM	Metadata churn creates memory leak in ApplicationComponentManagerBean	CORE-86865
Controller-APM	Metadata churn creates memory leak in BusinessTransactionManagerBean	CORE-86864
Controller-APM	Metadata churn creates memory leak in MemoryConfigurationManagerBean	CORE-86861
Controller-APM	Metadata churn creates memory leak in AgentBusinessTransactionConfigurationManagerBean	CORE-86859
Controller-APM	Priority of custom rules is not considered in BT discovery session	CORE-86169
Controller-APM	Metric browser for a particular application is blank	CORE-82804
Controller-APM	Asynchronous Transaction - Non-admin user able to edit 'Configure Transactions using This Demarcator' feature	CORE-79271
Controller-APM	Reject Business Transaction registration when name is too long (>200 chars)	CORE-78531
Controller-APM	Data for an application observed in database even after it is deleted in the UI	CORE-77501
Controller-APM	High volume of SQL queries in refreshCachesForApplication related to Service Endpoints	CORE-76145
Controller-APM	ADD related queries are using CROSS JOIN instead of INNER JOIN	CORE-75449
Controller-APM	User with access to configure Diagnostic session gets "Client not authorized ..." exception	CORE-74729
Controller-APM	Cannot delete application from UI	CORE-74096
Controller-APM	Permission error for notification event details view	CORE-72567
Controller-APM	Non-admin user cannot import application even with the necessary permissions	CORE-72167
Controller-APM	Intermittent issues when transitioning between views ("EJB cannot be invoked in global transaction" error message appears on page)	CORE-70178
Controller-APM	SystemAgentPollingHandler._handleRequest and TransactionConfigRequestHandler.handleAgentConfigurationRequest should not throw exception	CORE-66669
Controller-APM	Business transactions / metric data corruption observed in a specific Controller environment	CORE-65019
Controller-APM	Importing a malformed application xml doesn't show error in UI	CORE-62357
Controller-APM	Handle hibernate exceptions observed in a specific Controller environment	CORE-62323
Controller-APM	"Invalid machine" log entries get repeated during machine validation	CORE-61445
Controller-APM	Node Configuration settings getting lost on turning agent off and on from controllerUI	CORE-60792
Controller-APM	Controller internal java agent cannot connect to system account If secure credential store is enabled	CORE-60637
Controller-APM	Hotspot learning fails to discover all BTs or components	CORE-60298
Controller-APM	Import dialog shows incorrect status as 'succeeded' even when some health rules fail to import.	CORE-59532
Controller-APM	controller.beans.hotspot.HotspotComponentLearningManagerCache consumes ~1GB heap space	CORE-59328
Controller-APM	Count mismatches for "critical" on Application Dashboard and actual violations on Business Transactions	CORE-59143

Controller-APM	Application Name does not get updated; instead, new application is created	CORE-57512
Controller-APM	Possible memory leak in the caches related to ServiceEndpointConfigManagerBean	CORE-55642
Controller-APM	Controller issuing notification for Controller Metric Reg Limit Reached when under limit	CORE-51537
Controller-APM	Correctly handle "count 0" metrics in Flex, HTML, Metric Browser, etc.	CORE-48130
Controller-APM	Error count, Error %, and Error graph are not reported at tier and node level	CORE-47904
Controller-APM	Asynchronous Transaction: Non-admin user can edit 'Configure Transactions using This Demarcator' feature	CORE-79271
Node.js Agent	Proxy does not launch from network share on Windows	CORE-89376
Node.js Agent	Node API object in console.log causes Node process to crash	CORE-89319
Node.js Agent	Agent not working in strict mode	CORE-88554
Node.js Agent	MongoDB with replicaSet foils instrumentation	CORE-87871
Node.js Agent	Process snapshot hangs process	CORE-85029
Node.js Agent	Export call graph does not work for Node.js call graph on both HTML and Flex Modal	CORE-83915
Node.js Agent	Nodejs agent detects port 80 and 443 for https exit calls	CORE-67191
Node.js Agent	Node.js Agent does not capture HTTP Method or Exit Status	CORE-66336
Node.js Agent, UI	Node.js Process Snapshots do not show 'BT' tab in new HTML5 viewer	CORE-66236
Node.js Agent	Instrumented process does not exit after uncaught exception	CORE-64167
PHP Agent	PHP Agent Does Not Have Self Service Scripts in Downloaded Agent for OSX	CORE-88157
Python Agent	mod_wsgi crash	CORE-87774
Python Agent	Snapshots contain wrong timings	CORE-76238
UI	Check/Uncheck on checkboxes in backend detection is saved even without submit operation	CORE-86527
UI	'Actions' column is empty for RSD Events (slow, errors, etc.), cannot download thread dump from events list	CORE-86524
UI	Tier filter is not working on Service Endpoints tab on Tier Dashboard page	CORE-83806
UI	When viewing the "AppDynamics Agents" from the Controller, the "Disabled" and "All Monitoring Disabled" columns are not sortable or searchable	CORE-82927
UI	Incident List: Affects column does not render entity for certain entity types	CORE-79066
UI	Snapshot data is truncated and not retrievable	CORE-77772
UI	Clicking the Refresh button in Controller UI increases the Last JVM Restart Time	CORE-77569
UI	Application Dashboard: Load, Average Response Time appear to be incorrect with custom time when selecting baseline	CORE-77330
UI	"Start Allocation Tracking Session" in .NET Object Instance Tracking menu not applicable	CORE-77046
UI	Snapshot waterfall End to End time shown appears to be incorrect	CORE-76965
UI	ASP.Net Transaction Naming Configuration does not allow user to save the change.	CORE-76748
UI	Thread Contention data not showing up in potential issues section	CORE-76373
UI	Label mismatch in Add Custom Event Filter dialog box > Event Type field	CORE-76049
UI	Controller UI auto refresh is not happening on Event screen	CORE-75144

UI	In Metric Browser screen, fourth-level drilldown is not working	CORE-74439
UI	Export to PDF results in null pointer	CORE-72081
UI	Diagnostic snapshot dialog does not pre-select Business Transaction, does not filter	CORE-72070
UI	User is unable to create flow maps on APP_BACKEND_DASHBOARD page	CORE-70945
UI	Actions Executed count in association with an Event is inconsistent	CORE-70439
UI	Slowest methods grid doesn't make sense	CORE-70412
UI	Service Endpoint list filter has checkbox unlabeled	CORE-70285
UI	Viewing Health Rule Violations from BT/tier/node list doesn't set filter for selected entity	CORE-70202
UI	Endtime discrepancy for All Other Traffic BT list	CORE-69562
UI	Compare Releases Screen shows deleted custom time ranges	CORE-69117
UI	Cannot filter on Business Transactions List page for any BT group created by user	CORE-68659
UI	Tiers & Nodes page does not auto refresh	CORE-68581
UI	Newline is not formatted in comments section in the Events tab (Application > Events) in Controller UI	CORE-68483
UI	Register button is not enabled in All Other Traffic popup	CORE-67715
UI	Baseline shading option is missing from the new metric browsers shipped with 4.2	CORE-66938
UI	Controller doesn't allow user to specify which data is exported from Metric Browser	CORE-66258
UI	Metric Browser: cannot expand "All Other Traffic" in treeview, even when data is present	CORE-66223
UI	Error Occurrence Details pane is missing information	CORE-65861
UI	Business Transactions > Diagnostic Sessions: BT of interest is not automatically selected	CORE-65678
UI	Snapshot - Data Collectors - Improve rendering for large strings	CORE-64610
UI	Dashboard page makes multiple same call on first load	CORE-64070
UI	Python Agent: Url Segments are Inaccessible	CORE-63937
UI	Filter names are not getting displayed for some of the checkboxes	CORE-62707
UI	Erroneous message appears after user applies filters in Configure Flow Map	CORE-62432
UI	When a rule is selected, the tier information isn't displayed	CORE-60618
UI	Unexpected layout and behavior in Slowest Database Calls page	CORE-59895
UI	JMX UI: Removing a MBean attribute redirects to the Dashboard & Report page	CORE-58037
UI	JDBC "To" field blank when following URL links	CORE-50757
UI	Missing trend for Business Transaction Group	CORE-49837
UI	ADQL queries do not return expected results when the values in conditions contain escape characters	CORE-66163

Known Issues

- If you enable Kafka consumer entry points for the Java Agent, the flow map shows the data flow in reverse from the node to the Kafka cluster.
- SSL connections from the Java Agent to the Controller fail with certificate errors. This issue is due to errors in how the default

trust store configuration is applied. Specifically, the Java Agents fail to connect if SSL is enabled and the controller-info.xml configuration file has empty <controller-keystore-password> and <controller-keystore-filename> values. This issue is fixed in version 4.3.7. (JAVA1133)

Database Visibility Notes

- Enhancements
- Resolved Issues

Enhancements

- Hovering on the wait states legend displays a pop-up explaining what the wait states are.
- The following new privileges are required for DB2 9.7 and above:
  grant execute on function SYSPROC.MON_GET_TRANSACTION_LOG to <DBAgent_User>;
  grant execute on function SYSPROC.MON_GET_DATABASE to <DBAgent_User>;
- A new optional system property, retry.on.auth.failure, allows you to stop retrying to establish a JDBC connection when JDBC authentication fails.
- Garbage collection affects all monitored entities, including database queries, sessions, clients, and schemas. Entities that are garbage collected will be displayed as unavailable.
- You can enable CyberArk password vault protection for your database username and password. When you enable CyberArk, you must enter Safe, Folder, and Object credentials to fetch the username and password for your database.
- You can enable and disable collectors that you have created. When you create a new collector, it is enabled by default. When you want to discontinue monitoring of a database without deleting the collector profile, you can disable the collector.
- You can specify SQL queries that you want to run on the monitored database every minute. The results of each query will be collected in a custom metric.
- You can enable Oracle Wallet password storage.
- Improved granularity of role permissions. In 4.2, roles could only be configured to view and configure all databases, rather than select database instances. In 4.3, roles can be configured to specify select database instances that the user is allowed to view, edit, or delete.
- Hardware monitoring now includes Amazon RDS.
- You can use Database Visibility to monitor Oracle RAC clusters and their nodes. Prior to 4.3, you had to create a collector for each node in a RAC instance. Starting in 4.3, you can create a collector for just one node in the RAC instance, and it automatically detects the remaining nodes in the cluster. When upgrading to 4.3, you should delete old RAC collectors and create new RAC collectors to leverage automatic cluster detection. The nodes in the RAC must each be accessible by network to the agent and must be able to accept connections from the agent. You may also need to update your access control list for the monitoring user.

Resolved Issues

Component	Summary	Key
DB Agent	On SQL Server, permission issues can cause the procedure text to be displayed instead of the procedure name	CORE88041
DB Agent	User cannot see CPU and memory metrics on RedHat 7.2	CORE-85437
DB Agent	Special characters can cause problems in mssql hardware collector passwords	CORE-85214
DB Agent	DiskQueueLength is not calculated correctly by DB Agent	CORE-80589
DB Agent	"Database Name should not be blank if there is a failover partner" - Error creating MSSQL collector with failover partner	CORE-79705
DB Agent	Remove step for Kerberos authorization if it is not being used	CORE-76504
DB Agent	DB agent generates log warnings (java.lang.IllegalArgumentException: Invalid client) when there is no problem with the agent	CORE-76133

DB Agent	AppDynamics Agents > Database Agents tab can confuse users	CORE-72675
DB Agent	New column (or increase column size) to store IP address from custom JDBC string	CORE-71039
DB Agent	Using a deprecated function in DB2 Collector for >= 10.5	CORE-69992
DB Agent	SQL Server TEMPDB is filled up because of DB agent	CORE-69798
DB Agent	Warning in logs for MySQL DBMS metric	CORE-69635
DB Agent	Memory metrics not shown on Databases dashboard	CORE-67974
DB Agent	SQL server buffer cache hit ratio is wrong	CORE-64864
DB Agent	Problems establishing SSL connection with SQL server	CORE-64366
DB Agent	Database Monitor roles have VIEW access to other products' application instance	CORE-62908
DB Agent	Browser becomes unresponsive during query tab load	CORE-59945
dbmon	Object Browser doesn't work for Azure SQL	CORE-86419
UI	403 error when user with "DB Monitoring Administrator" role tries to export database details	CORE-80824
UI	Synthetics: drilling down into Oracle DB does not show the queries from the Transaction Snapshot when coming from EUM	CORE-80379
UI	UX issues when creating a War Room from a database event	CORE-76392
UI	IO metrics are not listed when adding metric to custom dashboard	CORE-70861
UI	Exported query data shows "undefined" in Average Response Time column	CORE-69636
UI	Total execution is showing as Zero("0") in report generation under DB Drill down comparison	CORE-60428

End-User Monitoring Updates

- Enhancements
- Updates
- Resolved Issues
- Known Issues

Enhancements

Browser RUM

Business Transaction Correlation

The changes below have been made for correlating business transactions. See Correlate Business Transactions for Browser RUM for more information.

- The business app configuration for integration with browser apps has been moved to the **Configuration > User Experience App Integration** page.
- Use the Controller UI to enable/disable business transaction correlation based on the following:
  - injection via cookies
  - injection via footers
  - injection via headers
  - headers even for base pages

- URL match filters to include or exclude URLs for which correlation should be injected

Configuration Changes

The **Configuration** page has been reorganized and has pages for using the UI to instrument and configure the JavaScript Agent. See Configure the Controller UI for Browser RUM for configuration instructions.

- The **Configuration** page has the following changes:
  - The **Configuration** page displays most recent browser snapshot received by the browser app.
  - From the **Configuration** page, you can toggle Browser RUM to be enabled or disabled for a specific browser application.
- From the **Configuration** page, you can navigate to the **Configure and download JavaScript Agent** page to do the following:
  - Generate an HTML snippet for manual injection based on your JavaScript hosting option and custom JavaScript Agent configuration.
  - Download all of the JavaScript Agent files or just download the `adrum-<version>.js` file and use the AppDynamics CDN for the other JavaScript Agent files.
  - View the EUM app key.
- From the **Configuration** page, you can also navigate to the **Configuration > JavaScript Agent Injection** page to do the following:
  - Configure which Ajax requests are sent to the Events Service.
  - Configure separate naming rules for Ajax requests. This includes the ability to filter Ajax requests based on the HTTP method.
  - View the EUM app key.
- Configure automatic injection from the **Configuration > JavaScript Agent Injection** page of a business app. You can also select the browser app that will receive the automatic injection.
- You can configure applications to be compatible for Browser RUM. See Enable the Content Security Policy (CSP).
- The **Configuration** page has a read-only mode to enable users without write permission to view settings.
- The ability to configure automatic injection from the **Configuration > JavaScript Agent Injection** page of a business app. You can also select the browser app that will receive the automatic injection.
- New performance metrics for each page loading time based on the configurable browser snapshot thresholds:
  - Normal
  - Slow
  - VerySlow
  - Stall

Geo Dashboard

The **Geo Dashboard** has an option for viewing regional performance. You can view key performance metrics by country or region in the **Geo Dashboard**. See Geo Dashboard for more information.

JavaScript Agent

You can use the JavaScript API to set custom user data with the following data types: String, Double, Date, and Boolean. You can also attach user data can be attached to Ajax and virtual page requests. See Add Custom User Data to a Page Browser Snapshot for details.

Pages & AJAX/Sessions/Analyze

The following updates have been made to the **Pages & AJAX**, **Sessions**, and **Browser Analyze** pages. See Pages & Ajax Requests, Browser RUM Sessions, and Browser RUM Analyze for the documentation.

