

# OpenNMS Release Notes

Copyright (c) 2016-2017 The OpenNMS Group, Inc.

OpenNMS v21.0.2, Last updated 2017-12-21 11:12:34 EST

# Table of Contents

What's New in OpenNMS Horizon 21 .....	2
System Requirements .....	2
Important Upgrade Notes .....	2
Breaking Changes .....	2
New Features .....	2
Dependency Updates .....	3
Changelog .....	3
Release 21.0.2 .....	3
Release 21.0.1 .....	4
Release 21.0.0 .....	5
What's New in OpenNMS Horizon 20 .....	8
System Requirements .....	8
Breaking Changes .....	8
Future Breaking Changes .....	8
Important Upgrade Notes .....	8
New Features .....	8
Retired Features .....	9
Dependency Updates .....	9
Other Improvements .....	9
Changelog .....	10
Release 20.1.0 .....	10
Release 20.0.2 .....	11
Release 20.0.1 .....	12
Release 20.0.0 .....	14
What's New in OpenNMS Horizon 19 .....	17
System Requirements .....	17
Important Upgrade Notes .....	17
New Features .....	17
New Data Collection Definitions .....	18
Retired Features .....	19
Deprecated Features .....	19
Dependency Updates .....	19
Internal Improvements .....	19
Changelog .....	20
Release 19.1.0 .....	20
Release 19.0.1 .....	23
Release 19.0.0 .....	24
What's New in OpenNMS Horizon 18 .....	32

System Requirements .....	32
Breaking Changes .....	32
New Features .....	32
Event Updates or Additions .....	33
Data Collection and Graphing Updates or Additions .....	33
Internal Updates .....	34
Changelog .....	34
Release 18.0.4 .....	34
Release 18.0.3 .....	35
Release 18.0.2 .....	38
Release 18.0.1 .....	38
Release 18.0.0 .....	41
What's New in OpenNMS 17 .....	47
System Requirements .....	47
Important Upgrade Notes .....	47
API Changes .....	47
New Features .....	48
Dependency Updates .....	48
Events .....	48
Data Collection .....	49
Retired Features .....	49
Internal Updates .....	49
Documentation .....	50
Changelog .....	50
Release 17.1.1 .....	50
Release 17.1.0 .....	51
Release 17.0.0 .....	53
What's New in OpenNMS 16 .....	59
Java 8 .....	59
Capsd Has Been Removed .....	59
Linkd is Deprecated .....	59
API Changes .....	59
New Features .....	59
Dependency Updates .....	60
Internal Updates .....	60
Changelog .....	60
Release 16.0.4 .....	60
Release 16.0.3 .....	61
Release 16.0.2 .....	62
Release 16.0.1 .....	62
Release 16.0.0 .....	63

OpenNMS 15 .....	69
Java 7 and 8 .....	69
Core Updates .....	69
Events .....	69
Web UI and APIs .....	69
Changelog .....	70
Release 15.0.2 .....	70
Release 15.0.1 .....	72
Release 15.0.0 .....	73
OpenNMS 14 .....	77
Licensing .....	77
Java 7 and 8 .....	77
Logging System Upgrade .....	77
Core Updates .....	77
Utility Updates .....	78
Events .....	78
Data Collection .....	78
Link Discovery .....	78
Provisioning .....	79
Web UI and APIs .....	80
Dashboard .....	80
Topology Maps .....	81
Removals .....	81
Changelog .....	81
Release 14.0.3 .....	81
Release 14.0.2 .....	82
Release 14.0.1 .....	83
Release 14.0.1 .....	83
Release 14.0.0 .....	84
Release 1.13 .....	92
Changelog .....	92
Release 1.13.4 .....	92
Release 1.13.3 .....	93
Release 1.13.2 .....	93
Release 1.13.1 .....	94
Release 1.13.0 .....	95
Release 1.12 .....	99
Changelog .....	99
Release 1.12.9 .....	99
Release 1.12.8 .....	100
Release 1.12.7 .....	100

Release 1.12.6 .....	101
Release 1.12.5 .....	102
Release 1.12.4 .....	102
Release 1.12.3 .....	103
Release 1.12.2 .....	104
Release 1.12.1 .....	106
Release 1.12.0 .....	108
Release 1.11 .....	109
Changelog .....	109
Release 1.11.94 .....	109
Release 1.11.93 .....	109
Release 1.11.92 .....	110
Release 1.11.91 .....	110
Release 1.11.90 .....	112
Release 1.11.3 .....	114
Release 1.11.2 .....	115
Release 1.11.1 .....	115
Release 1.11.0 .....	116
Release 1.10 .....	119
Changelog .....	119
Release 1.10.14 .....	119
Release 1.10.13 .....	119
Release 1.10.12 .....	120
Release 1.10.11 .....	120
Release 1.10.10 .....	121
Release 1.10.9 .....	121
Release 1.10.8 .....	123
Release 1.10.7 .....	124
Release 1.10.6 .....	124
Release 1.10.5 .....	125
Release 1.10.4 .....	125
Release 1.10.3 .....	126
Release 1.10.2 .....	126
Release 1.10.1 .....	127
Release 1.10.0 .....	129
Release 1.9 .....	132
Changelog .....	132
Release 1.9.93 .....	132
Release 1.9.92 .....	133
Release 1.9.91 .....	134
Release 1.9.90 .....	136

Release 1.9.8 .....	139
Release 1.9.7 .....	141
Release 1.9.6 .....	143
Release 1.9.5 .....	144
Release 1.9.4 .....	144
Release 1.9.3 .....	146
Release 1.9.2 .....	148
Release 1.9.1 .....	148
Release 1.9.0 .....	148

Copyright © 2004-2017 The OpenNMS Group, Inc.

Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.1 or any later version published by the Free Software Foundation; with no Invariant Sections, with no Front-Cover Texts and with no Back-Cover Texts. A copy of the license is available at <http://www.gnu.org/copyleft/fdl.html> OpenNMS is the creation of numerous people and organizations, operating under the umbrella of the OpenNMS project. The source code is published under the GNU Affero GPL, version 3 or later and is Copyright © 2002-2017 The OpenNMS Group, Inc.

The current corporate sponsor of OpenNMS is The OpenNMS Group, which also owns the OpenNMS trademark.

Please report any omissions or corrections to this document by creating an issue at <http://issues.opennms.org>.

# What's New in OpenNMS Horizon 21

## System Requirements

- **Java 8:** OpenNMS Horizon 21 requires Java 8 as the runtime environment. To run Horizon 21, we recommend the most recent version of Oracle JDK 8 for your platform.
- **PostgreSQL 9.3 or higher:** Horizon 21 requires PostgreSQL 9.3 or higher. All older versions of PostgreSQL are past their end-of-life support date.

## Important Upgrade Notes

- Event parameters have been moved to their own table, rather than being embedded (preformatted) in the `events` table. If you have a large number of events and/or event parameters in your database, the conversion while running `install` may take as long as an hour or even more. It is recommended that you archive and delete old events you do not need anymore before upgrading.

## Breaking Changes

- Property format change of `opennms.alarmTroubleTicketLinkTemplate`: Originally the `opennms.alarmTroubleTicketLinkTemplate` defined in `$OPENNMS_HOME/etc/opennms.properties` requires the full `<a href="...">${id}</a>` link to be configured. This is changed to the ticketer system url, e.g. `https://issues.opennms.org/browse/${id}` instead of `<a href="https://issues.opennms.org/browse/${id}">${id}</a>`. If the `opennms.alarmTroubleTicketEnabled` is `true` then the `opennms.alarmTroubleTicketLinkTemplate` must be updated as well in order to not break the link to an external ticketing system on the Alarm Details Page.
- XML configuration reformat: Most XML configuration files in `$OPENNMS_HOME/etc` have been reformatted so they match the way they would be written out by our XML APIs. This will likely cause additional `.rpmnew` or `.dpkg-*` files on upgrade.
- Event parameters: There are a few side-effects of the event parameter changes.
  - When you view or retrieve an alarm it will always have the parameters of the newest event associated with it.
  - Vacuumd no longer honors the `add-all-parms` attribute on an `action-event`.
- Changes to `TCPAddress` and `UDPAddress` format in `eventd-configuration.xml`: When Eventd was converted to use Camel under the covers, the format for listening on all interfaces changed from a wildcard (\*) to `0.0.0.0`. Note that despite looking like an IPv4 format, the JVM interprets `0.0.0.0` as listening on *all* interfaces, IPv4 and IPv6.

## New Features

- The experimental ReSTv2 API introduced in Horizon 20.1 has been improved to support new features made possible by moving event parameters to their own table.



- Improved Minions:
  - Minions now automatically get JMX data collection, as well as RPC monitoring.
  - The Minion now has support for remote-poller-like behavior. You can now override the location at which monitors are executed.

## Dependency Updates

- Camel has been upgraded to **2.19.1**
- ActiveMQ has been upgraded to **5.14.5**
- Karaf has been upgraded to **4.1.2**

## Changelog

### Release 21.0.2

Release 21.0.2 is the latest stable release of OpenNMS. It contains some UI security fixes, other bug fixes, and a few small enhancements. For a high-level overview of what's changed in OpenNMS 21, see [What's New in OpenNMS 21](#).

The codename for 21.0.2 is *Voight-Kampff*.

### Bug

- host with single quote in the name breaks UI menu items (Issue [NMS-6616](#))
- IOActive: Cross-Site Scripting in createFavorite filter Parameter (Issue [NMS-9670](#))
- IOActive: Reflected Cross-site Scripting in userGroupView/roles roleDescr and Other Parameters (Issue [NMS-9673](#))
- IOActive: Reflected Cross-site Scripting in admin/thresholds/index.htm filterField and Other Parameters (Issue [NMS-9674](#))
- Powered Off VMware VMs Removed from Requisition with importVMAll=true (Issue [NMS-9681](#))
- HEAD requests to static resources in the UI don't work (Issue [NMS-9689](#))
- The EXE installer of the remote poller on Windows is not working (Issue [NMS-9721](#))
- IllegalStateException in OnmsVaadinContainer (Issue [NMS-9742](#))
- Karaf snmp:show-config command lists value of timeout for retries (Issue [NMS-9745](#))
- Data-collection (Non-SNMP) broken on Minion (Issue [NMS-9748](#))
- The content of the clone foreign source definition dialog is misleading (Issue [NMS-9749](#))
- Intermittent startup failures in Minion due to missing org.apache.xerces.parsers bundle (Issue [NMS-9751](#))
- Users with the MINION role cannot write to Telemetryd queues (Issue [NMS-9752](#))
- Minion intermittently connects to localhost instead of configured broker (Issue [NMS-9753](#))

- Relative path reference to version.properties (Issue [NMS-9767](#))
- Attribute categoryFilter missing in default ifttt-config.xml (Issue [NMS-9781](#))

## Enhancement

- Authentication proxy support (Issue [NMS-9739](#))
- Jexl Measurements API enhancements (Issue [NMS-9743](#))
- provide Poller-test documentation (Issue [NMS-9768](#))

## Release 21.0.1

Release 21.0.1 is the latest stable release of OpenNMS. It contains a few enhancements but is primarily a bugfix release, including a fix for the rendering issue in the topology UI and other Vaadin-based UI elements. For a high-level overview of what's changed in OpenNMS 21, see [What's New in OpenNMS 21](#).

The codename for 21.0.1 is *Rachael*.

## Bug

- JMX config GUI can't connect to JMX service with JNDI name not "jmxrmi" (Issue [NMS-8596](#))
- Tweak Mattermost notification docs not to specify a channel (Issue [NMS-9362](#))
- INFO-level "unable to locate resource" log messages for interfaces not persisted by policy (Issue [NMS-9388](#))
- rescan-exitsing attribute of requisition-def tag in provisiond-configuration.xml is not passed to scanNode() in CoreImportActivities (Issue [NMS-9492](#))
- Northbounders implementation are not sending feedback events for reloadDaemonConfig (Issue [NMS-9524](#))
- Thread leak in Snmp4JStrategy (Issue [NMS-9620](#))
- XSS: HTML attribute values with quotes not escaped properly (Issue [NMS-9645](#))
- Incorrect logging of exceptions in Slack and Mattermost notifications (Issue [NMS-9656](#))
- IOActive: Reflected Cross-site Scripting in instrumentationLogReader.jsp searchString Parameter (Issue [NMS-9672](#))
- Typo prevents FIQL query values from being URI-encoded (Issue [NMS-9694](#))
- Typo in regional status geo map: Unacknowledges (for unacknowledged) (Issue [NMS-9700](#))
- Typo: "not eligible" for SNMP primary N enumeration (Issue [NMS-9701](#))
- Vaadin fragment bundles not loading correctly in Karaf (Issue [NMS-9704](#))
- Telemetryd does not respond to reloadDaemonConfig events (Issue [NMS-9708](#))
- Duty schedules with embedded newlines break startup (Issue [NMS-9709](#))
- Minion WSMAN collector is not functional due to dependency missing (Issue [NMS-9711](#))
- Unexpected errors while generating event definitions from TRAP-TYPE without a DESCRIPTION

field (Issue [NMS-9718](#))

- NPE in Enlinkd bridge topology broadcast domain calculation (Issue [NMS-9720](#))
- Null pointer exception in SurveillanceViewConfigurationCategoryWindow.java (Issue [NMS-9722](#))
- ReST v1 does not return errors for unparseable events (Issue [NMS-9724](#))

## Enhancement

- System tests for handling JTI payloads (Issue [HZN-1164](#))
- Create a unique TopologyDao (Issue [NMS-7443](#))
- Ubiquiti support (Issue [NMS-9690](#))
- Implement the Sink pattern using AWS SQS (Issue [NMS-9691](#))
- ES REST plugin not doing preemptive basic auth (Issue [NMS-9699](#))
- Implement the RPC pattern using AWS SQS (Issue [NMS-9723](#))
- Documentation error: Admin Guide 5.2.13 for Xmp refers to WMI (Issue [NMS-9726](#))
- Modularize telemetry docs and add overview to telemetry daemon (Issue [NMS-9735](#))

## Release 21.0.0

Release 21.0.0 is the latest stable release of OpenNMS.

The codename for 21.0.0 is *Deckard*.

## Bug

- INFO-severity syslog-derived events end up unmatched (Issue [NMS-8106](#))
- Intermittent test failures in \*FeatureKarafIT tests (Issue [NMS-8305](#))
- Custom Karaf banner and misleading osgi:shutdown hint (Issue [NMS-8341](#))
- Karaf extender fails to start up due to Wagon error (Issue [NMS-8473](#))
- Karaf errors when installation path has white space (Issue [NMS-8684](#))
- Minion code throws "java.lang.IllegalStateException: Unknown protocol: mvn" (Issue [NMS-8793](#))
- Resource graph forecast page lacks header (Issue [NMS-8856](#))
- 'wrap' protocol not loading early enough with Karaf 4.0.8 (Issue [NMS-9324](#))
- Add status charts to index page to indicate overall status (Issue [NMS-9328](#))
- No class found exception in OSGi for org.osgi.service.jdbc.DataSourceFactory (Issue [NMS-9341](#))
- Incorrect sysoid for the systemDef Juniper J-Routers (Issue [NMS-9372](#))
- The neither test in DNSResolutionMonitorTest fails (Issue [NMS-9378](#))
- Remove snmpIpAdEntNetmask from the snmpInterface table (Issue [NMS-9385](#))
- An empty category is not shown when in focus (Issue [NMS-9423](#))
- The button to add a graph to a KSC report doesn't work (Issue [NMS-9498](#))

- Rename integration tests that are currently running as unit tests (Issue [NMS-9514](#))
- RadixTreeSyslogParser confuses timezone and hostname fields (Issue [NMS-9522](#))
- Oracle JDK 8u112 is expired (Issue [NMS-9549](#))
- Donut chart status links do not work anymore (Issue [NMS-9563](#))
- Expose the ticketer config via opennms rest api (Issue [NMS-9569](#))
- RESTv2 API fails with 500 error due to mangled timestamps (Issue [NMS-9590](#))
- EventParameterMigratorOffline task fails when eventparms contains empty strings (Issue [NMS-9602](#))
- Error loading node list page (column "event\_id" does not exist) (Issue [NMS-9605](#))
- Stale IP Address Cache (Issue [NMS-9613](#))
- opennms-webapp-remoting JARs are not signed (Issue [NMS-9638](#))
- Misordered collections in datacollection-config.xml (Issue [NMS-9643](#))
- re-fix BSM alarm types (Issue [NMS-9653](#))
- trapd may silently discard invalid traps (Issue [NMS-9660](#))
- Trap event parenting lacks bias toward SNMP primary interfaces (Issue [NMS-9666](#))
- IOActive: Stored Cross-site Scripting in SNMP Trap Message (Issue [NMS-9668](#))
- IOActive: Stored Cross-site Scripting during SNMP Host Discovery (Issue [NMS-9669](#))
- IOActive: Reflected Cross-site Scripting in heatmap/outages heatmap Parameter (Issue [NMS-9671](#))

## Epic

- Upgrade the embedded Karaf container to 4.1 (Issue [HZN-1173](#))

## Story

- Create BackingEngineFactory for Karaf JAAS module (Issue [HZN-1053](#))
- Remove org.apache.activemq.SERIALIZABLE\_PACKAGES system properties (Issue [HZN-1071](#))
- Upgrade ActiveMQ to 5.14 (Issue [HZN-1086](#))
- Upgrade Camel to version 2.18 (Issue [HZN-1087](#))
- Upgrade to Karaf 4.1 (Issue [HZN-1092](#))
- Upgrade Camel to version 2.19 (Issue [HZN-1094](#))
- Convert Eventd TCP/UDP listeners to camel-netty4 endpoints (Issue [HZN-1110](#))
- RESTv2 alarm endpoint: Support searching for a single event parameter key-value pair on lastEvent (Issue [HZN-1146](#))
- Move event parameters into their own table (Issue [HZN-1147](#))
- OSGi-based notification strategies (Issue [HZN-1155](#))
- Upgrade to JNA 4.3.0 (Issue [HZN-1156](#))

- Upgrade to JNA 4.4.0 (Issue [HZN-1157](#))
- Telemetryd (Issue [HZN-1160](#))
- Create an XSD for telemetryd-configuration.xml (Issue [HZN-1162](#))
- Update Karaf shell API for console commands (Issue [HZN-1167](#))
- Update Karaf shell commands in install guide (Issue [HZN-1174](#))
- Karaf shell bundle command fails with "Insufficient credentials" error (Issue [HZN-1175](#))
- JTI adapter for telemetryd (Issue [HZN-1176](#))
- Give a user the ability to visualise path outages and the status in the topology framework (Issue [NMS-9365](#))
- Expose ticketing url (when enabled) via the rest endpoint (Issue [NMS-9587](#))
- Verify "Scan Report" Remote Poller GUI (Issue [NMS-9604](#))
- Reformat configuration files (Issue [NMS-9639](#))

## Enhancement

- Some (other) events have Log Messages that are more verbose than Description (Issue [HZN-1054](#))
- Missing java.xml.bind.\* classes when compiling under Java 9 (Issue [HZN-1082](#))
- Use cxf-xjc-plugin instead of maven-jaxb2-plugin (Issue [HZN-1095](#))
- IFTTT integration (Issue [HZN-1112](#))
- etc-pristine configuration format differs from webapp saved configuration (Issue [NMS-6287](#))
- Display AlarmId on Event page (Issue [NMS-8445](#))
- Upgrade embedded Apache Karaf to version 4.0 (Issue [NMS-9085](#))
- Add support for CNAME, TXT, PTR lookups to DnsResolutionMonitor (Issue [NMS-9249](#))
- Update Minion's Apache Karaf to 4.0.8 (Issue [NMS-9321](#))
- Upgrade Spring from 4.1 to 4.2 (Issue [NMS-9351](#))
- osgi-pluginmanager: Add support for OSGi R6 HTTP/Pax Web 6 (Issue [NMS-9363](#))
- Add new parameter for DNSResolutionMonitor (Issue [NMS-9373](#))
- DNS test-api should support more than just A or AAAA records. (Issue [NMS-9383](#))
- Add Resource Types to admin guide documentation (Issue [NMS-9403](#))
- RadiusAuthMonitorTest is @ignored as it needs an external radius server (Issue [NMS-9417](#))
- Cleanup job for "provided services" (Issue [NMS-9468](#))
- Add support for targeting a specific Minion with a RPC (Issue [NMS-9562](#))
- Allow use of %% to escape a percent sign in the eventconf (Issue [NMS-9607](#))
- Align WS-Management collection definitions with WMI ones (Issue [NMS-9649](#))
- Upgrade Apache httpcore and httpclient (Issue [NMS-9661](#))
- Check/add support for PostgreSQL 10 (Issue [NMS-9679](#))

# What's New in OpenNMS Horizon 20

## System Requirements

- **Java 8:** OpenNMS Horizon 20 requires Java 8 as the runtime environment. To run Horizon 20, we recommend the most recent version of Oracle JDK 8 for your platform.
- **PostgreSQL 9.2 or higher:** Horizon 20 requires PostgreSQL 9.2 or higher. All older versions of PostgreSQL are past their end-of-life support date.

## Breaking Changes

- **NMS-9303:** Deprecated Capsd and Linkd event definitions are removed. Otherwise unused event definitions are also cleaned up and removed from the code and configurations. For a detailed list of all removed events see [NMS-9303](#). For people maintaining databases prior to OpenNMS 1.8, we provide a maintenance script for Linux and Windows in the *opennms-contrib* package to clean up old events in the database. The script is named `NMS-9303-cleanup-deprecated-events.sh` and executes a SQL script. In case you run PostgreSQL on Windows, you can use `psql.exe -d opennms -U opennms -W -a -f NMS-9303-cleanup-deprecated-events.sql` to run the maintenance script.

## Future Breaking Changes

- **Configuration File Format:** In OpenNMS Horizon 21, we will (finally) be re-formatting all XML configuration files in `$OPENNMS_HOME/etc` to match the way JAXB writes them out. This will likely make merging configuration changes from 20 to 21 more difficult, so we wanted to give some advanced warning.

## Important Upgrade Notes

- **JAXB XML Parsing:** We have finished removing our use of Castor for XML processing. While we have tried to adjust XSDs where needed to provide a seamless transition, there are a LOT of changes and it's possible there may still be issues with some config files that are being treated more strictly than they used to be. If you run into any config files that can't be parsed in OpenNMS 20, please open an issue.
- **org.opennms.newts.nan\_on\_counter\_wrap:** If you are using Newts, returning NaN when a counter-wrap is encountered now defaults to true. If you relied on the old behavior, you can change it back by setting `org.opennms.newts.nan_on_counter_wrap=false` in a file in `opennms.properties.d`.

## New Features

- **IBM Tivoli Event Integration Facility:** Support has been added to bridge EIF events into OpenNMS Horizon. ([more details](#))
- **Asset Topology Provider:** The Asset Topology Provider generates a GraphML topology based on

node metadata including asset fields. ([more details](#)).

- **Alarm Sounds:** The web UI can now optionally flash and play an alert sound when alarms are created and optionally updated. ([more details](#)).
- **Minion Updates:** The Minion has improved quite a bit over the previous release, adding support for more collectors and more robust tracking of Minion availability.
- Polling now reports an "unknown" poll status when the Minion doesn't respond, rather than "down".
- The minion now supports using JICMP and JICMP6 for ICMP requests, providing more performant ping requests than the previous default JNA implementation.
- Debian packages are now provided for the Minion.
- Requisition handling now delegates properly to the Minion when appropriate.
- The HTTP, JDBC, JMX, NSClient, TCA, WMI, WS-Man, and XML collectors now work on the Minion.
- VMware provisioning, collection, and monitoring all work on the Minion now.
- Collectors can all be run remotely on Minions manually from the OpenNMS Karaf shell.
- **ReST Updates:** A new experimental ReST API ([/opennms/api/v2](#)) has been enabled which supports [JEXL](#). (new in 20.1) This API is still subject to change but is being used by a number of internal projects including Helm.
- The topology UI now supports [scriptable vertex status](#). (new in 20.1)
- There are [new alarm northbounders](#) for running arbitrary BSF scripts or forwarding to Drools. (new in 20.1)

## Retired Features

- **Elasticsearch 1 API:** The old Elasticsearch API has been removed in favor of the Elasticsearch ReST plugin, which should support most Elasticsearch API versions. Instructions on configuring the Elasticsearch ReST plugin are available in [the Administrators Guide](#).

## Dependency Updates

- ActiveMQ: 5.10.0 → 5.13.3
- Camel: 2.14.4 → 2.16.5
- Log4j: 2.5 → 2.8.2
- The [camel-netty](#) plugin has been superseded by the [camel-netty4](#) plugin.

## Other Improvements

- Collection APIs have been refactored and cleaned up immensely to support the Minion changes documented above.
- JSON datacollection now supports properly handling responses that return an array.



- Path handling for collection resources has been improved.
- Many improvements have been made to the documentation, including documentation for collectors, detectors, and monitors, as well as Karaf shell commands and event sources.
- A number of improvements to geolocation resolution and node maps have been made.
- Internal OpenNMS events have been cleaned up and broken into logical parts in `$OPENNMS_HOME/etc`.
- Graphs that use relative time periods have additional drop-down choices now.
- The topology and BSM infrastructure has been vastly improved, with MANY bug fixes and performance improvements.
- BSM now properly handles deleted alarms.
- The grafana box on the main dashboard now supports paging.
- Fix a thread leak in SNMP queries that can happen when old connections don't get closed properly.
- Fix a long-standing bug in the `vacuumd-configuration.xml` that referred to the wrong ticket state for "closed".
- Fix calculation of KSC report "Last Week" and "This Week" timespans.
- Fix startup on systems without any IPv6 support.
- Reverse lookups in provisioning now handle IPs without a corresponding A record.

## Changelog

### Release 20.1.0

Release 20.1.0 is the latest stable release of OpenNMS. It is based on OpenNMS 20.0.2 plus additional work done in preparation for Meridian 2017, including a new ReST API to support enhanced OpenNMS Grafana inetgration. For a high-level overview of what's changed in OpenNMS 20, see [What's New in OpenNMS 20](#).

The codename for 20.1.0 is *Zorg*

### Bug

- noSuchInstance causing problems during provision scan (Issue [NMS-8046](#))
- "Manually Add an Interface" seems broken (Issue [NMS-9108](#))
- NullPointerException during nodeScan on devices with broken IP-MIB::ipAddressIfIndex (Issue [NMS-9415](#))
- No bounds-checking in processing of DHCP Options (Issue [NMS-9420](#))
- The alarm-type for BSM event definitions is conceptually incorrect (Issue [NMS-9497](#))
- Update copyright date in docs (Issue [NMS-9516](#))
- The reason parameter for a nodeLostService event is limited to 255 characters (Issue [NMS-9550](#))
- reloadDaemonConfig doesn't work for Eventd, only eventsConfigChange works (Issue [NMS-](#)



9555)

- Apache CXF is not decoding url parameters correctly. (Issue [NMS-9578](#))
- Custom security roles files is not mentioned on the documentation (Issue [NMS-9579](#))
- ExceptionMapper does not update the entity type accordingly (Issue [NMS-9598](#))
- offset=0 is rendering as offset=null in ReSTv2 collections (Issue [NMS-9599](#))
- Remove any mention of using Atomikos as a valid DB Connection Pool to avoid unwanted side effects (Issue [NMS-9609](#))
- vmware importer fails with NPE (Issue [NMS-9611](#))
- Basic syslog messages with Informational severity turn into unknown events (Issue [NMS-9615](#))
- quick add node is broken (Issue [NMS-9618](#))
- Missing visual aid on BSM Admin Page after hitting Reload Daemon (Issue [NMS-9624](#))
- Remote Poller log path incorrect when using the NSIS installer (Issue [NMS-9631](#))
- Pristine installation with an empty content for etc/drools-engine.d/ncs which is invalid (Issue [NMS-9636](#))
- MomentJS warning after running sample code (Issue [NMS-9637](#))

## Story

- Add an alarms endpoint to the v2 REST API (Issue [HZN-1061](#))
- Add support for perform ticket related actions on alarm (Issue [HZN-1062](#))
- Add scriptable vertex status support to GraphML topologies (Issue [HZN-1063](#))
- Enhance the v2 REST API to return endpoint meta-data (Issue [HZN-1098](#))
- Use DTOs in REST v2 endpoints for events and alarms (Issue [HZN-1143](#))
- Allow acknowledging alarms on behalf of another user without require admin (Issue [HZN-1150](#))

## Enhancement

- Add foreignSource and foreignId parameters when sending events as an alternative to nodeId (Issue [NMS-8919](#))
- Finishing the implementation of the missing endpoints for ReST v2 (Issue [NMS-9278](#))
- add HTTPS response time datacollection and graph defintions (Issue [NMS-9465](#))
- Add parameterized SQL support to Criteria API (Issue [NMS-9480](#))
- Programmable Northboulder Interfaces (Issue [NMS-9513](#))

## Release 20.0.2

Release 20.0.2 is the latest stable release of OpenNMS. It contains a number of important bug fixes and a few small new enhancements. For a high-level overview of what's changed in OpenNMS 20, see [What's New in OpenNMS 20](#).

The codename for 20.0.2 is *Ruby Rhod*.

## Bug

- noSuchInstance causing problems during provision scan (Issue [NMS-8046](#))
- Security issue for all admin vaadin applications exposed as OSGI Service (Issue [NMS-8431](#))
- Updating assets/categories through ReST affects Forced Unmanaged services. (Issue [NMS-8879](#))
- Fix CORS section to include /api/\* besides /rest (Issue [NMS-9133](#))
- enlinkd thread throws StackOverflowError (Issue [NMS-9464](#))
- SQL injection in DefaultSurveillanceViewService (Issue [NMS-9476](#))
- "query" parameter allows SQL injection (Issue [NMS-9478](#))
- Using maskelements based on nodeID (and maybe other fields) to match event definition doesn't work (Issue [NMS-9496](#))
- EnhancedLinked blocks service startup (Issue [NMS-9505](#))
- Using varbind to match event definition doesn't work (when using the same UEI in many definitions) (Issue [NMS-9507](#))
- ConcurrentModificationException thrown by Statsd (Issue [NMS-9511](#))
- Update copyright date in docs (Issue [NMS-9516](#))
- Document supported products and versions for Remedy integration (Issue [NMS-9538](#))
- Microsoft IE and Edge doesn't like relative path on Angular apps (Issue [NMS-9542](#))
- Possible FileDescriptor Leak in Provisiond (Issue [NMS-9545](#))
- initial-delay="null" when adding a new destination path (Issue [NMS-9548](#))
- Eventd does not respect event configuration order when reloading (Issue [NMS-9551](#))
- users.xml being overwritten on installation (Issue [NMS-9573](#))

## Enhancement

- Make an automation to clear pathOutage alarms (Issue [NMS-8857](#))
- Reload Drools configuration without restart OpenNMS (Issue [NMS-9290](#))
- Add support for retrieving the SNMPv2 agent address from a specific varbind (Issue [NMS-9449](#))
- Check LOG printTopology (Issue [NMS-9561](#))

## Release 20.0.1

Release 20.0.1 is the latest stable release of OpenNMS. It contains a number of important bug fixes and a few small new enhancements. For a high-level overview of what's changed in OpenNMS 20, see [What's New in OpenNMS 20](#).

The codename for 20.0.1 is *Korben Dallas*.

## Bug

- collectd does not unschedule deleted nodes (Issue [NMS-5105](#))

- Add category search provider support to Atlas topology provider (Issue [NMS-8759](#))
- SNMP4J high thread churn (Issue [NMS-8825](#))
- opennms stays running when during a rpm/yum/dnf update (Issue [NMS-9127](#))
- NPE in GeolocationProvisioningAdapter (Issue [NMS-9187](#))
- Possible thread leak in SnmpUtils (Issue [NMS-9233](#))
- Topology Map ip like search produces duplicates (Issue [NMS-9265](#))
- The geolocation provisioning adapter is not updating coordinates correctly (Issue [NMS-9316](#))
- Calculation of KSC reports timespans "Last Week" and "This Week" broken (Issue [NMS-9325](#))
- Installation issues with OpenJDK JRE (Issue [NMS-9327](#))
- BestMatchPinger fails to initialize when IPv6 is not available (Issue [NMS-9331](#))
- LoadingTopology from db result in NPE (Issue [NMS-9335](#))
- geo-coder creates invalid latitude/longitude in assets table (Issue [NMS-9338](#))
- Geomap on the start page is throwing require js error (Issue [NMS-9342](#))
- provision.pl does not create interfaces (Issue [NMS-9345](#))
- VMware Provisioning Error (Issue [NMS-9349](#))
- Topology Map JSON does not allow non-finite numbers (Issue [NMS-9360](#))
- Minions generate storm of heartbeats after being disconnected from ActiveMQ for a long period of time (Issue [NMS-9371](#))
- Insert/Update OspfElement: null value in column "ospfrouteridifindex" violates not-null constrain (Issue [NMS-9374](#))
- HttpMonitor reports AVAILABLE if host is unreachable (Issue [NMS-9380](#))
- Erroneous outages/failures triggered when stopping OpenNMS (Issue [NMS-9381](#))
- Breadcrumb for requisitions has extra "/app" in path (Issue [NMS-9386](#))
- TCP persistence strategy should output time in milliseconds, not seconds (Issue [NMS-9409](#))
- Collectd is scheduling collection for every IP address instead of just primary interfaces (Issue [NMS-9413](#))
- Node Label Change form Broken (Issue [NMS-9414](#))
- NullPointerException during nodeScan on devices with broken IP-MIB::ipAddressIfIndex (Issue [NMS-9415](#))
- Quick search HTTP error (Issue [NMS-9419](#))
- Possible XSS in Alarm Filter Favorites (Issue [NMS-9421](#))
- Event Configuration Screen Requires Alarm Type (Issue [NMS-9422](#))
- Grouped status circle on geomap is not a circle (Issue [NMS-9424](#))
- NPE on Vaadin Dashboard (Issue [NMS-9427](#))
- Minion RPM lays down /opt/minion/debian directory (Issue [NMS-9441](#))
- minion:ping does not properly validate JMS broker connectivity (Issue [NMS-9445](#))

- Unable to "Change Label" of Node (Issue [NMS-9450](#))
- VMware provisioning not working anymore (Issue [NMS-9454](#))
- BridgeTopology Discovery Mismatch after opennms restart (Issue [NMS-9455](#))
- ClassNotFoundException when running vmwarecimquery/vmwareconfigbuilder (Issue [NMS-9456](#))
- Fix JSP issues related to JAXB update (Issue [NMS-9460](#))
- IllegalMonitorStateException in Poller ReentrantLock causes polling to stop (Issue [NMS-9466](#))
- AMQP features broken after Camel upgrade (Issue [NMS-9472](#))
- Trend graphs: colors with alpha channel not working in Google Chrome (Issue [NMS-9473](#))
- Clone foreign source requisition overwrites config of other requisition without any hint or warning (Issue [NMS-9481](#))
- Fix ownership of users.xml (Issue [NMS-9493](#))

## Enhancement

- Asset to topology mapper (Issue [NMS-9128](#))
- Make org.opennms.newts.nan\_on\_counter\_wrap=true by default (Issue [NMS-9261](#))
- Allow provisiond to perform reverse lookups without requiring an A record (Issue [NMS-9356](#))
- Recommend using the failover: protocol when configuring Minion (Issue [NMS-9382](#))
- Improve logging for EventIpcManagerDefaultImpl (Issue [NMS-9452](#))
- Minion requires location-specific definitions in SNMP config (Issue [NMS-9462](#))
- Document the logic behind the response time value reported by the SnmpMonitor (Issue [NMS-9475](#))
- Add parameterized SQL support to Criteria API (Issue [NMS-9480](#))

## Release 20.0.0

Release 20.0.0 is the latest stable release of OpenNMS. It contains a large number of bug fixes and a few new features. For a high-level overview of what's changed in OpenNMS 20, see [What's New in OpenNMS 20](#).