- From the **Sessions** page, you can filter sessions that have browser snapshots by using the criteria **Has Resource Timing**.
- You can export raw data as a CSV file from **Records** tab for both the **Analyze** and **Sessions** pages.
- The page referrer is given in session details and in browser snapshots.
- The **Pages & AJAX** details dialog displays the first-byte time.

Browser Synthetic Monitoring

Synthetic Sessions

In the **Session Details** dialog, the waterfall displays log entries and assertion failures for scripts, so you can see them in the context of resource loading.

See Synthetic Sessions to learn more.

Synthetic Screenshots

Synthetic jobs automatically include screenshots taken when a page is visually complete and at the end of the session. Users can also create custom screenshots with an API call from synthetic scripts. Screenshots appear in the **Sessions Details** dialog.

See Session Screenshots and Work with Screenshots for more information.

Synthetic Scripts

AppDynamics has a WebDriver Scripting Assistant, a Chrome extension, to help you create the selector statements for your synthetic scripts. See Locate DOM Elements for more methods and best practices.

Mobile RUM

Crashes

The updates below have been made to crashes. See Crashes, Crash Dashboard, Crash Analyze, and Crash Snapshots for more information.

- The **Crash Dashboard** has been redesigned and now enables you to do the following:
    - mark crashes as open/closed
    - filter crashes by app version
- The **Crash Analyze** page replaces **Crash Snapshots** and enables you to do the following:
    - analyze crash data
    - add custom widgets
    - includes pagination
    - filter by app version
- The **Crash Details** dialog:
    - links to the associated sessions
    - shows formatted stack traces for mobile app crashes
    - includes the Exception Name, Class, Method, File, and Line Number in the Summary section.
    - has a **Download Snapshot** button
- Memory usage is displayed in the crash snapshot details.
- The exception name, class, method, file, and line number are included in the crash group.
- Crash snapshots are linked to the sessions waterfall.
- Crash reports include the memory usage and recent UI events are captured by the Android/iOS Agent.
- The Controller UI displays the message "Crashes with missing dSym files found" when the dSYM file has not been uploaded. When you click the link **Upload missing dSym files**, the **View Missing dSym Files** dialog appears displaying the uploaded and missing dSYM files.

Mobile Agents

- New Xamarin Agent for instrumenting Xamarin apps for iOS or Android. See Instrument Xamarin Applications for more information.
- You can configure the Android Agent to capture native Android crashes. The native app crash report includes the app name and version and can also include user data and breadcrumbs. See Optional: Enable/Disable Native Crash Reporting for configuration instructions.
- You can use the Mobile SDKs to set user data for the following data types: String, Integer, Long, Date, Double, and Boolean.
- You have the ability to use multiple logging levels in iOS app using the iOS SDK. See Enable Logging and Set Logging Level for more information.
- There is an API that allows you to disable auto-instrumentation for both Android and iOS apps.
- By default, the runtime dependencies for Android apps will be injected by the Android Agent. You can also turn off the injection and manually add the dependencies.
- You can use the `HttpRequestTracker` to override the value of the headers Request/Response Content Length. See Customize Your Instrumentation With the Android SDK to learn how.

- For iOS apps, you can use multiple logging levels. In past versions, only one logging level was available for iOS apps.
- You no longer need to provide the following lines in the ProGuard configuration file `proguard.cfg`:

```
-keep class com.appdynamics.eumagent.runtime.DontObfuscate
-keep @com.appdynamics.eumagent.runtime.DontObfuscate class * { *; }
```

Mobile Health Rules and Policies

- You can now get alerted when a new unique crash is detected and set up health policies for sending alerts for crash events. See Crash Alerts for more information.
- Mobile apps have default health rules set up for you. You can modify these default health rules as well.
- The **Home** page now has icons indicating the health of mobile apps. The red icon indicates that there are critical violations, the yellow icon indicates there are warnings, and the green indicates that the mobile app is healthy.
- Mobile Apps is a new health rule type that can be used to create health rules. You can create health rules for mobile app performance based on specified metrics, such as app starts, network requests, and app crashes.
- You can specify the scope of health rules for network requests using one of the following criteria:
    - All Network Requests in the mobile app group
    - All Network Requests for selected Mobile Apps in the mobile app group
    - Specified network requests
    - Network request in the mobile app group matching the given criteria
- Mobile alerts can be configured to be sent when the crash count reaches a specified threshold.
- You can now configure policies for specific mobile applications. See Mobile Health Rules and Policies for more information.

Mobile App Dashboard: Overview

- The **Mobile App Dashboard** has the following five new scorecard widgets:
    - **Events Scorecard**: Displays the health rules violations and crash events.
    - **Network Requests Scorecard**: Displays the status for each network request. The status can be normal, slow, very slow, or stalled, and is determined by the response time. You can use the default values for the status or add custom values from **Configuration**.
    - **Network Requests HealthScorecard**: Displays the health status for each network request entity. The health status is determined by the health rules set for network request entities. You can set the health rules for each network entity or use the defaults. that you set. The widget links to the **Health Rule Violations** page.
    - **Crash Metrics Scorecard**: Displays the crash rate and total crashes of your mobile app. This widget links to the **Crashes** dashboard.
    - **HTTP Error Scorecard**: Displays the number of HTTP errors for your application. This widget links to the **Network Request** page.
- **Mobile App Health** widget in the **Mobile App Dashboard** displays a summary of the app health, showing health rule violations, crashes, errors, and network request health.

Mobile App Dashboard: Geo

- You can now visualize data based on app opens in addition to network requests.
- The **Map Options** menu enables you to set metric ranges (network requests/crashes) and set the max load circle size.

Mobile App Dashboard: Usage Stats

Use app opens (loads) as the primary unit of measure of instead of network requests.

Mobile Metric Browser

- The following are new metrics:
    - App Starts

- App Crashes
- Normal Network Requests
- Slow Network Requests
- Very Slow Network Requests
- Stall Network Requests

Mobile Sessions

- Mobile sessions now include the following:
  - UI events such as button clicks, text edits, and table cell selects
  - Data connection types
  - System events - data connection transitions such as when an app uses Wi-Fi changes to using 3G, etc.
- You can filter session results by date and time criteria.

On-Premises EUM Server

- Both Browser and Mobile RUM sessions are supported in version 4.3. In earlier versions, only SaaS versions of the EUM Server supported RUM sessions. Because sessions in the on-premises EUM Server are enabled by default, you need to set the following configurations if you want to *disable* RUM sessions:

```
collection.sessionEnabled=false
crashProcessing.sessionEnabled=false
```

- You can configure the EUM collector and processor to use different ports.
- You can limit the number of snapshots retained by the EUM server by setting a global maximum or by filtering snapshots based on the network response time.

Updates

Naming and Integrating EUM and Business Applications

In versions prior to 4.3, you could create and enable EUM applications from a business application. Because of this tight coupling, the business application and its correlated EUM applications (browser/mobile) would have identical names.

Starting in 4.3, you are required to assign unique names to EUM applications and business applications. This is because you now must independently create business and EUM applications. To integrate EUM and business applications, you would configure your business application to enable business transaction correlation and the automatic injection of the JavaScript Agent into browser applications.

See the following for instructions for integrating EUM and business applications:

- Correlate Business Transactions for Browser RUM
- Correlate Business Transactions for Mobile RUM
- Automatic Injection

Resolved Issues

Component	Summary	Key
Agent-EUM	NULL window reference in AncestryResolver.js	CORE71003
Agent-EUM, Event Service	Internal Error on loading the IOS Mobile App Dashboard page in server logs	CORE-68104

Android Agent	Specifying productFlavors breaks Transform based plugin	CORE-89518
Controller-EUM	HTTP Connections to cloud are possibly leaking or getting closed prematurely	CORE-87271
Controller-EUM	Renaming mobile applications requires users to have the admin role	CORE-86580
Controller-EUM	Controller thinks dSYMs are missing after they have been uploaded to EUM API	CORE-84178
Controller-EUM	Admin is not allowed but Read-only user is allowed to create the Info Points in EUM_MOBILE_INFO_POINTS page	CORE-83142
Controller-EUM	Unexcluded pages have no data after they are unexcluded	CORE-82518
Controller-EUM	NullPointerException in EUM Business Transactions result in errors in some SaaS Environments	CORE-82114
Controller-EUM	Renaming network requests with a request containing a forward slash ('/') doesn't work	CORE-72402
Controller-EUM	Synthetic > On-Demand Data Does Not Display When End User Monitoring Is Disabled	CORE-71870
Controller-EUM	Synthetic > Sessions page stuck at "Loading..." when End User Monitoring is disabled	CORE-71868
Controller-EUM	Synthetic > Jobs page stuck (internal server error) when End User Monitoring is disabled	CORE-71866
Controller-EUM	Unable to unexclude pages due to "The limit of excluded pages has been reached"	CORE-69951
Controller-EUM	Crash Rate widget is misleading when a new app appears	CORE-69375
Controller-EUM	Registration task batch fails if cloud responds with 4XX for a single config update	CORE-69355
Controller-EUM	Business Transaction name does not appear in the UI for user with one application permission	CORE-68700
Controller-EUM	Unable to drill down the analyze snapshot which has network error	CORE-68354
Controller-EUM	NullPointerException on the synthetic jobs list when there are no jobs	CORE-68011
Controller-EUM	PageListUiService.getEumPageList failing with query time out	CORE-67452
Controller-EUM	Mac Install: Error while logging into the controller UI	CORE-59324
Controller-EUM	Mobile EUM: Mobile app version Filter on Network requests > Snapshots tab not working	CORE-52940
Controller-EUM	EUMClient slow connection leak	CORE-90725
EUM Processor	Virtual Page name includes query parameters as part of the segment.	CORE-65170
EUMCloud	Connection type field should not be empty if any Mobile event has its value	CORE-84948
EUMCloud	ArrayIndexOutOfBoundsException in CrashProcessor	CORE-70895
EUMCloud	Post Load error beacons should not use default naming rules if base page has custom javascript name	CORE-69433
EUMCloud	You can't have non-ASCII characters in names for pages, Mobile Network Requests, etc.	CORE-52073
JSAgent	Support xhr responseType blob in reportXhr()	CORE-87122
JSAgent	Adrum handling error causing the application to go into an infinite loop	CORE-83576
JSAgent	XDomain AJAX 404 errors are captured as normal user experience	CORE-78252
JSAgent	UrlUtils does not getFullyQualifiedUrl properly in the presence of a <base> tag	CORE-77493
Synthetic Agent	DNS resolution failure results in missing HTTP archive	CORE-81336
Synthetic Services	Synthetic Events summary and message contents contain double quotes (") which breaks the HTTP Template Action for json contents	CORE-80787
Synthetic Services	Ignore page exclusion in synthetic	CORE-64968

UI	There's no way to sort the pages in a multi-page session in the order they were loaded	CORE-86100
UI	Network Requests List: Prevent "|" in network request names when renamed	CORE-86069
UI	Real User Sessions Visualization - Active Sessions Over Time widget is not showing up correct data graph	CORE-85253
UI	Metric picker in custom dashboard has bogus synthetic metrics which never work	CORE-82873
UI	Availability geo map does not draw dots where availability is 0%	CORE-82650
UI	EUM Overview 'Top 5 Pages' call to getTopFivePagesByRequests is relatively very slow	CORE-81205
UI	Inconsistent contiguous selection on Jobs page	CORE-79381
UI	Missing resource correlation for RUM base pages	CORE-79142
UI	Incorrect error message in synthetic jobs page when EUM is disabled	CORE-78812
UI	"Impacted users" field in session crash widgets displays an incorrect value	CORE-76160
UI	EUM - browser snap - related snap grid is too small	CORE-74039
UI	Synth: Unrelated Filter Appears When Clicking Job	CORE-72082
UI	Browser RUM Page List: Prevent | character's in page names when renamed in controller UI	CORE-70534
UI	All Browser are not displayed in the Distribution by Country in Browser Usages stats screen in EUM UI	CORE-70156
UI	Custom Data should not be available in MOBILE_LITE	CORE-69294
UI	Distribution by Country with respect to device does not include all devices	CORE-68479
UI	Analytics error messages for bad Analytics configuration are not displayed on EUM Web screens	CORE-66528
UI	Details missing on the session details screen opened via a deep link	CORE-65988
UI	EUM Page Dashboard Has Page Comp data with -1s	CORE-64389
UI	Opening two session details causes the second to not render the waterfall	CORE-59926
UI	Mobile RUM Configuration screen still shows Missing dSym files after upload	CORE-58365
UI	EUM BRUM, MRUM And Synthetic: Active Sessions Visualizations seems inaccurate	CORE-54061
UI	Network Request list should not query for Browser RUM metrics	CORE-53861

Known Issues

Browser RUM

- Automatic injection is not supported if the Web Server Agent is used.

Mobile RUM

- Server-side correlation for Mobile RUM is not supported if the Web Server Agent is used.

Browser Synthetic

- Dynamic URL updates don't work well with Browser Synthetic Monitoring.
- Network traffic shaping is not supported in IE 11. It is supported in all other browsers.

- If you hit the limit for RUM pages, synthetic data for new pages is dropped. To avoid this, clear some of the excess pages.
- If you write a script that visits a page with an SSL error (e.g., an expired certificate), the session will time out.
- Visiting URLs that are not HTML pages (e.g., an XML data file) is not supported and will behave strangely.

Server Visibility Notes

- Enhancements
- Resolved Issues
- Server Visibility Known Issues

Enhancements

New Metrics

- The Standalone Machine Agent can now report the following metrics on Linux machines:
    - CPU > %Busy 95th Percentile – The Busy Time percentage was at this level or lower 95% of the time.
    - CPU > IOWait 95th Percentile – The CPU time waiting for an I/O request was this long or shorter 95% of the time.
    - Disks and Partitions > Queue Time (ms) 95th Percentile – The queue time for read/write requests was this long or shorter 95% of the time for the reported time window.
    - Memory > Pages Paged In 95th Percentile – The paging rate to virtual memory was at this level or lower 95% of the time.
    - Memory > Pages Paged Out 95th Percentile – The paging rate from virtual memory was at this level or lower 95% of the time.
    - Memory > Pages Swapped In 95th Percentile – The swapping rate to virtual memory was this level or lower 95% of the time.
    - Memory > Pages Swapped Out 95th Percentile – The swapping rate from virtual memory was this level or lower 95% of the time.

    Note the following:
    - These metrics
        - Are available on Linux machines only.
        - Are visible only in the Metric Browser.
    - Percentile metric reporting must be enabled on both the Controller and the Machine Agent. By default, reporting is *disabled* on the Controller and *enabled* on the agent.
        - To enable/disable reporting on the Controller, log in to the Controller administration console and set the `sim.machines.percentile.percentileMonitoringAllowed` property. See Controller Settings for Standalone Machine Agents.
        - To enable/disable reporting on the agent, open the *<machine_agent_home>*/extensions/ServerMonitoring/conf/ServerMonitoring.yml file and set the `percentileEnabled`property. See Configure Server Visibility.
- The Server Metric Browser includes a new Total Process Count metric that measures all individual processes observed by the Standalone Machine Agent, *before* it filters out unreported processes and groups the remaining processes into classes. This metric is useful for identifying anomalies in the number of processes running on a specific machine. For example: If the average Total Process Count on a machine is usually 200 to 300, and then suddenly rises to 2000 or more, this could indicate a problem on that machine.
    To collect this metric, the Machine Agent captures the number of processes every 30 seconds and calculates the average number of processes per minute. This means that
    - Observed is the average number of processes per minute.
    - Min and Max are the 30-second buckets with the least and most processes.
    - Count and Sum are the number of process captures each minute and the sum of the processes in each capture for that minute (capture1 + capture2).
- Standalone Machine Agents now report CPU Load metrics on Windows machines.

Solaris Support

The 4.3 Standalone Machine Agent can now report Server Visibility metrics (if the agent has Server Visibility enabled). Previous versions of the agent reported Basic metrics only on Solaris. Note the following:

- All metrics are reported except the following:
    - CPU metrics:
        - %Nice
        - %Irq
        - %SoftIrq
    - Process metrics:
        - Major Faults/sec
        - Minor Faults/sec
- If the agent has Server Visibility enabled, the agent uses the ServerMonitoring extension by default. If Server Visibility is disabled, the agent uses the HardwareMonitor extension by default. Server Visibility requires an additional license on the agent.
- When collecting Process metrics, the Standalone Machine Agent observes and captures only the first 80 characters of each process name and argument list. This means that the agent considers only the first 80 characters of each process string when it applies whitelists ("always monitor this process") and blacklists ("never monitor this process") defined in ServerMonitoring.yml.

The 4.3 Standalone Machine Agent has been tested on the following Solaris platforms:

Architecture	Versions
x86 (32-bit)	10 (x86 and x64)
x64 (64-bit)	11 (x64 only)
SPARC (64-bit)	10, 11 (64-bit)

For information about how to install and set up the 4.3 agent on Solaris, see Solaris Install Using ZIP with Bundled JRE.

Server Dashboard

The Server Dashboard has the following enhancements:

- The CPU time series chart now shows the following metrics:
    - CPU Usage – Percentage of time spent processing user or application requests
    - CPU Steal (*new*) – Percentage of time a virtual CPU waits for a real CPU while the hypervisor is servicing another virtual processor
    - CPU System (*new*) – Percentage of time processing OS functions related to user or application requests
    - Number of CPUs
- The Server Dashboard includes a new Load Average time series chart that shows 1-minute, 5-minute, and 15-minute averages.

User Interface

- When you open the Server Dashboard for an individual transaction snapshot, time-based Dashboard graphs include an indicator that shows the snapshot time range.
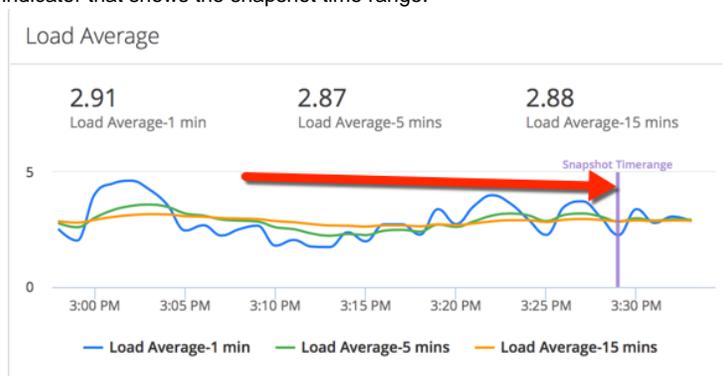
Resolved Issues

Component	Summary	Key
Controller-Platform	Default Server health rules that contain wild cards should be disabled by default	CORE80899
Controller-Platform	Server Visibility remapping shouldn't use TX attribute inside of metric packet insertion	CORE-78693
Machine Agent, SIM-server	Service Availability is producing two events every 5 minutes on no status change	CORE-70886
SIM-server	NoTxnTimerTask will not purge stale machines in background	CORE-83672
SIM-server	Process TotalsLimiter.currentCount is out of sync with database	CORE-81827
Metric Browser, SIM-server	REST API issue while opening Server Visibility metrics from Metric Browser	CORE-80360
SIM-server	Sim Metric duplication rules not created for all accounts on after upgrade from pre-4.2 controller to version >= 4.2	CORE-76211
SIM-server	Issues displaying reported Machine Agent metrics observed on a SaaS Controller	CORE-72754
SIM-server	Gaps in Server Visibility metric charts observed on some Controllers	CORE-61008
UI	Updates to Servers list not reflected when viewing Controller in Internet Explorer 11	CORE-82250
SIM-server, UI	Cannot delete old servers after upgrading Controller to 4.2.2	CORE-72053
UI	Servers > Events: when exporting data to CSV, Subgroups values appear as negative	CORE-62716
SIM-server	Memory Utilization Metrics are not reported correctly on Windows	CORE-90852

Server Visibility Known Issues

- If a metric name contains colons or pipe characters (**:** or **|**), the Metric Browser interprets the name as hierarchically separated. These characters could appear in a process name, a disk or partition name, a mount point, or a network interface name.
- A machine agent enabled for the 4.1 Server Monitoring Beta will not work with a 4.3 Controller. To continue using Server Visibility (previously Server Monitoring), upgrade both the machine agent and the Controller.
- If the machine that a Machine Agent is monitoring goes to sleep, monitored processes might be duplicated on the Controller. Because the process has a new start time, the Controller interprets it a new process. When the configured process count is reached, the Controller marks the duplicated processes as terminated and purges them.
- (*Windows only*) You must have .NET Compatibilty Mode enabled for Server Visibility to work correctly on a server with a .NET APM agent installed.
- The following Health Rule is disabled by default in this release:
    ```
    Disk Usage is too high on at least one partition.
    ```
  This wildcard health rule can result in high resource consumption and health rule evaluation times on the Controller. If this rule is critical for your environment, the recommended practice is to create your own custom Health Rules and apply specific rules for specific volumes on specific servers. For more information, see the following Support Advisory: https://community.appdynamics.com/t5/FEZ-Knowledge-Base/Server-Visibility-Support-Advisory/ta-p/22408

Docker Visibility Known Issues

- When the Standalone Machine Agent is used to monitor Docker containers, server information does not appear in the Application Dashboard > Servers and the Transaction Snapshot > Server pages.
- The Standalone Machine Agent running inside the container sometimes reports a few extra volumes for the host machine. This can result in a higher total volume for the aggregate volume metrics.
- There might be gaps in the container network I/O metrics. This happens because the Docker API resets the accumulated network I/O metric data for every 4.2 GB of data sent or received. When the data is reset, the Standalone Machine Agent calculates negative I/O values and does not report a data point for that time window.
- If the agent started monitoring the current container after the beginning of the selected time range in the Controller, the Controller might show metric data prior to the container start time. This metric data will include metrics from a previously monitored container. This behavior occurs when the Controller flag "sim.machines.reuse.enabled" is enabled.
- If the agent started monitoring the current container *before* the beginning of the selected time range in the Controller, the data

is correct for the current container.
- If a container stops running while it is being monitored, the Tiers & Nodes Dashboard > Server tab will show data for the stopped container rather than for the underlying server.
- If you go to the Details screen for a Docker container and then double-click in a chart, the Metric Browser shows the metric chart but the metric name does not appear under the chart or in the treeview.
- In some cases, container monitoring is suspended when some containers that are currently being monitored are stopped. This issue has been observed on Docker API version 1.24. The suggested workarounds in this case are to
  - Restart the Standalone Machine Agent (Docker Visibility will start monitoring the containers), or
  - Upgrade to Docker CC/EE v17.03 or Docker Engine v1.13.

Standalone Machine Agent Notes

- Updates
- Resolved Issues
- Known Issues

Updates

- In 4.3, JRE 1.8 is bundled with all the OS-specific Machine Agent installation downloads.

Resolved Issues

Component	Summary	Key
Machine Agent	Data collector on Windows Standalone Machine Agent does not terminate in some cases	CORE82379
Machine Agent	start-stat-run.sh generates too many machine-agent.log entries when data can't be gathered	CORE-79699
Machine Agent	machine-agent script throws "./machine-agent: line 93: : No such file or directory" on startup	CORE-78993
Machine Agent	User cannot run basic monitor on Windows or Linux if Server Visibility is enabled	CORE-78851
Machine Agent	Custom metrics component registration using Tier name rather than Tier id	CORE-77104
Machine Agent	Report CPU I/O wait	CORE-76567
Machine Agent	Machine Agent SysV Init Script does not actually support a non-root runtime user	CORE-73458
Machine Agent	Machine agent "keystore-file-name" relative path is breaking	CORE-72757
Machine Agent	Absolute paths issue for loading libraries from a directory in Windows for Machine Agent Extensions	CORE-68253
Machine Agent	aix-stats.sh is written for bash, but AIX doesn't ship with bash	CORE-67960
UI	Machine Agents list does not reflect newly-created application (requires browser refresh)	CORE-82424
UI	Servers > Events: when exporting data to CSV, Subgroups values appear as negative	CORE-62716
UI	User can't unregister an agent from an application, thus can't rename Unique Host ID	CORE-28936

Known Issues

- Reset Machine Agent action on the AppDynamics Agents window is not available for 4.3 Machine Agents.
- (*Windows only*) The JavaHardwareMonitor extension and the ServerMonitoring extension (introduced in 4.2) assign network names differently. If you have any health rules based on JavaHardwareMonitor names, and you want to use these rules with the ServerMonitoring extension, you will need to update the names that these rules are based on.

Application Analytics Notes

- Enhancements
- Updates
- Upgrade Notes
- Resolved Issues
- Known Issues

Enhancements

Log Analytics

Centralized Log Management provides a Controller-based UI for configuring the data you collect from logs. See Configure Log Analytics Using Source Rules. To migrate your previous configuration from job files to source rules, see Migrate Log Analytics Job Files to Source Rules.

The new Centralized Log Management configuration settings are applicable only to Analytics Agents that are versioned 4.3 and above.

The new configuration mechanism provides the following new capabilities:

- New field customizations:
    - masking of sensitive information
    - renaming, replacing, deleting fields
    - changing the field data type
- Improved deployment capability for log configuration using Agent Scopes

Sessions Data

- Browser RUM, Mobile RUM, and Synthetic Sessions data is accessible in Application Analytics for both on-premises and SaaS controllers. See ADQL Data for a description of the data that is collected by default.

Transaction Analytics

- You can now collect business data from parameterized SQL calls. See Collect Business Data From SQL Calls.

Search and ADQL improvements

- Improvements have been that improve query performance, including server-side pagination of results and streaming results for ADQL queries
- Analytics Query REST APIs have been improved to include support for pagination. See Analytics Events API for details on usage of the `mode` query parameter.
- Free text search improvements:
    - Wild card characters can be used in the first three characters of a search string
    - Wild card characters can search over tokens

- CamelCase analyzer for improved tokenization of terms using CamelCase format
- All non-alphanumeric characters are considered delimiters

Metric Creation From Scheduled Queries

- Metrics can be created for most analytics functions. See Create Analytics Metrics From Scheduled Queries.

Analytics Events API

- The version of the content type parameter in the REST APIs is changed from v=1 to v=2. For example, `Content-type: application/vnd.appd.events+json;v=2`. See Analytics Events API.

Updates

- The agent-side component previously referred to as the *Analytics Plugin (AP) to the App Agent* has been renamed to Analytics Dynamic Service. The Analytics Dynamic Service is not a new component. This is a name change only and is reflected in the deployment diagrams used in Analytics Deployment Options.
- Relevant Fields are available for all analytics event types.

Upgrade Notes

Upgrading the Analytics Agent

If you are running the Analytics Agent as a standalone binary, see this topic: Upgrade Analytics Agent.

If you are running the Analytics Agent through the Standalone Machine Agent, See Upgrade the Standalone Machine Agent for instructions.

If you have been collecting log analytics data:

1. Preserve the old watermark file so that you can copy it to the corresponding location in the new *<analytics-agent-home>* directory structure.
2. Preserve your pre-existing job files so that you can copy them to the corresponding location in the new *<analytics-agent-home>* directory structure.

Field Names for Data Collectors

In versions prior to 4.3, Analytics used the actual HTTP parameter name to display the fields collected by Data Collectors. Beginning in 4.3, Analytics is using the configured display name for such fields.
When you upgrade to 4.3 agents, new HTTP parameter data will appear under the display name. If you had previously configured the display name to be different from the actual parameter name, your historical data and new data collected by the 4.3 agents for a single HTTP parameter will be split between the two field names.

Enabling Transaction Analytics

Beginning with 4.3 agents, you should enable Transaction Analytics exclusively using the Analytics Configuration UI. The Analytics Configuration UI allows for enabling Analytics at the Application level. You should no longer use the deprecated `analytics-dynamic -service-enabled` node property.

> If you change the `analytics-dynamic-service-enabled` node property through the Agent Configuration UI (updating the `analytics-dynamic-service-enabled` node property directly) it will have no affect on version 4.3 or higher Java Agents.

Related Background

Version 4.2 and earlier app server agents use the `analytics-dynamic-service-enabled` node property to enable Transaction Analytics. Using the node property directly allowed for disabling and enabling the Analytics Dynamic Service at the application, tier, and node levels. The Analytics Configuration UI allows for setting this property only at the Application level. Therefore, Java Agents 4.3 and higher are not be able to disable or enable the Analytics Dynamic Service at the tier and node levels.

Although the Analytics Dynamic Service configurations can be directly changed through the application import and the Analytics Dynamic Service import REST API, manipulating the Analytics Dynamic Service configurations through either of those mechanisms only updates the Analytics Dynamic Service configurations and not the corresponding `analytics-dynamic-service-enabled` property. Therefore, if you use one of these import mechanisms to enable or disable the Analytics Dynamic Service and you have a mixture of old (pre 4.3) and new (4.3 and higher) agents, you must manually set the associated `analytics-dynamic-service-enabled` property to match the Analytics Dynamic Service configuration value. The analytics-dynamic-service-enabled node property can also be set as part of the Application Import and has its own Import REST API (accessed at POST /setAgentProperty). See: Import Application Analytics Dynamic Service Configuration at Configuration Import and Export API.