The codename for 20.0.0 is *Leeloo*.

## Bug

- Wrong ticket status ids in automation (CLOSED is 5 not 3 it seems) (Issue [NMS-4648](#))
- Some resource graph work flows break when store-by-FS on, FS / FID contain + character (Issue [NMS-7548](#))
- JsonCollectionHandler does not handle list responses (Issue [NMS-7904](#))
- ConstraintViolationException in Enlinkd for OSPF (Issue [NMS-8067](#))
- InvalidPathException on element/node.jsp with IPv6 interface on Windows (Issue [NMS-8085](#))

- Privilege Escalation Bug with Grafana Plugin (Issue [NMS-8093](#))
- RWS client always uses plain HTTP, even if rws-config.html has HTTPS URL (Issue [NMS-8441](#))
- Null ospfrouterid in NodeDiscoveryOspf (Issue [NMS-8667](#))
- Elasticsearch event forwarding gets Hibernate lazy init exception (Issue [NMS-8935](#))
- Statsd: erroneous reporting; aggregators not reset between worker's runs (Issue [NMS-8944](#))
- Enlinkd fails to discovery Bridge Topology (Issue [NMS-8973](#))
- osgi-pluginmanager: Include support for Karaf 4 (Issue [NMS-9086](#))
- grafanaBox needs a count limiter/pager (Issue [NMS-9089](#))
- It is possible to perform alarms/notifications actions through the Acks ReST end point without permissions (Issue [NMS-9140](#))
- IPC Sink ERROR (Issue [NMS-9155](#))
- NPE in GeolocationProvisioningAdapter (Issue [NMS-9187](#))
- EIF documentation was not added to index.adoc (Issue [NMS-9192](#))
- Some events have Log Messages that are more verbose than Description (Issue [NMS-9211](#))
- OSPF Router Id not properly updated (Issue [NMS-9218](#))
- Possible thread leak in SnmpUtils (Issue [NMS-9233](#))
- XML collection configs, JAR not part of main assembly (Issue [NMS-9266](#))
- Logging for TCP output queue (Issue [NMS-9291](#))
- XmlCollector does not recognize all resource types (Issue [NMS-9304](#))
- Installation issues with OpenJDK JRE (Issue [NMS-9327](#))
- osgi-pluginmanager: Jersey REST services not loading reliably in Karaf 4 (Issue [NMS-9343](#))
- XSS vulnerability on quick-add node page (Issue [NMS-9353](#))
- XSS vulnerability on node error page (Issue [NMS-9354](#))
- XSS vulnerability with application names (Issue [NMS-9355](#))
- Thresholding on WSMAN datasources appears broken (Issue [NMS-9361](#))
- Increase default connection timeout for HikariCP (Issue [NMS-9387](#))
- StrafePingMonitor fails on Minion (Issue [NMS-9407](#))
- Can't install OpenNMS caused by libopennms-java dependency problems (Issue [NMS-9410](#))

## Enhancement

- package hrStorage in threshold configuration should also contain linux devices (Issue [NMS-5069](#))
- Add additional relative time periods for resource graphs (Issue [NMS-6118](#))
- Add an Event Adapter for IBM's Event Integration Facility Events (Issue [NMS-8704](#))
- ElasticSearch forwarder doesn't describe installation procedure (Issue [NMS-8916](#))
- "invert-status" parameter is missing in documentation (Issue [NMS-9000](#))

- Remove the opennms-elasticsearch-event-forwarder feature (Issue [NMS-9034](#))
- Cleanup opennms provided default event definitions (Issue [NMS-9093](#))
- update log4j2 to 2.8.1 (Issue [NMS-9132](#))
- Clean up JAXB config classes (Issue [NMS-9250](#))
- Remove unused events and event definitions (Issue [NMS-9303](#))
- Update Camel code to use Netty 4 (Issue [NMS-9319](#))
- Add post-integration-test cleanup to container/standalone (Issue [NMS-9332](#))
- Replace Poller lock with ReentrantLock (Issue [NMS-9347](#))
- Colors on trend graph differ from OpenNMS styling (Issue [NMS-9370](#))
- Alarms Page Enhancements - Sound and Flashing (Issue [NMS-9375](#))
- Improved visualization for large trees with the Hierarchy Layout (Issue [NMS-9379](#))
- Warn users about upcoming configuration formatting changes in release notes for 20.0.0 (Issue [NMS-9401](#))

# What's New in OpenNMS Horizon 19

## System Requirements

- **Java 8:** OpenNMS Horizon 19 requires Java 8 as the runtime environment. To run Horizon 19, we recommend the most recent version of Oracle JDK 8 for your platform.
- **PostgreSQL 9.2 or higher:** Horizon 19 requires PostgreSQL 9.2 or higher. All older versions of PostgreSQL are past their end-of-life support date.

## Important Upgrade Notes

- **Cassandra JMX Metrics:** The default value for the `friendly-name` attribute on the `JMX-Cassandra` collection service has changed from `cassandra21x` to `cassandra`. This changes the path in which the metrics are stored. If you have already been collecting these metrics and wish to preserve them, you can ignore this change when merging your configuration.
- **Camel 2.14 Upgrade:** Camel has been upgraded from `2.14.1` to `2.14.4`. (new in 19.1)
- **Jetty 9.4 Upgrade:** Jetty has been upgraded from `8.1` to the latest `9.4`. If you have a custom `jetty.xml` in your `etc` folder, you will need to migrate your changes. Use `etc/examples/jetty.xml` as a starting point.
- **Drools 6.4.0 Upgrade:** Drools has been upgraded from `6.0.1.Final` to `6.4.0.Final`. If you have custom Drools rules, they may need to be revised. The compiler used in `6.4.0.Final` is stricter than the compiler in previous versions.
- **Drools 6.5.0 Upgrade:** In 19.1, Drools has been further upgraded from `6.4.0.Final` to `6.5.0.Final`.
- **Quartz 2.2 Upgrade:** Quartz has been upgraded from `1.6.5` to `2.2.3`. (new in 19.1)
- **SNMP4J Upgrade:** SNMP4J has been upgraded from `2.4.3` to `2.5.5`. (new in 19.1)
- **Spring Upgrade:** Spring has been upgraded from `4.0.7` to `4.1.6`. (new in 19.1)
- **Separate opennms-webapp-remoting Package:** The webapp that supports the Remote Poller has been separated from the main OpenNMS webapp. This will make installations much smaller for users that do not use the Remote Poller. If you use the Remote Poller, you will need to install the `opennms-webapp-remoting` package.
- **OpenNMS Minion can run on a JRE:** The OpenNMS Minion packages no longer require a JDK package and can run on the plain JRE.
- **User roles moved from magic-users.properties into users.xml:** The `users.xml` file now contains a list of roles for each user alongside the rest of the user attributes.
- **JICMP 2.0 Upgrade:** Our Java ICMP library has been upgraded to version 2.0. You will need to upgrade to this version before upgrading to OpenNMS Horizon 19.

## New Features

- **OpenNMS Minion:** Minion systems now have full support for most management features of



OpenNMS:

- Discovery
- Provisioning
- Polling
- SNMP data collection
- SNMP link discovery
- Syslog reception (sent to OpenNMS via JMS or Apache Kafka)
- SNMPv1/v2/v3 trap reception (sent to OpenNMS via JMS or Apache Kafka)
- **Automatic provisioning of Minions:** Minion devices will be added to the *Minions* requisition and monitored for connectivity with OpenNMS.
- **GraphML Topology Provider:** A new Topology Provider is available that reads GraphML formatted graphs and displays them in the the Topology UI.
- **OpenNMS Elasticsearch ReST Forwarder:** This Elasticsearch forwarder can store events, alarms, and alarm state changes in Elasticsearch for archival or searching. It is compatible with all currently supported versions of Elasticsearch.
- **Drools Persistence:** Drools working memory can now be persisted to disk upon shutdown of OpenNMS. (new in 19.1)
- **Unified JAAS Authentication:** The web UI, the Apache Karaf OSGi console, and the built-in ActiveMQ broker all use unified authentication.
- **Monitoring Location Events:** Events will be sent when Monitoring Locations are added, updated, or deleted.
- **Exponential propogation:** There is a new exponential propogation function available for Business Services.
- **External JMS broker:** It is possible to configure OpenNMS to use an external JMS broker if desired.
- **New Syslog Parser:** A new syslog parser, the [RadixTreeSyslogParser](#), has been added, which supports all major syslog message formats, and uses Grok for more performant parsing. (new in 19.1)
- **String Persisting over TCP:** The TCP persister can now persist string values. (new in 19.1)
- **ICMP traffic class and don't-fragment support:** It is possible to configure OpenNMS to set DSCP traffic class and "don't fragment" bits when polling ICMP.
- **Geographical Maps:** Geographical maps are now included by default in the center of the Web UI front page.
- **Web UI improvements:** Location information has been added to many places in the UI, and a number of pages have been enhanced including the BSM editor and topology UI.

## New Data Collection Definitions

- **HTTP:**



- Elasticsearch
- JMX:
  - Apache Kafka
  - VMware vCenter Server 6.0.0

## Retired Features

- **Simple Topology Provider:** The Simple Topology Provider has been removed. The new GraphML Topology Provider should be used instead.

## Deprecated Features

- **ElasticSearch 1.X Event Forwarder:** The existing Elasticsearch forwarder (`opennms-elasticsearch-event-forwarder`) is deprecated in favor of the new Elasticsearch ReST Forwarder (`opennms-es-rest`) since the ReST forwarder has broader compatibility with different versions of Elasticsearch.

## Dependency Updates

- Jetty has been upgraded from 8.1.10.v20130312 to 9.4.0.v20161208.
- The Servlet API has been upgraded from 3.0 to 3.1.
- Drools has been upgraded from 6.0.1 to 6.4.0 in 19.0, and then from 6.4.0 to 6.5.0 in 19.1.

## Internal Improvements

- We replaced all of the GWT components in the web UI with AngularJS components. This reduces the complexity of the UI code and will make it easier for developers with Javascript experience to maintain and contribute to the UI.
- All Javascript dependencies for the web UI are now managed by Bower and Gulp.
- Jasper reports are now automatically recompiled if changed.
- The JIRA ticketer has been improved.
- The default database connection pool has been switched from c3p0 to HikariCP (<http://brettwooldridge.github.io/HikariCP/>) to increase performance.
- Our ICMP libraries are now capable of being run by non-root users (although OpenNMS is not yet configured to support this).
- The startup order of OpenNMS has been improved to make sure that a number of time-sensitive event-consuming daemons are ready immediately after Eventd, and before traps are consumed (new in 19.1)

# Changelog

## Release 19.1.0

Release 19.1.0 is the latest stable release of OpenNMS. It contains a large number of bug fixes and a few new features. For a high-level overview of what's changed in OpenNMS 19, see [What's New in OpenNMS 19](#).

The codename for 19.1.0 is *Octopush*.

### Bug

- HTTPS modules fail because of algorithm constraints (Issue [NMS-6500](#))
- None of the out-of-the-box syslogd regex ueiMatch statements work (Issue [NMS-6539](#))
- CustomSyslogParser fails to parse process name when brackets appear in the message text (Issue [NMS-6730](#))
- Geo-Maps running on a server without internet connection breaks the UI for valid nodes. (Issue [NMS-7148](#))
- scrollbars displayed for RrdDashlet title box (Issue [NMS-7562](#))
- Refresh loop possible in setOffset() → refresh() → setOffset() in onmsList code (Issue [NMS-7829](#))
- Delete a service from the WebUI is not working (Issue [NMS-8135](#))
- The Topology Map does not support persisting collapsible search criteria (Issue [NMS-8142](#))
- Renaming a root business services does not work anymore (Issue [NMS-8370](#))
- Simulation mode is ended when clicking on "Set as focal point" (Issue [NMS-8542](#))
- opennms-ackd shouldn't load component-service.xml Spring contexts (Issue [NMS-8610](#))
- Null ospfrouterid in NodeDiscoveryOspf (Issue [NMS-8667](#))
- Monitoring location just integer as longitude and latitude (Issue [NMS-8713](#))
- Deleting monitoring locations does not refresh the view (Issue [NMS-8715](#))
- Incoming syslog/trap flood can overwhelm new handler code (Issue [NMS-8777](#))
- Modify the JMX Connection Factory to allow fully customized URLs. (Issue [NMS-8801](#))
- DB installer tries to class-load every file under OPENNMS\_HOME as a JAR (Issue [NMS-8860](#))
- NPE in CdpLink.toString() (Issue [NMS-8897](#))
- Near Real-Time Graphing unable to graph Cisco BDI interfaces (Issue [NMS-8908](#))
- Enlinkd fails to discovery Bridge Topology (Issue [NMS-8973](#))
- Monitoring Location parameter not saved using mouse (Issue [NMS-9028](#))
- opennms.conf can break the snmp-request command (Issue [NMS-9068](#))
- Standalone HTTPS with Jetty doesn't work with certificate alias (Issue [NMS-9084](#))
- Collection timing enhancements (Issue [NMS-9090](#))
- java.util.Date uses lots of heap space after toString() is called (Issue [NMS-9091](#))

- The poller-test command doesn't work due to Spring initialization conflicts (Issue [NMS-9095](#))
- The ReST API is not location aware (Issue [NMS-9110](#))
- Selection of non-disk RRD strategies (Issue [NMS-9120](#))
- It is possible to perform alarms/notifications actions through the Acks ReST end point without permissions (Issue [NMS-9140](#))
- Blank Location vs. Default Location (Issue [NMS-9146](#))
- Enhanced Linkd NPE: vlanmap is null (Issue [NMS-9156](#))
- minion:ping command gives 403 errors (Issue [NMS-9157](#))
- SNMP client code can get stuck in infinite retry loops (Issue [NMS-9164](#))
- log entry in uncategorized.log (Issue [NMS-9165](#))
- incorrect permissions on opennms.service (Issue [NMS-9166](#))
- Monitoring location creation dialog fails to validate required fields (Issue [NMS-9167](#))
- Fix the execution of Drools rules when using streaming (CEP, Temporal Reasoning) (Issue [NMS-9172](#))
- Drools examples fails to load with exception (Issue [NMS-9186](#))
- CustomSyslogParser adds misleading blank process values to events (Issue [NMS-9188](#))
- OpenNMS Loses Events if Elasticsearch is down (Issue [NMS-9197](#))
- SyslogParser should not assume UTC timestamps (Issue [NMS-9201](#))
- ActiveMQ dead letter queue fills up all the available storage (Issue [NMS-9203](#))
- New resource types are not available in the Web UI until it is restarted (Issue [NMS-9205](#))
- JMS Northbinder ignores first-occurrence-only and sending as object message doesn't work (Issue [NMS-9215](#))
- OSPF Router Id not properly updated (Issue [NMS-9218](#))
- DNS Adapter on Delete Node does not delete DNS record (Issue [NMS-9219](#))
- Problems associated with SNMP4J affects OpenNMS performance (contention issues) (Issue [NMS-9223](#))
- OpenNMS False nodeLostService events for Minion-Heartbeat (Issue [NMS-9225](#))
- Randomize ES1 cluster names so tests don't join each others' clusters (Issue [NMS-9230](#))
- Possible thread leak in SnmpUtils (Issue [NMS-9233](#))
- SNMP timeouts generate Unexpected exception warnings (Issue [NMS-9234](#))
- DnsResolutionMonitor should not use cache for lookups (Issue [NMS-9238](#))
- Pollerd takes too much time scheduling polling when OpenNMS starts (Issue [NMS-9247](#))
- Make the location field on the requisition UI to be a "select" instead of an "input" field. (Issue [NMS-9248](#))
- Requisition UI breaks when percentage sign is used inside Foreign ID input field (Issue [NMS-9269](#))

- Exception in OspfNodeDiscovery (Issue [NMS-9272](#))
- NodeTopologyBridge fails on Cisco Switch ME36/ME34/ME35 (Issue [NMS-9274](#))
- Make TCP output queue parameters configurable (Issue [NMS-9282](#))
- datachoices bundle missing quartz dependency (Issue [NMS-9283](#))
- GraphML JAXB classes are missing package-info.java (Issue [NMS-9286](#))
- syslogd logs "No hideMessage configured" though it is really not needed (Issue [NMS-9289](#))
- XmlHandler doesn't always fail on unmarshaling errors (Issue [NMS-9323](#))

## Configuration

- Remove "delete" flag from default downtime model (Issue [NMS-9257](#))

## Enhancement

- allow multiple syslogd configuration elements to support multiple syslogd listeners and forwarding-regexp patterns (Issue [NMS-6330](#))
- Update Quartz to current version (Issue [NMS-6584](#))
- Use JAXB in Enlinkd config factory (Issue [NMS-7932](#))
- Simple usability improvement to the provisioning UI (Issue [NMS-8601](#))
- Write Syslog Parser to handle all message types (Cisco, syslog-ng, etc) (Issue [NMS-8725](#))
- Create unit test to profile Syslogd's ConvertToEvent performance (Issue [NMS-8726](#))
- Save syslog hostname in an event parameter (Issue [NMS-8928](#))
- Supply R in our YUM repository (Issue [NMS-8960](#))
- Tooltips for heatmap rectangles (Issue [NMS-8961](#))
- Let the XmlCollector use parameters defined in the service definition in xml-source url (Issue [NMS-9072](#))
- VMware collector support for units and value modifier (Issue [NMS-9092](#))
- SNMP data collection definitions for Cisco ASA5585-SSP-60 devices (Issue [NMS-9094](#))
- Upgrade to Camel 2.14.4 (Issue [NMS-9113](#))
- Fix RPC integration tests (Issue [NMS-9116](#))
- no iplike for postgresql 9.6 on debian (Issue [NMS-9118](#))
- Persist string attributes over the TCP stream (Issue [NMS-9126](#))
- Migrate remaining XSDs from Castor to JAXB (Issue [NMS-9134](#))
- Cleanup and remove Castor related dependencies (Issue [NMS-9135](#))
- Persist Drools working memory to disk when stopping and starting OpenNMS (Issue [NMS-9143](#))
- Add JMX instrumentation for the Drools Correlator to understand the the working memory of each rule-set (a.k.a. engine) (Issue [NMS-9145](#))
- Elasticsearch alarms integration improvements (Issue [NMS-9159](#))

- Expose task queue size for ExecutorService runners. (Issue [NMS-9161](#))
- Upgrade snmp4j to 2.5.5 (Issue [NMS-9162](#))
- Enhance to MockSnmpAgent to support returning arbitrary SNMP error codes (Issue [NMS-9163](#))
- Add Checkstyle to the build (Issue [NMS-9174](#))
- interface.jsp could display the list of services for each polling package (Issue [NMS-9206](#))
- es-rest: Allow a comma-separated list of Elasticsearch URIs (Issue [NMS-9210](#))
- Set domain level for DNS adapter (Issue [NMS-9222](#))
- Ops Board Grafana Dashlet (Issue [NMS-9224](#))
- Allow for choosing ifDescr over ifName for interface directory name (Issue [NMS-9240](#))
- Improve handling of counter wraps/reset when using Newts (Issue [NMS-9252](#))
- Upgrade Spring from 4.0 to 4.1 (Issue [NMS-9259](#))
- Upgrade Drools to 6.5.0 (Issue [NMS-9279](#))
- Redefine the start ordering of the OpenNMS daemons during bootstrap. (Issue [NMS-9280](#))
- Placeholder for port number in xml-datacollection-config.xml (Issue [NMS-9285](#))
- Upgrade Apache CXF to 3.1.9 (Issue [NMS-9296](#))

## Release 19.0.1

Release 19.0.1 is the latest stable release of OpenNMS. It contains a number of important fixes for folks who have hit upgrade issues, and a few other small bug fixes. For a high-level overview of what's changed in OpenNMS 19, see [What's New in OpenNMS 19](#).

The codename for 19.0.1 is *Ferret-Legging*.

## Upgrade Notes

If you are using the *OpenNMS-JVM* service to monitor JMX metrics on the OpenNMS JVM, the metrics for ActiveMQ connections and enqueue/dequeue counts were not collected correctly by OpenNMS 19.0.0. If you are upgrading from OpenNMS 19.0.0, you will need to delete the *TtlConCnt*, *TtlDeqCnt*, and *TtlMsgCnt* RRD or JRB files for affected nodes to reset the collections. If you are using *storeByGroup*, you will need to delete the *org\_apache\_activemq\_type\_Broker\_brokerName\_localhost* RRD or JRB file for the affected nodes.

## Bug

- SNMP4J logging is not enabled on Minion (Issue [NMS-8505](#))
- Show Business Service in Topology Map generates exception (Issue [NMS-8703](#))
- NPE in IpInterfaceScan when processing IPLike rule with IPv6 address (Issue [NMS-8934](#))
- ACLs broken for Topology view (Issue [NMS-9066](#))
- Jsr160ConnectionFactory doesn't work with IPv6 address (Issue [NMS-9071](#))
- Migrate RTC related objects to JAXB instead of Castor (Issue [NMS-9100](#))

- after an update `/opt/opennms/bin/install -dis` is failing on duplicate key value violates unique constraint "monitoringlocations\_pkey" (Issue [NMS-9102](#))
- Display version is blank in 19.0.0 (Issue [NMS-9103](#))
- The upgrade task for magic.users doesn't work on RPM based upgrades (Issue [NMS-9109](#))
- Pollerd continues to monitor deleted nodes (Issue [NMS-9112](#))
- Minion throw's NullPointerException while flushing one or more aggregates in 'Trap' module. (Issue [NMS-9114](#))
- Broken Link in Release Notes (Issue [NMS-9119](#))
- Bundle error in output.log on startup (Issue [NMS-9123](#))

## Enhancement

- Expand SNMP4J trap socket receive buffer (Issue [NMS-9111](#))

## Release 19.0.0

Release 19.0.0 is the latest stable release of OpenNMS. It contains a large number of bug fixes and new features, most notably support for all major OpenNMS polling and collection features in the Minion.

For a high-level overview of what's changed in OpenNMS 19, see [What's New in OpenNMS 19](#).

The codename for 19.0.0 is [Ice Hockey](#).

## Bug

- New-suspect event flood possible in trapd (Issue [NMS-5110](#))
- JNA ICMP Pinger loses packet due to incorrect tId (Issue [NMS-5328](#))
- "Pinger already registered" warning when changing Discovery config (Issue [NMS-5689](#))
- Karaf log is separate from other OpenNMS logs (Issue [NMS-6284](#))
- vmware urls do not support username/passwords that require URL encoding (Issue [NMS-6530](#))
- observations related to "ping".option in topology page (Issue [NMS-6849](#))
- If a target node is rebooted the RRD/JRB files contains spikes because the sysUpTime check is not working (Issue [NMS-7106](#))
- Using ping in topology view cause strange behavior (Issue [NMS-7204](#))
- Syslogd may not associate messages with new nodes without a restart (Issue [NMS-7236](#))
- ByteBufferTest.testPassing() fails on FreeBSD 10.1 (Issue [NMS-7257](#))
- Update prototypes from kie version 6.2.0.CR4 to 6.2.0.Final (Issue [NMS-7573](#))
- Opsboard change title color to something neutral than red (Issue [NMS-7911](#))
- JMX Datacollection Config Generator Test Race Condition (Issue [NMS-7913](#))
- No event for Informational syslog (Issue [NMS-7934](#))

- Asset page give a Null Pointer exception enter empty data (Issue [NMS-7957](#))
- OpenNMS Source Should Get a Separate Package (Issue [NMS-8008](#))
- Nodes with invalid NodeTypes can be created via the Nodes Rest-API (Issue [NMS-8019](#))
- Ping from topology view does not work (results in 404 Page not found) (Issue [NMS-8043](#))
- The resourcecli tool shows metrics as graph (sounds confusing) (Issue [NMS-8055](#))
- Heatmap box doesn't format correctly when browser window is resized (zoomed) (Issue [NMS-8136](#))
- VMware-ManagedEntity does not work with VMware 6 (Issue [NMS-8187](#))
- Unused sequences in the database: reportnxtid, mapnxtid (Issue [NMS-8261](#))
- JMXDetector does not respect the 'timeout' (Issue [NMS-8327](#))
- Switching Topology Providers causes Exception (Issue [NMS-8330](#))
- Elasticsearch and AMQP DefaultEventForwarder classes need @InOnly interface (Issue [NMS-8338](#))
- Classloader issues with queuing-service (Issue [NMS-8400](#))
- Overwriting opennms.properties for storeByForeignSource does not work (Issue [NMS-8406](#))
- AsciiDoctor warnings when generating documentation (Issue [NMS-8410](#))
- minion build fails with makerpm.sh -a (Issue [NMS-8412](#))
- GraphMLMetaTopologyFactory does not cleanup properly when "unregistering" (Issue [NMS-8432](#))
- Icons "Center on Map" and "Remove from Focus" are not visible anymore (Issue [NMS-8433](#))
- Component "map-container" shows up twice in some circumstances (Issue [NMS-8434](#))
- Cannot add custom icon key mapping files (Issue [NMS-8472](#))
- Ensure the GenericInfoPanelItemProvider and GraphMLEdgeStatusProvider are run within a Transaction (Issue [NMS-8474](#))
- GraphMLRestService should check for existence but loads the Graph instead (Issue [NMS-8481](#))
- Port Minion System Tests to the Smoke Test Suite (Issue [NMS-8486](#))
- Newer Karaf features are installing bundles that overlap the system classpath (Issue [NMS-8493](#))
- Inconsistencies with the Measurements API when using Newts (Issue [NMS-8498](#))
- upgrade error: too many open files (Issue [NMS-8507](#))
- EventCreator is being reused, duplicates trap varbinds (Issue [NMS-8508](#))
- "View in Topology" on node detail page does not switch to "Linkd" topology Provider (Issue [NMS-8510](#))
- OEM graph for Storage Utilization fails due to ':' (Issue [NMS-8519](#))
- Documentation for the Requisition ReST API is confusing (Issue [NMS-8521](#))
- Minion RPM regenerates UUID during each installation (Issue [NMS-8526](#))
- Find a faster way of determining root-cause or impacting vertices (Issue [NMS-8527](#))



- Cannot validate remote-poller code certificate JRE 8u74 or newer (Issue [NMS-8532](#))
- Multiple smoke tests flapping inside docker (Issue [NMS-8544](#))
- Backshift graphs bleed over the div when viewed via the dashboard (Issue [NMS-8585](#))
- Missing documentation for ifservices ReST end point. (Issue [NMS-8604](#))
- ClassNotFoundException lombok.javac.apt.Processor while compiling Jasper Reports (Issue [NMS-8605](#))
- JNA Pinger fails when run by unprivileged user (Issue [NMS-8615](#))
- Restarting OMNS results in numerous SNMP outage alarms and notifications (Issue [NMS-8620](#))
- Missing documentation for categories ReST end point. (Issue [NMS-8629](#))
- The categories ReST end point returns HTTP 500 when querying it with a browser. (Issue [NMS-8637](#))
- Normalize the KSC ReST end point to show consistent content in XML an JSON (Issue [NMS-8648](#))
- Database Reports Are Emailed When "Email report" is Unchecked (Issue [NMS-8654](#))
- Custom Resource graphs draw magenta lines if "Blue" is selected (Issue [NMS-8655](#))
- Exceptions are truncated in generic info panel items (Issue [NMS-8660](#))
- Difficulty identifying multiple edges between vertices in Topology UI (Issue [NMS-8663](#))
- Xport failed exception when using the Measurements API in a custom info panel item (Issue [NMS-8664](#))
- Measurements API can fail with exception when operating in relaxed mode (Issue [NMS-8665](#))
- The ReST end point /foreignSourcesConfig/assets contains invalid fields (Issue [NMS-8690](#))
- Guava upgrade breaks Elasticsearch forwarding (Issue [NMS-8696](#))
- The Vaddin version of the dashboard shows negative availability sometimes (Issue [NMS-8705](#))
- Trapd reloads SNMPv3 config when no changes have occurred (Issue [NMS-8708](#))
- NullPointerException for JMX agents without entries in jmx-config.xml (Issue [NMS-8709](#))
- Monitoring location just integer as longitude and latitude (Issue [NMS-8713](#))
- Minion code throws "javax.jms.IllegalStateException: The Session is closed" (Issue [NMS-8714](#))
- Scriptd is not working at all for events that have nodes associated. (Issue [NMS-8716](#))
- Mark-Clusters are not rendered properly on GeoMaps (develop only) (Issue [NMS-8719](#))
- OpenNMS web console is not displaying node name for syslog events (Issue [NMS-8728](#))
- Race condition in Minion provisioning (Issue [NMS-8735](#))
- DB installer blows up with unique constraint violation on monitoringlocations\_pkey (Issue [NMS-8754](#))
- Trap received from Minion doesn't preserve original timestamp, systemId fields (Issue [NMS-8755](#))
- Override ShutdownStrategy in Syslogd, Trapd Camel contexts (Issue [NMS-8760](#))
- Auto-Discover architecture/behavior has changed and broke its typical usage (Issue [NMS-8767](#))



- Event advanced search does not work because of encoded &s (Issue [NMS-8768](#))
- The Alarms Details widget on the OpsBoard shows the text on green instead of black (Issue [NMS-8771](#))
- SyslogTest.canReceiveSyslogMessages() failed with AMQ classloader error (Issue [NMS-8778](#))
- Installer script doesn't work with PostgreSQL 9.6 (Issue [NMS-8779](#))
- Docker tests fail if Minion SSH service refreshes while SSH is being checked (Issue [NMS-8781](#))
- Elasticsearch Test Cluster is started even if tests are skipped (Issue [NMS-8783](#))
- Bug in juniper graphs (Issue [NMS-8786](#))
- After installing opennms-jmx-config-generator, the jmx-config-generator cannot be executed (Issue [NMS-8800](#))
- Bundles are refreshed many times during Minion startup (Issue [NMS-8802](#))
- Syslog handler for Minion can't be added to the featuresBoot (Issue [NMS-8803](#))
- Blank content when clicking on "View Node Link Detailed Info" (Issue [NMS-8808](#))
- Broken default location handling in snmp-config.xml (Issue [NMS-8812](#))
- InterruptedExceptions thrown when using SNMP (Issue [NMS-8813](#))
- Provisioning UI: The filtered list of nodes is not updated after removing a node (Issue [NMS-8814](#))
- Opennms UI response is very slow after applying constant load (Issue [NMS-8815](#))
- Syslog messages are being consumed by minion even after we stopped sending syslogs (Issue [NMS-8816](#))
- Syslog messages are being consumed by OpenNMS even after we stopped sending syslogs (Issue [NMS-8817](#))
- Outage ReST service forNode use case calculates dates incorrectly (Issue [NMS-8823](#))
- Minion console is unresponsive (Issue [NMS-8827](#))
- InterfaceToNodeCache does not properly handle null locations (Issue [NMS-8836](#))
- ICMPv6 tests don't skip ping tests when runPingTests system property set to false (Issue [NMS-8838](#))
- DiscoveryBlueprintIT test it flapping (Issue [NMS-8839](#))
- Minion packages fail to install on Amazon Linux release 2016.09 (Issue [NMS-8841](#))
- Permission denied errors when starting Minion (Issue [NMS-8842](#))
- Minion fails to start when running as non-root (Issue [NMS-8844](#))
- HttpPostMonitor logs exception when banner is not defined. (Issue [NMS-8864](#))
- Make feature "opennms-topology-runtime-linkd" uninstallable (Issue [NMS-8865](#))
- NPE when using the Enlinkd Topology (Issue [NMS-8872](#))
- The ipinterface.iphostname field is not updated after changing the FQDN associated with a given IP address (Issue [NMS-8874](#))
- Topology is slow due to geocoding failures (Issue [NMS-8875](#))