Resolved Issues

Component	Summary	Key
Analytics	Querying Analytics API Returns 404 Error	CORE-92296
Analytics	Change in timestamp format causes time series charts to not work	CORE89035
Analytics	Event service is returning wrong formats for older controllers	CORE-88173
Analytics	Autocomplete does not work with EUM events	CORE-86999
Analytics	Analytics agent consuming too much CPU tailing a single log file	CORE-84331
Analytics	+ and - operators need whitespace if followed by number literal	CORE-82110
Analytics	Unable to view relevant fields in Analytics query; instead, error Is thrown	CORE-81539
Analytics	Read-Only Analytics user fails to load Flow Map for a given transaction record	CORE-81363
Analytics	Issues when creating Extracted field for log analytics	CORE-80300
Analytics	Parsing CSV logs seems broken	CORE-79078
Analytics	Analytics canvas becomes unresponsive some times	CORE-77049
Analytics	Aggregation query fails on putting top level field after a nested field	CORE-74850
Analytics	ADQL IN clause doesn't support wildcards	CORE-72949
Analytics	Events service should not allow to register two attributes with the same name	CORE-70283
Analytics	Can only see 10 results for aggregations in table widget	CORE-69933
Analytics	Funnel Widget is not returning appropriate results in some cases	CORE-67599
Analytics	ADQL QueryEvents is not returning an Array of response anymore	CORE-66788
Analytics	Transaction Analytics: Doesn't search records if the Search criteria has forward slash (/) in it	CORE-62566
Analytics	logMessage is visible in the widget builder for selection	CORE-60891
Analytics	Throttling/Summarizing error messages on agent log	CORE-57926
Analytics Agent	Analytics Agent (& Processor) - PID file management improvement	CORE-76999
Analytics Agent	Data Collector fields not showing up in Analytics which are present in APM	CORE-66725
Analytics, Node.js Agent	Transaction snapshots fail to load from Analytics for node.js agent BT	CORE-72714
UI	Some columns don't show up in the results table	CORE-89216

UI	Ajax Error filter does not work with regex characters in Basic mode	CORE-89136
UI	Cannot see the log messages in the extracted fields popup	CORE-88829
UI	Analytics widgets w/ fields not in the MetaDataService broken in Custom Dash due to alias including "."	CORE-88603
UI	Context menu "Search for Events" doesn't work with numeric filters	CORE-87626
UI	OR-ing analyzed fields creates comma separated list	CORE-86972
UI	Timeseries widget not rendering for queries with wildcards in IN's	CORE-86808
UI	Data tab in advanced mode does not display results for queries with wildcards in IN's	CORE-86803
UI	Widget Builder: Axis fields are not removed when switching widgets	CORE-86562
Analytics, UI	Time Series widget displaying "no data to display" when some data is returned.	CORE-86458
UI	Series chart not showing all the data values	CORE-86265
Analytics, UI	Some EUM Analyze widgets have no data for 4.2 controller + 4.3 events service	CORE-86207
UI	Funnel widget shows same field multiple times in funnel field selection drop down.	CORE-86012
UI	Analytics filters should use the renamed Business Transaction name when available	CORE-85222
UI	Sessions in Analytics have incomplete data	CORE-84635
UI	UI error is thrown for query with math expressions	CORE-84371
Analytics, Controller, UI	Roles are getting saved but an error dialog is displayed	CORE-84115
UI	Multiple notifications when saving privileges to roles	CORE-83623
UI	Multiple x-axis fields not allowing transition to basic mode	CORE-82647
UI	Export as CSV icon disappears on saving table widget to custom dashboard	CORE-82136
UI	User allowed to change config of applications denied by Role	CORE-82074
Analytics, UI	Funnel query in advanced mode only showing step 1 results when multiple steps	CORE-81922
UI	Numeric filter should accept negative values & it should not generate ADQL condition if invalid	CORE-81793
UI	APM-supplied field displayed in some places in Analytics, but not on Transaction Data	CORE-81708
UI	Series widget freezes on large data sets	CORE-80335
UI	Truncate larger length field names in Analytics - add criteria UI	CORE-79507
Controller-Platform, UI	Custom dashboard report renders incomplete data and is unusable	CORE-79360
UI	Mobile Analytics: Custom Dashboard widgets show inaccurate results for Advanced Queries	CORE-78975
UI	Analytics UI: Analytics custom widget under custom dashboard does not pick up custom time range changes	CORE-78733
UI	Analytics tab available when not licensed	CORE-78508
Analytics, UI	"Use current Filter: does not work in "Create Extracted fields window in log analytics"	CORE-78221
UI	The percentile widget only shows 50% on custom dash	CORE-78118
UI	Clicking on the relevant fields tab shows no indication of any progress	CORE-77245
Analytics, UI	Sorting on a numeric field in Analytics results sorts alphabetically	CORE-77003

UI	Analytics: Advanced query based dashboard widgets changing queries when loading the widget	CORE-76988
UI	Custom Dashboard is very slow with many analytics widgets	CORE-76496
UI	The Hide fields Popup Needs "Done" and "Cancel" buttons	CORE-75735
UI	Export option is not available in advanced mode viz tab	CORE-75699
UI	Problems with Analytics Searches for Basic/Advanced / Extracted Fields / AddEdit Widgets	CORE-75240
UI	Custom dashboard - Fields are not refreshed while creating new widget	CORE-74049
UI	Duplicate queries when transitioning from logs to transactions or vice-versa	CORE-71199
UI	Refresh icon on the location toolbar can place unnecessary calls and make the UI slower	CORE-69800
UI	Analytics Dashboard and Visualizations are running very slowly	CORE-69370
UI	In Basic Mode, for numeric field filter, if the range is specified reverse it still fetches data	CORE-68608
UI	User can create extracted field without "Manage Fields" permission	CORE-68585
UI	Manage Fields - timestamp fields are shown in Top Values as epoch. Clicking on one shows a formatting error.	CORE-68565
UI	Widget title field should not allow user to drop fields into input box	CORE-67678
UI	Charts should not show a dip at the end	CORE-66364
UI	ADQL queries do not return expected results when the values in conditions contain escape characters	CORE-66163
UI	1-hour query results do not include 1-minute query data	CORE-65978
Analytics, UI	Unable to create metrics from search in Analytics tab	CORE-65555
UI	Data grid is not being refreshed with all fields when switching from results to data in advanced	CORE-65189
UI	Error code field shows only first value instead of all values in the data grid	CORE-64776
UI	Analytics UI Grid/Table - Column header is right-aligned but values are left-aligned	CORE-64761
UI	Aggregations don't render in certain chart types in advanced mode	CORE-64700
UI	Performance issue from unnecessary REST calls	CORE-63452
UI	Multi-queries should use consistent time stamps	CORE-61365
UI	Able To Access Analytics When License Expired	CORE-60149

Known Issues

- Windows: You can not delete a log file with the "del" command while the analytics agent is collecting log data from the file.
- For Analytics Searches:
  - In Basic mode, regular expressions and the **NOT** logical operator are not supported for free text search.
  - In Basic mode, quotes and commas have no special meaning.
  - Saved Searches from 4.1 can be imported multiple times if you click 'Import from 4.1' button multiple times.
- Due to timing issues, full information for business transactions may not appear immediately when running a Transaction Analytics search.
- If you have deployed EUM such that you are using an on-premises Events Service for transaction and log analytics data, and the SaaS Events Service for your EUM data, you can not query the browser or mobile request data using the Analytics API.

AppDynamics On-Premises Platform Notes

The following notes describe updates to the AppDynamics on-premises platform, including the Controller, Events Service, and EUM Server components.

- Enhancements
- Upgrade Notes
- Resolved Issues
- Known Issues
- Security Notes

Enhancements

Controller

- The Controller uses version 4.1.1 of the GlassFish Application Server. Previously, the Controller used version 3.1.2.2.
- The Platform Admin Application is now delivered as a separately installed component; it is no longer bundled with the Controller. You can get the Platform Admin Application by downloading and installing it from the AppDynamics download site. To upgrade the Platform Admin Application, download and install the latest version, then follow the steps to upgrade the rest of the platform components. See Upgrade Platform Components for instructions.
- The Controller Java SE Runtime Environment has been upgraded to JRE 8u121.

Upgrade Notes

Version 4.3 of the AppDynamics Platform includes an updated version of Elasticsearch. As a result of the upgrade, you cannot perform a rolling upgrade for the Events Service. Stop the Events Service before you perform an upgrade.

If you are upgrading the EUM Server and you have a Controller version of 4.1 or earlier, you need to ensure that the EUM-related settings are correctly propagated to the Controller. See the section on using a 4.2 EUM Server with an earlier version of the Controller in the 4.2 documentation.

Resolved Issues

Component	Summary	Key
Controller	AppDynamics Controller Should Not Log SEVERE Errors if Events Service Not Running	CORE53180
ControllerPlatform	IllegalObjectStateException: Event Notification has been triggered with an empty map for health rule	CORE-90611
Controller-Platform	Lack of thread safety in Glassfish ManagedBeanDescriptor causes threads to block	CORE-89710
Controller-Platform	Incorrect count of actions in Actions Executed	CORE-88250
Controller-Platform	LazyInitializationException in EventReactorEntity.getActionWrappers()	CORE-88214
Controller-Platform	IllegalObjectStateException: Event Notification has been triggered with an empty map for health rule	CORE-87873
Controller-Platform	Administration->Roles page is slow to render due to full DTO getting returned	CORE-87305
Controller-Platform	Script for switching to Java 1.8 is missing settings	CORE-87098
Controller-Platform	NullPointerException in EventFilteringUtil when Policy is created with Specific Servers and no servers are selected	CORE-87008
Controller-Platform	4.2 expand ES with localhost succeeded	CORE-86933

Controller-Platform	Metadata churn creates MemoryLeak in MetricBrowser	CORE-86907
Controller-Platform	Metadata churn creates MemoryLeak in BaselineMemoryDataStore	CORE-86880
Controller-Platform	Metadata churn creates MemoryLeak in HealthMetricsManagerBean	CORE-86879
Controller-Platform	Metadata churn creates MemoryLeak in MetricReceiverBean	CORE-86863
Controller-Platform	Health Rule Violation/ Incident Viewer - Correlation key for "THREAD_DUMP_ACTION_FAILED" event sets "INCIDENT_ID" instead of "POLICY_ID"	CORE-86837
Controller-Platform	JMX Health Rule violation remains open for a node even after the affected node is deleted	CORE-86526
Controller-Platform	Pie chart widget colours change automatically after upgrade to 4.2.9 on some Controllers	CORE-86422
Controller-Platform	Health Rule evaluation time increases over time	CORE-86283
Controller-Platform	Health Rule of type SIM that affects servers of a specific tier is broken after import	CORE-86162
Controller-Platform	Application Batch Import - NullPointerException in PolicyEntity#setAffectedEntity while importing Health Rules	CORE-85527
Controller-Platform	Custom health rule generates false alerts even after alerting for the rule is disabled	CORE-85348
Controller-Platform	Specific Custom Dashboard import failing on a specific SaaS controller	CORE-85311
Controller-Platform	Logs for reporting service suppresses the actual error message	CORE-85235
Controller-Platform	Report Resolution - White spaces below generated report	CORE-84117
Controller-Platform	Adopt EntityCache in the EventReceiverBean	CORE-83237
Controller-Platform, UI	Scheduled Report Start date always shows current day on UI	CORE-83137
Controller-Platform, SIM	Deletion of custom metrics (or any metric directly) is not reflected in Metric Browser	CORE-82573
Controller-Platform	Health Rule violation is showing "Backend: Not found (id <id>)"	CORE-81787
Controller-Platform	Custom DashBoard > War Room: Intermittent "Internal Server" errors observed when adding war room based on template from another application	CORE-81697
Controller-Platform	NullPointerException in UIMetricManagerImpl	CORE-81294
Controller-Platform	HealthRule configuration visible on SaaS controllers without authentication	CORE-81292
Controller-Platform	ControllerManagerTest.testRefreshCachesForApplication failing on master for REDISBACKED	CORE-80557
Controller-Platform	ActionService deployment fails for accounts with uppercase letters	CORE-80354
Controller-Platform	Email digests either not sent or not triggered on time	CORE-80021
Controller-Platform	Email Is not getting updated for SAML User	CORE-79328
Controller-Platform	Controller upgrade fails if the JMX instance name (metric) is more than 250 characters	CORE-79218
Controller-Platform	License screen refresh button does not refresh EUM usage data	CORE-79100
Controller-Platform	Health Rule violation is still in Open state for nodes that are deleted, or no longer exist, or are removed from the health rule	CORE-78962
Controller-Platform	Need to update controller to use apache commons library version 3.2.2	CORE-78735
Controller-Platform	Enabling and Disabling Redis while the controller is live creates instability	CORE-78650
Controller-Platform	Health Rule import/export doesn't handle DB server filtering	CORE-78638
Controller-Platform	Emails are not sent to email addresses with a particular domain	CORE-78385

Controller-Platform	Custom dashboard import fails if it has DB server-related metrics	CORE-78249
Controller-Platform	All Dashboard Report PDF shows loading symbol and nothing else	CORE-77415
Controller-Platform, UI	Controller audit report does not show complete data when generated for 1 week	CORE-77331
Controller-Platform	Health rule is not updating the node names in the health rule screen	CORE-77203
Controller-Platform	Optimizing used memory in the PolicyExecutionState	CORE-77107
Controller-Platform	Entity name in Metric Display Name for Custom Dashboard is wrong for backend	CORE-76985
Controller-Platform	ApplicationDiagnosticDataManagerBean: some objects have been modified	CORE-76474
Controller-Platform	User cannot rename the tier even with necessary RBAC permission	CORE-75775
Controller-Platform	AuthRealm.java should cache Account->SecurityProviderType in a write TTL 5 mins cache	CORE-75211
Controller-Platform	Schedule Report not considering DST time and received with 1 hour delay	CORE-74873
Controller-Platform	Installer unable to start the database during upgrade	CORE-74501
Controller-Platform	Invalid Metric Id: 0 appears in error message on loading dashboard	CORE-74057
Controller-Platform	Internal error on double-clicking on any of the dashboards.	CORE-73252
Controller-Platform	Null check missing from StreamingGraphWidgetEntity:doToDTO staticThresholds	CORE-73195
Controller-Platform	Update installer to set usage.data.enabled.onprem flag	CORE-73163
Controller-Platform	ActionService: File streams not being closed	CORE-73024
Controller-Platform	/controller/rest/serverstatus should return a 503 HTTP status code when the content of the <availability> tag is false	CORE-72593
Controller-Platform	deleteApplication() hanging on onApplicationDiagnosticDataDelete()	CORE-72453
Controller-Platform	Tiers are listed incorrectly in "Current evaluation status" for JMX health rules	CORE-72376
Controller-Platform	Backend work for Gauge doesn't work when Metric Expression evaluates to a negative number	CORE-72318
Controller-Platform	Scheduled Reports mails are still being sent after the owning account is marked as deleted	CORE-71894
Controller-Platform	Controller settings overwritten with upgrade	CORE-71719
Controller-Platform	Installing 4.2.2.1 on a machine where 4848 is taken doesn't install the token	CORE-71618
Controller-Platform	controller.sh start-db fails on OSX	CORE-70169
Controller-Platform	Health rule email alert content	CORE-69448
Controller-Platform	License error message invalid or not intuitive	CORE-69431
Controller-Platform	Slack extension link bring blank screen with Transaction: undefined	CORE-69293
Controller-Platform	getEventCounts: fix eventCategory assignment logic	CORE-69075
Controller-Platform	Historical data of custom metrics are erased when new health rule is created	CORE-68934
Controller-Platform	Shared dashboard throws error when time range is changed	CORE-68894
Controller-Platform	Health rule violations remain open for a long time and are still triggered even when disabled	CORE-68212
Controller-Platform	log4j.xml location not consistent after upgrades	CORE-67959
Controller-Platform	Use IMetadataCache inside EventReactorManagerBean	CORE-67944

Controller-Platform	Health rule evaluation for SERVICE_ENDPOINT seems using tier metric but actually per node	CORE-67482
Controller-Platform	During metric data overflow, events created in other accounts	CORE-66902
Controller-Platform	Prevent remote access to MySQL root user	CORE-66300
Controller-Platform	ExecutionException: failed to retrieve event summaries in parallel	CORE-64881
Controller-Blitz, Controller-Platform	Baseline value for time rollup type current is max value, not weighted average value	CORE-64788
Controller-Platform, UI	For URLs in reports, ensure iframes are rendered before the pdf is created and emailed	CORE-64178
Controller-Platform	Health Rule is not fired with wild cardmetrics path	CORE-63212
Controller-Platform	Unable to create consul master token	CORE-61798
Controller-Platform	Very long processing time for MetricDataWriterBean.addMetricMinute	CORE-61593
Controller-Platform	Server exception is thrown when WarRoom name is same as template name	CORE-61065
Controller-Platform	Log Level functionality is not working under HTTP Template test run	CORE-61028
Controller-Platform	controller.beans.agent.tts.cache.TopSummaryStatsMemoryStore takes ~%14 heap memory	CORE-59327
Controller-Platform	Event Service: Snapshot view does not render (empty window)	CORE-58594
Controller-Platform	Email Digest send failure due to large message size	CORE-58147
Controller-Platform, Installer	Installation of 3.8.0.1 shows benign crash recovery related messages	CORE-27895
Controller-Platform	Intermittent Slow SQL Queries: metricdata_hour_agg_app table	CORE-27386

Known Issues

- A known issue prevents the Controller database from starting at installation time if another instance of MySQL is running on the machine. Certain Linux operating system distributions include MySQL. If the bundled MySQL instance is running, you will need to shut it down to complete the AppDynamics Controller installation.

Security Notes

- The Controller stores credentials in a secure credential store by default.

Deprecation and End of Life (EOL) Notices

- The AppDynamics Java Agent will no longer support monitoring Java applications running in the Java Development Kit 5. See Desupport Notice: Java Development Kit 5.
- Mobile RUM: Dynamic Info Points are no longer available for Android apps.
- End-User Monitoring: The option View Dark Mode has been removed from the Geo Dashboard.
- Server Visibility (formerly Server Monitoring): The "Disk Usage is too high on at least one partition" health rule is now disabled. See Support Advisory: "Disk Usage is Too High" Health Rule is Disabled in Release 4.3 and Higher.

4.3.0.3 Updates

Server Visibility Enhancement: Dynamic Monitoring Mode (DMM)

You can now selectively control the number of metrics reported by individual Standalone Machine agents (including Server Visibility agents). Rather than have all agents report all the metrics all the time, you can configure individual agents to collect

- Key Performance Indicator metrics only (*KPI mode*)
- KPI and Diagnostic metrics (*Diagnostic mode*)
- All available metrics (*Advanced Diagnostic mode*)

This provides the flexibility to report KPI metrics only on most machines and then increase the metric level on specific servers where you need deeper visibility to diagnose problems. You can increase scaleability on the Controller and conserve metric bandwidth on the network with no sacrifice in visibility.

For more information, see Dynamic Monitoring Mode.

Resolved Issues

Component	Summary	Key
Blitz, Controller-Platform	Some health rules trigger "false positive" alerts due to inaccurate baseline values	CORE-98204
Controller-EUM	Controller cannot connect to EUM via proxy	CORE-98375
Controller-Platform	Code fix for requesting baseline data for partial metrics	CORE-98745
SIM-server	In some cases, Servers list takes a few minutes to load immediately after first login	CORE-92449

4.3.0.4 Updates

Resolved Issues

Component	Summary	Key
iOS Agent	iOS app which uses non-http(s) scheme for URL crashes in iOS Agent	CORE-98694

4.3.0.5 Updates

Resolved Issues

Component	Summary	Key
Controller	Custom Service endpoints do not report data after agent restart (must resave SEP configuration in Controller)	APMPLAT-708
Controller-EUM	Controller using proxy to connect to SaaS EUM Cloud doesn't work	SYNTH-918
Controller-EUM	Some EUM accounts incorrectly disabled after upgrading Controller to 4.3	SYNTH-958

Controller-Platform	Code fix for requesting time range for metric baselines	CORE-99353
Controller-Platform	Slow App-Tier and Tier-Node data queries observed on some Controllers	METADATA-295
DB Visibility	High Availability replication issues observed on SaaS Controller	DBMON-115

4.3.0.6 Updates

Component	Summary	Key
EUMCloud	Some custom page rules created pre-4.3 get corrupted when saving in 4.3 UI	BRUM-778

4.3.1 Updates

Enhancements

Controller

- The audit.log file (located at <controller_home>/logs) now replicates the scheduled Controller Audit Report (controller.controller_audit table) by capturing the creation of new data collectors and all other operations. This should help with monitoring user activity and configuration changes in the Controller for security certification purposes by making the data consumable by standard log file auditing tools. The default log file size has been increased to 500 MB from 50 MB to accommodate for the expanded logging scope.

Application Performance Management

- The View Sensitive Data permission lets you control which users can access the Live Preview and Business Transaction Discovery features that stream live data from your application. See also Roles and Permissions.

Java Agent

- The Java Agent automatically detects Akka HTTP entry points, Akka HTTP exit points, and Akka HTTP error codes for Akka 2.4.x and Scala 2.11.
- Updated configuration for Kafka consumers that use `KafkaConsumer.poll()` and Kafka Streams. After you implement the new configuration, flow maps in the Controller display the data flow from the queue to the consumer. See Apache Kafka Consumer Backends.
- The Java agent now supports auto-naming of TIBCO process nodes based on process names. See Self Service on Java Agent Configuration Properties.

Go Agent

- The AppDynamics Go Agent no longer requires the AppDynamics Agent Proxy for its Controller communication. For more information on the agent, see Go Language Agent.

JavaScript Agent

- The JavaScript Agent by default now supports monitoring for Ember.js apps. See Manual Injection for Ember.js Applications to learn how to inject the JavaScript in Ember.js apps and monitor virtual pages.

Android Agent

- You can generate and upload symbol files for C/C++ functions in your Android apps, so that the file name and line number will appear next to the function name in the stack trace. See Configure Native Crash Reporting for more information.

Analytics

- Log Analytics - When defining a source rule, multiple definers can be added for auto field extraction. This is useful If the log events are dissimilar so you can collect all types of fields.
- Search - A view option has been added to filter the list of saved searches to those created by the current user.

Known Issues

For Go Agent, the StoreBT, GetBT, StoreExitcall, GetExitcall methods are not available.

Deprecation Notices

Analytics

- The `complement` and `interval` REGEX operations, which are described for use with ADQL, are deprecated and may be removed in a future release. You need to adjust ADQL queries that use these operations.
- For security reasons, direct access to the Events Service data store through HTTP port 9200 is deprecated and will be removed in a future release. Because HTTP access through port 9200 will be disabled by default in a future release, you may need to review and change external scripts that expect this port to be open.

Resolved Issues

In addition to the issues listed below, this release addresses important security issues.

Platform Resolved Issues

Component	Summary	Key
Controller-Platform	Metric Browser shows incorrect baseline values for metrics with time rollup of type SUM	CORE-97695
Controller-Platform	Ajax resource issues observed on some SaaS Controllers	CORE-96926
Controller-Platform	Need to optimize agent authorization for License Rule evaluation	CORE-94330
Controller-Platform, dashboard, Widgets	Some widgets in custom dashboards get reordered after 4.3 upgrade	CORE-96792
Controller-Platform	Metric data cache does not get cleared out when node is deleted	CORE-96514
Controller-Platform	Writer instantiated with wrong DocType	CORE-94445
Controller-Platform	Need to optimize agent authorization for License Rule evaluation	CORE-94330
Controller-Platform	SIM node id should not be added to the MetadataCache.machineIdvsNodeIdCache	CORE-93869
Controller-Platform	Platform Admin upgrade succeeds but displays an error on console in Cent OS 7	CORE-93748
Controller-Platform	High rate of extraneous log messages when certain Health Rules are disabled	CORE-93192

Controller-Platform	High rate of extraneous log messages when race condition is detected during Health Rule evaluation	CORE-93130
Controller-Platform	Report file name does not use local (browser/user) time zone	CORE-92063
Controller-Platform	Attempt to update Collector results in NullPointerException	CORE-90660
Controller-Platform	Some Controllers do not return data for event queries on two-week time windows	CORE-86490

EUM Resolved Issues

Component	Summary	Key
Controller-EUM	"EUM enabled" flag for APM application should be set to true when Attribute Injection is enabled	CORE-96789
Synthetic Services	On Demand Synthetic Snapshot generation failing with error - Failed to enqueue measurementId	CORE-94295
Synthetic Agent	A specific Synthetic Job is failing with 4xx - Client Error	CORE-94257
Controller-EUM	Need to ensure that EUM Health Rules don't get created by default for non-EUM applications	CORE-93738
Controller-EUM	Pages and AJAX Requests table: Page/AJAX Limit messages always show "Limit of 500" even when the specified limit is higher	CORE-87327
eum	Store AWS Dynamo DB zip locally and adjust run-dynamo-db script accordingly	CORE-91506
EUMCloud	AJAX/Virtual pages result in discovery of their corresponding Base Pages, irrespective of their Page Naming rules for Image/Fat beacons	CORE-92921
EUMCloud	Exception handler does not demangle certain Swift symbols	CORE-92536
Synthetic Agent	A specific Synthetic Job is failing with 4xx - Client Error	CORE-94257
Synthetic Services	On Demand Synthetic Snapshot generation failing with error - Failed to enqueue measurementId	CORE-94295
UI	Controller validates each request call twice when user navigates to Browser App Dashboard	CORE-88385

Analytics Resolved Issues

Component	Summary	Key
Analytics	Query accepts times in string format only (not epoch timestamps)	CORE-89461
Analytics, Analytics Agent	Flow Maps show incorrect value for Average Per Call Time	CORE-88652
UI	Analytics custom widget: URL filter with wildcards results in bad ADQL query	CORE-94171
UI	Add Source Configuration: confusing UI for data log time-range options	CORE-93360
UI	Analytics widget remains blank when a user joins shared War Room as a guest (no login)	CORE-69832

APM Resolved Issues

Component	Summary	Key

.NET Agent, Controller-APM	.NET Agent is not downloading custom entry / exit definitions with 4.2.15 controller	APMPLAT-423
.NET Agent	Performance counter collection for Azure Webapps is not working	DOTNET-41
Controller-APM	Need to reduce the frequency of "filtering out candidate" log messages	APMPLAT-420
Controller-APM	If App Agent and Standalone Machine Agent report to the same node, stopping the App Agent alone should not delete the node	APMPLAT-434
Controller-APM	Transaction Live Instrumentation mode requires a separate RBAC privilege	APMPLAT-410
Controller-APM	Need to speed up responsiveness in AppDynamics home page	APMPLAT-446
Controller-APM	"User does not have permission to do this:" Cannot view snapshot if it includes calls to a downstream app for which user does not have the necessary RBAC permissions	CORE-91581
Controller-APM	Need to speed up responsiveness in User Experience pages	CORE-91362
UI	Cannot customize PHP web transaction naming unless you enable virtual host	CORE-92674

Infrastructure Visibility Resolved Issues

Component	Summary	Key
MachineAgent	JVM Crash Guard not reporting crashes for Java processes monitored with java agent	CORE-93148
MachineAgent, SIM-server	Memory utilization metrics are not reported correctly on Windows	CORE-91301

Database Visibility Resolved Issues

Component	Summary	Key
UI	dbmon-wait-time search query needs to be optimized	DBMON-151

4.3.1.2 Updates

Resolved Issues

Components	Summary	Key
Controller	Custom Service endpoints do not work after agent restart	APMPLAT-708

4.3.1.3 Updates

Component	Summary	Key
.NET Agent	Application crashing with Unknown exception with 4.3 agent	DOTNET-512
.NET Agent	Diagnostics crash when trace string exceeds 2048 chars	DOTNET-436

4.3.1.4 Updates

Component	Summary	Key
Controller	Slow App-Tier and Tier-Node data queries observed on some Controllers	METADATA-295
EUM	Controller using proxy to connect to SaaS EUM Cloud doesn't work	SYNTH-918
UI	Transaction Data view does not show custom HTTP data for Analytics event	ANALYTICS-1799

4.3.1.5 Updates

Component	Summary	Key
DB Visibility	Fix to DB Visibility license issue on SaaS Controller	DBMON-791

4.3.1.6 Updates

Component	Summary	Key
Controller Platform	Agent registration causes frequent cache refresh and potential overutilization on Controller	METADATA-999
DB Visibility	UI exception when trying to map back end from application flowmap to an Oracle RAC collector	DBMON-857
EUM Cloud	Some custom page rules created pre-4.3 get corrupted when saving in 4.3 UI	BRUM-778

4.3.2 Updates

Enhancements

Controller

- MySQL transaction log directory (transactionLogDir) is now a configurable Controller installation setting. You can enable on-premises Controllers to scale to higher metric loads by configuring MySQL to put `innodb_log_group_home_dir` on a separate filesystem or SSD with low latency. This setting is preserved across upgrades. See Install the Controller for more information.

Java Agent

- The Java Agent supports the Vert.x 3.3.x framework, including detection for messaging exit calls between verticles.
- You can configure the length of time the Java Agent waits before timing out an MBean operation using the jmx-operation-timeout-in-milliseconds node property.

Analytics

- It is no longer necessary to multiply the numerator or denominator by 1.0 to perform floating point division in ADQL math expressions.

Events Service

- For security reasons, direct access to the Events Service data store through HTTP port 9200 has been disabled. The use of this port has always been limited to troubleshooting and diagnostics. Disabling this port does not have any impact on accessibility to the Events Service because that is handled on a different port. Because HTTP access through port 9200 is disabled by default, you may need to change any external scripts that expect this port to be open.

Browser RUM

- The **Geo Dashboard** has regional map locations for Spain and the Netherlands.

Mobile RUM

- You can enable the iOS and Android Agents and the Controller UI to take screenshots. From the Controller UI, you can enable automatic mode for screenshots, which enables you to see conventional screenshots and touch point screenshots. The mobile screenshots are displayed in session details in the **Waterfall** tab, so you can see when they are taken. You can also view all the screenshots taken for a particular activity from the **Screenshots** tab. See Mobile Screenshots for more information.

Custom Dashboard

- You are no longer limited to time series graphs for baseline metrics. You can access baseline data through a numeric widget using the Metric Value widget.

License Management

- The UI notifications for agent license management has been enhanced to include more details. When an agent license request fails due to a lack of available licenses, the notification now includes rule name, agent type, node name, and hostname. When an agent is denied access to the Controller by a license rule, the notification now includes all of the aforementioned details, plus the application name.

Resolved Issues

Platform Resolved Issues

Component	Summary	Key
UI	Splunk Integration: Put back Splunk integration links from APM in HTML5 screens	APMPLAT-28

EUM Resolved Issues

Component	Summary	Key
UI	Need to create regional map for Spain and Netherlands in Geo Dashboard	CORE-52253
EUM Cloud	In some cases, synthetic page monitoring does not generate Problem Ended notifications	CORE-58489

EUM	Custom Page name defined using JavaScript overrides all exclude rules	CORE-93122
EUM GeoServer	Validating large mapping files results in GeoServer OutOfMemoryError exception	CORE-98830
iOS Agent	iOS app which uses non-http(s) scheme for NSURL crashes in iOS Agent	MRUM-440
Controller EUM	Controller cannot read entity from input stream from EUM (SaaS) using proxy	SYNTH-918

APM Resolved Issues

Component	Summary	Key
Java Agent	MBean operation timeout Node Property	JAVA-608

Analytics Resolved Issues

Component	Summary	Key
Analytics Server	Events-Service: Port 9200 is turned off by default	ANALYTICS-475
Analytics Server	Improve events-service logging and error messages	ANALYTICS-1393
Analytics, Event Service	Need better query processing and error reporting when Analytics Cluster is highly utilized	CORE-97031
Analytics, Custom Dashboards	User is unable to see shared dashboard without login if it contains an Analytics search widget	ANALYTICS-2357

4.3.2.1 Updates

Component	Summary	Key
Analytics Controller	Registering a new node sometimes results in a high rate of garbage collection and CPU load on the Controller	ANALYTICS-2262
Authentication	SAML fix for upgrades to 4.3	PLATCPS-404
Controller-Platform	Agent registration causes frequent cache refresh and potential overutilization on Controller	METADATA-999
Platform - Alerting	Intermittent gaps in metric reporting due to thread pool saturation	ALERT-314

4.3.2.2 Updates

Resolved Issues

Component	Summary	Key

| Controller | Config Scale: Implement caching of application configuration | APMPLAT-623 |

4.3.2.3 Updates

Component	Summary	Key
DB Visibility	UI exception when trying to map back end from application flowmap to an Oracle RAC collector	DBMON-857
EUMCloud	Some custom page rules created pre-4.3 get corrupted when saving in 4.3 UI	BRUM-778

4.3.3 Updates

Note: Version 4.3.3 has been withdrawn from the AppDynamics Downloads Center. The following changes are included in version 4.3.3.2 and later of the AppDynamics software.