- Updating assets/categories through ReST affects Forced Unmanaged services. (Issue [NMS-8879](#))
- Unable to ping nodes with Minion due to missing class `org.opennms.netmgt.icmp.jni6.Jni6Pinger` (Issue [NMS-8882](#))
- Provisiond does not support overlapping IP addresses in a requisition (Issue [NMS-8883](#))
- GraphAll Button no longer works (Issue [NMS-8886](#))
- Minion Heartbeat fails when OpenNMS is restarted (Issue [NMS-8890](#))
- Jetty logging behavior has changed (Issue [NMS-8895](#))
- Remove syslog handler installation from Minion docs (Issue [NMS-8902](#))
- DefaultTicketerServiceLayerIntegrationTest.testWire() failed (Issue [NMS-8904](#))
- Invalid graph templates (Issue [NMS-8907](#))
- opennms-webapp updates javascript dependencies on each build (Issue [NMS-8910](#))
- Integration tests fail if HikariCP is used (Issue [NMS-8911](#))
- Can't save cached requisition associated with HTTP when scheduling the import through `provisiond-configuration.xml` (Issue [NMS-8912](#))
- WS-Man collection fail with unknown reason code 2 (Issue [NMS-8923](#))
- WS-Man collection with resource-type only store last resource (Issue [NMS-8924](#))
- WS-Man throws event 4776 and 4625 with domain user on windows side (Issue [NMS-8925](#))
- OpenNMS Kafka client cannot load because of Zookeeper OSGi issue (Issue [NMS-8929](#))
- SNMP Collector does not use the location when retrieving the agent configuration (Issue [NMS-8930](#))
- Elasticsearch event forwarder logs event body at INFO level (Issue [NMS-8937](#))
- Backshift failing with legend errors for NRTG + Forecasts (Issue [NMS-8939](#))
- `wSDL2java` in `features/ticketing/remedy` is causing build failures (Issue [NMS-8940](#))
- Statsd: erroneous reporting; aggregators not reset between worker's runs (Issue [NMS-8944](#))
- Bundle `bluepring-syslog-handler-default` cannot be started and blocks Karaf container completely (Issue [NMS-8946](#))
- JIRA Ticketer: `java.net.SocketException: Too many open files` (Issue [NMS-8947](#))
- Kafka producer endpoints should operate in async mode (Issue [NMS-8948](#))
- WS\_Man datacollection using WQL fails with 'unsupported element' (Issue [NMS-8955](#))
- Alarmd creates new database transaction for every event (Issue [NMS-8957](#))
- Skip `/var/lock/subsys` actions when running as unprivileged user (Issue [NMS-8962](#))
- Restarting OpenNMS while monitoring nodes via Minions may create erroneous outages (Issue [NMS-8975](#))
- Restarting OpenNMS while performing SNMP data-collection via Minions may create `dataCollectionFailed` alarms (Issue [NMS-8976](#))
- BSMD takes a huge amount of time to start when it has a large amount of services (Issue [NMS-8978](#))

- Typo in linkednode.jsp in panel title (Issue [NMS-8981](#))
- adjust default size of BSM window (Issue [NMS-9002](#))
- NRT Graphing does not show SNMP counter values correctly (Issue [NMS-9005](#))
- Remote Poller throws exceptions and do not seem to work (Issue [NMS-9009](#))
- es-rest: Non-persisted events overwrite single ES document with id=0 (Issue [NMS-9015](#))
- Bundle "Topology :: Plugins :: Net Utils" fails to start (Issue [NMS-9019](#))
- Expand/Collapse control of "vertices in focus" (collapsible criteria) seems broken (Issue [NMS-9022](#))
- Heatmap does not load in some cases "\$.widget is not a function" (Issue [NMS-9026](#))
- Breadcrumb incomplete for "Manage Monitoring Locations" (Issue [NMS-9029](#))
- Breadcrumb incomplete for "Manage Minions" (Issue [NMS-9030](#))
- Copyright bump 2017 (Issue [NMS-9060](#))
- es-rest: HTTP 201 is considered an error (Issue [NMS-9062](#))
- ACLs broken for Assets page (Issue [NMS-9065](#))
- Icon Selection Dialog shows empty icon "microwave\_backhaul\_2" (Issue [NMS-9069](#))
- Geographical map on index page is by default empty (Issue [NMS-9076](#))
- Geographical map shows alarms not correct (Issue [NMS-9081](#))

## Enhancement

- Auto-compile jasper subreports if needed (Issue [NMS-4552](#))
- Enhance SSLCertMonitor with TLS+SNI support with node label (Issue [NMS-6323](#))
- Replace the X with back button in the Angular provisioning WebUI (Issue [NMS-7908](#))
- The smoke / integration test NodeListPageIT is not testing if nodes are listed on the NodeListPage (Issue [NMS-8020](#))
- Missing image in provisioning doc (Issue [NMS-8121](#))
- Update Vmware Topology Provider to be feature compliant with latest Topology API (Issue [NMS-8140](#))
- Add constants for JMS queue/topic naming convention (Issue [NMS-8217](#))
- opennms startup script to automatically start in quiet mode when started from init process (Issue [NMS-8232](#))
- Create separate RPM/DEB package for jetty-webapps/opennms-remoting (Issue [NMS-8345](#))
- Migrate Alarm Notes documentation to official docs (Issue [NMS-8382](#))
- Upgrade JAXB to version 2.2.11 (Issue [NMS-8449](#))
- Create JMX monitoring definitions for Apache Kafka (Issue [NMS-8545](#))
- Make custom event parameters expandable (Issue [NMS-8590](#))
- upgrade node map dependencies (Issue [NMS-8600](#))

- Wrong A record of hostname gives no security manager: "RMI class loader disabled"-exception (Issue [NMS-8616](#))
- Allow setting DSCP and DontFragment bits on ICMP packets generated by jicmp/jicmp6 (Issue [NMS-8617](#))
- Upgrade Mina from 2.0.7 to 2.0.13 (latest in 2.0.x tree) (Issue [NMS-8618](#))
- Make enlinkd location aware (Issue [NMS-8624](#))
- There is no IMAPS monitor (Issue [NMS-8635](#))
- Organize and centralize all JavaScript dependencies used in opennms-webapp (Issue [NMS-8640](#))
- Replace GWT with Angular: IP/SNMP Interfaces panel on the node page. (Issue [NMS-8641](#))
- Replace GWT with Angular: search box for resources page on front page. (Issue [NMS-8642](#))
- Replace GWT with Angular: search box for KSC reports on front page. (Issue [NMS-8643](#))
- Replace GWT with Angular: add to KSC report on the resource graphs page. (Issue [NMS-8644](#))
- Replace GWT with Angular: assets page (Issue [NMS-8645](#))
- Replace GWT with Angular: choose resources page (Issue [NMS-8646](#))
- Replace GWT with Angular: choose resources (part of KSC editor wizard) (Issue [NMS-8647](#))
- Create ReST end-point for assets suggestions (Issue [NMS-8649](#))
- Replace GWT with Angular: configure SNMP data collection per interface (Issue [NMS-8650](#))
- pathOutage event's reduction key should allow reducing on single critical path (Issue [NMS-8651](#))
- Show availability box for the primary interface if the node has more than 10 interfaces (Issue [NMS-8653](#))
- Replace GWT with Angular: remove GWT projects and CoreWeb (Issue [NMS-8666](#))
- Upgrade protobuf to 2.6.1 (from 2.2.0) (Issue [NMS-8675](#))
- Upgrade Drools to 6.4.0.Final (from 6.0.1.Final) (Issue [NMS-8676](#))
- Upgrade JasperReports to 6.3.0 (from 6.1.1) (Issue [NMS-8677](#))
- Upgrade Jetty to 9.3.11.v20160721 (Issue [NMS-8678](#))
- Create a node representing each Minion for monitoring (Issue [NMS-8688](#))
- Collect Elasticsearch stats via REST using the XmlCollector (Issue [NMS-8697](#))
- Reload KSC Configuration through the ReST API (Issue [NMS-8701](#))
- Integration test for Syslogd's new-suspect-on-message in Minion environment (Issue [NMS-8707](#))
- Search web page doesn't talk about searching IPv6 addresses (Issue [NMS-8711](#))
- Create a more useful example content for opennms.conf (Issue [NMS-8721](#))
- Add ReST Elastic Search Alarms to devel (Issue [NMS-8723](#))
- Outage REST service cannot filter on event fields (Issue [NMS-8724](#))
- Top 20 nodes I/O wait jasper report (Issue [NMS-8739](#))
- Add documentation for Mattermost/Slack notifications (Issue [NMS-8742](#))

- Use HikariCP as the default connection factory (Issue [NMS-8747](#))
- Change default monitoring location name from "localhost" to "Default" (Issue [NMS-8749](#))
- Capture Minion karaf.log during Docker smoke tests (Issue [NMS-8774](#))
- Latency metrics are not location-aware (Issue [NMS-8776](#))
- Upgrade LeafLet JS to its latest version (Issue [NMS-8780](#))
- Test that syslog and trap messages handle overlapping IP addresses (Issue [NMS-8798](#))
- Make additional fields available for replacement in NorthboundAlarms (Issue [NMS-8837](#))
- Update ticket ID and state in Alarms via REST (Issue [NMS-8846](#))
- Provisioning UI: Improve the suggestions for categories and services while editing requisitions (Issue [NMS-8848](#))
- Make the ILR put the node label alongside the package/IPADDR/Service tuple (Issue [NMS-8858](#))
- Avoid creating tickets for cleared alarms (Issue [NMS-8866](#))
- Investigate poller-config.properties (Issue [NMS-8873](#))
- Add newest supported PostgreSQL version in docs (Issue [NMS-8892](#))
- Identify time-series strategy in support/about page (Issue [NMS-8936](#))
- Add ability to forward non-persisted events to Elasticsearch (Issue [NMS-8963](#))
- es-rest: EventForwarderQueueImpl needs configurable blockWhenFull behavior (Issue [NMS-8966](#))
- Make the RRAs tunable for the metrics:stress command when using for RRDtool. (Issue [NMS-8972](#))
- Add %nodelocation% event expansion parameter (Issue [NMS-8995](#))
- Deprecate the opennms-elasticsearch-event-forwarder feature (Issue [NMS-9033](#))
- Detect ICMP API availability automatically (Issue [NMS-9078](#))

## Epic

- Topology Ping (Issue [NMS-8245](#))
- Upgrade Jetty to latest 9.3.x (Issue [NMS-8674](#))
- Documentation about managing users, groups and roles (Issue [NMS-8763](#))

## Story

- Create data collection configuration from vCenter 6 (Issue [NMS-8181](#))
- The pristine etc contains a number of TODOs (Issue [NMS-8899](#))

## Task

- The friendly-names in the default Cassandra collection packages have changed (Issue [NMS-8451](#))

# What's New in OpenNMS Horizon 18

## System Requirements

- **Java 8:** OpenNMS Horizon 18 requires Java 8 as the runtime environment. To run Horizon 18, we recommend the most recent version of Oracle JDK 8 for your platform.
- **PostgreSQL 9.1 or higher:** Horizon 18 requires PostgreSQL 9.1 or higher. All older versions of PostgreSQL are past their end-of-life support date.

## Breaking Changes

- **Custom Topology Icon Definitions:** Custom Icon Definitions in the Topology Map are now handled differently.

You will need to migrate your existing custom icons to the new layout. The [OpenNMS Administrators Guide](#) covers this topic in more detail.

- **Event Translator:** The default behavior of the event translator preserving SNMP data when cloning event has been changed to **NOT** preserve that data by default. To restore the old behavior, set `preserve-snmp-data="true"` on the event XML. For more information, see [issue NMS-8374](#).
- **ReST API:** The ReST API has been normalized to give better and more consistent responses to queries.

This includes dropping support for redirecting to the model URL on write operations (POST, etc.) If you were relying on this old (broken) behavior, please update your ReST API calls accordingly. Most client code should be unaffected.

## New Features

- **Business Service Monitor:** Correlation for root cause and business impact analysis.

The goal of the Business Service Monitor is to provide a high-level correlation of business rules, and to display them in the topology map.

In the BSM, you define a Business Service that encompasses a set of entities (nodes, interfaces, services, and other Business Services) and the relationships among them. The alarm states of the component entities are rolled up in a map-reduce fashion to drive a state machine. The state of a Business Service is reflected in a new type of event, and can also be visualized (along with the service hierarchy) in the existing OpenNMS topology map.

For details on using the BSM, see [the OpenNMS Administrators Guide](#).

- **ElasticSearch 1.x Event Forwarder:** Support for forwarding events to ElasticSearch 1.x.
- **Modular Configuration Updates:** Now most properties set in the `opennms.properties` file can be instead overridden by creating a file in the `${OPENNMS_HOME}/etc/opennms.properties.d` directory.



- **Notifications:** New notification strategies for Slack and Mattermost have been added.
- **OpenNMS Plugin Manager:** An API for adding 3rd-party "plugins" to OpenNMS.

The core of a tool for adding plugins into OpenNMS has been included in Horizon 18. This provides a set of tools for finding and adding plugins to be loaded into the OpenNMS OSGi container.

- **Provisioning Requisition UI:** A huge number of improvements have gone into the requisition UI. Also, the old "Quick-Add Node" functionality has been reimplemented using the same backend as the requisition UI.
- **"Scan Report" Remote Poller GUI:** A new front-end for the remote poller that lets you perform a single scan and get a pass/fail report in a GUI has been added. You can enable this alternate UI with the "-s" option on the remote poller CLI.
- **Topology UI Updates:** As part of the BSM work, the topology UI has been vastly improved for both performance and usability.
- **TSRM Ticketing Plugin:** Create incidents in IBM's TSRM.

Information on configuring the TSRM ticketing plugin can be found in [the OpenNMS Administrators Guide](#).

- **Usage Statistics:** Collect anonymous usage statistics.

To get a better idea of how to estimate hardware requirements and the performance characteristics of OpenNMS, we wrote a tool to occasionally submit anonymous diagnostic information about your OpenNMS install. It will submit information like the number of nodes, alarms, etc. as well as some basic system information to our servers for statistical reasons.

When a user with the Admin role logs into the system for the first time, they will be prompted as to whether or not they want to opt-in to publish these statistics. Statistics will only be published once an Administrator has opted-in.

These statistics are visualized on [stats.opennms.org](https://stats.opennms.org).

## Event Updates or Additions

- APC
- Juniper IVE
- NetGear ProSafe Smart Switch
- OpenWRT
- SonicWall

## Data Collection and Graphing Updates or Additions

- AKCP SensorProbe
- Cisco ASA5515-X and ASA5525-X

- Juniper SRX100h and SRX210he2 Router

## Internal Updates

- **Minion Infrastructure:** Minion is OpenNMS's project to provide full distributed monitoring and collection.

While Minion is slated to be in Horizon 19, some of the work going towards Minion support is already in Horizon 18, including components for discovery, syslog, and more.

- **ActiveMQ:** An ActiveMQ broker is now embedded in the OpenNMS JVM.
- **Discovery Daemon Rewrite:** The discovery daemon has been replaced with a Camel-based implementation to facilitate future Minion support.
- **Enhanced Linkd:** Enlinkd has had many bugs fixed and should perform orders of magnitude faster in many configurations.
- **JNA:** The JNA ping implementation got cleaned up and should be working again.
- **Newts:** A number of bugfixes and improvements have been made to the Newts support since Horizon 17.
- **Syslog Daemon Updates:** The performance of the OpenNMS syslog support has been vastly improved and updated, and has been modified to work in the Minion.

## Changelog

### Release 18.0.4

Release 18.0.4 is the latest stable release of OpenNMS. It contains a number of bug fixes and enhancements, including a fix for a deadlock that can be triggered by using the topology UI and a rather large performance fix for startup if you are using BSM. For a high-level overview of what's changed in OpenNMS 18, see [What's New in OpenNMS 18](#).

The codename for 18.0.4 is *Kiwa Hirsuta*.

### Bug

- There are graph templates that are not working with RRDtool (Issue [NMS-6345](#))
- vmware urls do not support username/passwords that require URL encoding (Issue [NMS-6530](#))
- If a target node is rebooted the RRD/JRB files contains spikes because the sysUpTime check is not working (Issue [NMS-7106](#))
- Switching Topology Providers causes Exception (Issue [NMS-8330](#))
- Restarting OMNS results in numerous SNMP outage alarms and notifications (Issue [NMS-8620](#))
- Exception in LatencyStoringServiceMonitorAdaptor: IncorrectResultSizeDataAccessException (Issue [NMS-8756](#))
- auto-acknowledge random fails (Issue [NMS-8901](#))



- Invalid graph templates (Issue [NMS-8907](#))
- WS-Man throws event 4776 and 4625 with domain user on windows side (Issue [NMS-8925](#))
- Statsd: erroneous reporting; aggregators not reset between worker's runs (Issue [NMS-8944](#))
- JIRA Ticketer: java.net.SocketException: Too many open files (Issue [NMS-8947](#))
- WS\_Man datacollection using WQL fails with 'unsupported element' (Issue [NMS-8955](#))
- BSMD takes a huge amount of time to start when it has a large amount of services (Issue [NMS-8978](#))
- Typo in linkednode.jsp in panel title (Issue [NMS-8981](#))
- adjust default size of BSM window (Issue [NMS-9002](#))
- NRT Graphing does not show SNMP counter values correctly (Issue [NMS-9005](#))
- Jira-Ticketer: Attribute values for some custom fields are not mapped correctly (Issue [NMS-9023](#))
- Copyright bump 2017 (Issue [NMS-9060](#))
- ACLs broken for Assets page (Issue [NMS-9065](#))
- deadlock in topology on demo (Issue [NMS-9067](#))
- WS-Man thresholding reports: No thresholds configured for resource type '\*' (Issue [NMS-9077](#))
- Correlation engine's cancelTimer method should be public (Issue [NMS-9087](#))

## Release 18.0.3

Release 18.0.3 is the latest stable release of OpenNMS. It contains a few bug fixes and a enhancements, and a fix for a discovery/provisioning regression that can cause duplicate nodes.

For a high-level overview of what's changed in OpenNMS 18, see [What's New in OpenNMS 18](#).

The codename for 18.0.3 is *Dugong*.

### Regression: Duplicate Nodes and Default Foreign Source

Due to a bug in the new Discovery daemon introduced in 18.0.0 ([NMS-8682](#)), OpenNMS would create (identical) duplicate nodes when discovering using the default foreign source.

You can get the list of duplicate nodes by running the following query in PostgreSQL (`psql -U opennms`):

*find\_duplicate\_nodes.sql*

```
SELECT "ID"
FROM (SELECT nodeid AS "ID",
      ROW_NUMBER() OVER (PARTITION BY nodeid ORDER BY nodeid) AS "row_num"
FROM node) AS foo
WHERE foo."row_num" > 1);
```

If you are satisfied that the nodes are safe to delete, the next step is to actually delete them. First,

([back up your database](#). Then, run the following query in PostgreSQL:

*delete\_duplicate\_nodes.sql*

```
DELETE
FROM node
WHERE nodeid
      IN (SELECT "ID"
          FROM (SELECT nodeid AS "ID",
                        ROW_NUMBER() OVER (PARTITION BY nodeLabel ORDER BY nodeid) AS
"row_num"
              FROM node) AS foo
WHERE foo."row_num" > 1);
```

## Bug

- Opsboard change title color to something neutral than red (Issue [NMS-7911](#))
- Replace VDEF with {diffTime} on the resource templates to avoid conflicts with Backshift (Issue [NMS-8490](#))
- Inconsistencies with the Measurements API when using Newts (Issue [NMS-8498](#))
- Cannot validate remote-poller code certificate JRE 8u74 or newer (Issue [NMS-8532](#))
- Restarting OMNS results in numerous SNMP outage alarms and notifications (Issue [NMS-8620](#))
- Measurements API can fail with exception when operating in relaxed mode (Issue [NMS-8665](#))
- Newts: When Cassandra Cluster is unavailable, OpenNMS gives up on trying to contact it again (Issue [NMS-8670](#))
- Any SNMP error-status > 5 treated as unrecognized, aborts AggregateTracker (Issue [NMS-8671](#))
- Trapd JMX trap counters don't count traps (Issue [NMS-8744](#))
- Auto-Discover architecture/behavior has changed and broke its typical usage (Issue [NMS-8767](#))
- Event advanced search does not work because of encoded &s (Issue [NMS-8768](#))
- The Alarms Details widget on the OpsBoard shows the text on green instead of black (Issue [NMS-8771](#))
- RRDtool 1.6 doesn't like vames called ds (Issue [NMS-8775](#))
- Installer script doesn't work with PostgreSQL 9.6 (Issue [NMS-8779](#))
- Bug in juniper graphs (Issue [NMS-8786](#))
- SNMP web configurator does not allow zero retries (Issue [NMS-8789](#))
- The search page for events is not working as expected (Issue [NMS-8790](#))
- The "Recent Events" in the node page, shows HTML tags on the message (Issue [NMS-8794](#))
- After installing opennms-jmx-config-generator, the jmx-config-generator cannot be executed (Issue [NMS-8800](#))
- Blank content when clicking on "View Node Link Detailed Info" (Issue [NMS-8808](#))
- InterruptedExceptions thrown when using SNMP (Issue [NMS-8813](#))

- Outage ReST service forNode use case calculates dates incorrectly (Issue [NMS-8823](#))
- event filter on exactuei yields unexpected results (Issue [NMS-8828](#))
- Discovery duplicates nodes when foreign-source is set (Issue [NMS-8835](#))
- Several ICMPv6 tests fail with NoRouteToHostException (Issue [NMS-8840](#))
- user detection in `install` is busted on some Linux systems (Issue [NMS-8843](#))
- Backshift shows the name of the string variables when the value is not available (Issue [NMS-8847](#))
- NPE when starting bsmd (Issue [NMS-8853](#))
- Wallboard / Ops board renders product logo strangely (Issue [NMS-8855](#))
- NonUniqueResultException when retrieving CDP links (Issue [NMS-8863](#))
- Updating assets/categories through ReST affects Forced Unmanaged services. (Issue [NMS-8879](#))
- The label of unreachable auto-discovered nodes is set to the IP after a rescan. (Issue [NMS-8880](#))
- checknsc script throws class not found exception for LoggerFactory (Issue [NMS-8885](#))
- Memory Leak in enlinkd? (Issue [NMS-8896](#))
- Spurious Trapd error logs: unknown SNMP protocol version 'v2' (Issue [NMS-8900](#))
- JiraTicketerPlugin does not to work with https instances (Issue [NMS-8906](#))
- Can't save cached requisition associated with HTTP when scheduling the import through provisiond-configuration.xml (Issue [NMS-8912](#))
- The "Update Ticket" functionality on the alarm detail page is broken, when the original creation of the issue failed (Issue [NMS-8914](#))
- ArrayIndexOutOfBoundsException while processing some trap varbinds (Issue [NMS-8915](#))
- WS-Man collection fail with unknown reason code 2 (Issue [NMS-8923](#))
- WS-Man collection with resource-type only store last resource (Issue [NMS-8924](#))
- Backshift failing with legend errors for NRTG + Forecasts (Issue [NMS-8939](#))
- WS\_Man datacollection using WQL fails with 'unsupported element' (Issue [NMS-8955](#))
- Enlinkd Not Performing Bridge Topology Discovery (Issue [NMS-8964](#))

## Enhancement

- Missing image in provisioning doc (Issue [NMS-8121](#))
- Create a more useful example content for opennms.conf (Issue [NMS-8721](#))
- Allow filtering by severity in alarm list (Issue [NMS-8851](#))
- Expose alarm-list "limit" parameter as a UI control (Issue [NMS-8852](#))
- Make the ILR put the node label alongside the package/IPADDR/Service tuple (Issue [NMS-8858](#))
- Avoid creating tickets for cleared alarms (Issue [NMS-8866](#))
- Set additional fields in the JIRA ticketer (Issue [NMS-8893](#))
- Better logging for SNMP traps with processing problems (Issue [NMS-8903](#))

## Release 18.0.2

Release 18.0.2 is the latest stable release of OpenNMS. It contains a few bug fixes and a enhancements. For a high-level overview of what's changed in OpenNMS 18, see [What's New in OpenNMS 18](#).

The codename for 18.0.2 is *Muskrat*.

### Bug

- IE11 and Firefox Browsers Display Double Scroll Bars for the RTC: Service Monitoring Table in the Ops Panel (Issue [NMS-8035](#))
- Null Pointer Exception in bridge discovery (Issue [NMS-8390](#))
- Overwriting opennms.properties for storeByForeignSource does not work (Issue [NMS-8406](#))
- upgrade error: too many open files (Issue [NMS-8507](#))
- The ReST end point /foreignSourcesConfig/assets contains invalid fields (Issue [NMS-8690](#))
- Site status view gives a 400 error for aggregate view for node downs (Issue [NMS-8700](#))
- View current Site outages does not filter for "building" (Issue [NMS-8702](#))
- The Vaddin version of the dashboard shows negative availability sometimes (Issue [NMS-8705](#))
- Scriptd is not working at all for events that have nodes associated. (Issue [NMS-8716](#))
- vmwarecimquery and vmwareconfigbuilder tools is not working (Issue [NMS-8718](#))
- XSS vulnerability in display of SNMP sysName and trap varbind values (Issue [NMS-8722](#))
- IllegalStateException when using the RrdSummaryController (Issue [NMS-8743](#))

### Enhancement

- Add Mattermost and Slack notification strategies (Issue [NMS-8346](#))

## Release 18.0.1

Release 18.0.1 is the latest stable release of OpenNMS. It contains a large number of bug fixes and a few enhancements. For a high-level overview of what's changed in OpenNMS 18, see [What's New in OpenNMS 18](#).

The codename for 18.0.1 is *Platypus*.

### Bug

- NPE in provisioning groups UI (corner case / race condition) (Issue [NMS-3820](#))
- When using storeByFS a provisioning group cannot contain whitespace (Issue [NMS-6331](#))
- observations related to "ping".option in topology page (Issue [NMS-6849](#))
- Using ping in topology view cause strange behavior (Issue [NMS-7204](#))
- Problems with "ResponseTimeSummary\_Availability\_Offenders" subreport (Issue [NMS-7472](#))

- Problems with "NodeAvailability" report (Issue [NMS-7475](#))
- Provided graph definitions are mixing aggregation function leading to wrong min / max totals (Issue [NMS-7578](#))
- New Monitoring Locations Editor only allows integers in the latitude and longitude fields (Issue [NMS-7869](#))
- output.log fills up with GLib-GObject-CRITICAL messages (Issue [NMS-8016](#))
- Issues with data collection config for Cisco devices (Issue [NMS-8027](#))
- Remotepoller shell script searching remote-poller.jar at wrong location (Issue [NMS-8040](#))
- Ping from topology view does not work (results in 404 Page not found) (Issue [NMS-8043](#))
- Documentation for Cassandra/Newts doesn't mention that a JDK is required (Issue [NMS-8049](#))
- Node rescans possible in WebUI with ROLE\_USER (Issue [NMS-8127](#))
- Wrong label in send-event menu (Issue [NMS-8154](#))
- Missing node/interface information in an event after sending an event with send-event ui (Issue [NMS-8155](#))
- VMware-ManagedEntity does not work with VMware 6 (Issue [NMS-8187](#))
- Install -dis on "SocketException:Too many open files" on centos:latest docker (Issue [NMS-8200](#))
- Editing scheduled outages overwrites collectd-configuration.xml (Issue [NMS-8206](#))
- Trouble ticket link template in opennms.properties accidentally filtered (Issue [NMS-8256](#))
- The filter for the foreign source in the outages view caused an SQLGrammarException (Issue [NMS-8275](#))
- enlinkd produces getReadyRunnable: queue is Empty (Issue [NMS-8290](#))
- Enlinkd null pointer exception in BridgeTopologyDiscovery (Issue [NMS-8291](#))
- linknode.jsp displays no data link (Issue [NMS-8292](#))
- Topology elements looks off center when the panel is collapsed (Issue [NMS-8297](#))
- Linkd Topology Provider shows Indeterminate Status of Vertices if no alarm is defined. (Issue [NMS-8328](#))
- Multi-Selection Tool does not work anymore (Issue [NMS-8331](#))
- Selection is lost when using the Topology UI (Issue [NMS-8332](#))
- QuickAddNodeIT flapping during tearDown() (Issue [NMS-8340](#))
- If the persistence layer is not available or unresponsive the WebUI becomes unavailable or extremely slow and key components stop working (Issue [NMS-8360](#))
- nodelink.jsp shared segment without ports (Issue [NMS-8362](#))
- Exceptions thrown by the Newts Conversion Tool for certain RRDs and no data on Cassandra (Issue [NMS-8363](#))
- Totals based on {diffTime} on any graph templates related with octets are wrong (Issue [NMS-8372](#))
- Poller threads can get locked up while waiting for outages to be created/resolved (Issue [NMS-](#)

8376)

- storeByForeignSource breaks node[N] style resource IDs (Issue [NMS-8404](#))
- ConcurrentModificationException in DefaultEventHandlerImpl (Issue [NMS-8413](#))
- Karaf log level is DEBUG in stable (Issue [NMS-8416](#))
- Enlinkd Topology: Nodes without any alarms have a question mark (Issue [NMS-8417](#))
- IBM TSRM integration throws "requires a field Ticket class" exception (Issue [NMS-8419](#))
- Enlinkd Topology: Cannot search for nodes without alarms (Issue [NMS-8420](#))
- BSM Editor throws an exception if you type a 0 in weight (Issue [NMS-8421](#))
- WebMonitor returns false negative poll results (Issue [NMS-8427](#))
- Ring buffer entries exceed capacity (Issue [NMS-8430](#))
- Newts: String properties are persisted using the "collector" thread (Issue [NMS-8437](#))
- Upgrade PostgreSQL Driver and C3P0 (Issue [NMS-8438](#))
- Newts: The number of sample processing threads do not match the number of writer threads (Issue [NMS-8439](#))
- Topology redirects to localhost (127.0.0.1) (Issue [NMS-8450](#))
- Problem in Minion syslog reception route (Issue [NMS-8456](#))
- opennms stop takes 5 minutes (Issue [NMS-8471](#))
- NRT graph interval should default to > 1s (Issue [NMS-8477](#))
- PostgreSQL driver's OSGi bundle activator deregisters the driver (Issue [NMS-8480](#))
- Isolate Smoke Tests (Issue [NMS-8485](#))
- Port Minion System Tests to the Smoke Test Suite (Issue [NMS-8486](#))
- JdbcCollector does not close database connections correctly (Issue [NMS-8488](#))
- NPE in JMX Collector when collecting composite attributes (Issue [NMS-8497](#))
- jmxremote password file not found when running `install -dis` after configuring RMI (Issue [NMS-8499](#))
- JMX RMI auth configuration does not work with custom roles (Issue [NMS-8500](#))
- Cancel dialog is slow and Topology Map crashes if vertex has many edges (20+) (Issue [NMS-8501](#))
- log4j2.xml passes WARN level logs by default (Issue [NMS-8502](#))
- Attributes set in the DroolsTicketerServiceLayer get overwritten (Issue [NMS-8503](#))
- HW ENTITY\_MIB plugin is not showing all information for certain devices (Issue [NMS-8506](#))
- OEM graph for Storage Utilization fails due to ':' (Issue [NMS-8519](#))
- The ticket change date is the same as the reported date (Issue [NMS-8520](#))
- Discovery doesn't create/place node in correct requisition for range (Issue [NMS-8537](#))
- blank label in "Threshold Function Details" window (Issue [NMS-8541](#))



- Resizing browser window causes Topology UI to refresh itself needlessly (Issue [NMS-8588](#))
- Topology Map is very very slow (Issue [NMS-8589](#))
- Topology UI refreshes many times when performing various actions (Issue [NMS-8592](#))
- Requisitioned IP interfaces never have ipHostName set (Issue [NMS-8593](#))
- Compiler warnings about MaxPermSize support is removed in 8.0 (Issue [NMS-8594](#))
- Vertex shows empty tooltip (Issue [NMS-8595](#))

## Configuration

- Distributed/Geographical Maps do not show images anymore (Issue [NMS-8597](#))

## Enhancement

- Change Real-time Graphing Default to 5 or 10 seconds (Issue [NMS-5937](#))
- Make node aggregation 'maxClusterRadius' in Geographical Map configurable (Issue [NMS-7638](#))
- Query an Application using the ReST interface (Issue [NMS-8172](#))
- Add PaloAlto Firewall Datacollection (Issue [NMS-8174](#))
- RESTv2 services should return HTTP 204 for DELETE (Issue [NMS-8195](#))
- Expose the complete OnmsNode object in Scriptd to avoid LazyInitializationExceptions (Issue [NMS-8294](#))
- Upgrade Log4j2 (there are several performance improvements) (Issue [NMS-8392](#))
- Return X-Frame-Options HTTP header to prevent x-frame scripting and clickjacking (Issue [NMS-8393](#))
- BSM attributes not available in events and alarms (Issue [NMS-8423](#))
- Upgrade Newts to 1.3.6 (Issue [NMS-8428](#))
- Add a new control to open Backshift graphs in their own window (Issue [NMS-8429](#))
- Update NRTG to use Backshift instead of rrdgraph.js (Issue [NMS-8435](#))
- Provide a stress tool that can be used to stress the active persistence layer (Issue [NMS-8436](#))
- Forecast metrics using Backshift (Issue [NMS-8448](#))
- Implement a Datasource Factory based on Hikari CP (Issue [NMS-8455](#))
- Add custom string attributes based on indirect and complex SNMP Indices (Issue [NMS-8484](#))
- Improve built-in Newts graphs for easier diagnostics (Issue [NMS-8495](#))
- Alphabetize nodes in surveillance category listing (Issue [NMS-8535](#))

## Release 18.0.0

Release 18.0.0 is the latest stable release of OpenNMS. It contains a large number of bug fixes and new features. For a high-level overview of what's changed in OpenNMS 18, see [What's New in OpenNMS 18](#).

The codename for 18.0.0 is *Tardigrade*.