Enhancements

Controller

- Changes made to the Evaluate Health Rules checkbox, agent configuration settings, and call graph property are now audited. The Controller log displays which entity has changed and who changed it, which makes it easier to investigate an issue after a global change has been made.

Integration

- The Atlassian JIRA Integration is a two-way integration system that reduces the time spent searching for specific event/incident data and consolidates JIRA issues. The process aligns with the following use case:
    1. An AppDynamics event triggers a JIRA incident.
    2. The AppDynamics event and incident data are gathered in a JIRA issue.
    3. An AppDynamics War Room is used to facilitate the resolution.
  The integration provides new column, panel, and widget information that allows you to navigate between the two applications seamlessly. See Integrate AppDynamics with Atlassian JIRA for more information.
- The Scalyr Integration module enables users to launch context-aware log searches in Scalyr directly from the Controller UI. See Integrate AppDynamics with Scalyr for more information.

APM

- The Python Agent supports Python 3.5.
- AppDynamics uses a Pretty Good Privacy (PGP) key to digitally sign the following agent software:
    - Java Agent download from the AppDynamics Download Center
    - Python Agent pip package
  See Download AppDynamics Software.

Server Visibility

- You can use the Standalone Machine Agent to monitor application nodes running inside Docker containers and to identify container issues that impact application performance. By viewing and comparing APM metrics with the underlying container

and server/machine metrics, you can easily answer the question: Is my application problem purely an application problem, or is the root cause in the container or the server?
See Integrated Docker Visibility - Formatting Issue.

- AppDynamics uses a Pretty Good Privacy (PGP) key to digitally sign following agent software:
  - Standalone Machine Agent download from the AppDynamics Download Center
  - Standalone Machine Agent npm package

  See Download AppDynamics Software.

- You can now configure the Standalone Machine Agent to use a specific key to establish a connection with the Controller. This option can be useful when setting up Mutual Authentication. To specify the key, go to `<agent-home>/conf/controller-info.xml` and specify the alias for the key to use: <asymmetric-key-alias>*alias*</asymmetric-key-alias>

EUM

- Permissions can be granted at the application level to configure EUM so that certain roles are able to delete mobile network requests or page/Ajax requests.

Browser RUM

- You can configure the JavaScript Agent to capture POST parameters and then use the parameter(s) to name the Ajax requests in the Controller UI. See Set Ajax Request Names Based on Captured POST Parameters to learn how.
- The **Geo Dashboard** now has a regional map for Belgium from the Neustar geo database.

Resolved Issues

In addition to the enhancements and issues listed below, this release includes several fixes to issues discovered during internal testing.

Platform Resolved Issues

Component	Summary	Key
Controller-platform	Alert & Respond: fixes for email action editing mode	ALERT-345
Controller-platform	Fix to improve internal API response times when thread utilization is high	ALERT-28
Controller	Development Level Monitoring fix for upgrades for Controller to 4.3	APMPLAT-155
UI	Refresh Metric Tree Blank operation sometimes requires two clicks to complete	APMPLAT-522
UI	Fix for Response Time filter when viewing Server Endpoints with Performance Data	APMPLAT-582
UI	Information point auto-fill integer values fixes for match conditions on > or < operations	APMPLAT-622
Controller	Config Scale: Implement caching of application configuration	APMPLAT-623
UI	Controller UI: Fixes for the information displayed on the Getting Started wizard for Python agent	APMPLAT-828
UI	Fix to handle resizing of Analytics widgets in custom dashboards	DASH-628
Developer Experience	Fix to Server Getting Started account issue	DEVEXP-1

EUM Resolved Issues

Component	Summary	Key
JSAgent	Adrum JS Agent 4.3.0.0 fails on cross domain iframe	BRUM-248

EUM - Browser	Page Naming UI does not allow regex modifiers like "?i"	BRUM-296
EUM - UI	Clicking a Parent Page link results in HTTP 500 (Internal Server Error) in some cases	CORE-94192
EUM Cloud	Fix to handle validation of account names with whitespaces	CORE-99179
EUM - UI	Mobile Sessions: navigating to crash snapshot can sometimes throw an error	EUMUI-12
EUM - UI	Clicking on User Experience tab results in "Unsupported Media Type" message (observed on 4.2.9.2 on-premise Controller)	EUMUI-98
EUM - UI	Improve wording if a new app is created with same name used in EUM or APM list	EUMUI-226
EUM - UI	Browser App Dashboard: graphs for some Synthetic metrics are inaccurate for some time scales	EUMUI-367
Synthetic Agent	Some synthetic metrics missing in Chrome sessions	SYNTH-957

Analytics Resolved Issues

Component	Summary	Key
Analytics Controller	Registering a new node sometimes results in a high rate of garbage collection and CPU load on the Controller	ANALYTICS-2262
Analytics Server	In some cases, Analytics Agent health check generates incorrect "healthy=false" log messages	ANALYTICS-1407
UI	Drill-down and context-menu operations don't work on column widget after clicking "drill up" button	ANALYTICS-1421
UI	Fix to handle resizing of Analytics widgets in custom dashboards	DASH-628

APM Resolved Issues

Component	Summary	Key
UI	Response Time filter does not always work when viewing Server Endpoints with Performance Data	APMPLAT-582
UI	Controller UI: Fixes for the information displayed in the Getting Started wizard for Python agent	APMPLAT-828
Python Agent	Installing agent into python3 virtualenv does not pull in dependencies	DLNATIVE-8
APM - DotNet	Azure WebApps Site Extensions validation fails on missing file	DOTNET-456
Java Agent	Issues calculating end to end latency metrics in TIBCO BusinessWorks applications in some cases	JAVA-505

Database Visibility Resolved Issues

Component	Summary	Key
DB Monitoring	Intermittent spikes in CPU % Busy metric	DBMON-392
DB Monitoring	Queries are missing for Microsoft SQL Server (Database Agent version 4.2.15.3)	DBMON-655
DB Monitoring	Account-update issues result in 401 (unauthorized) response when clicking on Analytics tab	DBMON-866

4.3.3.1 Updates

Note: Version 4.3.3.1 has been withdrawn from the AppDynamics Downloads Center. The following resolved issue is included in version 4.3.3.2 and later of the AppDynamics software.

Resolved Issues

In addition to the following issue, this release includes several fixes to issues discovered during internal testing.

Component	Summary	Key
Database Monitoring	UI exception when trying to map back end from application flowmap to an Oracle RAC collector	DBMON-857

4.3.3.2 Updates

Resolved Issues

Component	Summary	Key
Controller-platform	Upgrade issue affecting Policy Evaluation capabilities	ALERT-397

4.3.3.3 Updates

Enhancements

Transaction Snapshots

- This release introduces the KPI Analyzer. By applying machine learning algorithms, the KPI analyzer recognizes performance anomalies based on the average response time key performance indicator (KPI) for a node. It then presents the metrics that are the most likely contributors to poor performance, and identifies the likely degree of impact on the KPI for each metric. For more information, see KPI Analyzer.

4.3.3.4 Updates

This release contains internal features only.

4.3.3.5 Updates

Resolved Issues

Component	Summary	Key

EUM - Browser	adrum.js does not function when DOMContentLoaded event completes before adrum.js loads	BRUM-754

4.3.3.6 Updates

Resolved Issues

Component	Summary	Key
APM - DL_Native	Node.js libagent does not support error configs	DLNATIVE-601
EUM - Browser	EUM page Naming config UI service does not order its results on priority	BRUM-897

4.3.3.7 Updates

Resolved Issues

Component	Summary	Key
EUM Browser	Config Naming Rule condition "Use Rule Name" is never met	BRUM-895
EUM Mobile	Custom timers not calculated correctly	MRUM-768
SIM Server	Server & Infrastructure Metric browser not showing the Custom Metrics folder	SERVER-1571

4.3.3.8 Updates

Resolved Issues

Component	Summary	Key
Analytics Controller	Creating Analytics SQL Data Collector fails with - Match type is not specified (dataGathererConfigManager.createDataGathererConfig)	ANALYTICS-2777

4.3.3.9 Updates

Resolved Issues

Component	Summary	Key
Controller	Development Mode issues resulting in feature instability, including UI freeze	APMPLAT-1580

4.3.3.10 Updates

Resolved Issues

Component	Summary	Key
PLATFORM - UI Platform	UI errors due to Service POST methods returning 415 errors in certain environments	UIPLAT-360

4.3.4.1 Updates

Enhancements

Controller

- The event count is restricted to the event count cache retention period, which has been reduced to the last 24 hours by default. So the event count will now be retrieved only if the requested time range is within the retention period. If it is not, then the event count details are hidden. This change affects all APM dashboards where the event count widget is displayed. You can modify the eventcounts.cache.retention.period setting in the Administration Console.

Java Agent

- The Java Agent adds tracking for asynchronous Vert.x HTTP client requests.
- You can filter sensitive data from the MBean Browser using the `jmx-mbeans` sensitive data filter.
- The agent differentiates between agent internal errors and application errors. By default, agent internal errors no longer set off health rule violations. You can view agent internal errors in the following Metric Browser path: Application Infrastructure Performance > <tier> > Agent > Internal Errors.
- The Java Agent now supports automatic naming of Tibco process nodes based on process names. See "Automatic Naming for Tibco Nodes" on Configure the Java Agent for TIBCO BusinessWorks.
- You can configure the Java Agent to disable bytecode retransformation without restarting the agent.

.NET Agent

- The .NET Agent supports the Microsoft .NET Framework version 4.7.

Node.js Agent

- You can view a process snapshot in the form of a flame graph. The flame graph contains the same information as the call graph, but allows you to quickly spot methods that are taking longer than usual to execute. For more information, see Event Loop Blocking in Node.js.

Database Visibility

- The DB Availability KPI shows the times when the database is available.
- In **Configuration** > **Wait State Filtering**, you can specify wait states that you want to exclude from being reported by the agent.
- In the **Database Query Details Window**, there is a **Users** card that shows the users that executed the query.
- The Total Database Size KPI shows the amount of disk space that the database is using.
- In Controller Settings, you can configure the number of days to retain database monitoring data by setting the dbmon.config.event.retentionperiod property.
- In the Query Execution Plan Window, you can enter a username and password for a different database account to view the

execution plan for a query that belongs to that database.
- When creating a collector for SQL Server, MongoDB, MySQL, Oracle, PostgreSQL, or Sybase, you can specify the databases or schemas that you want to exclude from monitoring.
- The following monitoring metrics are now supported for SQL Server:
  - Slave_IO_Running
  - Slave_SQL_Running
  - Seconds_Behind_Master
  - SQL_Delay
- In the **Users Window**, you can view data on the top users, sorted by the time each user spent in the database.
- In the **Database Activity Window**, the **I/O** tab shows data for physical I/O of the database instance, such as query throughput, and read and write I/O.
- In the **Database Activity Window**, the **Top Query** tab shows the top 10 SQL statements for a specified time period. You can filter queries by command type using the Command Type dropdown menu.
- In the **Database Queries Window**, you can right-click any query and rename it so that it is easier to identify.
- In the **Database Queries Window**, you can click the **Group Similar** box to group together queries with the same syntax.
- In the **Database Query Execution Plan Window**, the **Explain New Plan link** is removed for Oracle and SQL Server. You can still get a query plan by pasting query text into the **Explain another query** box.
- The 4.3.4 database agent is not compatible with the 4.3.3 controller.

Browser RUM

- The Geo Server for SaaS and on-premises deployments will be resolving IP addresses based on the geo data from Neustar instead of MaxMind. Because of this change, the sessions and session details will have the additional field "Carrier". You can sort/filter with the "Carrier" criteria in both the Sessions and Analyze pages.
- Browser RUM can collect metrics from several Ajax calls made by the same XMLHttpRequest object if successive requests are only started after previous requests are completed.

Server Visibility

- You can now configure the Linux Standalone Machine Agent to calculate the following metrics in a manner more consistent with the Linux `df` command:
  - Servers > Volumes > /opt > Disk Usage
  - Metric Browser > Disks and Partitions > *<partition>* > Space Available
  - Metric Browser > Disks and Partitions > *<partition>* > Space Used

  Linux includes a mechanism for reserving some disk space to ensure that the system keeps functioning even if non-privileged users consume all other disk space. By default, these metrics do not include this reserved space. This means that the total disk space reported by the agent might differ from the total disk space reported by the Linux `df` command or other sources.

  To override this default, and to ensure that these metrics include this reserved space, run the agent with the following command-line argument:

  ```
  -Dappdynamics.machine.agent.extensions.calcVolumeFreeAndUsedWithDfCommand=true
  ```

  This feature is supported for Linux versions of the Standalone Machine Agent only.

Resolved Issues

In addition to the issues listed below, this release includes several security enhancements as well as fixes to issues discovered during internal testing.

Platform Resolved Issues

Component	Summary	Key
Controller	Fix to application.diagnostic.data.purge.enabled issue	APMPLAT-894
Controller	Fix to improve user-identity synchronization when user is updated or deleted	METADATA-849
Controller-Platform	Controller fix to improve purging of obsolete data	METADATA-1101
Controller-Platform	Fix to improve user-identity synchronization when user is updated or deleted	METADATA-849

Controller-platform	Email digests are not sent (observed on 4.3.0.2 Controller)	ALERT-243
EventData	Improve error handling when user specifies incorrect time range in Controller UI	PLATCPS-749
METADATA	MetricQuerySummaryTest::testMetricSummary - intermittent non-deterministic behavior found during internal testing	METADATA-865
UI	Controller fixes for agent registration and config data retrieval issues	APMPLAT-1005

EUM Resolved Issues

Component	Summary	Key
Controller-EUM	Deleting app, tier, or node causes memory leak in EUMCloudManagerBean	SYNTH-50
Controller - EUM	EUM page Naming config UI service does not order its results on priority	BRUM-897
Controller - EUM	EUM registration can take a long time (10mins+) to complete in large multi-tenant controllers with 10K+ EUM accounts	BRUM-1049
EventData	Improve error handling when user specifies incorrect time range in Controller UI	PLATCPS-749
EUMCloud	Some custom page rules created pre-4.3 get corrupted when saving in 4.3 UI	BRUM-778

Analytics Resolved Issues

Component	Summary	Key
Analytics	Analytics UI Timestamps in exported CSV data do not match timestamps in Controller UI	ANALYTICS-1995
Analytics	Cannot re-enable Analytics metric collection in some cases	ANALYTICS-2251
Analytics Controller Analytics Server	Fix to issue with custom metrics derived from EUM data (observed after update from 4.2.10 to 4.3.2.1)	ANALYTICS-2483
Analytics Server	Fix to issue with custom metrics derived from Analytics data	ANALYTICS-1399
Analytics Server	Fix to improve Analytics Custom Dashboard performance	ANALYTICS-1398
Analytics	Fix to ensure that EUM uses correct key for querying Analytics in Controller	ANALYTICS-2489
Analytics	Analytics UI Timestamps in exported CSV data do not match timestamps in Controller UI	ANALYTICS-1995
Analytics	Cannot re-enable Analytics metric collection in some cases	ANALYTICS-2251

APM Resolved Issues

Component	Summary	Key
.NET	Using unmanaged and managed ODP.NET client in the same application can result in access-violation exceptions and heap corruption	DOTNET-533
.NET	Agent-to-Coordinator communication might fail when many applications (100+) start at the same time	DOTNET-566
Node.js	Node API object in console.log with libagent causes node process to crash	DLNATIVE-593
APM Platform	Error when attempting to save a custom HTTP Exit Call configuration	APMPLAT-1382

Java Agent	Some node properties specified in Controller are not reflected in agent (observed on a 4.2 Controller)	JAVA-244

Infrastructure Visibility Resolved Issues

Component	Summary	Key
MachineAgent	Fix to support machine agent log-file redirection via "-Dappdynamics.agent.logging.dir" system property	SERVER-1062
UI	Servers > Events tab does not show health-rule-violation events	SERVER-1149
Docker Visibility	A runtime exception on the agent collecting data for any one Docker container stops collection for all containers	SERVER-775
Docker Visibility	Double-clicking on the Containers page should open container details	SERVER-776

Database Visibility Resolved Issues

Component	Summary	Key
Database Visibility	Syntax error in collector for SQL Server 2016	DBMON-736
Database Visibility	Incorrect values for Batch Requests per Second and Lock Wait per Second metrics	DBMON-221
UI	HTTP 500 errors when looking at query details	DBMON-718
UI	Databases > Live View: Data is not properly visible when Blocking Sessions tab is not in focus	DBMON-830
UI	Databases > View Top Queries returns "Database details unavailable" message	DBMON-939

4.3.4.2 Updates

In addition to the issue listed below, this release updates third-party libraries used in the Universal Agent.

Resolved Issues

Component	Summary	Key
PLATFORM - UI Platform	UI errors due to Service POST methods returning 415 errors in certain environments	UIPLAT-360

4.3.5 Updates

Enhancements

Java Agent

- You can filter sensitive data from URLs in snapshot details. See Sensitive Data Filters.
- The Java Agent adds backend tracking for asynchronous Apache HTTP client requests.

Go Agent Enhancements

- You can provide your own SSL certificate file when instrumenting the Go agent by setting the CertificateFile and CertificateDir parameters in the Controller struct. For more information, see Go Agent SDK Reference.

Node.js Agent

- Node.js v8 is supported.
- SSL is supported when configuring the Node.js agent to send data to the Analytics agent. For more information, see the Node.js Settings Reference.
- In the proxyless version of the Node.js agent, development mode and HTTP proxy support are now available. For more information, see Node.js proxyless option.

Database Agent

- The 4.3.5 database agent is not compatible with the 4.3.3 controller.

Application Analytics

- The Administration License page shows cumulative license usage graphs for Transaction and Log analytics data. The new graphs track cumulative usage against the daily limit of one million events per day (transactions) and 1GB per day (logs). Unless usage exceeds 1% of the limit, the usage may appear to be zero. Hovering over each hour marker on the x-axis displays the actual usage for the previous hour.
- The limit for aggregate ADQL queries initiated using the analytics query API and and a customer-generated API key has been changed to 10K. The limit was previously 1000 records. This change does not impact the number of records returned from ADQL queries initiated through the Analytics Search UI.
- A solution for running the Analytics Agent from a read-only filesystem is described in this topic: Installing Agent-Side Components.

Resolved Issues

Platform Resolved Issues

Component	Summary	Key
Controller-Platform	Fix to ensure that only logged out-of-range messages get formatted	METRICSVC-250
EventData	Application > Events table: "Fetch more..." link sometimes appears when there are no more results to fetch	PLATCPS-807
EventData	Fix to speed up responses for Event data queries that span long time windows	PLATCPS-801
UI	Fix to ensure that Custom Dashboards show all information for custom Health Rules	DASH-774
Platform-RBAC	RBAC fix for updating roles created in 4.2	METADATA-1181

EUM Resolved Issues

Component	Summary	Key
EUM - Mobile	Creating a OkHttpClient.Builder from an OkHttpClient can cause a NullPointerException	MRUM-778
EUM Cloud	Page views in Lite mode counting against upgraded Pro license	BRUM-305
EUM Cloud	Unsymbolicated crash report with uploaded dSYM	MRUM-655

EUM Processor	EUM Processor can't start with processorServer.useObfuscatedKeyStorePassword	BRUM-785
UI	Internal Server Error when read-only user tries to access Controller page for an EUM app	BRUM-994

Analytics Resolved Issues

Component	Summary	Key
Analytics Controller	Log Analytics data missing due to account deletion/synchronization issues	ANALYTICS-2431
UI	Advanced mode streaming query results are inconsistent after multiple searches	ANALYTICS-2593
UI	Visualization data is blank under query search for custom event added through API	ANALYTICS-2585

APM Resolved Issues

Component	Summary	Key
Java Agent	Java Agent fix to remove OutOfMemory exceptions due to large metric-registration-failed log messages	JAVA-1046
.NET Agent	Incorrect mapping for Error type in transaction detail	DOTNET-602
.NET Agent	Some hardware metrics are missing at regular intervals	DOTNET-535
Node.js Agent	Libagent does not route outgoing request via proxy	DLNATIVE-634
Node.js Agent	Error stack trace not showing in Slow Calls and Errors	DLNATIVE-543
Node.js Agent	Node.js libagent does not support error configs	DLNATIVE-601

Infrastructure Visibility Resolved Issues

Component	Summary	Key
Machine Agent	Service Availability chart does not refresh when the time window is updated	SERVER-1462
SIM Server	Custom Metrics folder does not appear in Metric Browser	SERVER-722

4.3.5.1 Updates

This release extends measures to prevent the possibility of exposing sensitive data in the Controller UI in certain scenarios.

4.3.5.3 Updates

(Windows only) This release introduces enhancements to the Universal Agent. It also resolves the following issues.

Resolved Issues

Component	Summary	Key
Universal Agent	Java Agent state module should create properties file from Java rules	UNIAGENT-210
Universal Agent	Deployment Extensions and .NET issue cleanup	UNIAGENT-219
Universal Agent	Self-update fails on Windows	UNIAGENT-224
Universal Agent	Universal Agent version criteria issue	UNIAGENT-248
Universal Agent	Error writing Java Properties file	UNIAGENT-249

4.3.5.4 Updates

(Linux only) This release introduces enhancements to the Universal Agent. It also resolves the following issues.

Resolved Issues

Component	Summary	Key
Universal Agent	Java Agent state module should create properties file from Java rules	UNIAGENT-210
Universal Agent	Deployment Extensions and .NET issue cleanup	UNIAGENT-219
Universal Agent	Self-update fails on Windows	UNIAGENT-224
Universal Agent	Universal Agent version criteria issue	UNIAGENT-248
Universal Agent	Error writing Java Properties file	UNIAGENT-249

4.3.5.5 Updates

In addition to the issue listed below, this release updates third-party libraries used in the Universal Agent.

Resolved Issues

Component	Summary	Key
DB Agent	Exception thrown while connecting to MySQL	DBMON-1113

4.3.5.6 Updates

This release addresses security issues in the Controller.

4.3.5.7 Updates

Docker Visibility Enhancement

You can now configure Docker Visibility to monitor up to 120 containers at the same time.
The Standalone Machine Agent monitors 15 containers by default. You can change the "Docker Metric Collector Pool Size" setting to monitor up to 120 containers (pool size = 5). The trade-off is that increasing the pool size will consume more resources on the agent host.
To change the pool size, set the following. You cannot change this setting in the ServerMonitoring.yml file.

- System Property - appdynamics.docker.metric.collector.pool.size
- Environment Variable - APPDYNAMICS_DOCKER_METRIC_COLLECTOR_POOL_SIZE

Resolved Issues

Component	Summary	Key
Machine Agent	Docker container CPU usage showing 0 when it shouldn't be	SERVER-1844
Machine Agent	User can't monitor container with image name that is longer than 100 chars	SERVER-1881
Machine Agent	Fix to hide containers in Metric Browser.	SERVER-1884
Machine Agent	Fix to implement "Docker Metric Collector Pool Size" setting	SERVER-1886
Machine Agent	Fix to ensure that Standalone Machine Agent retrieves Docker container metrics concurrently	SERVER-1881

4.3.5.8 Updates

This release addresses security issues in the Controller and on-premises platform components, including within third-party packages bundled with the components.

4.3.5.9 Updates

In addition to the issues resolved below, this release addresses a security vulnerability in a third-party component in the on-premises Controller.

Resolved Issues

Component	Summary	Key
Event Data	Problem with Event/RSD parallel data retrieval	PLATCPS-1448
Database Monitoring	Blocking/Locking session query issue affecting Microsoft SQL Server 2005	DBMON-1183

4.3.5.10 Updates

Resolved Issues

Component	Summary	Key

Database Monitoring	SQL Server collector stops reporting query data	DMBON-1236

4.3.5.11 Updates

Standalone Machine Agent Enhancement

- This release includes a new option to configure how the Standalone Machine Agent calculates the amount of free and used memory on Linux machines. By default, the agent calculates any slab-reclaimable memory as used (not free) memory.
  To configure the agent to calculate slab-reclaimable memory as free (not used) memory, run the Standalone Machine Agent from the command line with the following argument:
  -Dappdynamics.machine.agent.extensions.countSlabReclaimableAsFreeMem=true
  This setting impacts the following metrics:
    - Memory Usage (in Server Dashboard)
    - Memory Used %, Memory Used MB, Memory Free %, and Memory Free MB (in Metric Browser)

Resolved Issues

Component	Summary	Key
Database Monitoring	Agent spawning many threads resulting in stopped agent with "unable to create new native thread" error	DBMON1275
Server Visibility	Server Monitoring not showing Linux available memory	SERVER-1938

4.3.5.12 Updates

Resolved Issues

Component	Summary	Key
Server Visibility	Fix to improve Servers List page performance in very large Standalone Machine Agent deployments (2000+ agents)	SERVER2152
Server Visibility	Fix to improve Metric Browser performance in very large Standalone Machine Agent deployments (2000+ agents)	SERVER-2082
APM Database Monitoring	Fix to improve query processing and thread-pool management in large Database Agent deployments (200+ agents)	DBMON-1278

4.3.7 Updates

Enhancements

Controller

- The Controller installer JRE has been upgraded to version 8u141.
- The memory allocation performed by the Controller installer has changed. This change applies to Linux installations of Large and Extra Large profiles. Instead of allocating a fixed amount of memory based on profile size, the installer now allocates a third of the memory available on the machine as follows:
    - Java heap, including maximum memory allocation pool (-Xmx) and initial memory allocation (-Xms)
    - InnoDB Buffer size
    - System memory

This alleviates the need for hand-tuning the memory configuration in Large and Very Large profiles. As specified in the Controll er System Requirements, the Controller must be installed on a dedicated machine. This change does not affect the configuration of Controllers upgraded to 4.3.7.

Events Service

- You can enable SSL termination at the Events Service and also encrypt communication between the Events Service Elastic Search nodes.
- You can now administer Events Service with the Platform Admin when SSL is manually enabled after the Events Service installation. This is done by performing a CLI call to the Platform Admin to enable HTTPS and pass the SSL certificate, creating a more secure Events Service data store.

Universal Agent

- A new property, `"sim_enabled"`, is available for enabling Server Visibility when installing the Machine Agent using the Universal Agent. The property is specified in the machine agent rule. When a value is not specified in the rule, the value defaults to "true". See Server Visibility for details on licensing and functionality. See Standalone Machine Agent Rules for rulebook details.

.NET Agent

- The .NET Agent supports ASP.NET Core entry points.

Node.js Agent

- You can enable the Analytics Agent for Node.js via the following environment variables:
    - APPDYNAMICS_ANALYTICS_HOST_NAME
    - APPDYNAMICS_ANALYTICS_PORT
    - APPDYNAMICS_ANALYTICS_SSL_ENABLED
- You can also set a unique host id for the libagent using the following environment variable: UNIQUE_HOST_ID

Database Visibility

- You can view a report of the wait states of all queries in the Database Activity Window.
- The 4.3.7 database agent is not compatible with the 4.3.3 controller.

Mobile RUM

- You can enable/disable the instrumentation for different Android app builds, such as `debug` and `release`. This enables you to disable instrumentation for builds intended for development or debugging.
- The Android and iOS SDKs support a new API for transforming or ignoring the network request URLs reported to the EUM Server. See "Transform URLs for Network Requests" (iOS/Android) for instructions to learn how.

Infrastructure Visibility

- This release includes a new Streamlined Browsing for node metrics. This option is useful when you are browsing metrics for tiers that contain multiple nodes.

Resolved Issues

Platform

Component	Summary	Key
Alert	Controller holds templated HTTP requests open for an additional 33 seconds after receiving final response packet	ALERT412; ALERT-492
APM-Platform	Metrics do not appear in the Business Transactions table after Controller upgrade	APMPLAT-552
APM-Platform	Fix to improve Application Flow Map data retrieval for very large, high-churn applications	APMPLAT-1470
Controller	Fix upgrade script to support creation of Service End Points for node.js	APMPLAT-1319
Controller	Sum and Baseline for some metrics are averaging to zero in Custom Dashboard	DASH-929
Controller-Platform	EntityHelperImpl.extractClass can result in thread contention	METADATA-1350
Controller-platform	Exceptions in PolicyManagerBean when purging stale nodes (observed on some SaaS appliances)	ALERT-522
Controller-Platform	Fix to eliminate Internal Server Errors on Controller when creating widgets for JVM Heap metric	METADATA-1319
Controller-Platform	High rate of calls from License Service prevents Controller from receiving data (observed on some Saas Controllers)	METADATA-1254
Platform Admin	Platform Admin does not register Events Service cluster if it fails to start the API nodes for Events Service	ECONSOLE-1199
EventData	Add EventOwner to IRequestDataManagerInternal API	PLATCPS-979
EventData	Fix to ensure that Controller can open Slow Transaction snapshots when working with large amounts of data	PLATCPS-1044
License	Fix for Controller database issues that arose on SaaS Controller after upgrading to 4.3	PLATCPS-954
License	Fix to ensure that deleted applications / machines do not show up under license rules	PLATCPS-1094
UI	Business Transactions > Transaction Score chart: clicking on linked Response Time value generates IllegalArgumentException in controller log	APMPLAT-1190
UI	POJO-based Business Transaction > Background Task checkbox is being ignored	APMPLAT-1323
UI	Metric Browser times out while double clicking on metric charts on Servers Dashboard	APMPLAT-1463 AMPLAT-1856
UI	Instrumentation > Transaction Detection > Custom Match Rule Editor shows two "Rule Configuration" tabs	APMPLAT-1675
UI	Scroll bar does not appear in the Error Detection configuration page	APMPLAT-1857
UI	Flowmap App Filtering: Issues when removing application from Hidden Applications list	APMPLAT-1978
UI Platform	Some UI Service POST methods return 415 error in certain environments	UIPLAT-360
Universal Agent	Java agent state module should create properties file from Java rules	UNIAGENT-210
Universal Agent	Issues installing 32 bit machine agent using universal agent on 4.3.7	UNIAGENT-286