## Bug

- "ADD NODE" produces "too much" config (Issue [NMS-3489](#))
- RrdUtils.createRRD log message is unclear (Issue [NMS-4845](#))
- model-importer.properties should be deprecated and removed (Issue [NMS-5788](#))
- Bring WaterfallExecutor logging on par with RunnableConsumerThreadPool (Issue [NMS-5839](#))
- The retry handler used with HttpClient is not going to do what we expect (Issue [NMS-5915](#))
- No HTML title on Topology Map (Issue [NMS-5970](#))
- provision.pl does not import requisitions with spaces in the name (Issue [NMS-6344](#))
- Eventd does not honor reloadDaemonConfig event (Issue [NMS-6549](#))
- Update JNA.jar library to support ARM based systems (Issue [NMS-6623](#))
- jaxb.properties not included in jar (Issue [NMS-7263](#))
- SNMP Plugin tests regularly failing (Issue [NMS-7471](#))
- ArrayOutOfBounds Exception in Topology Map when selecting bridge-port (Issue [NMS-7525](#))
- non RFC conform behaviour of SmtplibMonitor (Issue [NMS-7582](#))
- Remote poller dies when trying to use the PageSequenceMonitor (Issue [NMS-7731](#))
- Bridge Data is not Collected on Cisco Nexus (Issue [NMS-7763](#))
- NPE in JmxRrdMigratorOffline (Issue [NMS-7792](#))
- Slow LinkdTopologyProvider/EnhancedLinkdTopologyProvider in bigger environments (Issue [NMS-7846](#))
- Enlinkd bridge discovery creates erroneous entries in the Bridge Forwarding Tables of unrelated switches when host is a kvm virtual host (Issue [NMS-7871](#))
- 303 See Other on requisitions response breaks the usage of the Requisitions ReST API (Issue [NMS-7872](#))
- Integration tests in org.opennms.core.test-api.karaf have incomplete dependencies (Issue [NMS-7880](#))
- Slow BridgeBridgeTopologie discovery with enlinkd. (Issue [NMS-7918](#))
- Null pointer exceptions with whitespace in requisition name (Issue [NMS-7922](#))
- Bouncycastle JARs break large-key crypto operations (Issue [NMS-7959](#))
- XML namespace locations are not set correctly for namespaces cm, and ext (Issue [NMS-7967](#))
- Rest API v2 returns http-404 (not found) for http-204 (no content) cases (Issue [NMS-7975](#))
- Topology-UI shows LLDP links not correct (Issue [NMS-8003](#))
- Vacuumd sends automation events before transaction is closed (Issue [NMS-8018](#))
- opennms-setup.karaf shouldn't try to start ActiveMQ (Issue [NMS-8056](#))
- Add the org.opennms.features.activemq.broker.xml and .cfg files to the Minion repo webapp



(Issue [NMS-8057](#))

- Poll all interface w/o critical service is incorrect (Issue [NMS-8058](#))
- NullPointerException for NodeDiscoveryBridge (Issue [NMS-8072](#))
- The OnmsDaoContainer does not update its cache correctly, leading to a NumberFormatException (Issue [NMS-8079](#))
- VLAN name is not displayed (Issue [NMS-8080](#))
- Provisioning Requisitions with spaces in their name. (Issue [NMS-8086](#))
- JMX detector connection errors use wrong log level (Issue [NMS-8096](#))
- PageSequenceMonitor sometimes gives poor failure reasons (Issue [NMS-8098](#))
- init script checkXmlFiles() fails to pick up errors (Issue [NMS-8104](#))
- Heat map Alarms/Categories do not show all categories (Issue [NMS-8116](#))
- CXF returning 204 on NULL responses, rather than 404 (Issue [NMS-8118](#))
- Memory leak when using Groovy + BSF (Issue [NMS-8125](#))
- NPE if provisioning requisition name has spaces (Issue [NMS-8128](#))
- OpenNMS incorrectly discovers VLANs (Issue [NMS-8137](#))
- "Show interfaces" link forgets the filters in some circumstances (Issue [NMS-8146](#))
- Cannot search by MAC address (Issue [NMS-8167](#))
- Vaadin Applications do not show OpenNMS favicon (Issue [NMS-8168](#))
- Wrong interface status color on node detail page (Issue [NMS-8189](#))
- Return an HTTP 303 for PUT/POST request on a ReST API is a bad practice (Issue [NMS-8194](#))
- Provisioning UI indication for changed nodes is too bright (Issue [NMS-8198](#))
- Upgrade maven-bundle-plugin to v3.0.1 (Issue [NMS-8208](#))
- AlarmdIT.testPersistManyAlarmsAtOnce() test ordering issue? (Issue [NMS-8214](#))
- Chart servlet reloads Notifd config instead of Charts config (Issue [NMS-8215](#))
- Discovery config screen problems in latest code (Issue [NMS-8216](#))
- Operation "Refresh Now" and "Automatic Refresh" referesh the UI differently (Issue [NMS-8221](#))
- JasperReports measurements data-source step returning null (Issue [NMS-8224](#))
- Jaspersoft Studio cannot be used anymore to debug/create new reports (Issue [NMS-8235](#))
- Requisition synchronization is failing due to space in requisition name (Issue [NMS-8240](#))
- Many Rcsript (RScript) files in OPENNMS\_DATA/tmp (Issue [NMS-8248](#))
- Test flapping: ForeignSourceRestServiceIT.testForeignSources() (Issue [NMS-8257](#))
- snmp4j does not process agent responses (Issue [NMS-8272](#))
- %post error when Minion host.key already exists (Issue [NMS-8273](#))
- All the defined Statsd's reports are being executed even if they are disabled. (Issue [NMS-8274](#))
- %post failure in opennms-minion-features-core: sed not found (Issue [NMS-8277](#))

- Config Tester Tool doesn't check some of the core configuration files (Issue [NMS-8293](#))
- Label of Vertex is too short in some cases (Issue [NMS-8298](#))
- Topology UI recenters even if Manual Layout is selected (Issue [NMS-8299](#))
- Center on Selection no longer works in STUI (Issue [NMS-8300](#))
- v2 Rest Services are deployed twice to the WEB-INF/lib directory (Issue [NMS-8301](#))
- Json deserialization throws "unknown property" exception due to usage of wrong Jax-rs Provider (Issue [NMS-8302](#))
- An error on threshd-configuration.xml breaks Collectd when reloading thresholds configuration (Issue [NMS-8304](#))
- Pan moving in Topology UI automatically recenters (Issue [NMS-8313](#))
- Weird zoom behavior in Topology UI using mouse wheel (Issue [NMS-8314](#))
- Ping is available for HTTP services (Issue [NMS-8320](#))
- Friendly name of an IP service is never shown in BSM (Issue [NMS-8324](#))
- Switching Topology Providers causes Exception (Issue [NMS-8330](#))
- Focal points are no longer persisted (Issue [NMS-8335](#))
- Non-existing resources or attributes break JasperReports when using the Measurements API (Issue [NMS-8337](#))
- Plugin Manager fails to load (Issue [NMS-8353](#))
- Incorrect documentation for org.opennms.newts.query.heartbeat (Issue [NMS-8361](#))
- The contents of the info panel should refresh when the vertices and edges are refreshed (Issue [NMS-8371](#))
- The placeholder {diffTime} is not supported by Backshift. (Issue [NMS-8373](#))
- The logic to find event definitions confuses the Event Translator when translating SNMP Traps (Issue [NMS-8374](#))
- License / copyright situation in release notes introduction needs simplifying (Issue [NMS-8375](#))
- Sluggish performance with Cassandra driver (Issue [NMS-8379](#))
- jmxconfiggenerator feature has unnecessary includes (Issue [NMS-8383](#))
- Requisitioning UI fails to load in modern browsers if used behind a proxy (Issue [NMS-8386](#))
- Document resources ReST service (Issue [NMS-8388](#))
- NoSuchElementException when loading the TopologyUI (Issue [NMS-8394](#))
- Logging improvements to Notifd (Issue [NMS-8395](#))
- There are errors on the graph definitions for OpenNMS JMX statistics (Issue [NMS-8401](#))

## Enhancement

- Create a better landing page for Configure Discovery aftermath (Issue [NMS-2504](#))
- Detect tables with Provisiond SNMP detector (Issue [NMS-4229](#))

- Allow other services to work with Path Outages other than ICMP (Issue [NMS-5077](#))
- Add ifAlias to bridge Link Interface Info (Issue [NMS-5905](#))
- Make the Provisioning Requisitions "Node Quick-Add" look pretty (Issue [NMS-5979](#))
- Expose SNMP4J 2.x noGetBulk and allowSnmplibV2cInV1 capabilities (Issue [NMS-7123](#))
- Enhance Bridge Link Object Model (Issue [NMS-7446](#))
- Update BridgeTopology to use the new Object Model (Issue [NMS-7447](#))
- Update Bridge Topology Discovery Strategy (Issue [NMS-7448](#))
- Change icon for Dell PowerConnector switch (Issue [NMS-7756](#))
- Add Sonicwall Firewall Events (Issue [NMS-7798](#))
- Elasticsearch event and alarm forwarder (Issue [NMS-7903](#))
- Create an overview for the developers guide (Issue [NMS-7950](#))
- Add support for setting system properties via user supplied .properties files (Issue [NMS-7965](#))
- Merge OSGi Plugin Manager into Admin UI (Issue [NMS-7976](#))
- provide HTTPS Quicklaunch into node page (Issue [NMS-7980](#))
- Remove Dependencies on RXTX (Issue [NMS-8015](#))
- Refactor Enhanced Linkd Topology (Issue [NMS-8041](#))
- Provide link for Microsoft RDP connections (Issue [NMS-8044](#))
- Update asciidoc dependencies to latest 1.5.3 (Issue [NMS-8063](#))
- Allow user to access local documentation from OpenNMS Jetty Webapp (Issue [NMS-8076](#))
- Add NetGear Prosafe Smart switch SNMP trap events and syslog events (Issue [NMS-8077](#))
- Add OpenWrt syslog and related event definitions (Issue [NMS-8092](#))
- Disallow restricted characters from foreign source and foreign ID (Issue [NMS-8129](#))
- Update asciidoctorj to 1.5.4 and asciidoctorjPdf to 1.5.0-alpha.11 (Issue [NMS-8149](#))
- Collect and publish anonymous statistics to stats.opennms.org (Issue [NMS-8152](#))
- Remove Quick-Add node to avoid confusions and avoid breaking the ReST API (Issue [NMS-8160](#))
- Requisitions UI Enhancements (Issue [NMS-8163](#))
- ifIndex >= 2^31 (Issue [NMS-8179](#))
- Add HTTPS as quick-link on the node page (Issue [NMS-8182](#))
- Generate events for alarm lifecycle changes (Issue [NMS-8205](#))
- Upgrade junit to v4.12 (Issue [NMS-8209](#))
- Add support for calculating the derivative with a Measurements API Filter (Issue [NMS-8210](#))
- Add support for retrieving nodes with a filter expression via the ReST API (Issue [NMS-8211](#))
- External event source tweaks to admin guide (Issue [NMS-8218](#))
- Copyright bump on asciidoc docs (Issue [NMS-8219](#))
- Integrate the Minion container and packages into the mainline OpenNMS build (Issue [NMS-](#)

8225)

- Upgrade SNMP4J to version 2.4 (Issue [NMS-8226](#))
- Topology providers should provide a description for display (Issue [NMS-8238](#))
- Parameterize product name in asciidoc docs (Issue [NMS-8251](#))
- Cleanup testdata in SnmpDetector tests (Issue [NMS-8259](#))
- SNMP collection systemDefs for Cisco ASA5525-X, ASA5515-X (Issue [NMS-8265](#))
- SNMP collection systemDefs for Juniper SRX210he2, SRX100h (Issue [NMS-8266](#))
- Create documentation for SNMP detector (Issue [NMS-8267](#))
- Enable correlation engines to register for all events (Issue [NMS-8271](#))
- Be able to re-order the policies on a requisition through the UI (Issue [NMS-8296](#))
- Implement org.opennms.timeseries.strategy=evaluate to facilitate the sizing process (Issue [NMS-8334](#))
- Set the required fields when not specified while adding events through ReST (Issue [NMS-8336](#))
- Update screenshots with 18 theme in user documentation (Issue [NMS-8349](#))
- Add metric counter for drop counts when the ring buffer is full (Issue [NMS-8365](#))
- Applying some organizational changes on the Requisitions UI (Grunt, JSHint, Dist) (Issue [NMS-8377](#))

## Story

- Cleanup docs modules (Issue [NMS-7940](#))

## Task

- Move the "vaadin-extender-service" module to opennms code base (Issue [NMS-8236](#))

# What's New in OpenNMS 17

## System Requirements

- **Java 8:** OpenNMS 17 requires Java 8 as the runtime environment. To run OpenNMS 17, we recommend the most recent version of Oracle JDK 8 for your platform.
- **PostgreSQL 9.1 or higher:** OpenNMS 17 now requires PostgreSQL 9.1 or higher. All older versions of PostgreSQL are past their end-of-life support date.

## Important Upgrade Notes

- **Clean Up Events and Alarms:** Please clean up your event and alarm lists as much as possible before performing an upgrade to OpenNMS 17. The upgrade process contains a large number of database schema migrations which will cause rewrites of all of the data in some tables. If you prune unused data from these tables beforehand, it will make the upgrade process much quicker.
- **Remote Poller API Change:** Due to internal API changes, the Remote Poller API has changed in OpenNMS 17. If you upgrade to OpenNMS 17, you will also need to upgrade all Remote Pollers attached to the system to version 17 as well.
- **RMI Security Updates:** Since OpenNMS 16.0.4, the RMI registry has been changed to only listen on localhost by default. Starting in OpenNMS 17, it also now requires authentication using an OpenNMS administrator account.
- **JMX Updates:** JMX is no longer enabled by default on port 18980. If you have reason to access your OpenNMS instance remotely over JMX, you can reenabling it by adding `-Dcom.sun.management.jmxremote.port=18980` and `-Dcom.sun.management.jmxremote.ssl=false` to `ADDITIONAL_MANAGER_OPTIONS` in `$OPENNMS_HOME/etc/opennms.conf`. Note that OpenNMS-JVM monitoring of the local instance (ie, localhost) will still work by using the JMX Access API, without needing to enable the TCP port.

## API Changes

- Monitoring locations for the Remote Poller are now viewed and configured in the UI under `/locations/index.jsp`. Monitoring locations were previously configured in the `etc/monitoring-locations.xml` file but are now stored in `monitoringlocations` database table.
- All data previously in the `location_monitors` table is now in the `monitoringsystems` table.
- The `ifIndex` column has been removed from the `ipInterface` table. To fetch the `ifIndex`, you need to join to the `snmpInterface` table by `nodeId`.
- The `nodeId` and `ipAddr` columns have been removed from the `ifServices` table. To fetch these columns, you need to join to the `ipInterface` table.
- The `nodeId`, `ipAddr` and `serviceId` columns have been removed from the `outages` table. To fetch these columns, you need to join to the `ifServices` table.

# New Features

- **Newts Storage for Data Collection:** In addition to RRD and JRobin, OpenNMS 17 data collection now supports our [Newts](<http://opennms.github.io/newts/>) time-series data store that uses the highly-scalable Apache Cassandra database as the storage backend. This storage solution provides higher performance than the file-based RRD and JRobin databases and practically unlimited scalability when using a cluster of Cassandra nodes. You can drastically reduce CPU and storage load on your OpenNMS system and increase the number of metrics stored per second by using the Newts storage engine.
- **Measurements REST API Filtering:** The measurements REST API now supports the use of arithmetic filters on the returned datasets. This allows you to perform calculations or statistical operations on the data via server-side processing.
- **Grafana Panel:** An optional panel has been added to the UI to allow you to integrate links to Grafana graphs in the UI.
- **Streamlined UI Style:** The style of the UI has been refined to provide a clearer, more modern look-and-feel.
- **Alarm Heatmap:** A heatmap visualization has been added that lets you quickly visualize alarm status and outages within a category or on a node.
- **FreeIPA Kerberos Authentication:** We've added a sample configuration for FreeIPA Kerberos SSO to our [jetty-webapps/opennms/WEB-INF/spring-security.d](#) directory.
- **JMX Configuration UI and CLI:** The JMX Configuration web UI and CLI have been rewritten to make it easier to generate complex JMX data collection configurations.
- **JMS Alarm Northbinder:** The implementation of a JMS northbinder for sending OpenNMS Alarms to external JMS listeners has been completed. Thanks to David Schlenk (@dschlenk) for this contribution!
- **OTRS 3.1+ Ticketing Integration:** Our OTRS ticketing integration has been updated to work with the API in OTRS 3.1 and higher. Thanks to Jonathan Sartin (@blackpoplar) for this contribution!
- **Easier Remote Poller Configuration:** Monitoring locations can now be associated with multiple polling and collection packages. This can make some Remote Poller scenarios easier to configure.

# Dependency Updates

- Jasper Reports has been upgraded from 5.6.1 to 6.1.1.

# Events

- A10 AX Load Balancer
- Avocent DSView
- Dell Force 10
- Evertz 7800FR Multiframe

- 7880-IP-ASI-IP
- 7881-DEC-MP2
- 7780-ASI-IP2
- Infoblox
- ~50 new NetApp Events
- Raytheon NXU-2A

Thanks to Marcel Fuhrmann (@mfuhrmann) and Cyrille Bollu (@StCyr).

## Data Collection

- Fortinet Fortigate
- Sonicwall

Thanks to Marcel Fuhrmann (@mfuhrmann) and Cyrille Bollu (@StCyr).

## Retired Features

- **Linkd**: Linkd was the original implementation of the link scanning daemon for OpenNMS. It has been superseded by Enhanced Linkd (Enlinkd) in OpenNMS 14 and higher. Linkd has been removed as of OpenNMS 17.
- **SVG Maps**: The SVG map feature relied on Linkd's code for drawing links between items on the map so it was also removed in OpenNMS 17.
- **Xmlrpcd**: Xmlrpcd was a daemon that relayed inventory and polling events to an external system over the XML-RPC protocol. Because you can accomplish almost all of its use cases by using the provisioning REST service, it has been removed.
- **MX4J**: The MX4J HTTP interface has been removed in favor of using more modern JMX access methods that have been added in recent versions of the JVM.

## Internal Updates

- The Enlinkd link scanning code and topology code have been updated to provide higher performance.
- The resource API for data storage has undergone heavy refactoring to provide changes necessary to support Newts.
- The Jasper and statsd reports have been changed so that they use a new unified interface for fetching data from either RRD, JRobin, or Newts.
- The Discovery engine has been refactored into its own project.
- The REST interface has been refactored to be based on Apache CXF 3.1.4.
- The Dashboard has been rewritten using the Vaadin toolkit to modernize its look-and-feel.
- The `opennms-assemblies/jmx-config-generator-onejar` project has been moved to `features/jmx-`



## Documentation

- Introducing installation guide for Debian, CentOS and Windows-based systems.
- Introducing installation guide for Newts.
- Documentation for JasperReports for using the Measurements ReST API added to the admin guide.
- Documentation for Enhanced Linkd daemon configuration and collected information for Bridge-MIB discovery, LLDP, CDP, OSPF and IS-IS added to the admin guide.
- Documentation for how to deal with SSL in Java and Jetty added to the admin guide.

[GNU Affero General Public License 3.0](#)

## Changelog

### Release 17.1.1

Release 17.1.1 is the latest stable release of OpenNMS. It contains a number of bug fixes and a few other changes. For a high-level overview of what's changed in OpenNMS 17, see [major changes in OpenNMS 17](#).

The codename for 17.1.1 is *Glenmorangie*.

### Enhancement

- Allow send events through ReST (Issue [NMS-6404](#))
- Create pull request and contribution template to GitHub project (Issue [NMS-8148](#))

### Task

- Remove all jersey artifacts from lib classpath (Issue [NMS-8151](#))

### Bug

- Chart Servlet Outages model exception (Issue [NMS-7936](#))
- Groups config rolled back after deleting a user in web UI (Issue [NMS-8010](#))
- Adding `com.sun.management.jmxremote.authenticate=true` on `opennms.conf` is ignored by the `opennms` script (Issue [NMS-8034](#))
- `org.hibernate.exception.SQLGrammarException` with ACLs on V17 (Issue [NMS-8048](#))
- `vacuumd-configuration.xml` — Database error executing statement (Issue [NMS-8075](#))
- Overview about major releases in the release notes (Issue [NMS-8113](#))
- Can't modify the Foreign ID on the Requisitions UI when adding a new node (Issue [NMS-8153](#))
- When altering the SNMP Trap NBI config, the externally referenced mapping groups are



persisted into the main file. (Issue [NMS-8159](#))

- Tooltips are not working on the new Requisitions UI (Issue [NMS-8161](#))
- OutageDao ACL support is broken causing web UI failures (Issue [NMS-8165](#))
- Install guide should use postgres admin for schema updates (Issue [NMS-8177](#))
- Allows state names to be configured in the JIRA Ticketer Plugin (Issue [NMS-8199](#))

## Release 17.1.0

Release 17.1.0 is the latest stable release of OpenNMS. It contains a number of important bug fixes and a few new features. For a high-level overview of what's changed in OpenNMS 17, see [major changes in OpenNMS 17](#).

The codename for 17.1.0 is *Talisker*.

### New Features

- Support for [Web Services-Management](#) protocol for collecting performance data and monitoring status ([HZN-583](#), [HZN-584](#))
- Expose the Northbound Interfaces configuration through ReST ([HZN-570](#))
- Northbound interface for E-Mail ([HZN-565](#))
- Northbound implementation for SNMP Traps ([HZN-564](#))
- AMQP Northbound Integration ([HZN-537](#))
- Provide a tool for importing existing .rrd / .jrb metrics into Newts ([HZN-344](#))

### Enhancements

- Add more flexibility to the syslog alarm northbound implementation ([HZN-563](#))
- Define optional event parameters on the event definition ([HZN-551](#))
- Create upgrade script for service-configuration.xml ([HZN-545](#))
- Expose SNMP4J 2.x noGetBulk and allowSnmpV2cInV1 capabilities (Issue [NMS-7123](#))
- Add threshold comments and whitespace changes to match how the OpenNMS web GUI generates XML files (Issue [NMS-7978](#))
- Add support for using NRTG via Ajax calls (Issue [NMS-8005](#))
- Add support for OSGi-based Ticketing plugins (Issue [NMS-8024](#))
- Add event definition for postfix syslog message TLS disabled (Issue [NMS-8028](#))
- Improve the SNMP data collection config parsing to give more flexibility to the users (Issue [NMS-8030](#))
- set Up severities for RADLAN-MIB.events.xml (Issue [NMS-8042](#))
- Add support for marshalling NorthboundAlarms to XML (Issue [NMS-8068](#))
- Event definition file for JUNIPER-IVE-MIB (Issue [NMS-8071](#))
- Fixed a paragraph in the "Automatic Discovery" provisioning chapter (Issue [NMS-8120](#))

## Bugs

- OTRS integration doesn't properly validate SOAP responses ([HZN-518](#))
- Bad suggestions in install guide (Issue [NMS-4108](#))
- Enlinkd Topology Plugin fails to create LLDP links for mismatched link port descriptions. (Issue [NMS-7152](#))
- snmp-graph.properties.d files with --vertical-label="verticalLabel" in config (Issue [NMS-7820](#))
- Incorrect host in Location header when creating resources via ReST (Issue [NMS-7866](#))
- config-tester is broken (Issue [NMS-7910](#))
- Opsboard and Opspanel use wrong logo (Issue [NMS-7953](#))
- Unable to generate eventconf if a MIB (improperly?) uses a TC to define a TC (Issue [NMS-7966](#))
- container features.xml still references jersey 1.18 when it should reference 1.19. (Issue [NMS-7988](#))
- Topology-UI shows CDP links not correct (Issue [NMS-8000](#))
- Backshift graphs show dates in UTC instead of the browser's timezone (Issue [NMS-8014](#))
- StrafePing: Unexpected exception while polling PollableService (Issue [NMS-8017](#))
- Grafana Box did not work anymore (Issue [NMS-8023](#))
- Constant Thread Locking on Enlinkd (Issue [NMS-8026](#))
- Wrong use of opennms.web.base-url (Issue [NMS-8029](#))
- NRTG with newts - get StringIndexOutOfBoundsException (Issue [NMS-8038](#))
- The newts script only works if cassandra runs on localhost (Issue [NMS-8051](#))
- AlarmPersisterIT test is empty (Issue [NMS-8054](#))
- The 'newts init' script does work when authentication is enabled in Cassandra (Issue [NMS-8064](#))
- ReST Regression in Alarms/Events (Issue [NMS-8065](#))
- Newts only uses a single thread when writing to Cassandra (Issue [NMS-8066](#))
- User Restriction Filters: mapping class for roles to groups does not work (Issue [NMS-8073](#))
- The "Remove From Focus" button intermittently fails (Issue [NMS-8074](#))
- The OnmsDaoContainer does not update its cache correctly, leading to a NumberFormatException (Issue [NMS-8079](#))
- File not found exception for interfaceSTP-box.jsp on SNMP interface page (Issue [NMS-8084](#))
- Installation Guide Debian Bug Version 17.0.0 (Issue [NMS-8097](#))
- Unable to complete creation of scheduled reports (Issue [NMS-8100](#))
- NPE when persisting data with Newts (Issue [NMS-8103](#))
- init script checkXmlFiles() fails to pick up errors (Issue [NMS-8104](#))
- INFO-severity syslog-derived events end up unmatched (Issue [NMS-8106](#))
- Memory leak when using the BSFDetector (Issue [NMS-8109](#))

- init script "configtest" exit value is always 1 (Issue [NMS-8112](#))
- Heat map Alarms/Categories do not show all categories (Issue [NMS-8116](#))
- WS-MAN has broken ForeignSourceConfigRestService and the requisitions UI doesn't work. (Issue [NMS-8119](#))
- Removing ops boards via the configuration UI does not update the table (Issue [NMS-8123](#))
- JNA ping code reuses buffer causing inconsistent reads of packet contents (Issue [NMS-8126](#))
- Synchronizing a requisition fails (Issue [NMS-8133](#))
- Add all the services declared on Collectd and Pollerd configuration as available services on /opennms/rest/foreignSourceConfig/services (Issue [NMS-8147](#))

## Release 17.0.0

Release 17.0.0 is the latest stable release of OpenNMS. It contains a large number of bug fixes and new features. For a high-level overview of what's changed in OpenNMS 17, see [What's New in OpenNMS 17](#).

The codename for 17.0.0 is *Glen Moray*.

### Enhancements

- Add option to the <service> element in poller-configuration.xml to specify service-specific RRD settings (Issue [NMS-1488](#))
- Additional storeByGroup capabilities (Issue [NMS-1910](#))
- Infoblox events file (Issue [NMS-2362](#))
- Adding SNMP traps for Raytheon NXU-2A (Issue [NMS-3479](#))
- Add A10 AX load balancer trap events (Issue [NMS-4008](#))
- Interactive JMX data collection configuration UI (Issue [NMS-4364](#))
- Add Force10 Event/Traps (Issue [NMS-5016](#))
- Event definition for Juniper screening SNMP traps (Issue [NMS-5071](#))
- events definiton file for DSVIEW-TRAP-MIB (Issue [NMS-5272](#))
- Trap definition files for Evertz Multiframe and Modules (Issue [NMS-5397](#))
- Trap and data collection definitions for Ceragon FibeAir 1500 (Issue [NMS-5398](#))
- New (additional) event file for NetApp filer (Issue [NMS-5791](#))
- New Fortinet datacollection / graph definition (Issue [NMS-6770](#))
- DefaultResourceDao should use RRD-API to find resources (Issue [NMS-7108](#))
- MIB support for Zertico environment sensors (Issue [NMS-7131](#))
- Implement "integration with OTRS-3.1+" feature (Issue [NMS-7191](#))
- Unit tests should be able to run successfully from the start of a compile. (Issue [NMS-7258](#))
- Create a detector for XMP (Issue [NMS-7404](#))

- Remove linkd (Issue [NMS-7520](#))
- Add Juniper SRX flow performance monitoring and default thresholds (Issue [NMS-7553](#))
- Enable real SSO via Kerberos (SPNEGO) and LDAP (Issue [NMS-7614](#))
- Create opennms.properties option to make dashboard the landing page (Issue [NMS-7618](#))
- Get rid of servicemap and servermap database tables (Issue [NMS-7689](#))
- Add support for Javascript-based graphs (Issue [NMS-7700](#))
- Dell Equallogic Events (Issue [NMS-7722](#))
- Persist the CdpGlobalDeviceIdFormat (Issue [NMS-7768](#))
- Add Sonicwall Firewall Events (Issue [NMS-7798](#))
- JMS Alarm Northbounder (Issue [NMS-7805](#))
- DNS Resolution against non-local resolver (Issue [NMS-7821](#))
- Recognize Cisco ASA5580-20 for SNMP data collection (Issue [NMS-7868](#))
- Promote Compass app when mobile browser detected (Issue [NMS-7949](#))
- Document how to configure RRDtool in OpenNMS (Issue [NMS-7986](#))
- nodeSource[] resource ids only work when storeByFs is enabled (Issue [NMS-7711](#))
- Flatten and improve web app style (Issue [NMS-7894](#))
- Document HeatMap ReST services (Issue [NMS-7929](#))
- Cleanup docs modules (Issue [NMS-7940](#))

## Bugs

- odd index "ifservicves\_ipinterfaceid\_idx" in database - typo? (Issue [NMS-5613](#))
- JMX Config Tool CLI is not packaged correctly (Issue [NMS-5946](#))
- Statsd randomly looks for storeByForeignSource rrd (Issue [NMS-6012](#))
- 'Overall Service Availability' bad info in case of nodeDown / nodeUp transition (Issue [NMS-6478](#))
- Running online report "Response Time Summary for node" produces Unexpected Error (Issue [NMS-6493](#))
- Outdated Quartz URL in provisiond-configuration.xml file (Issue [NMS-6555](#))
- Not evaluating threshold for data collected by HttpCollector (Issue [NMS-6803](#))
- test failure: org.opennms.web.alarm.filter.AlarmRepositoryFilterTest (Issue [NMS-6927](#))
- test failure: org.opennms.web.svclayer.DefaultOutageServiceIntegrationTest (Issue [NMS-6942](#))
- When building the "Early Morning Report" I get a "null" dataset argument Exception. (Issue [NMS-6944](#))
- Early Morning Report will not run correctly without any nodes in OpenNMS (Issue [NMS-7000](#))
- Availability by node report needs a "No Data for Report" Section (Issue [NMS-7001](#))
- Event Translator cant translate events with update-field data present (Issue [NMS-7024](#))
- Topology Map does not show selected focus in IE (Issue [NMS-7095](#))

- MigratorTest fails on two of the 3 tests. (Issue [NMS-7254](#))
- Inconsistent naming in Admin/System Information (Issue [NMS-7407](#))
- Fonts are too small in link detail page (Issue [NMS-7411](#))
- Fix header and list layout glitches in the WebUI (Issue [NMS-7417](#))
- Dashboard node status shows wrong service count (Issue [NMS-7459](#))
- XML Collector is not working as expected for node-level resources (Issue [NMS-7516](#))
- build failure in opennms-doc/guide-doc on FreeBSD (Issue [NMS-7600](#))
- etc folder still contains references to capsd (Issue [NMS-7649](#))
- Vaadin dashboard meaning of yellow in the surveillance view (Issue [NMS-7667](#))
- Audiocodes.events.xml overrides RMON.events.xml (Issue [NMS-7679](#))
- JMX Configuration Generator admin page fails (Issue [NMS-7680](#))
- Example Drools rules imports incorrect classes (Issue [NMS-7693](#))
- Logging not initialized but used on Drools Rule files. (Issue [NMS-7695](#))
- Problems on graphs for 10 gigabit interface (Issue [NMS-7702](#))
- Database Report - Statement correction (Issue [NMS-7703](#))
- Building OpenNMS results in a NullPointerException on module "container/features" (Issue [NMS-7709](#))
- SQLException: column "nodeid" does not exist when using manage/unmanage services (Issue [NMS-7723](#))
- Add support for jrrd2 (Issue [NMS-7728](#))
- Log messages for the Correlation Engine appear in manager.log (Issue [NMS-7729](#))
- bug in EventBuilder method setParam() (Issue [NMS-7736](#))
- Unit tests fail for loading data collection (Issue [NMS-7739](#))
- SeleniumMonitor with PhantomJS driver needs gson JAR (Issue [NMS-7748](#))
- Cannot edit some Asset Info fields (Issue [NMS-7750](#))
- c.m.v.a.ThreadPoolAsynchronousRunner:  
com.mchange.v2.async.ThreadPoolAsynchronousRunner\$DeadlockDetector@59804d53 — APPARENT DEADLOCK!!! Creating emergency threads for unassigned pending tasks! (Issue [NMS-7755](#))
- noSuchObject duplicates links on topology map (Issue [NMS-7762](#))
- Error when you drop sequence vulnnxtid (Issue [NMS-7764](#))
- Incorrect unit divisor in LM-SENSORS-MIB graph definitions (Issue [NMS-7766](#))
- HttpRemotingContextTest is an integration test and needs to be renamed as such (Issue [NMS-7770](#))
- Fix unit tests to run also on non-US locale systems. (Issue [NMS-7771](#))
- JMX Configuration Generator (webUI) is not working anymore (Issue [NMS-7772](#))