EUM

Component	Summary	Key
Android Agent	Cannot run ":app:clean" task on Windows with an instrumented app	MRUM-943
Browser RUM	Fix to ensure that EUM Configuration UI can download JavaScript Agent ZIP archives when using proxy	BRUM-978
Browser RUM	Frequent exceptions in server.log: com.appdynamics.eum.rest.client.exception.UserErrorClientException (observed on internal Controller)	BRUM-1195
Controller-EUM	Cannot export health rules that match specific mobile requests	MRUM-870
EUMCloud	Fix cloud admin roll-event-service-key command to update credential cache when called	MRUM-642
EUMCloud	Fix for EUM license backward-compatibility issue	SYNTH-1523
iOS Agent	All beacons must have an accurate network type	MRUM-798
iOS Agent	Fix to ensure that dSYM upload build script handles product names with spaces	MRUM-891
iOS Agent	iOS agent headers with Lightweight Generics cause Xcode 6 Swift compiler error	MRUM-941
JSAgent	Fix to ensure AJAX Response Error handling of non-plain-text and non-XML responseType	BRUM-939
UI	User Experience > Usage Stats > Connection Types should be based on network requests and not app opens	EUMUI-773
UI	Blank rows in Analytics Dashboard when displaying Browser data	BRUM-1272
UI	The Getting Started page cannot send and verify a test page because of a "403 Forbidden" error	BRUM-1281
UI	Mobile App Dashboard – "Connection Types" widget is blank	EUMUI-1004
Mobile RUM	High rate of NullPointerExceptions when trying to download metrics using an expired account	MRUM-918

Analytics

Component	Summary	Key
Analytics Server	Search returns error if the query string includes an escaped single quote	ANALYTICS-1438
Analytics Server	Aggregate query results are limited to 100 rows in UI	ANALYTICS-2869
Analytics Controller	Analytics Dynamic Service Configuration preload keys query is not working for enumerated parameters	ANALYTICS-3068
Analytics Controller	Fix to make ADQL queries on Mobile Session Records more reliable	ANALYTICS-3127
UI	Fix to ensure that double quotes in autocomplete values are escaped correctly	ANALYTICS-3222
UI	Time series widget broken after 4.2.x to 4.3.2.2 upgrade	ANALYTICS-2600
UI	admin.jsp Events Service-related settings default to value of 0	ANALYTICS-2854

APM

Component	Summary	Key
.NET Agent	32 bit application crash: sampling results in Access Violation exception	DOTNET-784
.NET Agent	In-Place upgrade of .NET Agent from 4.3.2 to 4.3.4 fails	DOTNET-792
CPP SDK	BT start time override has incorrect data type	DLNATIVE-814
libagent	Fix to libagent to eliminate reporting duplicate metrics	DLNATIVE-814
libagent	Incorrect format for metrics sent by downstream agent to Controller	DLNATIVE-796
libagent	Fix to Libagent reporting of Cross-App Tier Metrics	DLNATIVE-850
libagent	Fix to correct formatting of esubtype in correlation header	DLNATIVE-880
libagent	fromComponentId in component link should be string	DLNATIVE-881
libagent	Fix to correct exit call metrics sent by libagent	DLNATIVE-885
Java Agent	Java Agent triggers NumberFormatException and Controller internal error during snapshot drilldowns	JAVA-550
Java Agent	Fix to support enabling OOTB exit point with custom exit point rules for splitting on return value	JAVA-991
Java Agent	Java Agent SSL Controller connections failing due to default trust store configuration error	JAVA-1133
Java Agent	Issues with 4.3 Java Agent registration and logging when Auto-Naming is enabled	JAVA-1161
Node.js Agent	continuation-local-storage context lost when using setImmediate and express error handling	DLNATIVE-676
Node.js Agent	Node.JS 32-bit Windows agent does not work with proxy	DLNATIVE-682
Node.js Agent	Node.js agent does not launch Java proxy on Windows	DLNATIVE-767
Node.js Agent	Handle request package support across multiple node versions	DLNATIVE-841
Node.js Agent	Fix to libagent to eliminate reporting duplicate metrics	DLNATIVE-815
Node.js Agent	Cassandra batch queries display as [OBJECT] in snapshots	DLNATIVE-662
PHP	PHP agent crashes when a CLI Business Transaction created through the API is excluded	DLNATIVE-670
PHP	PHP Agent - Disabling backend discovery for SOAP results in segmentation faults	DLNATIVE-714
Universal Agent	Issues installing 32-bit Machine Agent using 4.3.5.3 Universal Agent	UNIAGENT-286

Infrastructure

Component	Summary	Key
UI	The unit of speed in the Network tab should be Mb/s	SERVER-1646
Machine Agent	Standalone Machine Agent fails to collect raw data	SERVER-1738
Machine Agent	Linux Machine Agent cannot handle /proc/partition files that have a lot of partition entries	SERVER-1800
Machine Agent	Fix to ensure that Standalone Machine Agent reports metrics even when NFS volume becames stale	SERVER-1801
Machine Agent	Fix to Network Utilization percentage metric calculation on Linux/Solaris/AIX	SERVER-1626

Machine Agent	Fix to ensure that Standalone Machine Agent reports metrics even when NFS volume becames stale	SERVER-1634
Machine Agent	Include Docker volumes in volumeMonitorConfig:blacklistSelectorRegex by default	SERVER-1968
SIM-Server	Fix to prevent metric drops when Docker Visibility is enabled	SERVER-2006

Database Visibility

Component	Summary	Key
Database Agent	Increase in open database connections after upgrade to 4.3.5.1 Database Agent	DBMON-1157
Database Agent	In some cases 4.3.3.2 Database Agent cannot connect to SQL server via SSL	DBMON-966
Database Monitoring	Fix to ensure reliable database monitoring when databases are replicated in MySQL 5.5 and under	DBMON-1220
Database Monitoring	Fix to prevent unnecessary thread creation if Database Agent cannot establish JDBC connection	DBMON-1257
DB Visibility	Database agent throws "com.jcraft.jsch.JSchException: Algorithm negotiation fail" while collecting hardware metrics	DBMON-1075
DB Visibility	Unable to Disable/Enable Collector using Rest API	DBMON-1115
DB Visibility	Database agent does not send Load data for AzureSQL	DBMON-1135
UI	Database queries: Pull-down menu in View Execution Plan does not auto-populate if "Remove Literals" option in Configurations page is turned off	DBMON-1079

4.3.7.1 Updates

Resolved Issues

Component	Summary	Key
Controller	Service Endpoint not visible, with ArrayIndexOutOfBoundsException thrown	APMPLAT2782
APM Controller	Machine instance registration entries not re-used when APM node is reused	SERVER-2069
Machine Agent, Server Visibility	Containers without APM App Agent monitored	SERVER-2065
UI	Unable to export records on EUM_WEB_ANALYZE page	EUMUI-1265

4.3.7.2 Updates

Standalone Machine Agent Enhancement

- This release incorporates a new option to configure how the Standalone Machine Agent calculates the amount of free and used memory on Linux machines. For details, see the enhancement note for Version 4.3.5.11, which incorporates the same

enhancement.

4.3.7.3 Updates

Resolved Issues

Component	Summary	Key
Database Monitoring	The Database Agent fails to monitor SQL Server with error "Error: No suitable driver found for jdbc:sqlserver"	DBMON1342

4.3.8 Updates

Enhancements

C/C++ Agent

- A proxyless version of the C/C++ agent is now available, which means you no longer need to run a proxy to install and use the agent. The proxy is replaced with a process called libagent.
- You can enable SSL for the proxyless C/C++ agent.

Node.js Agent

- You can set the following properties:
    - reuseNode: set to True to enable reusing node names. This property is useful for monitoring environments where there are many nodes with short life spans.
    - nodeReusePrefix: set to the string that prefixes the node name when reuseNode is set to true. The Controller uses this prefix to generate node names dynamically.
    - certificateFile: set to the directory path of the SSL certificate.

Controller

- MySQL has been upgraded to 5.5.57 to address security vulnerabilities.

User Management

- You can create and manage users, groups, and roles using RBAC REST APIs. For more information, see RBAC API.

.NET Agent

- For .NET agent, Microsoft ASP.NET Core 1.0, 1.1, 2.0 on the full framework (4.0+) are supported.

Resolved Issues
Platform

Component	Summary	Key
Alerting	Backend fix to eliminate excessive logging in some cases	ALERT-654
Controller	Backend fix to reduce risk of intermittent performance slowdowns on Controller	APMPLAT-1768
Controller	Backend fix to optimize Application Dashboard retrieval of Mobile Applications count	APMPLAT-2312
UI	Fix to improve display and text alignment in Exceptions list	APMPLAT-2319
UI	Cannot download JVM Crash Logs - getting 403 forbidden error	APMPLAT2355
UI	Dashboard with Metric Value widget displays values as "_ _"	DASH-952
License	Fix to reduce rate of "Agent license request denied" log messages	DASH-1097
Controller-Platform	Issues deleting user Roles on some Controllers	METADATA-1765
Controller-Platform	Backend fix to improve lookups of application IDs associated with a machine	METADATA-1809
Controller-Platform	Backend fix to improve retrieval of node IDs associated with an application	METADATA-1840
Controller-Platform	Immediately continue with next rollup when processing exceeds 60s	METADATA1939
EventData	HTTP 500 errors when including Events List widget in Custom Dashboards	PLATCPS-1394
EventData	RBAC fix to resolve Database Visibility display issues	PLATCPS-1439
License	License usage REST API returns no usage data for EUM	PLATCPS-1538
License	Incorrect license information displayed on some Controllers	PLATCPS-1539
License	False License expiration notification on Controller restart	PLATCPS-1566

EUM

Component	Summary	Key
Controller	Backend fix to speed up responsiveness in User Experience pages	APMPLAT2257
Controller	Backend fix to optimize Application Dashboard retrieval of Mobile Applications count	APMPLAT-2312
EUMCloud	Events Service URL gets converted from HTTPS to HTTP	BRUM-1494
License	License usage REST API returns no usage data for EUM	PLATCPS-1538

Analytics

Component	Summary	Key
Analytics Controller	Fix to prevent redundant background thread	ANALYTICS3598
Analytics Controller	Analytics metrics disabled after repeated failures with with java.util.concurrent.CancellationException	ANALYTICS4237

APM

Component	Summary	Key

.NET Agent	WMI Queries are running but Machine Snapshot doesn't retry after failing	DOTNET-654
.NET Agent	4.3.4 .NET Agent fails on installation with encrypted credentials	DOTNET-851
.NET Agent	.Net Core 2.0 ASP.Net app on full framework does not detect Business Transactions	DOTNET-918
Agent Proxy, Apache, UI	4.3 Apache Agent/Controller do not include URLs with 404 errors	DLNATIVE-848
Java Agent	Nodes do not get marked as historical in some cases	JAVA-1318
Java Agent	Error collecting MBean attribute value aborts collection of remaining attribute values in bean	JAVA-1389
Java Agent	Glassfish JaxRS Business Transactions with Webservice Custom Match Rules apply in Live Preview but not when saved	JAVA-1496
libagent	Backend fix to prevent unnecessary metric registrations	DLNATIVE930
libagent	libagent sends Business Transaction name with empty string during Business Transaction registration	DLNATIVE-944

Infrastructure Visibility

Component	Summary	Key
Machine Agent	Update Server Visibility to exclude Docker volumes by default	SERVER1969
Machine Agent	Standalone Machine Agent does not handle backslash character correctly on Solaris 11	SERVER2145
Server Visibility	Fix to prevent drop in metric reporting when Docker Visibility is enabled	SERVER2005
Server Visibility	Fix to improve display/filtering of Standalone Machine Agent metrics for multiple resources on the same host	SERVER-2163

Database Visibility

Component	Summary	Key
EventData	RBAC fix to resolve Database Visibility display issues	PLATCPS1439

Agent and Controller Compatibility

This page describes compatibility mappings between agent and Controller versions.

About Agent and Controller Compatibility

AppDynamics agents are not backwards compatible with the AppDynamics Controller. The Controller version must be equal to or greater than the versions of any agents connecting to it.

A monitored environment may have agents of different versions deployed in it at a given time, as long as all agents are compatible with the Controller version. However, the oldest agents should be on originating tiers of any business transactions. This ensures that agents on downstream nodes can process the correlation header created by the originating tier.

It's an important point to consider when rolling out agent upgrades—be sure to start upgrading the agents on the nodes of downstream tiers first, and then upgrade the agents on the originating tier nodes last.

Java Agent Compatibility

The 4.3.x Controller supports the following versions of the Java Agent:

- 4.3.x
- 4.2.x
- 4.1.x

For notes on SSL protocol compatibility between versions of the agent and Controller, see SSL Compatibility Matrix for App Agent for Java - Controller.

.NET Agent Compatibility

The 4.3.x Controller supports the following versions of the App Agent for .NET:

- 4.3.x
- 4.2.x
- 4.1.x

PHP Agent Compatibility

The 4.3.x Controller supports the following versions of the PHP Agent:

- 4.3.x

- 4.2.x
- 4.1.x

Node.js Agent Compatibility

The 4.3.x Controller supports the following versions of the Node.js Agent:

- 4.3.x
- 4.2.x
- 4.1.x

Python Agent Compatibility

The 4.3 Controller support the following versions of the Python Agent:

- 4.3.x
- 4.2.x
- 4.1.x

Web Server Agent Compatibility

The 4.3.x Controller supports the following versions of the Web Server Agent:

- 4.3.x
- 4.2.x
- 4.1.x

C / C++ Agent Compatibility

The 4.3.x Controller supports the following versions of the C/C++ SDK:

- 4.3.x
- 4.2.x

Database Agent Compatibility

The 4.3.x Controller supports version 4.0.3 and higher of the Database Agent.

AppDynamics for Databases Compatibility

The 4.3.x Controller supports the following versions of AppDynamics for Databases:

- 2.7.4 and higher

Note: AppDynamics for Databases version 2.7.4 is required for AppDynamics for Databases to correlate with the App Agent for PHP.

Standalone Machine Agent Compatibility

The 4.3.x Controller supports the following versions of the Standalone Machine Agent:

- 4.3.x
- 4.2.x

- 4.1.x

SSL Compatibility between Java Agent and Controller

The default protocol used by the Controller is TLSv1.2.

For the Java Agent, the default protocols are:

- For Java 8 SE applications: TLSv1.2.
- For Java 7+ applications: TLSv1.2.
  You can change the agent to use SSLv3 if desire. See Secure the Platform for information on changing the default security protocol used by the Controller or agent.
- For Java 5/6 applications: SSLv3.
  You must enable SSLv3 connection on the Controller if the agents connect directly to the Controller. See Secure the Platform f or information on changing the default security protocol used by the Controller or agent.

The default SSL protocols for the Controller and agent changed in 3.8.x. See Agent - Controller Compatibility Matrix in the 3.8 documentation for SSL compatibility information for previous versions.

Introduction of New Agent Features

Even when new and old agents are supported by the same up-to-date Controller, new functionality introduced by later agents is not available on the older agents.

Information about when an agent feature was introduced is documented in the *New and Enhanced Feature*s section for a new major release (such as 4.3) and *<minor_release_number> Updates* sections for minor releases in the release notes.

For example, support for percentile metrics was introduced for the .NET agent in 4.0, as documented in the .NET Agent Updates section under New and Enhanced Features in 4.0 in the Release Notes.