- node detail page failure (Issue [NMS-7777](#))
- Measurements ReST API broken in develop (CXF) (Issue [NMS-7778](#))
- OSGi-based Web Modules Not Accessible (Issue [NMS-7785](#))
- OSGi-based web applications are unaccessible (Issue [NMS-7791](#))
- Cannot load events page in 17 (Issue [NMS-7794](#))
- JSON Serialization Broken in REST API (CXF) (Issue [NMS-7802](#))
- Queued RRD updates are no longer promoted when rendering graphs (Issue [NMS-7814](#))
- The DataCollectionConfigDao returns all resource types, even if they are not used in any data collection package. (Issue [NMS-7816](#))
- Measurements ReST API Fails on strafeping (Issue [NMS-7818](#))
- Requesting IPv6 resources on measurements rest endpoint fails (Issue [NMS-7819](#))
- Remove Access Point Monitor service from service configuration (Issue [NMS-7822](#))
- The reload config for Collectd might throws a ConcurrentModificationException (Issue [NMS-7824](#))
- Exception in Vacuumd because of location monitor changes (Issue [NMS-7826](#))
- NPE on "manage and unmanage services and interfaces" (Issue [NMS-7828](#))
- Smoke tests failing because OSGi features fail to install: "The framework has been shutdown" (Issue [NMS-7834](#))
- "No session" error during startup in EnhancedLinkdTopologyProvider (Issue [NMS-7835](#))
- KIE API JAR missing from packages (Issue [NMS-7836](#))
- Counter variables reported as strings (like Net-SNMP extent) are not stored properly when using RRDtool (Issue [NMS-7839](#))
- Some database reports are broken (ResponseTimeSummary, etc.) (Issue [NMS-7844](#))
- New Provisioning UI: 401 Error when creating a new requisition (Issue [NMS-7845](#))
- Slow LinkdTopologyProvider/EnhancedLinkdTopologyProvider in bigger enviroments (Issue [NMS-7846](#))
- Graph results page broken when zooming (Issue [NMS-7847](#))
- Parameter descriptions are not shown anymore (Issue [NMS-7848](#))
- UnsupportedOperationException when using the JMXSecureCollector (Issue [NMS-7852](#))
- distributed details page broken (Issue [NMS-7855](#))
- Default log4j2.xml has duplicate syslogd appender, missing statsd entries (Issue [NMS-7856](#))
- Cisco Packets In/Out legend label wrong (Issue [NMS-7857](#))
- Enlinkd CDP code fails to parse hex-encoded IP address string (Issue [NMS-7858](#))
- IpNetToMedia Hibernate exception in enlinkd.log (Issue [NMS-7861](#))
- Duplicate Drools engines can be registered during Spring context refresh() (Issue [NMS-7867](#))
- PageSequenceMonitor broken in remote poller (Issue [NMS-7870](#))



- The remote poller doesn't write to the log file when running in headless mode (Issue [NMS-7874](#))
- Distributed response times are broken (Issue [NMS-7875](#))
- HttpClient ignores socket timeout (Issue [NMS-7877](#))
- RTC Ops Board category links are broken (Issue [NMS-7884](#))
- Remedy Integration: the custom code added to the Alarm Detail Page is gone. (Issue [NMS-7890](#))
- LazyInitializationException when querying the Measurements API (Issue [NMS-7893](#))
- Statsd PDF export gives class not found exception (Issue [NMS-7897](#))
- Deadlocks on Demo (Issue [NMS-7899](#))
- JMX Configgenerator Web UI throws NPE when navigating to 2nd page. (Issue [NMS-7900](#))
- Incorrect Fortinet System Disk Graph Definition (Issue [NMS-7901](#))
- Pages that contain many Backshift graphs are slow to render (Issue [NMS-7902](#))
- The default location for the JRRD2 JAR in rrd-configuration.properties is wrong. (Issue [NMS-7907](#))
- Missing dependency on the rrdtool RPM installed through yum.postgresql.org (Issue [NMS-7909](#))
- Alarm detail filters get mixed up on the ops board (Issue [NMS-7917](#))
- Startup fails with Syslogd enabled (Issue [NMS-7921](#))
- FasterFilesystemForeignSourceRepository is not working as expected (Issue [NMS-7926](#))
- Heat map ReST services just produce JSON output (Issue [NMS-7930](#))
- ClassNotFoundException JRrd2Exception (Issue [NMS-7935](#))
- HeatMap ReST Xml output fails (Issue [NMS-7939](#))
- Apache CXF brakes the ReST URLs for nodes and requisitions (because of service-list-path) (Issue [NMS-7942](#))
- Jersey 1.14 and 1.5 jars mixed in lib with Jersey 1.19 (Issue [NMS-7944](#))
- Incorrect attribute types in cassandra21x data collection package (Issue [NMS-7945](#))
- Bad substitution in JMS alarm northbounder component-dao wiring (Issue [NMS-7948](#))
- Bouncycastle JARs break large-key crypto operations (Issue [NMS-7959](#))
- Missing graphs in Vaadian dashboard when storeByFs=true (Issue [NMS-7962](#))
- JSoup doesn't properly parse encoded HTML character which confuses the XML Collector (Issue [NMS-7963](#))
- MBean attribute names are restricted to a specifix max length (Issue [NMS-7964](#))
- Auto-discover is completely broken - Handling newSuspect events throws an exception (Issue [NMS-7968](#))
- JMS alarm northbounder always indicates message sent (Issue [NMS-7969](#))
- Querying the ReST API for alarms using an invalid alarmId returns HTTP 200 (Issue [NMS-7972](#))
- The ICMP monitor can fail, even if valid responses are received before the timeout (Issue [NMS-7974](#))

- JMX Configuration Generation misbehavior on validation error (Issue [NMS-7977](#))
- The ReST API code throws exceptions that turns into HTTP 500 for things that should be HTTP 400 (Bad Request) (Issue [NMS-7981](#))
- New servers in install guide (Issue [NMS-7985](#))
- Background of notifications bell icon is too dark (Issue [NMS-7997](#))
- Provisiond default setting does not allow to delete monitoring entities (Issue [NMS-7998](#))
- Upgrade to commons-collections 3.2.2 (Issue [NMS-7999](#))
- NPE in JMXDetector (Issue [NMS-8001](#))
- Iplike could not be installed following install guide (Issue [NMS-8004](#))



# What's New in OpenNMS 16

Since OpenNMS 15, many features have been refactored to increase modularity of the OpenNMS code. New reporting capabilities have also been added to support integration with external graphing engines such as Grafana.

## Java 8

All build and dependency issues with Java 8 have been resolved and now OpenNMS 16 requires Java 8 as the runtime environment. To run OpenNMS 16, we recommend the most recent version of Oracle JDK 8 for your platform.

## Capsd Has Been Removed

The legacy capability scanner, Capsd, has been removed from OpenNMS. It was deprecated in OpenNMS 1.12 and disabled by default in OpenNMS 14 in favor of the provisioning systems of OpenNMS. The Capsd code has now been removed completely which will enable us to streamline the data access code of OpenNMS. This will make the system easier to maintain and may improve performance down the road.

## Linkd is Deprecated

The original link scanning daemon, Linkd, has been superseded by Enhanced Linkd since it was introduced in OpenNMS 15. Enhanced Linkd is a refactored replacement that is more efficient than the original Linkd code. Linkd is disabled by default in OpenNMS 15 and 16 and we consider it deprecated. The code for Linkd will be removed completely in OpenNMS 17. All users should migrate over to using Enhanced Linkd as a replacement.

## API Changes

Several classes changed location in OpenNMS 16 and these changes may require you to update configuration files or scripts with the new names.

- The **IndexStorageStrategy** and **PersistAllSelectorStrategy** classes moved into the **org.opennms.netmgt.collection.support** Java package. These classes are heavily referenced in data collection configuration files. There is an upgrade task that should update all data collection files when you run the **install** command after upgrading OpenNMS.
- All **EventUtils** class methods were consolidated inside the **org.opennms.netmgt.model.events.EventUtils** class.

## New Features

- There is a new REST service that can be used to export performance data. This service can be used to easily export OpenNMS metrics into external graphing engines such as Grafana. See the REST API documentation for details.

# Dependency Updates

A number of internal libraries have been upgraded for bugfixes and new features. None of these updates should require configuration changes.

- Spring has been upgraded from 3.2.9 to 4.0.5.
- Spring Security has been upgraded from 3.1.7 to 3.2.7.
- Drools has been upgraded from 5.1.1 to 6.0.1.
- Apache Camel has been upgraded from 2.13.2 to 2.14.1.
- Smack (used for XMPP notifications) has been upgraded from 3.0.4 to 4.0.6.
- The webapp schemas have all been updated to the Servlet 3.0 specification.

## Internal Updates

Various parts of the OpenNMS system were rewritten in OpenNMS 16 to improve maintainability or performance of the code.

- The JMX detector, monitor, and collector were refactored for modularity.
- The Dashboard was rewritten using the Vaadin UI toolkit to improve and modernize its look-and-feel.
- Bean Scripting Framework (BSF) notifications and the BSFMonitor were optimized and are now much more efficient. (Thanks to David Schlenk for this contribution!)
- RTC, which calculates the availability percentages for the category panel on the main page, was rewritten using Spring for initialization and using database calls to perform availability calculations. This will improve its maintainability.
- The web controllers for provisioning, RANCID integration, reports, the node list, and Remote Poller administration were rewritten to modernize their code.
- The REST portion of the OpenNMS webapp was modularized into its own project.
- The web UI service layer was separated from the main web UI to improve modularity.

[GNU Affero General Public License 3.0]: <http://www.gnu.org/licenses/agpl-3.0.html>

## Changelog

### Release 16.0.4

Release 16.0.4 is the latest stable release of OpenNMS. It contains a number of bugfixes, including a change to help mitigate remote attacks over RMI.

As of this release, RMI listens only on localhost by default. This can be overridden by setting the property `opennms.poller.server.serverHost=<hostname or IP>` in `opennms.conf` or `opennms.properties`.

The old behavior can be restored by setting the property to: `opennms.poller.server.serverHost=0.0.0.0`.

The codename for 16.0.4 is *Doorman*.

## Bug

- JMX Config Tool CLI is not packaged correctly (Issue [NMS-5946](#))
- Event Translator cant translate events with update-field data present (Issue [NMS-7024](#))
- Fonts are too small in link detail page (Issue [NMS-7411](#))
- Discovery.Pinger seems to ignore loglevel (Issue [NMS-7509](#))
- Cannot edit some Asset Info fields (Issue [NMS-7750](#))
- c.m.v.a.ThreadPoolAsynchronousRunner:  
com.mchange.v2.async.ThreadPoolAsynchronousRunner\$DeadlockDetector@59804d53 — APPARENT DEADLOCK!!! Creating emergency threads for unassigned pending tasks! (Issue [NMS-7755](#))
- Linkd Not Start and close OpenNMS starting (Issue [NMS-7789](#))
- NPE on "manage and unmanage services and interfaces" (Issue [NMS-7828](#))
- Slow LinkdTopologyProvider/EnhancedLinkdTopologyProvider in bigger enviroments (Issue [NMS-7846](#))
- distributed details page broken (Issue [NMS-7855](#))
- IpNetToMedia Hibernate exception in enlinkd.log (Issue [NMS-7861](#))
- HttpClient ignores socket timeout (Issue [NMS-7877](#))
- XML data collection with JSON handler fails (Issue [NMS-7885](#))
- Statsd PDF export gives class not found exception (Issue [NMS-7897](#))
- Deadlocks on Demo (Issue [NMS-7899](#))
- JMX Configgenerator Web UI throws NPE when navigating to 2nd page. (Issue [NMS-7900](#))
- Alarm detail filters get mixed up on the ops board (Issue [NMS-7917](#))
- Exception Decoding LLDP ChassisId When type is NetworkAddress (Issue [NMS-7931](#))
- Bouncycastle JARs break large-key crypto operations (Issue [NMS-7959](#))
- Jsoup doesn't properly parse encoded HTML character which confuses the XML Collector (Issue [NMS-7963](#))
- RMI should only bind to localhost by default. (Issue [NMS-7971](#))

## Enhancement

- Interactive JMX data collection configuration UI (Issue [NMS-4364](#))

## Release 16.0.3

Release 16.0.3 is the latest stable release of OpenNMS. It contains a number of bugfixes, including a fix to an NPE that could cause nodes to not show in the topology UI.

The codename for 16.0.3 is *Phillip Fathom*.

## Bug

- IfIndex not updated in ipinterface table on change (Issue [NMS-6567](#))
- build failure in opennms-doc/guide-doc on FreeBSD (Issue [NMS-7600](#))
- Log messages for the Correlation Engine appear in manager.log (Issue [NMS-7729](#))
- SeleniumMonitor with PhantomJS driver needs gson JAR (Issue [NMS-7748](#))
- The command /opt/opennms/bin/ilr doesn't work (Issue [NMS-7760](#))
- nodeCategoryChanged event on already-down node makes extra nodeDown events (Issue [NMS-7761](#))
- noSuchObject duplicates links on topology map (Issue [NMS-7762](#))
- OpenNMS won't start anymore with 512MB of Heap Size (Issue [NMS-7783](#))
- Some weak cipher suites allowed in example jetty.xml HTTPS config (Issue [NMS-7812](#))
- The reload config for Collectd might throws a ConcurrentModificationException (Issue [NMS-7824](#))
- KIE API JAR missing from packages (Issue [NMS-7836](#))
- Fix for NMS-6567 prevents interfaces from acquiring SNMP interface records on rescan (Issue [NMS-7838](#))
- Counter variables reported as strings (like Net-SNMP extent) are not stored properly when using RRDtool (Issue [NMS-7839](#))

## Release 16.0.2

Release 16.0.2 is the latest stable release of OpenNMS. It is a repack of 16.0.1 with a missing bugfix included.

The codename for 16.0.2 is ***still Bananaman***. It'll be our secret.

## Release 16.0.1

Release 16.0.1 is the latest stable release of OpenNMS. It contains a few small enhancements and a number of bugfixes, including a fix to running OpenNMS on a system that cannot reach the public Internet.

The codename for 16.0.1 is *Bananaman*.

## Bug

- Dashboard node status shows wrong service count (Issue [NMS-7459](#))
- XML Collector is not working as expected for node-level resources (Issue [NMS-7516](#))
- Vaadin dashboard meaning of yellow in the surveillance view (Issue [NMS-7667](#))
- Web UI doesn't start on system with no internet connection (Issue [NMS-7683](#))
- Missing release notes v16 (Issue [NMS-7685](#))
- Links and missing docs release for Horizon 16 (Issue [NMS-7690](#))

- Example Drools rules imports incorrect classes (Issue [NMS-7693](#))
- Logging not initialized but used on Drools Rule files. (Issue [NMS-7695](#))
- NumberFormatException in LldpUtils (Issue [NMS-7697](#))
- Hibernate exception in AlarmDetailsDashlet (Issue [NMS-7698](#))
- Nodelist page acts unexpectedly when mouse over nodelabel (Issue [NMS-7699](#))
- CSS Dashboard don't work. (Issue [NMS-7701](#))
- Unable to create a user defined label on nodes after upgrade to 16.0.0 (Issue [NMS-7704](#))
- API documentation links are not up to date (Issue [NMS-7708](#))
- NullPointerException in RrdtoolXportFetchStrategy (Issue [NMS-7710](#))
- 'More...' event link on /opennms/element/service.jsp encodes URL incorrectly (Issue [NMS-7714](#))
- output.log flooded with "java.lang.NumberFormatException: For input string" (Issue [NMS-7733](#))

## Enhancement

- Improve drill down workflow for SLA categories on start page (Issue [NMS-7668](#))
- Add links to SLA category on start page (Issue [NMS-7669](#))
- Improve links for SLA categories on start page (Issue [NMS-7713](#))

## Release 16.0.0

Release 16.0.0 is the latest stable release of OpenNMS. It is primarily a refactoring/cleanup release, but contains a number of other bug fixes and enhancements. Note that as of OpenNMS 16.0.0, a Java 8 JDK is required. A high-level overview of what's changed since 15.x is available in the [What's New](#) document.

The codename for 16.0.0 is *Daredevil*.

## Bug

- "24hr Avail" went negative (Issue [NMS-863](#))
- SLM categories totals are not being updated during runtime (Issue [NMS-2213](#))
- Include all plugins in default configuration (Issue [NMS-2637](#))
- When removing nodes from a provisioning group, the removed nodes may still be referenced in KSC reports; thus resulting in errors accessing those reports until the nodes are manually removed (Issue [NMS-4399](#))
- Unable to add custom poller with capsd disabled (Issue [NMS-4924](#))
- Deadlock inside RTC's DataManager during shutdown (Issue [NMS-5631](#))
- The Stp interface box page throws an exception (Issue [NMS-6100](#))
- When displaying Linkd link info on node, ifAlias data in interface columns missing opening quote (Issue [NMS-6158](#))
- NRTG is throwing ConcurrentModificationException (Issue [NMS-6536](#))

- IfIndex not updated in ipinterface table on change (Issue [NMS-6567](#))
- Requisition UI has inconsistent field labels for building the provisioning requisition (Issue [NMS-6568](#))
- linkd can't make use of learned MAC addresses on ports to determine path mapping (Issue [NMS-6583](#))
- sort order interfaces on node page (Issue [NMS-6593](#))
- EnLinkD IS-IS Link discovery fails on Cisco routers (Issue [NMS-6802](#))
- Geomaps are quite slow (Issue [NMS-6902](#))
- Remove Link Status Menu Item (Issue [NMS-6905](#))
- lldpchassisid not properly decoded for DragonWave in Enhanced Linkd Lldp node discovery (Issue [NMS-6912](#))
- test failure: org.opennms.netmgt.provision.detector.SntpDetectorTest (Issue [NMS-6972](#))
- Link Status Provider is still an option for older Linkd Topology Provider (Issue [NMS-6974](#))
- Java 8 build fails some tests (Issue [NMS-7029](#))
- MAC 00:00:00:00:00:00 should be treated as null (Issue [NMS-7089](#))
- IpNetToMedia Table: Manage duplicated ip address (Issue [NMS-7090](#))
- Toggle icons on Node List Page are too small on resolutions greater than Full HD (Issue [NMS-7096](#))
- Geo-Maps running on a server without internet connection breaks the UI for valid nodes. (Issue [NMS-7148](#))
- Alarms dashlet: "ago" and node label columns can overlap when tiled (Issue [NMS-7175](#))
- LLdp link discovery: lldpRemLocalPortNum value 0 (Issue [NMS-7183](#))
- LldpHelper decode exception (Issue [NMS-7184](#))
- Remove the logging directories from the DEB package (Issue [NMS-7192](#))
- Switch direction to zoom in and out in the topology (Issue [NMS-7207](#))
- Change filterfavorites.filter to 'text' SQL data type (Issue [NMS-7251](#))
- Enhanced Linkd inserts wrong Local Port bridge number (Issue [NMS-7294](#))
- Java environment in Debian has to be configured twice (Issue [NMS-7320](#))
- Database Report "Response time by node" Not Working. (Issue [NMS-7337](#))
- IllegalArgumentException on ipnettomediatable (Issue [NMS-7358](#))
- No CDP neighbors on a topological map (Issue [NMS-7362](#))
- ACLs ineffective in geographic map (Issue [NMS-7372](#))
- Unable to display performance data from Host Resource processor table (Issue [NMS-7379](#))
- KSC Reports with non-existing resources generate exceptions on the WebUI (Issue [NMS-7400](#))
- Title information on the node detail page are confusing (Issue [NMS-7410](#))
- Double footer in resource graph page (Issue [NMS-7412](#))

- Normalize the HTTP Host Header with the new HttpClientWrapper (Issue [NMS-7432](#))
- Disabling Notifd crashes webUI (Issue [NMS-7434](#))
- JRB to RRD converter no longer compiles (Issue [NMS-7456](#))
- Reload Collectd and Pollerd Configuration without restart OpenNMS (Issue [NMS-7466](#))
- Path Outage severity is not indicated in Web UI (Issue [NMS-7467](#))
- DrayTek Vigor2820 Series agent bug: zero-length IPAddress instance ID (Issue [NMS-7481](#))
- queued creates its own category for loggings (Issue [NMS-7485](#))
- SNMP version syntax inconsistent across components (Issue [NMS-7518](#))
- Surveillance View configuration is no longer dynamic (Issue [NMS-7531](#))
- EventconfFactoryTest fails with no events eventconf.xml (Issue [NMS-7533](#))
- Vaadin SV on index page not fitting to view (Issue [NMS-7537](#))
- Vaadin:Dashboard SV dashlet no longer indicate context of other dashlets (Issue [NMS-7543](#))
- NPE on admin/notification/noticeWizard/chooseUeis.jsp (Issue [NMS-7549](#))
- Smoke test is failing with the new dashboard (Issue [NMS-7554](#))
- gui and maps does not display lldp and cdp links (Issue [NMS-7563](#))
- Dashboard Auto-Refresh runs JVM out of memory (Full-GC) (Issue [NMS-7570](#))
- The XSD for the SNMP Hardware Inventory Provisioning Adapter is not included on the RPM/DEB packages. (Issue [NMS-7576](#))
- Search by foreignSource or severityLabel doesn't work on Geo Maps (Issue [NMS-7577](#))
- List of service names in the requisition editor should be pulled from the poller configuration instead of capsd (Issue [NMS-7590](#))
- Tog depth for VmwareMonitor and VmwareCimMonitor is wrong (Issue [NMS-7597](#))
- Varbinddecodes are being ignored on Notifications (Issue [NMS-7598](#))
- Some parameters logged out of order since slf4j conversion (Issue [NMS-7603](#))
- Replace PermGen VM arguments with Metaspace equivalents (Issue [NMS-7604](#))
- Remote Poller throws ClassNotFoundException when loading config (Issue [NMS-7610](#))
- RPM dependency for JDK 8 is wrong (Issue [NMS-7615](#))
- Compass can't make a POST request from FILE URLs in some cases (Issue [NMS-7616](#))
- Test failure: org.opennms.netmgt.provision.service.Nms5414Test (Issue [NMS-7617](#))
- Scrolling issue (Issue [NMS-7620](#))
- Memory leak in RTC (Issue [NMS-7622](#))
- The PSM doesn't work with IPv6 addresses if the \${ipaddr} placeholder is used on host or virtual-host (Issue [NMS-7626](#))
- Timeline image links are not working with services containing spaces (Issue [NMS-7629](#))
- Database reports don't run in 16 (Issue [NMS-7630](#))



- Match event params for auto-ack of Notification (Issue [NMS-7631](#))
- include-url doesn't work on poller packages (Issue [NMS-7633](#))
- ClassCastException in BSFNotificationStrategy (Issue [NMS-7634](#))
- Node resources are deleted when provisiond aborts a scan (Issue [NMS-7636](#))
- Default date width in Database Reports is too small (Issue [NMS-7637](#))
- Test failure: testImportAddrThenChangeAddr (Issue [NMS-7640](#))
- The IP Interface page is blank. (Issue [NMS-7641](#))
- The global variable org.opennms.rrd.queuing.category is set to OpenNMS.Queued and should be queued (Issue [NMS-7642](#))
- Test failure: testSerialFailover (Issue [NMS-7643](#))
- Fixing Logging Prefix/Category on several classes (Issue [NMS-7644](#))
- Test failure: tryStatus (Issue [NMS-7645](#))
- XML data collection with HTTP POST requests is not working (Issue [NMS-7650](#))
- Improving exception handling on the XML Collector (Issue [NMS-7651](#))
- Vaadin surveillance view configuration doesn't work with Firefox (Issue [NMS-7657](#))
- Error in Debian/Ubuntu init script (Issue [NMS-7658](#))

## Enhancement

- Add option to turn off snmp v3 passphrase clear text in log files (Issue [NMS-1504](#))
- Trapd is not able to process SNMPv3 INFORMs (Issue [NMS-2995](#))
- XMPP: Make SASL mechanism configurable (Issue [NMS-4619](#))
- Set vertex to focal point (Issue [NMS-6442](#))
- Drools Update to 6.0.1 Final (Issue [NMS-6581](#))
- PATCH — Bridgewave Wireless Bridge (Issue [NMS-6963](#))
- Move RTC over to Spring and Hibernate (Issue [NMS-7146](#))
- Be able to set the rescanExisting flag when defining a scheduler task on provisiond-configuration.xml (Issue [NMS-7229](#))
- add Siemens HiPath 3000 event files (Issue [NMS-7310](#))
- add Siemens HiPath 3000 HG1500 event files (Issue [NMS-7311](#))
- add Siemens HiPath 8000 / OpenScapeVoice event files (Issue [NMS-7312](#))
- Move notification status indicator to header (Issue [NMS-7318](#))
- Add pathOutageEnabled="false" to poller-configuration.xml by default (Issue [NMS-7424](#))
- Change varchar to text for CDP and LLDP tables (Issue [NMS-7441](#))
- Update Smack API (Issue [NMS-7453](#))
- Update asciidoctor maven plugin from 1.5.0 to 1.5.2 (Issue [NMS-7461](#))
- Remove Capsd from OpenNMS (Issue [NMS-7473](#))



- Modify WebDetector/Monitor/Plugin/Client to expose ability to enable/disable certificate validation (Issue [NMS-7474](#))
- Add support for gzip compression on REST APIs (Issue [NMS-7476](#))
- Allow RRD data to be retrieved via REST (Issue [NMS-7479](#))
- Make resource data accessible through ReST (Issue [NMS-7480](#))
- The DefaultResourceDao loads all child resources when retrieving a specific resource by id (Issue [NMS-7505](#))
- Use the default threshold definition as a template when adding TriggeredUEI/RearmedUEI on thresholds through the WebUI (Issue [NMS-7528](#))
- Remove unnecessary output from opennms-doc module (Issue [NMS-7579](#))
- BSFMonitor creates a new BSFManager every poll which makes caching script engines ineffective (Issue [NMS-7593](#))
- SNMP interface RRD migrator should create and clean up backups interface-wise (Issue [NMS-7595](#))
- Create a ReST API to expose the available detectors/policies/categories/assets/services required to manipulate foreign sources (Issue [NMS-7609](#))
- Need upgrade task for collection strategy classes (Issue [NMS-7612](#))
- Create opennms.properties option to choose between new and old dashboard (Issue [NMS-7619](#))
- Deprecation of LinkD (Issue [NMS-7632](#))

## Story

- Allow user to create and modify surveillance views (Issue [NMS-7299](#))
- Migrate Surveillance view GWT UI component to Vaadin (Issue [NMS-7303](#))
- Migrate Alarms GWT UI component to Vaadin (Issue [NMS-7304](#))
- Migrate Notifications GWT UI component to Vaadin (Issue [NMS-7305](#))
- Migrate Node Status component from GWT to Vaadin (Issue [NMS-7306](#))
- Migrate Resource Graph Viewer component from GWT to Vaadin (Issue [NMS-7307](#))
- Update user documentation (Issue [NMS-7323](#))
- Allow user to select surveillance view in the Dashboard (Issue [NMS-7325](#))
- Remove the GWT dashboard from the code base (Issue [NMS-7326](#))
- Remove "report-category" attribute (Issue [NMS-7429](#))
- Add surveillance view's name in the left header cell (Issue [NMS-7430](#))
- Add an option to disable "refreshing" (Issue [NMS-7431](#))
- Add preview window in config UI (Issue [NMS-7469](#))
- Icons for alarms and notifications (Issue [NMS-7489](#))
- Modal window to show node, alarm and notification details (Issue [NMS-7490](#))
- Admin configuration panel shows dashboard instead of surveillance view (Issue [NMS-7491](#))

- Allow to configure refresh time per surveillance view (Issue [NMS-7492](#))
- Rename the surveillance config panel link in Admin menu (Issue [NMS-7530](#))
- Dashboard Dashlet: Refresh indicator (Issue [NMS-7540](#))
- Vaadin Dashboard: Alarm Dashlet should have severity sorting by default (Issue [NMS-7542](#))

# OpenNMS 15

Since OpenNMS 14, a number of backend architectural changes have occurred, as well as a UI rewrite.

## Java 7 and 8

OpenNMS 14 dropped support for Java 6, which has been EOL'd for some time now. OpenNMS 15 requires Java 7 or higher to run.

Note that **building** under Java 8 still has some known issues. It is strongly recommended that you build and run under Java 7 until Java 8 has had enough time to be well-tested.

## Core Updates

As always, many updates and cleanups have been made to the OpenNMS core, through refactoring, addition of unit tests, and other code modernization.

- A few subsystems have been updated to run properly under OSGi.
- A large number of places where we were still using JDBC calls have been converted to use our DAO infrastructure and Hibernate.
- The OpenNMS ReST APIs now support CORS properly to aid in writing web applications that consume or update OpenNMS data.

## Events

New or updated trap definitions have been added for the following classes of devices:

- Citrix NetScaler
- Mikrotik RouterOS
- OpenSSH syslog events
- Procmail syslog events
- Postfix syslog events
- Siemens HiPath
- Veeam Backup/Replication

## Web UI and APIs

- The Jetty container has been upgraded to use Jetty 8.
- The entire web UI has been updated to use bootstrap themeing. While our initial implementation was designed to match the existing OpenNMS UI as much as possible, this now makes it MUCH easier to improve the UI more rapidly going forward.

[GNU Affero General Public License 3.0]: <http://www.gnu.org/licenses/agpl-3.0.html> [User Restriction Filters]: [http://www.opennms.org/wiki/User\\_Restriction\\_Filters](http://www.opennms.org/wiki/User_Restriction_Filters) [the Hardware Inventory wiki page]: [http://www.opennms.org/wiki/Hardware\\_Inventory\\_Entity\\_MIB](http://www.opennms.org/wiki/Hardware_Inventory_Entity_MIB)

# Changelog

## Release 15.0.2

Release 15.0.2 is the latest stable release of OpenNMS. It consists of a large number of bugfixes and other small changes included in Meridian 2015.1.0.

The codename for 15.0.2 is *Psychonauts*.

### Sub-task

- Enhance documentation for VmwareCimMonitor (Issue [NMS-7214](#))
- Enhance VmwareCimMonitor (Issue [NMS-7215](#))
- Test the feature in Test environment (Issue [NMS-7216](#))
- Merge feature in develop for release (Issue [NMS-7217](#))

### Bug

- "24hr Avail" went negative (Issue [NMS-863](#))
- The Stp interface box page throws an exception (Issue [NMS-6100](#))
- When displaying Linkd link info on node, ifAlias data in interface columns missing opening quote (Issue [NMS-6158](#))
- EnLinkD IS-IS Link discovery fails on Cisco routers (Issue [NMS-6802](#))
- lldpchassisid not properly decoded for DragonWave in Enhanced Linkd Lldp node discovery (Issue [NMS-6912](#))
- IpNetToMedia Table: Manage duplicated ip address (Issue [NMS-7090](#))
- LLdp link discovery: lldpRemLocalPortNum value 0 (Issue [NMS-7183](#))
- LldpHelper decode exception (Issue [NMS-7184](#))
- Enhanced Linkd inserts wrong Local Port bridge number (Issue [NMS-7294](#))
- Java environment in Debian has to be configured twice (Issue [NMS-7320](#))
- No CDP neighbors on a topological map (Issue [NMS-7362](#))
- 1.12.9-2 rpm install broken (Issue [NMS-7398](#))
- KSC Reports with non-existing resources generate exceptions on the WebUI (Issue [NMS-7400](#))
- Double footer in resource graph page (Issue [NMS-7412](#))
- JRB to RRD converter no longer compiles (Issue [NMS-7456](#))
- opennms-remoting webapp fails due to org.opennms.core.soa classloader issue (Issue [NMS-7464](#))

- Reload Collectd and Pollerd Configuration without restart OpenNMS (Issue [NMS-7466](#))
- Path Outage severity is not indicated in Web UI (Issue [NMS-7467](#))
- DrayTek Vigor2820 Series agent bug: zero-length IPAddress instance ID (Issue [NMS-7481](#))
- Semantic Zoom problems in Topology Map (Issue [NMS-7483](#))
- When adding a new escalation to an existing destination path, the default value for initial delay is null (Issue [NMS-7502](#))
- PageSequenceMonitor HTTP 1.1 traffic is missing host header (Issue [NMS-7503](#))
- OpenNMS should fall back to HTTP/1.0 if virtual-host is not configured. (Issue [NMS-7506](#))
- Timeline renders very slowly with a couple hundred outages (Issue [NMS-7511](#))
- Outages are not getting created (Issue [NMS-7519](#))
- JRobin: Unrecognized graph argument (Issue [NMS-7522](#))
- The 404 handler in the ROOT web-app generates a 500 error (Issue [NMS-7527](#))
- Event replacement items that contain '%' characters in result in broken notification text sometimes (Issue [NMS-7529](#))
- NullPointerException in Notifd JMX Attributes (Issue [NMS-7546](#))
- NPE on admin/notification/noticeWizard/chooseUeis.jsp (Issue [NMS-7549](#))
- linkd topology up/down status inconsistent (Issue [NMS-7550](#))
- DiskUsageMonitor never fails with a non existing disk (Issue [NMS-7551](#))
- Ops Board Configuration "create new board" button stops working. (Issue [NMS-7560](#))
- gui and maps does not display lldp and cdp links (Issue [NMS-7563](#))
- Blank login page in Debian (Issue [NMS-7565](#))
- send-event.pl event datestamp fails to parse where system locale is not English (Issue [NMS-7566](#))
- Lower collectd log severity (Issue [NMS-7575](#))
- Search by foreignSource or severityLabel doesn't work on Geo Maps (Issue [NMS-7577](#))
- Pollerd attempts to create duplicate outages (Issue [NMS-7585](#))
- CORS should be disabled by default (Issue [NMS-7591](#))
- @JUnitTemporaryDatabase tests do not use connection pooling (Issue [NMS-7594](#))
- Print style regression (Issue [NMS-7596](#))
- Varbinddecodes are being ignored on Notifications (Issue [NMS-7598](#))
- Node ReST service cannot update geolocation information (Issue [NMS-7599](#))
- Remote Poller throws ClassNotFoundException Exception when loading config (Issue [NMS-7610](#))
- Compass can't make a POST request from FILE URLs in some cases (Issue [NMS-7616](#))

## Enhancement

- Trapd is not able to process SNMPv3 INFORMs (Issue [NMS-2995](#))

- VMware CIM monitor should be configurable to allow DPM (Issue [NMS-7213](#))
- Update ticket.id after creating a new JIRA issue (Issue [NMS-7470](#))
- Make availability (RTC) data accessible through ReST (Issue [NMS-7478](#))
- Notification wizard client-side filtering of event list (Issue [NMS-7507](#))
- Use the default threshold definition as a template when adding TriggeredUEI/RearmedUEI on thresholds through the WebUI (Issue [NMS-7528](#))

## Release 15.0.1

Release 15.0.1 is the latest stable release of OpenNMS. It consists primarily of bugfixes to the new UI and a fix for some database-related issues that could cause duplicate outages.

The codename for 15.0.1 is *Silpheed*.

### Sub-task

- XmpMonitor (Issue [NMS-6702](#))

### Bug

- Outage timeline does not show all outages in timeframe (Issue [NMS-7331](#))
- Side-menu layout issues in node resources (Issue [NMS-7392](#))
- Outage records are not getting written to the database (Issue [NMS-7394](#))
- Overlapping input label in login screen (Issue [NMS-7395](#))
- Notifications with asset fields on the message are not working (Issue [NMS-7396](#))
- Surveillance box on start page doesn't work (Issue [NMS-7399](#))
- Data Collection Logs in wrong file (Issue [NMS-7403](#))
- Incorrect Availability information and Outage information (Issue [NMS-7406](#))
- Visual issues on the start page (Issue [NMS-7409](#))
- Duplicate copies of bootstrap.js are included in our pages (Issue [NMS-7423](#))
- Poller: start: Failed to schedule existing interfaces (Issue [NMS-7425](#))
- Not monitored services are shown as 100% available on the WebUI (Issue [NMS-7426](#))
- The PageSequenceMonitor is broken in OpenNMS 15 (Issue [NMS-7427](#))
- Normalize the HTTP Host Header with the new HttpClientWrapper (Issue [NMS-7432](#))
- Topology UI takes a long to load after login (Issue [NMS-7433](#))
- Disabling Notifd crashes webUI (Issue [NMS-7434](#))
- The Quick Add Node menu item shouldn't be under the Admin menu (Issue [NMS-7435](#))
- The default log level is DEBUG instead of WARN on log4j2.xml (Issue [NMS-7437](#))
- CORS filter not working (Issue [NMS-7452](#))
- Netscaler systemDef will never match a real Netscaler (Issue [NMS-7454](#))

## Enhancement

- Read port and authentication user from XMP config (Issue [NMS-7419](#))
- Apply the auto-resize feature for the timeline charts (Issue [NMS-7438](#))

## Release 15.0.0

Release 15.0.0 is the latest stable release of OpenNMS. Alongside the usual enhancements and bug fixes, OpenNMS 15 gets a name (Horizon) and starts the process of finally modernizing the web UI. We have completely replaced our existing layout using [Bootstrap](#). While it may look visually similar for now, this puts us on a footing to make better and more frequent UI changes going forward.

The codename for 15.0.0 is *Sundog*.

## Sub-task

- CiscoPingMibMonitor (Issue [NMS-6642](#))
- NetScalerGroupHealthMonitor (Issue [NMS-6674](#))
- merge DocuMerge branch into develop branch (Issue [NMS-7060](#))
- alter documentation deploy step in bamboo to match the new structure (Issue [NMS-7086](#))
- Fix fortinet event typos (fortinet vs fortimail) (Issue [NMS-7164](#))
- Fix UEI names for CitrixNetScaler trap events (Issue [NMS-7238](#))
- Document CORS Support (Issue [NMS-7264](#))

## Bug

- Missing localised time in web pages (Issue [NMS-1956](#))
- Time to load Path Outages page grows with each entry added (Issue [NMS-2358](#))
- Null/blank sysName value causes null/blank node label (Issue [NMS-2580](#))
- Create a HibernateEventWriter to replace JdbcEventWriter (Issue [NMS-3033](#))
- Able to get to non authorised devices via path outages link. (Issue [NMS-3207](#))
- Custom Resource Performance Reports not available (Issue [NMS-3615](#))
- jdbcEventWriter: Failed to convert time to Timestamp (Issue [NMS-3847](#))
- wrong content type in rss.jsp (Issue [NMS-4009](#))
- Paging arrows invisible with firefox on mac (Issue [NMS-4246](#))
- Notification WebUI has issues (Issue [NMS-4493](#))
- Time format on Event webpage is different that on Notices webpage (Issue [NMS-4528](#))
- Installer database upgrade script (install -d) scans every RRD directory, bombs with "too many open files" (Issue [NMS-5057](#))
- RSS feeds are not valid (Issue [NMS-5427](#))



- notifications list breadcrumbs differs from notifications index page (Issue [NMS-5618](#))
- Resource Graphs No Longer Centered (Issue [NMS-5858](#))
- Vaadin Header not consistent with JSP Header (Issue [NMS-6022](#))
- Empty Notification search bug (Issue [NMS-6042](#))
- Map Menu is not listing all maps (Issue [NMS-6472](#))
- Web UI shows not the correct Java version (Issue [NMS-6529](#))
- Problems installing "Testing" on Ubuntu 14.04 (Issue [NMS-6613](#))
- Queued Ops Pending default graph needs rename (Issue [NMS-6826](#))
- Many graph definitions in snmp-graph.properties have line continuation slashes (Issue [NMS-6827](#))
- New Focal Point Topology UI (STUI-2) very slow (Issue [NMS-6894](#))
- Node page availability graph isn't "(last 24 hours)" (Issue [NMS-6917](#))
- WMI collector does not support persistence selectors (Issue [NMS-6924](#))
- test failure: org.opennms.mock.snmp.LLDPmibTest (Issue [NMS-6956](#))
- Requisition list very slow to display (Issue [NMS-6958](#))
- GeoMap polygons activation doesn't accurately reflect cursor location (Issue [NMS-6967](#))
- Navbar in Distributed Map is missing (Issue [NMS-7015](#))
- Local interface not displayed correctly in "Cdp Cache Table Links" (Issue [NMS-7059](#))
- xss in device snmp settings (Issue [NMS-7075](#))
- provision.pl just works if the admin user credentials are used (Issue [NMS-7112](#))
- Message Error in DnsMonitor (Issue [NMS-7115](#))
- Unable to add graph to KSC report (Issue [NMS-7120](#))
- ReST call for outages ends up with 500 status (Issue [NMS-7126](#))
- OpenNMS logo doesn't point to the same file (Issue [NMS-7144](#))
- footer rendering is weird in opennms docs (Issue [NMS-7149](#))
- Add a unit test for NodeLabel.computeLabel() (Issue [NMS-7170](#))
- ie9 does not display any 'interfaces' on a switch node - the tabs are blank (Issue [NMS-7176](#))
- NullPointerException When Querying offset in ReST Events Endpoint (Issue [NMS-7185](#))
- OpenNMS does not eat yellow runs (Issue [NMS-7246](#))
- HTTP 500 errors in WebUI after upgrade to 14.0.2 (Issue [NMS-7270](#))
- WMI changed naming format for wmiLogicalDisk and wmiPhysicalDisk device (Issue [NMS-7277](#))
- Enable WMI Opennms Cent OS box (Issue [NMS-7279](#))
- Non provisioned switches with multiple VLANs generate an error (Issue [NMS-7287](#))
- SNMP configuration shows v1 as default and v2c is set. (Issue [NMS-7322](#))

- Include parts of a configuration doesn't work (Issue [NMS-7330](#))
- Outage timeline does not show all outages in timeframe (Issue [NMS-7331](#))
- Unnecessary and confusing DEBUG entry on poller.log (Issue [NMS-7332](#))
- Switches values retrieved incorrectly in the BSF notification strategy (Issue [NMS-7333](#))
- QueryManagerDaoImpl crashes in getNodeServices() (Issue [NMS-7335](#))
- Acknowledging alarms from the geo-map is not working (Issue [NMS-7359](#))
- Add/Edit notifications takes too much time (Issue [NMS-7360](#))
- Update Java in OpenNMS yum repos (Issue [NMS-7363](#))
- Octectstring not well stored in strings.properties file (Issue [NMS-7367](#))
- RrdDao.getLastFetchValue() throws an exception when using RRDtool (Issue [NMS-7368](#))
- Authentication defined in XML collector URLs cannot contain some reserved characters, even if escaped. (Issue [NMS-7381](#))
- The hardware inventory scanner doesn't recognize PhysicalClass::cpu(12) for entPhysicalClass (Issue [NMS-7387](#))
- Crash on path outage JSP after DAO upgrade (Issue [NMS-7391](#))

## Enhancement

- header should always contain links for all sections (Issue [NMS-1595](#))
- No link back to node after manually unmanaging services (Issue [NMS-2233](#))
- Group path outages by critical node (Issue [NMS-2359](#))
- Search for nodes by sysObjectID in web UI (Issue [NMS-2582](#))
- Modify results JSP to render multiple columns (Issue [NMS-2694](#))
- Sort the Path Outages by Critical Path Node (Issue [NMS-5079](#))
- Default hrStorageUsed disk space relativeChange threshold only alerts on a sudden *increase of free space*, not a decrease of free space (Issue [NMS-5085](#))
- Add ability to search for nodes by SNMP values like Location and Contact (Issue [NMS-5133](#))
- Upgrade JasperReports 3.7.6 to most recent version (Issue [NMS-5182](#))
- Add link to a node's upstream critical path node in the dependent node's web page (Issue [NMS-5448](#))
- Event definitions: Fortinet (Issue [NMS-6508](#))
- ImapMonitor does not work with nginx (Issue [NMS-6736](#))
- Expose SNMP4j 2.x noGetBulk and allowSnmpV2cInV1 capabilities (Issue [NMS-7123](#))
- showNodes.jsp should show nodes in alphabetical order (Issue [NMS-7157](#))
- Backup Exec UEI contain "http://" in uei (Issue [NMS-7166](#))
- Rename link to configure the Ops Board in the Admin section. (Issue [NMS-7205](#))
- Remove "JMX Config Generator Web UI ALPHA" from stable (Issue [NMS-7206](#))

- Document that user must be in 'rest', 'provision' or 'admin' role for provision.pl to work (Issue [NMS-7228](#))
- Add collection of SNMP MIB2 UDP scalar stats (Issue [NMS-7247](#))
- CORS Support (Issue [NMS-7261](#))
- Improve the speed of the ReST API and Service Layer for the requisitions' repositories. (Issue [NMS-7278](#))
- Enforce selecting a single resource for Custom Resource Performance Reports (Issue [NMS-7308](#))
- Rearrange Node/Event/Alarm/Outage links on bootstrap UI (Issue [NMS-7317](#))
- Add configuration property for protobuf queue size (Issue [NMS-7384](#))
- IpInterfaceScan shouldDetect() method should check for empty string in addition to null string (Issue [NMS-7388](#))

# OpenNMS 14

Since OpenNMS 1.12, a large number of changes have occurred, including architectural updates, major topology UI updates, a completely rewritten Linkd (called Enhanced Linkd), and much more.

## Licensing

As of OpenNMS 14, OpenNMS is now released under the [GNU Affero General Public License 3.0]. It is identical to the GPLv3 OpenNMS was previously licensed under, with the additional caveat that users who interact with OpenNMS software over a network are entitled to receive the source.

## Java 7 and 8

OpenNMS 14 drops support for Java 6, which has been EOL'd for some time now. OpenNMS 14 requires Java 7 or higher to run.

Note that **building** under Java 8 still has some known issues. It is strongly recommended that you build and run under Java 7 until Java 8 has had enough time to be well-tested.

## Logging System Upgrade

Logging has been **completely** revamped in OpenNMS 14. The locations of various log output are much more intuitive, and turning on DEBUG/TRACE for specific subsystems is simpler. The old `log4j.properties` has been superseded by the `log4j2.xml` file.

## Core Updates

As always, many updates and cleanups have been made to the OpenNMS core, through refactoring, addition of unit tests, and other code modernization.

- The embedded Karaf OSGi container has been updated to 2.4.0.
- Many core OpenNMS modules are now capable of being loaded inside an OSGi container.
- A large number of legacy Castor-based classes have been updated to use JAXB instead.
- SNMP4J has been updated to version 2, which provides improved handling of SNMPv3, in addition to a number of other bug fixes and improvements to SNMP handling.
- JRobin graphing has had a number of graphical updates as well as bugfixes.
- The syslog northbounder has been enhanced to be able to do more with alarm data: <http://issues.opennms.org/browse/NMS-5798>
- New or updated monitors:
  - DskTableMonitor: UCD-SNMP-MIB-based monitor for disks with errors
  - HttpPostMonitor: POST data to an HTTP server and evaluate the response headers
  - JolokiaBeanMonitor: monitors a mbean method via the Jolokia agent

LaTableMonitor: UCD-SNMP-MIB-based monitor for load average errors

- LogMatchTableMonitor: UCD-SNMP-MIB-based monitor for log matches
- PrTableMonitor: UCD-SNMP-MIB-based monitor for processes
- TcpMonitor: can now match banners using a ~regex
- WebMonitor: accepts an optional `queryString` parameter for the request

## Utility Updates

- You may now pass `--ifindex` to `send-event.pl` when sending events.
- `provision.pl` can now optionally use the `rescanExisting` flag when performing an import. (See below for details.)
- `runjava` now prefers newer Java versions in `/Library/Java/JavaVirtualMachines` over `/Library/Java/Home` on Mac OS X.

## Events

New or updated trap definitions have been added for the following classes of devices:

- Backup Exec
- Broadcom
- Dell
- D-Link
- Foundry
- Intel (LAN adapters)
- Konica
- Trend Micro

## Data Collection

New or updated collection definitions have been added for the following classes of devices:

- Foundry
- Konica

## Link Discovery

A much more efficient version of `Linkd`, called `Enhanced Linkd` (`Enlinkd`) has been created. Traditionally, `Linkd` could be quite resource-intensive because it kept large amounts of data in memory as it attempted to infer links between devices. `Enlinkd` instead stores link information from each end separately and then correlates them when it's time to draw links on the topological maps. This is much less memory intensive and keeps from using CPU until you are actually need link data.

-

Enlinkd can gather link information from:

- Cisco Discovery Protocol (CDP)
- Cisco VLAN Trunk Protocol (VTP)
- MIB II 802.1D BRIDGE-MIB
- MIB II ipNetToMediaTable
- Intermediate-System-to-Intermediate-System (IS-IS)
- Link Layer Discovery Protocol (LLDP)
- Open Shortest Path First (OSPF)

Note that Enlinkd does **not** support IP Routes discovery, because it is difficult to mine for correct data and sometimes ends up with false positives. The Linkd service has not been removed in OpenNMS 14, so if you still need to generate link data based on IP Routes discovery, you can re-enable Linkd in `service-configuration.xml` and disable the Enlinkd service.

The configuration file for enhanced link scanning is `enlinkd-configuration.xml`.

## Provisioning

- You can now assign a foreign-source to discovered nodes by adding `foreign-source="foo"` to the `discovery-configuration` tag in `$OPENNMS_HOME/etc/discovery-configuration.xml`.
- Categories are now handled better in provisiond, so they do not disappear and then reappear during scan.
- New provisioning adapter: `opennms-snmp-hardware-inventory-provisioning-adapter` A provisioning adapter using the ENTITY-MIB for collecting hardware inventory while doing a provisioning scan. For details, see [the Hardware Inventory wiki page].
- In 1.12 we introduced the `rescanExisting` flag when performing an import. Previously this would allow you to push nodes to Provisiond in batches and trigger imports, and it would only import any **new** nodes that didn't already exist in the database. In OpenNMS 14, this flag has been extended to have 3 choices:
- `true` (default): Import all nodes in the requisition (and remove nodes no longer in the requisition), then perform a scan to apply policies and additional detected services to those nodes.
- `false`: Import all **new** nodes in the requisition, skipping the scan phase.
- `dbonly`: Import all nodes in the requisition (and remove nodes no longer in the requisition), then skip the scan phase.
- The WebDetector can now specify a query string.
- It is now possible to selectively detect services on requisitions based on an IPLIKE match. For more details, see: <http://issues.opennms.org/browse/NMS-6829>

# Web UI and APIs

- Our Vaadin-based UI components have been updated to Vaadin 7, which provides performance improvements and better browser support.
- A new UI for creating JMX datacollection configuration was added. It is reachable from the OpenNMS admin page.
- The node groups in geographical maps now include a donut chart which shows alarm status.
- Many of the Jasper-based reports have been cleaned up and handle cases where there is no data more consistently.
- The node UI now shows a timeline rather than just a percentage in the availability box.
- The event and alarm list UIs now let you save their search constraints for future reuse.
- The notification UI can now sort by severity.
- The outage UI can now sort by a node's foreign source.
- Some ReST services have been cleaned up to provide more consistent output.
- The group ReST service now supports querying the users or categories associated with a group. (ie, </opennms/rest/groups/users/> and </opennms/rest/groups/categories/>)
- The node ReST service now supports manually adding and removing hardware inventory data. For details, see [the Hardware Inventory wiki page].
- The snmp ReST service now supports SNMP v3 configurations.
- The Snmp Configuration by IP UI in the admin page has been improved and now supports SNMP v3 configurations.

## Dashboard

A new dashboard (the "Ops Board") has been added. It allows you to create a custom UI that cycles through interesting monitoring information. The different "boards" which are shown are configurable in the admin page ("Ops Board Config Web UI").

The following dashlets are available:

- Alarms (a list of alarms)
- Alarm Details (a more detailed list of alarms)
- Charts
- Image (embed an arbitrary image)
- KSC Report
- Map (geographical maps)
- RRD (RRD graph of your choice)
- RTC (same as the front page availability view)
- Summary (alarm trends by severity and UEI)
- Surveillance



- Topology (topology maps)
- URL (embed an arbitrary URL)

## Topology Maps

- Per-user browser navigation and UI-selection history is now preserved.
- Enhanced the topology view to include node and alarm data, synced with map selection.
- Alarm, node, and link data can now auto-update without reloading the page.
- The topology UI now supports search.
- Links from Enhanced Linkd will be shown if it is enabled.
- Many other bug fixes, performance updates, and visual enhancements.

## Removals

The `access-point-monitor` and `sms-reflector` projects have been removed from the default OpenNMS build, as they have not been used in production for quite some time, and existed for very specific use cases.

The `acl` project has been removed as well. It was an unfinished attempt at implementing ACLs in OpenNMS which are superseded by the [User Restriction Filters] feature first added in OpenNMS 1.10.x.

[GNU Affero General Public License 3.0]: <http://www.gnu.org/licenses/agpl-3.0.html> [User Restriction Filters]: [http://www.opennms.org/wiki/User\\_Restriction\\_Filters](http://www.opennms.org/wiki/User_Restriction_Filters) [the Hardware Inventory wiki page]: [http://www.opennms.org/wiki/Hardware\\_Inventory\\_Entity\\_MIB](http://www.opennms.org/wiki/Hardware_Inventory_Entity_MIB)

## Changelog

### Release 14.0.3

Release 14.0.3 is the latest stable release of OpenNMS. It provides a few small fixes and enhancements over OpenNMS 14.0.2, and we believe we have truly squashed the wallboard memory leak this time. ;) It also includes an important security fix which affects all previous versions of OpenNMS for CVE-2015-0975, which can provide remote access to local system files. This upgrade is the STRONGLY recommended for all OpenNMS 14.x users. For an overview of the major changes since OpenNMS 1.12.x, see the [What's New in OpenNMS 14](#) page.

The codename for 14.0.3 is *Surge*.

### Bug

- (En)Linkd sends too many logged events re: scanning (Issue [NMS-7252](#))
- Cannot Clear alarms in STUI - Acknowledge works (Issue [NMS-7255](#))
- TopReportPlugin fails on FreeBSD (Issue [NMS-7260](#))

- Authentication in MailTransportMonitor not working (Issue [NMS-7265](#))
- The OpenNMS Web User Interface Has Experienced an Error (Issue [NMS-7266](#))
- Error reading ami-config.xml (Issue [NMS-7269](#))
- Error attempting to get SnmpInterfaces (IpInterfaces) on node page (Issue [NMS-7271](#))
- NullPointerException when selecting KSC reports (Issue [NMS-7274](#))
- linkDown event is confusing users (Issue [NMS-7285](#))
- ConcurrentModificationException thrown when adding/modifying graph templates for resource types that are being used (Issue [NMS-7289](#))
- Authenticated XXE Vulnerability (Issue [NMS-7291](#))
- Authenticated XXE Vulnerability (CVE-2015-0975) (Issue [NMS-7321](#))

## Enhancement

- Datacollection for Terminal Services on W2K8+ (Issue [NMS-4763](#))
- Add WMI data collection and graphs for paging, disk I/O, and total memory (Issue [NMS-6822](#))
- The Wallboard app makes OpenNMS unusable after a few days even if it is not used. (Issue [NMS-7230](#))

## Release 14.0.2

Release 14.0.2 is the latest stable release of OpenNMS. It provides a few small fixes and enhancements over OpenNMS 14.0.1, including a fix for a critical memory leak in the OpenNMS web UI. This upgrade is strongly recommended for all OpenNMS 14.x users. For an overview of the major changes since OpenNMS 1.12.x, see the [What's New in OpenNMS 14](#) page.

The codename for 14.0.2 is *Club-Mate*.

## Sub-task

- Citrix Netscaler trap events (Issue [NMS-7238](#))

## Bug

- Syslog Northbinder throws exceptions on certain alarms (Issue [NMS-6551](#))
- ICMP availability with custom packet size doesn't work with JNI (Issue [NMS-7073](#))
- Node page for a switch or router is unusable with Enhanced Linkd enabled (Issue [NMS-7092](#))
- Vaadin applications show Page Not Found error (Issue [NMS-7130](#))
- The XML Collector is not storing the proper data for node-level resources (Issue [NMS-7186](#))
- The XML Collection Handler is caching the resourceTypes (Issue [NMS-7187](#))
- Edit an existing scheduled outage from node's page doesn't work (Issue [NMS-7190](#))
- The report "Total Bytes Transferred By Interface" is not working with RRDtool (Issue [NMS-7193](#))
- When the DNS name of a discovered node changes, Provisiond doesn't update the node label.

(Issue [NMS-7195](#))

- Null pointer exception removing services from node (Issue [NMS-7218](#))
- Some GWT pages are not working on IE (Issue [NMS-7227](#))
- The downtime model never removes the nodes when it is instructed to do it (Issue [NMS-7231](#))
- XML collector in JSON mode assumes all element content is String (Issue [NMS-7243](#))
- NPE on "manage and unmanage services and interfaces" (Issue [NMS-7245](#))
- Clicking On View Node Link Detailed Info Give java.lang.IllegalArgumentException (Issue [NMS-7250](#))

## Enhancement

- Move the "Add new outage" to the top of the page. (Issue [NMS-7194](#))
- The Wallboard app makes OpenNMS unusable after a few days even if it is not used. (Issue [NMS-7230](#))
- Mikrotik RouterOS trap definitions (Issue [NMS-7237](#))

## Release 14.0.1

Release 14.0.1 is the latest stable release of OpenNMS. It provides a few small fixes and enhancements over OpenNMS 14.0.0. For an overview of the major changes since OpenNMS 1.12.x, see the [What's New in OpenNMS 14](#) page.

The codename for 14.0.1 is *Big Red*.

## Release 14.0.1

### Bug

- WMI collector does not support persistence selectors (Issue [NMS-6924](#))
- "Dashboard" & "Add Node" tabs in the navigation bar doesn't change style when being selected. (Issue [NMS-7150](#))
- debian packages still try to use java 1.5 by default (Issue [NMS-7154](#))
- OpenNMS on Debian Jessie Fails to Install if PostgreSQL is Not Already Configured (Issue [NMS-7155](#))
- When I clicked on "Change Node Label" for modifying node lable it giving the error below. (Issue [NMS-7156](#))
- \$OPENNMS\_HOME/bin/system-report throws a ClassNotFoundException (Issue [NMS-7163](#))
- The WebUI is not showing the resources associated with new resource types added on the fly. (Issue [NMS-7168](#))
- command-line scripts should output to the console (Issue [NMS-7174](#))
- "OpenNMS Disconnect — is the OpenNMS daemon running?" is confusing (Issue [NMS-7177](#))

## Release 14.0.0

Release 14.0.0 is the latest stable release of OpenNMS. It would have been 1.14.0, but we have changed versioning conventions. There are a huge number of bug fixes and changes in this release since the last unstable version, 1.13.4. For an overview of the major changes since OpenNMS 1.12.x, see the [What's New in OpenNMS 14](#) page.

The codename for 14.0.0 is *Cheerwine*.

### Sub-task

- Test installer for Windows 8.1 (Issue [NMS-7021](#))
- Replace GPL'd images of Ops Panel and Vmware Topology Provider (Issue [NMS-7034](#))
- Test installer for Ubuntu 14.04 (Issue [NMS-7071](#))

### Bug

- Convert EventsArchiver to use Hibernate (Issue [NMS-3034](#))
- linkd not showing links between nodes and cisco switches (Issue [NMS-3913](#))
- Postgres database upgrade fails in InstallerDb.databaseSetUser on Windows (Issue [NMS-4041](#))
- Sending notifications causes exception in javamailer if user is missing smtp adress (Issue [NMS-4367](#))
- Provisiond temporarily deletes policy-based surveillance categories from existing nodes when synchronizing (Issue [NMS-5059](#))
- install\_iplike.sh needs explicit DROP FUNCTION if PL/PGSQL sproc already exists / PostgreSQL 9.1 / Ubuntu 11.10+ / Fedora 16+ (Issue [NMS-5212](#))
- Threshold expressions for node-level metrics doesn't work on non SNMP Collectors (Issue [NMS-5219](#))
- File based Provisioning Groups nodes lose historic Service Outage information after manual Synchronization for services added with detectors. (Issue [NMS-5266](#))
- config-tester does not run on a standard Debian install (Issue [NMS-5603](#))
- Adding a node through "Add Node" when filling in the hostname/IP but not Node Name results in a null node name (Issue [NMS-5847](#))
- Collectd is still collecting data from each duplicate IPs after removing the duplicates (Issue [NMS-6226](#))
- Small font size in JRobin graphs after upgrade to 1.12.2 (Issue [NMS-6303](#))
- OpenNMS not starting because of dataSource bean NPE (Issue [NMS-6312](#))
- Remote polling does not work (Issue [NMS-6326](#))
- OpenNMS tested 1.12.1 and 1.12.3-Cannot start OpenNMS with a configured Selenium-Monitor (Issue [NMS-6371](#))
- There's no way to rediscover SNMP properties on a discovered node handled by Provisiond (Issue [NMS-6380](#))

- Missing dependency for provision.pl (Issue [NMS-6395](#))
- Topology Map Internal Error (Issue [NMS-6441](#))
- build failures on master (Issue [NMS-6476](#))
- Graph's legend size is too small after upgrading (Issue [NMS-6501](#))
- Drop-down list for nodes and interfaces on Scheduled Outages UI is not responding when having thousands of nodes. (Issue [NMS-6502](#))
- Topology Page failed to load in IE browser (Issue [NMS-6505](#))
- Logging messages from several daemons appear on uncategorized.log (Issue [NMS-6527](#))
- NRTG is throwing ConcurrentModificationException (Issue [NMS-6536](#))
- Compile needs 5 to 6 runs to get 1.12/master compiled (Issue [NMS-6573](#))
- Linkd Nms17216Test success is order dependent on its tests. (Issue [NMS-6602](#))
- When a node doesn't have a primary IP address, the Geo Map displays "null" for the IP (Issue [NMS-6627](#))
- Remote Poller will not start because of asterisk-java.jar in JNLP JAR list (Issue [NMS-6628](#))
- Topology map crashes (Issue [NMS-6728](#))
- The rescanExisting flag in Provisiond is not working as expected (Issue [NMS-6759](#))
- Exception thrown while running CDP discovery on Enhanced Linkd (Issue [NMS-6774](#))
- Upgrading from 1.8 to 1.12 breaks the scheduled reports generated through the WebUI (Issue [NMS-6775](#))
- RemotePollerAvailabilityRestServiceTest has midnight timing issues (Issue [NMS-6779](#))
- NoClassDefFoundError: Could not initialize class sun.reflect.misc.Trampoline (Issue [NMS-6784](#))
- Large values of snmpifspeed come out negative when used in resource-filter (Issue [NMS-6788](#))
- Unmanaged IP interfaces colored as down in IP Interface component of node page (Issue [NMS-6791](#))
- Potential OpenNMS Web GUI XSS Vulnerability (Issue [NMS-6793](#))
- HTTPDetector does not work with Go programs (http request is invalid) (Issue [NMS-6800](#))
- Notification wizard should hide events with donotpersist or auto-clean=true (Issue [NMS-6821](#))
- test failure: org.opennms.web.rest.RemotePollerAvailabilityRestServiceTest (Issue [NMS-6824](#))
- test failure: org.opennms.netmgt.poller.monitors.DnsMonitorTest (Issue [NMS-6825](#))
- org.opennms.netmgt.linkd.Nms10205aTest.testNetwork10205Links (Issue [NMS-6832](#))
- test failure: org.opennms.netmgt.provision.detector.NtpDetectorTest.testDetectorSuccess (Issue [NMS-6834](#))
- test failure: org.opennms.netmgt.rrd.model.RrdConvertUtilsTest (Issue [NMS-6835](#))
- Java Null Pointer exceptions seen more than 3K+ times in output.log (Issue [NMS-6837](#))
- Read-only user should not be able to delete reports (Issue [NMS-6839](#))
- Move XML Collector 3GPP Sample configuration to etc/examples (Issue [NMS-6843](#))

- audit and fix systemd support on modern linuxes (Issue [NMS-6845](#))
- Update Code Signing Cert so 1.14 is signed with new cert (Issue [NMS-6846](#))
- smoke test failure: AddNodePageTest & ServicePageTest (Issue [NMS-6847](#))
- NodeCategorySettingPolicy hit momentarily resolves open outages (Issue [NMS-6848](#))
- Can't modify an existing systemDef through Vaddin UI for Data Collection Groups (Issue [NMS-6855](#))
- Error when stopping opennms during normal operation (Issue [NMS-6857](#))
- Geo Maps are not working (everything is on the Antarctic) (Issue [NMS-6859](#))
- NRTG feature does not work with SNMPv3 (Issue [NMS-6860](#))
- Bad Marker in Geo Maps (Issue [NMS-6861](#))
- Geo Maps are not rendered on Internet Explorer 11 (Issue [NMS-6862](#))
- Increase size of asset fields (Issue [NMS-6864](#))
- "Interface Availability Report" & "Snmp Interface Availability Report" of Database Reports are not working (Issue [NMS-6868](#))
- Create gitflow release document (Issue [NMS-6871](#))
- Bamboo: OutOfMemoryException during compile phase (Issue [NMS-6872](#))
- Copyright in created reports (PDF) is outdated (2002-2011) (Issue [NMS-6875](#))
- Log4j2 configuration breaks the instrumentation logger (Issue [NMS-6876](#))
- New Enhanced Topology no longer shows topology (Issue [NMS-6877](#))
- Link the rpm and deb repos for 1.14.0 to snapshot (Issue [NMS-6879](#))
- Make sure the InstrumentationLogReader works with the new log4j2 output (Issue [NMS-6881](#))
- Confirm 1.14 Runs on JDK 8 (Issue [NMS-6882](#))
- test failure: org.opennms.netmgt.linkd.LinkdSnmpTest (Issue [NMS-6885](#))
- test failure: org.opennms.netmgt.poller.monitors.HttpMonitorTest.testPollStatusReason (Issue [NMS-6886](#))
- Set up bamboo auto-merges (Issue [NMS-6888](#))
- Deprecate sms-reflector, move to opennms-tools (Issue [NMS-6890](#))
- Deprecate access-point-monitor, move to opennms-tools (Issue [NMS-6891](#))
- The XML Collector can't save counter metrics on RRDs (using RRDtool) (Issue [NMS-6895](#))
- A node is listed twice on the search box of the Topology UI (Issue [NMS-6896](#))
- Increase timeout for Selenium smoke tests to avoid failures (Issue [NMS-6897](#))
- UserRestServiceTest.testWriteALotOfUsers() fails fairly often (Issue [NMS-6898](#))
- Node Page → View Node Link Detailed Info, creates an exception when no links are available (Issue [NMS-6900](#))
- Geographical Node Map shows no nodes (Issue [NMS-6901](#))
- test failure: org.opennms.mock.snmp.MockSnmpAgentTest (Issue [NMS-6903](#))

- HttpCollector is broken (Issue [NMS-6904](#))
- NullPointerException EnhancedLinkd Bridgediscovery (Issue [NMS-6908](#))
- query did not return a unique result: 12 Exception in EnhancedLink bridge discovery (Issue [NMS-6909](#))
- PSQLException in EnhancedLinkd Cdp discovery (Issue [NMS-6910](#))
- Illegal Argument Exception in EnhancedLink Ospf Node Discovery (Issue [NMS-6911](#))
- test failure: org.opennms.web.springframework.security.SecurityAuthenticationEventOnmsEventBuilderTest (Issue [NMS-6913](#))
- Verify that JRobin font handling is fixed (Issue [NMS-6915](#))
- Events API returning invalid XML (Issue [NMS-6918](#))
- test failure: org.opennms.netmgt.provision.adapters.link.LinkMonitoringSnmpTest (Issue [NMS-6921](#))
- Show CDP Information on "Node Link Detailed Info" page (Issue [NMS-6923](#))
- "Loading" spinner in Vaadin apps moves (Issue [NMS-6929](#))
- test failure: org.opennms.netmgt.xmlrpcd.XmlrpcdTest (Issue [NMS-6935](#))
- Upgrade Embedded Karaf to 2.4.0 (Issue [NMS-6937](#))
- test failure: org.opennms.netmgt.collectd.SnmpCollectorTest (Issue [NMS-6940](#))
- test failure: org.opennms.netmgt.poller.monitors.HttpMonitorTest (Issue [NMS-6941](#))
- Error invoking remote poller via Java WebStart (Invalid signature file digest for Manifest main attributes) (Issue [NMS-6945](#))
- snmp-request utility broken from Log4J 2 changeover (Issue [NMS-6949](#))
- DAO context exception (Issue [NMS-6950](#))
- Front page resource graphs combo box always pops up error on enter (Issue [NMS-6953](#))
- test failure: org.opennms.netmgt.collectd.DuplicatePrimaryAddressTest (Issue [NMS-6959](#))
- bin/functions.pl line 153 fails if build directory has a space on it (Issue [NMS-6964](#))
- Remote-Poller Client does not startup without exception. (Issue [NMS-6965](#))
- Remote-Poller started via Java Webstart sometimes freezes when closing (Issue [NMS-6966](#))
- Upgrade Needed for service-configuration.xml (Issue [NMS-6970](#))
- Stop collecting mib2-icmp group by default (Issue [NMS-6973](#))
- vtd xml jar should not be included opennms-base-assembly due to licening (Issue [NMS-6992](#))
- Review include of GPL'd images and other things (Issue [NMS-6993](#))
- Replace Icons with licensed version server.png and group.png (Issue [NMS-6994](#))
- Replace JournalMemo.png with a non GPL2.0 version (Issue [NMS-6995](#))
- Do we really need pngfix.js? What license do it have? (Issue [NMS-6997](#))
- UP DOG (Issue [NMS-6998](#))



- Installing the Remote Poller on Windows using the .exe file doesn't register Windows Service successfully (Issue [NMS-6999](#))
- "Undefined" dashlet in the Ops Board (Issue [NMS-7002](#))
- The default logging in OpenNMS is DEBUG/TRACE (Issue [NMS-7008](#))
- Configure Discovery throws FileNotFoundException (Issue [NMS-7009](#))
- Ping Window is broken in TopologyMap (Issue [NMS-7010](#))
- Events/Alarms popup shows two scroll bars (Issue [NMS-7011](#))
- Topology Map throws a bunch of exceptions in the browser console (Issue [NMS-7013](#))
- Maps dropdown and Maps Overview mismatch (Issue [NMS-7014](#))
- Missing supported application on about page (Issue [NMS-7016](#))
- Wrong License reference on about page (Issue [NMS-7017](#))
- Removing the focus of a category does not work in firefox (Issue [NMS-7018](#))
- When node was added to Focus due to search the context menu "Add To Focus" is still available (Issue [NMS-7019](#))
- Sometimes I get an Exception when clicking on "Ops Panel" in the Ops Dashboard (Issue [NMS-7022](#))
- Installation on Ubuntu 14.04 failes for unmet dependencies (Issue [NMS-7023](#))
- Lots of "Unable to obtain lock for PollableNode before timeout" on Pollerd (Issue [NMS-7025](#))
- Poodle exploit: exclude SSLv3 in example Jetty HTTPS configuration (thanks to David Gerdes, University of Illinois) (Issue [NMS-7026](#))
- The VMWare Monitor is throwing exceptions related with nodeDao (Issue [NMS-7032](#))
- Unknown NullPointerException on Pollerd related with Category Membership events (Issue [NMS-7033](#))
- NRTG does not work using SNMP v3 (Issue [NMS-7049](#))
- Installer is not working under Windows 8.1 (Issue [NMS-7050](#))
- License Agreement in Windows Installer seems to be wrong. (Issue [NMS-7051](#))
- Installer does not provide a port setting for Database Configuration (Issue [NMS-7052](#))
- Installer does not run install -dis correctly on Windows (Issue [NMS-7053](#))
- FileNotFoundException org.apache.felix.framework-4.0.3.jar (Issue [NMS-7054](#))
- Webapp needs to include source download (Issue [NMS-7055](#))
- Remote poller crashes with no feedback if polled nodes have non-distributable services (Issue [NMS-7057](#))
- Log SNMP request-ID more consistently in Snmp4JStrategy.processResponse (Issue [NMS-7058](#))
- NRTG is broken for passwords containing special characters (Issue [NMS-7064](#))
- SNMP4J logs going to output.log (Issue [NMS-7068](#))
- Installer does not show AGPL license (Issue [NMS-7069](#))

- Installing OpenNMS with the installer under Ubuntu fails due to chmod a+x issue (Issue [NMS-7072](#))
- ICMP availability with custom packet size doesn't work with JNI (Issue [NMS-7073](#))
- OpenNMS does not start on Windows (Issue [NMS-7076](#))
- Not all placeholder get substituted correctly (Issue [NMS-7077](#))
- Unable to resolve missing requirement while navigating to the web frontend (Issue [NMS-7080](#))
- Installer does not run install -dis on \*nix systems (Issue [NMS-7082](#))
- IllegalArgumentException on Node Link Detailed Info Page (Issue [NMS-7083](#))
- Logs are spammed with Atomikos warnings (Issue [NMS-7084](#))
- Lower half of Node Link Detailed Info Page is missing (Issue [NMS-7085](#))
- OpenNMS depends on JRobin 1.6.0-SNAPSHOT (Issue [NMS-7087](#))
- Topology Map shows Google Chrome Frame Notice Popup (IE only) (Issue [NMS-7093](#))
- Topology Map does not show Icons on IE (Issue [NMS-7094](#))
- Ping Command in Topology Map causes "Vaadin Communication Problem" (Issue [NMS-7097](#))
- Device Menu items are disabled all the time (Issue [NMS-7098](#))
- Navbar is broken on node list in Internet Explorer (Issue [NMS-7099](#))
- Close button in ping window on topology map does not work (Issue [NMS-7101](#))
- make ops4j pax ours (Issue [NMS-7102](#))
- If a target node is rebooted the RRD/JRB files contains spikes because the sysUpTime check is not working (Issue [NMS-7106](#))
- SMTP with reason code: NumberFormatException (Issue [NMS-7107](#))
- Resource Graphs not working on Windows 2008 R2 install (Issue [NMS-7109](#))
- update documentation as necessary for 14 (Issue [NMS-7110](#))
- Configure SNMP by IP ui does not work in IE when changing snmp versions (Issue [NMS-7111](#))
- The opennms.bat doesn't work for stopping OpenNMS and the Temp directory is not quoted (Issue [NMS-7114](#))
- The MIB Compiler is not working when OpenNMS is running on Windows (Issue [NMS-7116](#))
- Requisitions cannot be edit when using IE (Issue [NMS-7118](#))
- Legend Icons not clickable on Node List Page in IE (Issue [NMS-7119](#))
- Exception in the Alarm Detail View (Issue [NMS-7121](#))
- Audit HttpClient usage to make sure connections are being closed properly (Issue [NMS-7122](#))
- Outage timeline link from image map for outages does not work with Firefox (Issue [NMS-7128](#))

## Enhancement

- RESTful API doesn't support SNMP v3 (Issue [NMS-3269](#))
- Create event to trigger linkd to start link scan (Issue [NMS-4177](#))

- Move linkd to his own project (Issue [NMS-5572](#))
- How to delete alert message "The text is too long; the maximum length is" in asset page (Issue [NMS-5625](#))
- Event definitions: Fortinet (Issue [NMS-6508](#))
- Upgrade Selenium libraries to their latest version (Issue [NMS-6766](#))
- SNMP collection systemDefs for ASA5585-SSP10, ASA5585-SSP20, ASA5585-SSP40, ASA5585-SSP60, and Cisco Nexus 7009 (Issue [NMS-6785](#))
- Provide a way to selectively detect services on requisitions (Issue [NMS-6829](#))
- Can't monitor JBoss EAP 6.1.0 or later with the JMXMonitor/JMXCollector (using Jsr160Collector) (Issue [NMS-6830](#))
- Make Topology Provider for CDP (Issue [NMS-6842](#))
- Enable appropriate Linkd topology provider (Issue [NMS-6844](#))
- Upgrade to SNM4J2 (Issue [NMS-6883](#))
- After upgrading HttpClient, the host header always contains the port which is a problem for Microsoft IIS (Issue [NMS-6916](#))
- Warn when the remote poller does not support ICMP (Issue [NMS-6971](#))
- Make default statsd config do little? (Issue [NMS-6985](#))
- Add and collect JMX attribute for OpenNMS uptime (Issue [NMS-7066](#))
- Improve node list presentation of node DBIDs, foreign-source names, and foreign-IDs (Issue [NMS-7088](#))
- Add page for standalone node availability box (Issue [NMS-7117](#))

## Task

- Change the OpenNMS license to the AGPL (Issue [NMS-6930](#))
- Rename OpenNMS 1.14.0 to OpenNMS 14.0.0 (Issue [NMS-6931](#))
- audit `git diff` vs. 1.12 (Issue [NMS-6936](#))
- Test Migration from 1.12 (Issue [NMS-6975](#))
- Test Polling (Issue [NMS-6976](#))
- Test Data Collection - JMX (Issue [NMS-6977](#))
- Test Data Collection - HTTP (Issue [NMS-6978](#))
- Test DataCollection - Vmware (Issue [NMS-6979](#))
- Test DataCollection - WMI (Issue [NMS-6980](#))
- Test NRTG on SNMPv2 and v3 (Issue [NMS-6981](#))
- Test that Notifications still work (Issue [NMS-6982](#))
- Web UI testing for OpenNMS 14 (Issue [NMS-6983](#))
- Test Reporting (Issue [NMS-6984](#))

- Test package installs (Issue [NMS-6986](#))
- Test Thresholding (Issue [NMS-6987](#))
- Test Enhanced Linkd (Issue [NMS-6989](#))
- Test Topology GUI (Issue [NMS-6990](#))
- Test Remote Polling (Issue [NMS-6991](#))

# Release 1.13

## Changelog

### Release 1.13.4

Release 1.13.4 is the 5th unstable release; it is a preview of what will eventually become the OpenNMS 1.14.x stable series.

The codename for 1.13.4 is *Metallica*

#### Bug

- incorrectly translated trap contents (Issue <http://issues.opennms.org/browse/NMS-5281> [NMS-5281])
- uninformative notifd.log messages (Issue <http://issues.opennms.org/browse/NMS-5645> [NMS-5645])
- Linkd reports incorrect topology (Issue <http://issues.opennms.org/browse/NMS-5862> [NMS-5862])
- net-snmp extend output not properly interpreted if numbers are exactly 8 characters long (Issue <http://issues.opennms.org/browse/NMS-6202> [NMS-6202])
- OpenNMS depends on OpenJDK 6 instead of OpenJDK 7 (Issue <http://issues.opennms.org/browse/NMS-6396> [NMS-6396])
- Can't monitor JBoss EAP 6.1.0 or later with the JMXMonitor/JMXCollector because they don't support jmx-remoting protocol (Issue <http://issues.opennms.org/browse/NMS-6589> [NMS-6589])
- RPM dependencies for Java broken (Issue <http://issues.opennms.org/browse/NMS-6599> [NMS-6599])
- New jetty.xml configuration lacks default keystore passwords (Issue <http://issues.opennms.org/browse/NMS-6601> [NMS-6601])
- Having hundreds of scheduled outage hurts the performance of the OpenNMS server (Issue <http://issues.opennms.org/browse/NMS-6748> [NMS-6748])
- High CPU usage due to DataCollectionConfigDao.getConfiguredResourceTypes() while Collectd starts (Issue <http://issues.opennms.org/browse/NMS-6757> [NMS-6757])
- The rescanExisting flag in Provisiond is not working as expected (Issue <http://issues.opennms.org/browse/NMS-6759> [NMS-6759])

#### Enhancements

- Remove dead code from org.opennms.web.ServletInitializer (Issue <http://issues.opennms.org/browse/NMS-4945> [NMS-4945])
- Monitoring Asterisk SIP Clients (Issue <http://issues.opennms.org/browse/NMS-5767> [NMS-5767])
- Remove link to Surveillance Category Editor from nodepage for requisitioned nodes (Issue <http://issues.opennms.org/browse/NMS-6372> [NMS-6372])

- Asset page should not be in edit mode for requisitioned nodes (Issue <http://issues.opennms.org/browse/NMS-6373> [NMS-6373])
- Dynamically generated filename cause packaging issues (Issue <http://issues.opennms.org/browse/NMS-6577> [NMS-6577])
- Add a timeline of outages to nodepage availability-box (Issue <http://issues.opennms.org/browse/NMS-6578> [NMS-6578])

## Release 1.13.3

Release 1.13.3 is the 4th unstable release; it is a preview of what will eventually become the OpenNMS 1.14.x stable series. It contains a critical security fix.

The codename for 1.13.3 is *De Musikalske Dvergene*

### Bug

- Security: downloadReport allow download and view any file in filesystem (Issue [NMS-6580](#))

## Release 1.13.2

Release 1.13.2 is the 3rd unstable release; it is a preview of what will eventually become the OpenNMS 1.14.x stable series. It contains a large number of changes over 1.13.1, including collection updates, lots of refactoring, more topology UI enhancements, auto-acknowledge notification updates, Linkd updates, VMware graph enhancements, and many other small improvements.

The codename for 1.13.2 is *Boston*

### Bug

- Using the Sftp3gppXmlCollectionHandler affecting the XSLT pre processing. Both are not working together. (Issue [NMS-6533](#))
- ResourceDao.findTopLevelResources() is returning duplicated data because of storeByForeignSource (Issue [NMS-6545](#))
- Notifications are truncated at 4000 chars in database (Issue [NMS-6562](#))
- The SFTP Connection are not closed when an exception is thrown using 3GPP XML Collector (Issue [NMS-6564](#))

### Enhancements

- Patch for auto-acknowledgement of threshold events (Issue [NMS-1462](#))
- Embed JMS provider inside OpenNMS (Issue [NMS-2638](#))
- Add ability to match event parms for auto-ack (Issue [NMS-3090](#))
- Alphabetize the polling packages on scheduled outages (Issue [NMS-5243](#))
- Sort notifications by severity (Issue [NMS-6504](#))
- snmp mib compiler should use twin column select for systemDefs (Issue [NMS-6525](#))

- Make visible the scheduled outages that are being executed. (Issue [NMS-6558](#))

## Release 1.13.1

Release 1.13.1 is the 2nd unstable release; it is a preview of what will eventually become the OpenNMS 1.14.x stable series. It contains a large number of changes over 1.13.0, including Java 8 support, many core cleanups, support for running Camel and ActiveMQ in the OpenNMS Karaf container, MANY ReST-related cleanups for XML and JSON output, plus tons of other fixes and features.

The codename for 1.13.1 is *Seigmen*

### Bug

- REST API - Access to list of all user with non admin rights (Issue [NMS-5391](#))
- Linkd package not working (Issue [NMS-6215](#))
- Linkd LLDP discovery is not able to get links when one end point does not support LLDP mib (Issue [NMS-6233](#))
- Create Link to Topology from Node Page (Issue [NMS-6339](#))
- Can't create a node without path outage information in provisioning web interface (Issue [NMS-6350](#))
- mib2 storage usage graph does not work with RRDtool (Issue [NMS-6356](#))
- Validate the mename of a maskelement when editing an event through the Vaadin UI (Issue [NMS-6378](#))
- The ILR reports wrong data when there are several packages with different collection rates on collectd-configuration.xml for the same service (Issue [NMS-6386](#))
- Deadlock in location\_monitors update via Hibernate (Issue [NMS-6392](#))
- Exception thrown while changing transaction to readOnly mode (Issue [NMS-6399](#))
- Security Information disclosed in Service detail screen (Issue [NMS-6403](#))
- Provisiond detectors sometimes fail to detect (Issue [NMS-6412](#))
- Topology Widgets are out of sync with contextual window (Issue [NMS-6416](#))
- IP Interface component bug on Node Page (Issue [NMS-6420](#))
- NRTG Is busted in master (Issue [NMS-6422](#))
- Auto Refresh Interval in Topology APP isn't consistent (Issue [NMS-6423](#))
- Links from Topology Map to Geographical Map are no longer working (Issue [NMS-6425](#))
- WebUI shows 503 for log in (Issue [NMS-6435](#))
- The Valere devices with broken SNMP agents are hanging Provisiond. (Issue [NMS-6484](#))
- Creating a scheduled outage from the node's page doesn't work (Issue [NMS-6490](#))
- Several XSD files are not being generated anymore. (Issue [NMS-6491](#))



## Enhancements

- SVG Map: Clean Up Java Classes (Issue [NMS-5013](#))
- Add a regex to test the banner returned by the TCP monitor (Issue [NMS-3218](#))
- Greater flexibility in threshold event parameters (Issue [NMS-5468](#))
- New event file for Konica Traps (Issue [NMS-5699](#))
- Remove the reset button on the login prompt. (Issue [NMS-5738](#))
- Datacollection Konica Printers (Issue [NMS-5781](#))
- New BackupExec event file (Issue [NMS-5789](#))
- New mib/event file for TrendMicro AV (Issue [NMS-5829](#))
- New events/datacollection for Liebert USV (Issue [NMS-5882](#))
- Use a suitable Algorithm to display Elements in SVG maps (Issue [NMS-6104](#))
- Add Discovery Strategy to Links (Issue [NMS-6106](#))
- persist protocol used for discovered links (Issue [NMS-6245](#))
- Add BGP datacollection support for Foundry BigIron 4000/8000/RX (Issue [NMS-6308](#))
- Upgrade JasperReport Engine to current stable release (Issue [NMS-6366](#))
- Search for event from the last hour isn't possible without Event Text (Issue [NMS-6370](#))
- apache jakarta regexp project is discontinued. (Issue [NMS-6427](#))
- Create Provisiond detector for VMwareCim-HostSystem (Issue [NMS-6434](#))
- Monitor for JMX related framework Jolokia (Issue [NMS-6328](#))

## Release 1.13.0

Release 1.13.0 is the first unstable release; it is a preview of what will eventually become the OpenNMS 1.14.x stable series. It contains a number of enhancements, most notably GUI work in the topology UI, as well as some code cleanup and other updates that are too invasive to include in 1.12.

The codename for 1.13.0 is *Hedningarna*

## Bug

- Maven surefire doesn't properly report some test failures (Issue [NMS-1698](#))
- remote poller logging (Issue [NMS-2800](#))
- Cannot build using IBM's java - Groovy maven plugin error "No providers discovered" (Issue [NMS-3476](#))
- ./maven/bin/mvn dependency:go-offline not fetch all dependences (Issue [NMS-4304](#))
- Jetty 503 Service Unavailable after disabling PollerBackend (Issue [NMS-4330](#))
- JMX jrb filenames can contain spaces (Issue [NMS-4612](#))
- Can't disable all log rotation in log4j.properties (Issue [NMS-4689](#))
- DatabaseReportListController is never used? (Issue [NMS-5034](#))

- NullPointerException in DefaultParameterConversionService with IE8 (Issue [NMS-5134](#))
- Default ONMS JMX graphs broken with storeByGroup enabled (Issue [NMS-5279](#))
- redirection on cancel configuration changes for a KSC report returns to main opennms index page. (Issue [NMS-5443](#))
- manager log messages are too vague or wrong level. (Issue [NMS-5467](#))
- SNMPV3 context not working in provisiond (Issue [NMS-5556](#))
- "No Data for this Entry" in Serial Interface Utilization Summary report (Issue [NMS-5617](#))
- Make possible to set the interface status on the requisition through REsT and WebUI (Issue [NMS-5773](#))
- Selecting topology group doesn't filter alarm widget (Issue [NMS-5787](#))
- VMware integration not gathering statistics on VM host hardware collections such as vmware4Disk or vmware4Cpu (Issue [NMS-5845](#))
- LLDP Failure for non ifIndex references (Issue [NMS-5904](#))
- Topology Map showing non-existent links/missing valid links (Issue [NMS-5906](#))
- Prefab graph ignores properties for width and height (Issue [NMS-5918](#))
- Primary interface is not used for VMware CIM service polling and data collection (Issue [NMS-5938](#))
- Default to Provisiond handling newSuspects, disabling Capsd (Issue [NMS-5943](#))
- Alarm list and alarm details is not showing in the WebUI (Issue [NMS-5947](#))
- Duplicated parameter in notification.xml (Issue [NMS-5948](#))
- Exception when switching tabs in alarm and node browsers on map (Issue [NMS-5968](#))
- Sorting doesn't work on alarm and node browsers (Issue [NMS-5969](#))
- Node availability report wrong calculation of percentage (Issue [NMS-5990](#))
- Add foreignSource parameter to newSuspect Event (Issue [NMS-5991](#))
- "Servlet with alias already registered" Exception occurs on startup in osgi container (Issue [NMS-5999](#))
- Negative filter for services in alarm list shows null (Issue [NMS-6005](#))
- Loading Vaadin parts of the WebUI needs a lot of time (Issue [NMS-6043](#))
- Database connections leak until the system cannot obtain any more connections (Issue [NMS-6051](#))
- Master doesn't start due to PollerBackend Exception (Issue [NMS-6052](#))
- The VMWare collector doesn't work properly when storeByForeignSource is enabled (Issue [NMS-6060](#))
- Make the VMWare Provisioner more useful (Issue [NMS-6070](#))
- provision.pl is not handling properly the 302 and 303 HTTP Responses. (Issue [NMS-6072](#))
- The JAR where the GpDetector is defined doesn't appear on the RPM or DEB files (Issue [NMS-6074](#))

- VmwareConfigBuilder creates too long aliases for vSphere 5.1 (Issue [NMS-6082](#))
- Syslog Northbinder is not translating the node labels (Issue [NMS-6092](#))
- Linkd throws Exception when CdpCacheIpv4Address is blank (Issue [NMS-6101](#))
- Linkd does not update properly datalinkinterface table (Issue [NMS-6102](#))
- Linkd does not manage duplicated ip addresses (Issue [NMS-6103](#))
- Can't use SNMPv3 with NoAuth-NoPriv (Issue [NMS-6108](#))
- NRTG is not working if storeByForeignSource is enabled (Issue [NMS-6119](#))
- XSS vector in admin/error.jsp (Issue [NMS-6147](#))
- LdapMonitor can leak poller threads (Issue [NMS-6148](#))
- VMware metrics for network packet statistics missing for ESX host (Issue [NMS-6166](#))
- GeoMap boundaries (Issue [NMS-6172](#))
- Unresolved constraint in bundle org.opennms.features.vaadin-node-maps (Issue [NMS-6176](#))
- Unresolved constraint in bundle org.opennms.features.jmxconfiggenerator (Issue [NMS-6178](#))
- Unresolved constraint in bundle org.opennms.features.jmxconfiggenerator.webui (Issue [NMS-6179](#))
- GeoMap doughnut markers don't reflect alarm status (Issue [NMS-6214](#))
- 503 Webapp Error (Issue [NMS-6217](#))
- Exception while using topology history feature (Issue [NMS-6218](#))
- SnmpInterfaceRrdMigrator breaks with "javax.xml.bind.UnmarshalException: inf" (Issue [NMS-6302](#))
- send-event.pl invalid in master (Issue [NMS-6304](#))

## Enhancements

- Refactor Log Level of OpenNMS Messages (Issue [NMS-1087](#))
- distributed monitor disconnected timeout hardcoded (Issue [NMS-2797](#))
- change the log rotation to use the log4j-extras RollingFileAppender (Issue [NMS-2949](#))
- log4j enhancement to support compression (Issue [NMS-4690](#))
- eclipse maven integration (Issue [NMS-4814](#))
- Add IS-IS discovery to Linkd (Issue [NMS-5582](#))
- JRobinRrdStrategy class does not support RGBA color values (Issue [NMS-5591](#))
- Add OAuth support to microblog notification feature (Issue [NMS-5691](#))
- keep all log4j settings near their main definition. (Issue [NMS-5729](#))
- Bump maven-resources-plugin to 2.6 to avoid annoying message during build (Issue [NMS-5805](#))
- Widget Filtering based on visible vertices (Issue [NMS-5869](#))
- Topology Selection Behavior improvements (Issue [NMS-5870](#))
- Changing RRD graph size with URL parameter width and height (Issue [NMS-5919](#))

- Tool converting JRobin files to RRDtool file format (Issue [NMS-5921](#))
- Detection for VMware CIM service only if the communication is possible (Issue [NMS-5941](#))
- Add a configuration foreignSource element/attribute to a discovery range (Issue [NMS-5992](#))
- Add new sysOID to linkd (Issue [NMS-6039](#))
- Ability to disable rescanning of updated nodes during import (Issue [NMS-6040](#))
- SNMP support for Clavister security devices (Issue [NMS-6107](#))
- Split Linkd Link discovery as per discovery Strategy (Issue [NMS-6110](#))
- add provisioning requisition column to outages list display (Issue [NMS-6143](#))

# Release 1.12

## Changelog

### Release 1.12.9

Release 1.12.9 is the 10th in the stable 1.12 series of OpenNMS. It contains a number of important fixes including handling jetty.xml upgrades better, and a fix for a bug in the rescanExisting flag when provisioning. See [What's New in OpenNMS 1.12](#) for a general list of changes in the 1.12 series.

The codename for 1.12.9 is *Bruce Springsteen*

#### Bug

- HRULE not working in JRobin graphs (Issue [NMS-2793](#))
- incorrectly translated trap contents (Issue [NMS-5281](#))
- Can't monitor JBoss EAP 6.1.0 or later with the JMXMonitor/JMXCollector because they don't support jmx-remoting protocol (Issue [NMS-6589](#))
- New jetty.xml configuration lacks default keystore passwords (Issue [NMS-6601](#))
- Pollerd stops working if a service is down and the downtime model is not correct. (Issue [NMS-6603](#))
- Problem with disable-ssl-verification in XML\_Collector (Issue [NMS-6611](#))
- No Longer Able to Control Graph Report Order (Issue [NMS-6621](#))
- If Jetty HTTP is enabled in opennms.properties, the WebUI doesn't work with SSL (Issue [NMS-6629](#))
- Can't download generated reports, a NPE is thrown by the WebUI (Issue [NMS-6632](#))
- Having hundreds of scheduled outage hurts the performance of the OpenNMS server (Issue [NMS-6748](#))
- High CPU usage due to DataCollectionConfigDao.getConfiguredResourceTypes() while Collectd starts (Issue [NMS-6757](#))
- The rescanExisting flag in Provisiond is not working as expected (Issue [NMS-6759](#))

#### Enhancements

- Monitoring Asterisk SIP Clients (Issue [NMS-5767](#))
- Remove link to Surveillance Category Editor from nodepage for requisitioned nodes (Issue [NMS-6372](#))
- Asset page should not be in edit mode for requisitioned nodes (Issue [NMS-6373](#))
- If the HostResourceSwRunMonitor fails because of a timeout, the reason does not reflect it. (Issue [NMS-6626](#))

## Release 1.12.8

Release 1.12.8 is the 9th in the stable 1.12 series of OpenNMS. It contains an important fix for a security issue that can expose files outside of the OpenNMS directory through the web interface. See [What's New in OpenNMS 1.12](#) for a general list of changes in the 1.12 series.

The codename for 1.12.8 is *John Petrucci*

### Bug

- Security: downloadReport allow download and view any file in filesystem (Issue [NMS-6580](#))

## Release 1.12.7

Release 1.12.7 is the eighth in the stable 1.12 series of OpenNMS. It contains a number of important fixes including a XSS vulnerability, and also introduces a potentially incompatible change to the way the web UI is configured. For details on the web UI changes, see [Changes to the Web UI Startup](#) on the [What's New in OpenNMS 1.12](#) page.

The codename for 1.12.7 is *Bob Marley*

### Bug

- Form too large error on /opennms/admin/getNodes page (Issue [NMS-2846](#))
- exception when unmanaging interfaces via Admin → Manage and unmanage (Issue [NMS-3998](#))
- Resource Graph Resources - limited to 55 Resources or less (Issue [NMS-4675](#))
- Long query size for Resource Graphs generates 413 error - increase HeaderBufferSize (Issue [NMS-4760](#))
- Add config option to use persistent session with Jetty (Issue [NMS-5527](#))
- Really large provisioning groups crash Web UI (Issue [NMS-6364](#))
- Syslog Northbound runs in a NullPointerException (Issue [NMS-6383](#))
- The notification WebUI is unusable when there are notifications associated with events that doesn't exist on the DB. (Issue [NMS-6447](#))
- Embedded Jetty blocking HTTP requests due to "Max threads" settings (Issue [NMS-6519](#))
- WebStart remote poller needs Permissions: manifest attribute to run under Java 7u45 (Issue [NMS-6522](#))
- Using the Sftp3gppXmlCollectionHandler affecting the XSLT pre processing. Both are not working together. (Issue [NMS-6533](#))
- ResourceDao.findTopLevelResources() is returning duplicated data because of storeByForeignSource (Issue [NMS-6545](#))
- Some provisioning adapters do not send reload success / failure events (Issue [NMS-6548](#))
- Eventd does not honor reloadDaemonConfig event (Issue [NMS-6549](#))
- Vacuumd does not honor reloadDaemonConfig event (Issue [NMS-6552](#))

- Notifications are truncated at 4000 chars in database (Issue [NMS-6562](#))
- The SFTP Connection are not closed when an exception is thrown using 3GPP XML Collector (Issue [NMS-6564](#))
- Two XSS vulnerabilities in webapp (Issue [NMS-6571](#))

## Enhancements

- there appears to be no way to restrict access to the ajp port (Issue [NMS-3499](#))
- Debian packages need updating to support postgresql-9.2 and postgresql-9.3 (Issue [NMS-6517](#))

## Release 1.12.6

Release 1.12.6 is the seventh in the stable 1.12 series of OpenNMS. It contains a number of important fixes including a potential security leak in the ReST interface. See [What's New in OpenNMS 1.12](#).

The codename for 1.12.6 is *Sascha Konietzko*

## Bug

- REST API - Access to list of all user with non admin rights (Issue [NMS-5391](#))
- Exception during statsd runs: "Value of line 1 of output from RRD is not a valid floating point number: '2,670374e+03'" Problem of locale? (Issue [NMS-5592](#))
- JdbcEventUtil should not set distPoller to "undefined" (Issue [NMS-5750](#))
- thresholding ignores persistselectorstrategy resulting in threshold events on items that should be ignored (Issue [NMS-6274](#))
- Can't delete an escalation from the WebUI (Issue [NMS-6338](#))
- Provisiond detectors sometimes fail to detect (Issue [NMS-6412](#))
- The Upgrade Tools are throwing a NPE when a JMX service is not configured properly on collectd-configuration.xml (Issue [NMS-6463](#))
- Resource path parser incorrect on Windows when storeByForeignSource enabled (Issue [NMS-6465](#))
- microsoft.cpuPercentBusy is not working with RRDtool (Issue [NMS-6468](#))
- The Valere devices with broken SNMP agents are hanging Provisiond. (Issue [NMS-6484](#))
- Upgrade Tools issue: the snmpStorageFlag from datacollection-config.xml is not being considered while running SnmpInterfaceRrdMigratorOnline (Issue [NMS-6489](#))
- RPM and DEB maintainer scripts remove OPENNMS\_HOME/data tree (Issue [NMS-6495](#))

## Enhancements

- Correct Manage/Unmanage Behavior in WebUI (Issue [NMS-5515](#))
- Create an Asset Editor Role (Issue [NMS-6414](#))
- Create Provisiond detector for VMwareCim-HostSystem (Issue [NMS-6434](#))



- Expose poller thread pool stats via JMX (Issue [NMS-6466](#))
- Provide a user configuration file for provision.pl (Issue [NMS-6467](#))

## Release 1.12.5

Release 1.12.5 is the sixth in the stable 1.12 series of OpenNMS. It contains a fix for upgrades when using storeByForeignSource, plus a few other small changes. See [What's New in OpenNMS 1.12](#).

The codename for 1.12.5 is *John Lee Hooker*

### Bug

- Can't import a requisition when OpenNMS is installed in "C:\Program Files\OpenNMS" (Issue [NMS-6361](#))
- sftp.3gpp: empty resource label when the PM Group filter doesn't match a given measObjLdn (Issue [NMS-6365](#))
- The ILR reports wrong data when there are several packages with different collection rates on collectd-configuration.xml for the same service (Issue [NMS-6386](#))
- Security Information disclosed in Service detail screen (Issue [NMS-6403](#))
- NPE on SnmpAssetProvisioningAdapter.fetchSnmpAssetString() (Issue [NMS-6405](#))
- Upgrade 1.12.4 breaks StoreByForeignSource (Issue [NMS-6409](#))
- Exception on node.jsp with storeByForeignSource enabled and no data collection for the node. (Issue [NMS-6424](#))

### Enhancements

- Remove the reset button on the login prompt. (Issue [NMS-5738](#))
- Surveillance-Category-Names can be longer than 64 chars (Issue [NMS-6406](#))

## Release 1.12.4

Release 1.12.4 is the fifth in the stable 1.12 series of OpenNMS. It contains more upgrade tool bugfixes, as well as a number of small bug fixes and enhancements. See [What's New in OpenNMS 1.12](#).

The codename for 1.12.4 is *Iggy Pop*

### Bug

- OpenNMS+jrobin does not obey font selection (Issue [NMS-2691](#))
- JRobin Ignores --font directive (Issue [NMS-3477](#))
- Notices for events with a regex UEI have a bad label (Issue [NMS-5093](#))
- Uncaught exception in HostResourceSwRunMonitor when handling empty strings (Issue [NMS-5852](#))
- DiskUsageMonitor startswith parameter doesn't evaluate all mount points (Issue [NMS-6095](#))

- UI for editing foreign source policies needs larger window for "value" field (Issue [NMS-6161](#))
- IPv6 IPLIKE expressions incorrectly rejected in notification wizard (Issue [NMS-6313](#))
- Requisition editor should trim whitespace from critical fields (Issue [NMS-6314](#))
- VMWare Importer is adding an asset called "memory" and should be "ram" (Issue [NMS-6353](#))
- Can't execute standalone vmwarereqtool when RRDtool is enabled (Issue [NMS-6354](#))
- mib2 storage usage graph does not work with RRDtool (Issue [NMS-6356](#))
- In store-by-FS mode, nodes with only generic-resource RRD data treated as if they have no RRD data at all (Issue [NMS-6359](#))
- SnmpInterfaceRrdMigratorOnline fails with: java.lang.NumberFormatException: For input string: "UNKN" (Issue [NMS-6369](#))
- vmwarereqtool is initializing the DB Pool (Issue [NMS-6389](#))

## Enhancements

- New event file for Konica Traps (Issue [NMS-5699](#))
- Remove the reset button on the login prompt. (Issue [NMS-5738](#))
- Datacollection Konica Printers (Issue [NMS-5781](#))
- New BackupExec event file (Issue [NMS-5789](#))
- New mib/event file for TrendMicro AV (Issue [NMS-5829](#))
- Add BGP datacollection support for Foundry BigIron 4000/8000/RX (Issue [NMS-6308](#))
- Add Configuration for Poseidon Sensor data collection. (Issue [NMS-6315](#))
- Monitor the health of a NetScaler's group of servers. (Issue [NMS-6377](#))
- Include remote user and host in parameters of notificationsTurnedOff and ~On events (Issue [NMS-6384](#))
- Enhance DnsMonitor to evaluate size of answer section (Issue [NMS-6398](#))

## Release 1.12.3

Release 1.12.3 is the fourth in the stable 1.12 series of OpenNMS. It contains a critical bugfix to the upgrade tools added in 1.12.2, as well as a few small config updates. See [What's New in OpenNMS 1.12](#).

The codename for 1.12.3 is *Charles Mingus*

## Bug

- SnmpInterfaceRrdMigrator breaks with "javax.xml.bind.UnmarshalException: inf" (Issue [NMS-6302](#))
- Upgrade Tools issue: java.io.IOException: Server returned HTTP response code: 403 for URL: <http://oss.oetiker.ch/rrdtool/rrdtool.dtd> (Issue [NMS-6306](#))

## Enhancements

- Add 64-bit SNMP ifXTable packet counters for unicast, multicast, broadcast (Issue [NMS-6305](#))

## Release 1.12.2

Release 1.12.2 is the third in the stable 1.12 series of OpenNMS. It contains quite a few bug fixes and enhancements since the 1.12.1 release. For a high-level overview of what has changed since OpenNMS 1.10, see [What's New in OpenNMS 1.12](#).

The codename for 1.12.2 is *Liberace*

## Bug

- Bean name with slashes must be escaped on jrb creation (Issue [NMS-3485](#))
- JMX Collector not stripping path separators from mbean object names when using store-by-group persisting (Issue [NMS-4592](#))
- JMX jrb filenames can contain spaces (Issue [NMS-4612](#))
- Some JMX metrics defined in the default jmx-datacollection-config.xml are not compatible with RRDtool (Issue [NMS-5247](#))
- Default ONMS JMX graphs broken with storeByGroup enabled (Issue [NMS-5279](#))
- Collectd org.apache.commons.jexl2.JexlEngine warnings in tomcat-internal.log (Issue [NMS-5286](#))
- Some monitored devices display errors when selecting to see details (Issue [NMS-5553](#))
- Make possible to set the interface status on the requisition through REsT and WebUI (Issue [NMS-5773](#))
- JMX collector mismatch ds.properties and rrd disk files (Issue [NMS-5824](#))
- Negative filter for services in alarm list shows null (Issue [NMS-6005](#))
- Bits In/Out graph is not working in NRTG graph (Issue [NMS-6023](#))
- Geo Maps don't support web proxying. (Issue [NMS-6046](#))
- SNMP Data Collection Interfaces Directory Structure (Issue [NMS-6056](#))
- changing node name doesn't work (Issue [NMS-6084](#))
- Socket error running on Solaris 11 (Issue [NMS-6088](#))
- Unable to start openNMS 1.12 on HP-UX because of lack of JNA native libs (Issue [NMS-6096](#))
- NRTG is not working if storeByForeignSource is enabled (Issue [NMS-6119](#))
- The VMWare Integration doesn't work if an ESX Server is not accessible due to access restrictions (Issue [NMS-6121](#))
- VMWare Importer: If the vmwareTopologyInfo is too big, some PostgreSQL exceptions are thrown while running the importer (Issue [NMS-6124](#))
- Alarm Details for an not existing alarm shows empty page. (Issue [NMS-6125](#))
- Google Maps API rate-limit leads to persistent (-Inf,-Inf) coordinates in DB (Issue [NMS-6129](#))

- VMWare Collector: There is no way to specify the timeout (Issue [NMS-6130](#))
- The Provisioning Rest API is not managing update-dates in requisitions properly (Issue [NMS-6133](#))
- XSS vector in admin/error.jsp (Issue [NMS-6147](#))
- LdapMonitor can leak poller threads (Issue [NMS-6148](#))
- SSLCertMonitor fails to initialise (Issue [NMS-6149](#))
- VMWare Importer - NPE while building vmwareTopologyInfo on ESX Hosts (Issue [NMS-6150](#))
- Provide backward compatibility methods for JRobinDirectoryUtils when storeByForeignSource is not required (Issue [NMS-6152](#))
- VMWare Importer - Port Groups associated with ESX Hosts are confusing the VMWare Topology (Issue [NMS-6162](#))
- Exceptions exposed on provisiond.log when the MAC address is empty (Issue [NMS-6164](#))
- Possible thread contention on Collectd due to the checking on datacollection-config changes. (Issue [NMS-6165](#))
- maint\_events.sh is not working (Issue [NMS-6168](#))
- NPE on output.log due to null ifSpeed when calling PhysicalInterfaceRow.getSpeed (Issue [NMS-6169](#))
- Startup fails due to libc.so being in invalid file format (Issue [NMS-6170](#))
- Date issues in "Response time by node" JR report (Issue [NMS-6182](#))
- Web MIB compiler should stub imports of OBJECT-TYPE macro from RFC-1212 (Issue [NMS-6183](#))
- No way to set Google Maps geocoder API key for node geo map (Issue [NMS-6184](#))
- NullPointerException in collectd.log (Issue [NMS-6186](#))
- It is possible to override a compiled MIBs without asking (Issue [NMS-6189](#))
- The SnmpMonitor is not returning the status with the responseTime value (Issue [NMS-6192](#))
- ThresholdingSet isn't catching the exceptions thrown by the threshold evaluators (Issue [NMS-6193](#))
- Can't see changes on the resource graph page after adding/modifying a Resource Type manually or through the WebUI (Issue [NMS-6198](#))
- RTCManager does multiple Posts if URL is not reachable (Issue [NMS-6199](#))
- Provisioning Silently Clobbers Geolocation Asset Data (Issue [NMS-6221](#))
- There is no link to "Resource Graphs" on any page of the WebUI when storeByForeignSource is enabled (Issue [NMS-6225](#))
- Can't update asset records using provision.pl (Issue [NMS-6229](#))
- The Resource Graphs GWT Widget at the front page is not working with storeByForeignSource (Issue [NMS-6231](#))
- The Resource Graphs link from the Topology Map is not working with storeByForeignSource (Issue [NMS-6232](#))

- There is no way to know how the Thread Pool in Pollerd is behaving (Issue [NMS-6252](#))
- Jasper reports that requires accessing RRD files directly when RRDtool is enabled are not working (Issue [NMS-6263](#))
- Reserved name used as function name in opennms-webapp/src/main/webapp/admin/nodemangement/setPathOutage.jsp (Issue [NMS-6266](#))
- Provisioner creates transient OnmsSnmpInterface on interfaces with null ifIndex (Issue [NMS-6271](#))
- thresholdFilter is ignored if value is null, despite AND condition (Issue [NMS-6275](#))
- Threshold filters based on numeric values are not working when they are not part of the expression or ds-name (Issue [NMS-6278](#))
- provision.pl is mentioning nothing about parent-foreign-source (Issue [NMS-6288](#))
- GeneralPurpose detector doesn't work with banner match (Issue [NMS-6294](#))
- OSPF-TRAP-MIB events need updating (Issue [NMS-6295](#))
- F5 trap clear-events should have severity Normal (Issue [NMS-6298](#))

## Enhancements

- JMX Configs For Database Polling (Issue [NMS-1539](#))
- Ability to add parent relationships (path outages) in provisioning WebUI (Issue [NMS-3611](#))
- Ability to define the namespace for WMI operations (Issue [NMS-6094](#))
- VMWare Importer: add a flag to ignore IPv4 or IPv6 Interfaces (Issue [NMS-6138](#))
- VMWare Importer: Merge existing services on interfaces (Issue [NMS-6139](#))
- In 1.12 the default log level is INFO instead of WARN like 1.10 (Issue [NMS-6141](#))
- VMWare Importer - Provide a way to generate the requisition from the command line for testing purposes (Issue [NMS-6151](#))
- Queries in old OutageModel.java class are  $O(n^2)$  or worse (Issue [NMS-6163](#))
- The threshold processor doesn't work well with complex JEXL Expressions (Issue [NMS-6194](#))
- Display the Resource ID on the threshold events (Issue [NMS-6195](#))
- Accept either "foreignSource:foreignId" or "nodeId" as a parameter on element/node.jsp (Issue [NMS-6234](#))
- Add alarm-data to some APC and Powerware trap events (Issue [NMS-6247](#))
- CISCO-IF-EXTENSION-MIB trap event definitions (Issue [NMS-6296](#))

## Release 1.12.1

Release 1.12.1 is the second in the stable 1.12 series of OpenNMS. It contains a number of bug fixes and small enhancements since the 1.12.0 release. For a high-level overview of what has changed since OpenNMS 1.10, see [What's New in OpenNMS 1.12](#).

The codename for 1.12.1 is *Patrick Murphy*

## Bug

- Debian init.d script wrong postgres dependency (Issue [NMS-5879](#))
- threshold filters not processed properly (Issue [NMS-5880](#))
- Prefab graph ignores properties for width and height (Issue [NMS-5918](#))
- Disable Threshd by default in service-configuration.xml (Issue [NMS-6024](#))
- Database connections leak until the system cannot obtain any more connections (Issue [NMS-6051](#))
- No login screen after update 1.10.12.1 (Issue [NMS-6058](#))
- The VMWare collector doesn't work properly when storeByForeignSource is enabled (Issue [NMS-6060](#))
- Distributed map offered when no monitoring locations defined (Issue [NMS-6063](#))
- Mail Transport Monitor exception in 1.12.0 (Issue [NMS-6067](#))
- Make the VMWare Provisioner more useful (Issue [NMS-6070](#))
- provision.pl is not handling properly the 302 and 303 HTTP Responses. (Issue [NMS-6072](#))
- OpenNMS web UI has encountered an error (Issue [NMS-6073](#))
- The JAR where the GpDetector is defined doesn't appear on the RPM or DEB files (Issue [NMS-6074](#))
- The jasper report templates doesn't work after enabling storeByForeignSource (Issue [NMS-6075](#))
- JNA code does not work if tmpdir is mounted noexec (Issue [NMS-6076](#))
- config-tester exception in clean 1.12 installation (Issue [NMS-6077](#))
- Remove sample-report, trivial-report and parameter-test from database-reports.xml (Issue [NMS-6080](#))
- VmwareConfigBuilder is not generating a valid graph templates file. (Issue [NMS-6081](#))
- VmwareConfigBuilder creates too long aliases for vSphere 5.1 (Issue [NMS-6082](#))
- parent-foreign-source is not working anymore (Issue [NMS-6083](#))
- Syslog Northbinder is not translating the node labels (Issue [NMS-6092](#))
- Requisition ReST Caching Does Not Flush On Shutdown (Issue [NMS-6093](#))
- Can't use SNMPv3 with NoAuth-NoPriv (Issue [NMS-6108](#))
- Cron-triggered reports in Reportd do not work (Issue [NMS-6113](#))
- alarmidnotfound.jsp went missing (Issue [NMS-6114](#))

## Enhancements

- Changing RRD graph size with URL parameter width and height (Issue [NMS-5919](#))
- Ability to disable rescanning of updated nodes during import (Issue [NMS-6040](#))
- PostgreSQL / JDBC data collection config (Issue [NMS-6062](#))
- SNMP support for Clavister security devices (Issue [NMS-6107](#))

## Release 1.12.0

Release 1.12.0 is the first in the stable 1.12 series of OpenNMS. It contains a number of bug fixes since the 1.11.94 release. For a high-level overview of what has changed since OpenNMS 1.10, see [http://www.opennms.org/wiki/What%27s\\_New\\_in\\_OpenNMS\\_1.12](http://www.opennms.org/wiki/What%27s_New_in_OpenNMS_1.12)What's New in OpenNMS 1.12].

The codename for 1.12.0 is *Barry Privett*

### Bug

- ERROR: insert or update on table "notifications" violates foreign key constraint "fk\_eventid3" (Issue [NMS-1668](#))
- Provisiond never generates nodeCategoryMembershipChanged events (Issue [NMS-4951](#))
- Provisiond Error : org.hibernate.exception.SQLGrammarException: could not execute query (Issue [NMS-5348](#))
- SNMPV3 context not working in provisiond (Issue [NMS-5556](#))
- "No Data for this Entry" in Serial Interface Utilization Summary report (Issue [NMS-5617](#))
- OpenNMS 1.11.91 requires a JDK to be installed for Jetty to display the login page (Issue [NMS-5835](#))
- Duplicated parameter in notification.xml (Issue [NMS-5948](#))
- OpenNMS Menu is sometimes left justified (Issue [NMS-5988](#))
- Node availability report wrong calculation of percentage (Issue [NMS-5990](#))
- Node selection dumps to exception error (Issue [NMS-6002](#))
- Topology and Geographical Maps Fail to Load (Issue [NMS-6003](#))
- Alarm Inserts failing with PostgreSQL Exception (Issue [NMS-6011](#))
- Poll Outages "day of week" configuration not working (Issue [NMS-6013](#))
- GWT Errors on Asset Page (Issue [NMS-6015](#))
- Missing HTTP content-type in response of the data export API (Issue [NMS-6016](#))
- Windows CPU graph doesn't work with JRobin (Issue [NMS-6017](#))
- Concurrent modification exception in NRTG nrt.broker (Issue [NMS-6019](#))
- Can't add more than one item to any table while editing Events or Data Collection elements through the UI (Issue [NMS-6020](#))
- NRTG Realtime link does not show up for Storage (MIB-2 Host Resources) (Issue [NMS-6021](#))
- Statistic Reports shows an empty page (Issue [NMS-6028](#))
- Can't log in after creating a new user (Issue [NMS-6030](#))



# Release 1.11

## Changelog

### Release 1.11.94

Release 1.11.94 is the third release candidate for the OpenNMS 1.12 series. It contains more bugfixes and cleanups.

The codename for 1.11.94 is *Dave Grohl*

#### Bug

- *Bluecat / Adonis* graph definition fixes and enhancements (Issue [NMS-4767](#))
- It is possible to define an *OnmsServiceType* twice and that can hurt some features. (Issue [NMS-5914](#))
- Alarm list and alarm details is not showing in the WebUI (Issue [NMS-5947](#))
- *.meta* files are re-written on every poll (Issue [NMS-5967](#))
- *JDBC jasperreports* not working with *JniRrdStrategy* configured (Issue [NMS-5975](#))
- The report *SerialInterfaceUtilizationSummary* is showing duplicated data. (Issue [NMS-5978](#))
- *NCS* configuration file found in 1.12 branch (Issue [NMS-5982](#))
- Changed unmarshalling integration test to use parametrized unit tests and a separate coverage test (Issue [NMS-5966](#))

### Release 1.11.93

Release 1.11.93 is the third release candidate for the OpenNMS 1.12 series. It contains more bugfixes, and makes *Provisiond* the default for answering node *newSuspect* events, rather than *Capsd*. To revert to the old behavior, set `org.opennms.provisiond.enableDiscovery=false` in `opennms.properties`.

The codename for 1.11.93 is *Alan Doyle*

#### Bug

- Java compiler warnings (Issue [NMS-2340](#))
- Ensure that each newly created thread has an uncaught exception handler (Issue [NMS-2636](#))
- Foundry switches do not get identified as having multiple VLANs (Issue [NMS-3303](#))
- Javamail file type overrides Database Report file type for CSV files (Issue [NMS-5020](#))
- no 404 handler found (Issue [NMS-5374](#))
- Searching for interface that returns exactly 1 match does not work (Issue [NMS-5388](#))
- reclassify a *collectd.log* entry severity (Issue [NMS-5454](#))

- Need to change log level for provisiond node scan completion (Issue [NMS-5629](#))
- liebert.sitenet.bypass43\* reports reference column names over rrd datasource name limit (Issue [NMS-5651](#))
- Duty schedule editor defaults to identical start and end time (Issue [NMS-5741](#))
- Karaf deadlock during features:uninstall, features:install (Issue [NMS-5786](#))
- too terse log message in JDBCMonitor (Issue [NMS-5825](#))
- The SnmpPoller is sending the interfaceOperDown events every time a requisition is synched or a single node is rescanned. (Issue [NMS-5841](#))
- incorrect null tests in DefaultAdminCategoryService.java (Issue [NMS-5897](#))
- Primary interface is not used for VMware CIM service polling and data collection (Issue [NMS-5938](#))
- Several plugins not being built as RPMS (Issue [NMS-5939](#))
- AsteriskGateway daemon should not start by default (Issue [NMS-5940](#))
- maclike search fails for non-ip interfaces (Issue [NMS-5949](#))
- Provsioning does not synchronize to database (Issue [NMS-5965](#))

## Enhancements

- SNMP GET HEX Values from SAN switch (Issue [NMS-5423](#))
- implement a json collector (Issue [NMS-5435](#))
- XmlCollector enhancements (Issue [NMS-5466](#))
- Detection for VMware CIM service only if the communication is possible (Issue [NMS-5941](#))
- Fix non-well formatted HTML in order to process it with the XML Collector (Issue [NMS-5962](#))
- Apply a XSLT transformation to source XML/HTML/TEXT page before processing it with the XML Collector (Issue [NMS-5963](#))

## Release 1.11.92

Release 1.11.92 is the third release candidate for the OpenNMS 1.12 series. It is identical to 1.11.91 except for a fix for reading `eventconf.xml` files that don't have an XML namespace attribute.

The codename for 1.11.92 is *Steve Vai*

## Bug

- Regression: New *EventConfDao* won't unmarshal `eventconf.xml` files without an XML namespace (Issue [NMS-5935](#))

## Release 1.11.91

Release 1.11.91 is the second release candidate for the OpenNMS 1.12 series.

The codename for 1.11.91 is *Joe Satriani*

## Bug

- Release notes says Gentoo is not maintained (Issue [NMS-4338](#))
- incorrectly translated trap contents (Issue [NMS-5281](#))
- Password Encryption Method Needs Improvement (Issue [NMS-5313](#))
- Linkd should persist the discovery strategy (Issue [NMS-5550](#))
- Serial Interface Report has Incorrect Title (Issue [NMS-5616](#))
- Invalid Delete Group Menu Option Wacks the Topology App (Issue [NMS-5671](#))
- Bits of event-acknowledgement UI still showing (Issue [NMS-5733](#))
- Updates on strings.properties are not propagated when using the WebUI on a different server (Issue [NMS-5806](#))
- Change "Last Capsd Poll" to "Last Capabilities Scan" in topology map node browser (Issue [NMS-5811](#))
- Deprecated provision requisition attributes carried over to 1.11+ will cause requisitions to show empty (Issue [NMS-5814](#))
- Startup fails when pending foreign-source exists with no pending requisition (Issue [NMS-5818](#))
- Current event definitions for Aruba Controllers are wrong (Issue [NMS-5830](#))
- Get details from a specific alarmId is redirecting to the wrong page. (Issue [NMS-5838](#))
- VMware integration not gathering statistics on VM host hardware collections such as vmware4Disk or vmware4Cpu (Issue [NMS-5845](#))
- Uncaught exception in HostResourceSwRunMonitor when handling empty strings (Issue [NMS-5852](#))
- Stylesheet Broken for Normal Alarms (Issue [NMS-5865](#))
- 30 second outages caused by ArrayOutOfBoundException in JNI-Ping implementation (Issue [NMS-5874](#))
- Distributed map popup "unknown map implementation:" on new install (Issue [NMS-5886](#))
- System report not working with RPMs (ClassNotFoundException on ServiceRegistry) (Issue [NMS-5889](#))
- Outages appears to be not sorted on service.jsp (and probably interface.jsp) (Issue [NMS-5892](#))
- LLDP Failure for non ifIndex references (Issue [NMS-5904](#))
- Topology Map showing non-existent links/missing valid links (Issue [NMS-5906](#))
- Remove deprecated per-instance SNMP-Informant graph definitions (Issue [NMS-5924](#))
- Uncaught exception in webapp when viewing non-existent alarm: "Missing alarm request attribute" (Issue [NMS-5930](#))

## Enhancements

- SSH button on node information screen (Issue [NMS-699](#))
- favicon in webui? (Issue [NMS-3369](#))

- Add nodeID to title field on element/node.jsp (Issue [NMS-3398](#))
- add a new capsd plugin and poller plugin to monitor the SSL Certification Expiration (Issue [NMS-4142](#))
- Add HWg-STE SNMP Temperature Probe Info to OpenNMS (Issue [NMS-5859](#))
- Display the Package Name and Service Parameters on the Service Page (Issue [NMS-5876](#))
- Make optional the addition of default ports to HTTP Host Header on the PSM. (Issue [NMS-5884](#))
- How can I know which poller packages are actively being used for the services on a given interface? (Issue [NMS-5893](#))
- Rename MIBs after successfully compile them to minimize error with dependencies (Issue [NMS-5933](#))
- Persist Ipv6 routing table in Linkd (Issue [NMS-5579](#))

## Release 1.11.90

Release 1.11.90 is the first release candidate for the OpenNMS 1.12 series.

The codename for 1.11.90 is *John Roderick*

### Bug

- HRULE not working in JRobin graphs (Issue [NMS-2793](#))
- two groovy versions installed in \$OPENNMS\_HOME/lib (Issue [NMS-5196](#))
- snmp4j implementation of opennms not usable inside OSGI-Container (Issue [NMS-5462](#))
- XmlCollector data collection failures (Issue [NMS-5464](#))
- Remove jaxb-dependencies module since we now require jdk 1.6 (Issue [NMS-5482](#))
- Deleting many nodes at one time through REST API cause error (Issue [NMS-5524](#))
- OpenNMS start-up error - javax.jmdns.impl.tasks.state.DNSStateTask (Issue [NMS-5535](#))
- No decode for nodelabel in nodeUp/nodeDown event (Issue [NMS-5548](#))
- SnmpMonitor is not able to manage "OCTET STRING" (Issue [NMS-5563](#))
- WebMonitor Broken (Issue [NMS-5567](#))
- verbose messages about old import formats should be removed (Issue [NMS-5571](#))
- Linkd identifies SRT bridges as valid bridge (Issue [NMS-5573](#))
- After provisioning a node getting error after scan. (Issue [NMS-5584](#))
- Modify requisition's policies/detectors is not working (Issue [NMS-5596](#))
- Latency thresholding fails for StrafePing, perhaps others when nulls exist in PollStatus properties (Issue [NMS-5600](#))
- ReST service redirects on PUT and POST are broken (Issue [NMS-5608](#))
- Ability to disable the scheduling for rescan existing nodes when Provisiond starts (Issue [NMS-5622](#))

- Can't hide a single widget from dashboard.jsp (Issue [NMS-5638](#))
- JRobinRrdStrategy in master has bogus import of antlr.StringUtils (Issue [NMS-5646](#))
- JavaSendMailer throws NPE when no e-mail address configured for report (Issue [NMS-5665](#))
- The search page is not displaying the services correctly if Capsd is disabled (Issue [NMS-5669](#))
- NPE in StrafePing (Issue [NMS-5670](#))
- The MIB Compiler UI is not catching the exceptions thrown by the jsniparser library. (Issue [NMS-5674](#))
- The NTP Detector is broken (Issue [NMS-5677](#))
- dependencies/liquibase/pom.xml contains repository configuration (Issue [NMS-5678](#))
- The remote poller is not working when using HTTP, but it works with RMI (Issue [NMS-5681](#))
- Add a way to use the IP address when building criteria selections for the SNMP interfaces on the SNMP Poller's configuration file. (Issue [NMS-5683](#))
- The JRobin Converter doesn't work when the RRD Step is different than 5 minutes (Issue [NMS-5685](#))
- The hover icon of the delete button from the Surveillance Categories Page is wrong. (Issue [NMS-5693](#))
- Categories with spaces or non alphanumeric characters breaks the delete operation on the WebUI. (Issue [NMS-5694](#))
- Default poller-configuration.xml specifies timeout, retry, port for SNMP-based services (Issue [NMS-5703](#))
- NullPointerException in auto-action code path (Issue [NMS-5708](#))
- Wrong redirect after clicking on any ticket related button from the alarm details page (Issue [NMS-5713](#))
- AssetRecordDao.findByNodeId is not working (Issue [NMS-5714](#))
- Service Registration Strategy Runs up CPU on Mac OS 10.8 (Issue [NMS-5730](#))
- Monitoring big file system using hrStorageTable with Net-SNMP breaks Collectd (Issue [NMS-5747](#))
- JdbcEventUtil should not set distPoller to "undefined" (Issue [NMS-5750](#))
- promoteQueueData should not be stored on the events table. (Issue [NMS-5752](#))
- Allow ILR to output durations in milliseconds (Issue [NMS-5755](#))
- Live threshold merging fails if threshold with new ds-type added to existing group (Issue [NMS-5764](#))
- Page Sequence Monitor fails with Unsupported Operation Exception (Issue [NMS-5801](#))
- Geo-coding for new node-maps requires unnecessary assets (Issue [NMS-5804](#))

## Enhancements

- split snmp-graph.properties (Issue [NMS-850](#))

- [PATCH] - Microsoft IIS report definitions (Issue [NMS-1305](#))
- reportd persistent-reports aren't listed. (Issue [NMS-4056](#))
- Need ability to hand-edit service and category names in requisition web editor (Issue [NMS-4858](#))
- refactored snmp-graph.properties into its component files (Issue [NMS-5495](#))
- web ui send-event (Issue [NMS-5516](#))
- New Access Monitor Daemon (Issue [NMS-5601](#))
- New Ticket Notification Strategy (Issue [NMS-5612](#))
- Order of threshold groups (Issue [NMS-5647](#))
- Dividing snmp graph report configuration for Microsoft SNMP informant (Issue [NMS-5653](#))
- Dividing snmp graph report configuration for f5 Big-IP devices (Issue [NMS-5654](#))
- Add ability to specify certificate alias for Jetty SSL (Issue [NMS-5680](#))
- Improve the ticketer API in order to access more information about the ticket's originator. (Issue [NMS-5705](#))
- Nodes with "Most Recent Outages" list (Issue [NMS-5754](#))
- Add support to Syslog Northbound Interface for parameters and first alarm occurrence only (Issue [NMS-5798](#))
- Use Path Outage with Schedule Outage (Issue [NMS-5119](#))
- Remedy ITSM Trouble Ticket Integration (Issue [NMS-5545](#))
- Add the ack user in alarm list (Issue [NMS-5546](#))
- Enabler Filter for LDAP (Issue [NMS-5547](#))
- Syslog Implementation of Northbound Interface (Issue [NMS-5796](#))
- Merge features/TN branch to master (Issue [NMS-5723](#))

## Release 1.11.3

Release 1.11.3 is the latest in the unstable series of OpenNMS. It contains what will eventually be a part of the OpenNMS 1.12.x stable releases.

The codename for 1.11.3 is *Jonathan Coulton*

### Bug

- garbage collection vacuumd automation entries can be safely removed (Issue [NMS-5411](#))
- notification text message is not treated as plain text in UI (Issue [NMS-5477](#))
- sched-outage page needs boundary limits for cell content heights. (Issue [NMS-5497](#))
- Thresholding on HTTP collections is broken (Issue [NMS-5504](#))

### Enhancements

- Added support for dynamic responses to the Mock SNMP Agent (Issue [NMS-5412](#))

- Linkd use obsolete ip route table to get ip route data (Issue [NMS-5429](#))
- Dns Reverse provisioning Adapter (Issue [NMS-5514](#))
- add nodeid and foreign source to node list page (Issue [NMS-5523](#))
- add date format translation mapping for prefab graph command (Issue [NMS-5533](#))

## Release 1.11.2

Release 1.11.2 is the latest in the unstable series of OpenNMS. It contains what will eventually be a part of the OpenNMS 1.12.x stable releases.

The codename for 1.11.2 is *Damian Hess*

### Bug

- Get release artifact for com.atlassian.jira.rpc.soap.client:jira-ws-client (Issue [NMS-2181](#))
- Memcached graph definitions left out of default configuration (Issue [NMS-4208](#))
- System Report tool should ignore .git/index and other binary files (Issue [NMS-4441](#))
- linkd needs to "upsert" entries in the ipRouteInterface, atinterface, vlan tables (Issue [NMS-5029](#))
- Null Pointer Exception after session timeout and then editing a path target (Issue [NMS-5269](#))
- Duplicate Links (Issue [NMS-5270](#))
- Extremely intermittent failure to detect services with TcpDetector in unit tests (Issue [NMS-5311](#))
- opening web map fails with java.lang.NumberFormatException (Issue [NMS-5327](#))
- Problems using "offset" parameter on events REST Service (Issue [NMS-5381](#))
- Exception in Linkd (Issue [NMS-5440](#))
- build modifies versioned file in src (Issue [NMS-5460](#))
- Problem creating notifications for syslogd events (Issue [NMS-5475](#))

### Enhancements

- Linkd Refactoring (Issue [NMS-4524](#))
- Alphabetize group names in the Users/Groups list (Issue [NMS-4776](#))
- Default netsnmp group ns-dskPercentNode high threshold raises alerts for devices that are not real physical devices that always report 100% inode utilization (Issue [NMS-5116](#))
- Datacollection Config for Isilon Storage Arrays (Issue [NMS-5330](#))
- varbind based notification filtering doesn't support regular expression (Issue [NMS-5399](#))
- Greater flexibility in RelativeTime for Statistics Reports (Issue [NMS-5422](#))
- OSPF nbr discovery (Issue [NMS-5503](#))

## Release 1.11.1

Release 1.11.1 is the latest in the unstable series of OpenNMS. It contains what will eventually be a



part of the OpenNMS 1.12.x stable releases.

The codename for 1.11.1 is *Mike Doughty*

## Bug

- Passwords Cannot Contain non-ASCII Characters (Issue [NMS-5312](#))
- IpAddressTableEntry: Unable to determine IP address type (4) (Issue [NMS-5414](#))
- MockSnmpAgent does not parse properly STRING with quotes "" (Issue [NMS-5415](#))
- Provision service does not persist ifPhysAddress for snmp interfaces without a corresponding ip interface (Issue [NMS-5418](#))
- The Poll Snmp Interface Policy is overwritten if the interface has a valid ip address (Issue [NMS-5425](#))

## Enhancements

- Snmp Monitor reports Down when the Agent is not responding (Issue [NMS-4632](#))
- Modify the remote poller to make it friendlier to run multiple instances on the same machine (Issue [NMS-5072](#))

## Release 1.11.0

Release 1.11.0 is the first in the latest unstable series of OpenNMS. It contains what will eventually be a part of the OpenNMS 1.12.x stable releases.

The codename for 1.11.0 is *MCA*

## Bug

- threshd,log shows wrong nodeId in certain circumstances (Issue [NMS-1121](#))
- Collectd collects for deleted node (Issue [NMS-1996](#))
- More reduction keys for APC events (Issue [NMS-2907](#))
- Link with parentifindex -1 are not displayed in jsp pages (Issue [NMS-3722](#))
- translated events are displayed like the original event (Issue [NMS-4038](#))
- Support relativetime in graph URL (Issue [NMS-4114](#))
- threshd process wrong counter-type SNMP data after SNMP data collection failed or restored (Issue [NMS-4244](#))
- Policy Rule using ipAddress with Match Snmp Policy does not work (Issue [NMS-4568](#))
- ipinterface.jsp and snmpinterface.jsp does not show snmp poller data (Issue [NMS-4569](#))
- link.jsp does not show interface details for some entries (Issue [NMS-4570](#))
- race condition in Provisiond IPv6 scanning (Issue [NMS-4717](#))
- When using the GoogleMaps remote poller interface, unchecked markers are visible on initialization (Issue [NMS-4734](#))

- Event Analysis report is missing in default configuration (Issue [NMS-4753](#))
- nodeList page fails to pass the foreignSource when "show interfaces" is selected (Issue [NMS-4777](#))
- Test Failure using Italian IT\_it language (Issue [NMS-4810](#))
- Null (\0) characters in logmsg field of events causes org.postgresql.util.PSQLException: ERROR: invalid byte sequence for encoding "UTF8": 0x00 (Issue [NMS-4817](#))
- MExchangeDetectorClient is too verbose on exceptions (Issue [NMS-4856](#))
- Upgrade bug when Linkd tables contain data (Issue [NMS-4873](#))
- Resource graphs picker widget disappears when clicked in the wrong place (Issue [NMS-4915](#))
- update ksc page (Issue [NMS-4917](#))
- Errors in master pom.xml (Issue [NMS-4950](#))
- JmxConfigTool fails to generate Jmx configuration file (Issue [NMS-5260](#))

## Enhancements

- small patch to add regex filtering of eventparms (Issue [NMS-2052](#))
- Enhancement - Assets with clean date input (Issue [NMS-2834](#))
- Review The SnmpPoller (Issue [NMS-4646](#))
- Better provisiond debugging (Issue [NMS-4694](#))
- DbHelper class should use dao's (Issue [NMS-4721](#))
- Add new opennms mib events definition (Issue [NMS-4722](#))
- Event Analysis Report should be usable on postgres older than 8.4 (Issue [NMS-4752](#))
- Add support for matching syslog messages by process name, severity, facility in ueiMatch (Issue [NMS-4772](#))
- Convert Linkd to use Hibernate (Issue [NMS-4850](#))
- Add PostgreSQL 9.1 support (Issue [NMS-4923](#))
- Make sure we add -XX:+HeapDumpOnOutOfMemoryError to default runtime arguments (Issue [NMS-4953](#))
- Asset-page shows rancid password readable. Change to password fields. (Issue [NMS-4961](#))
- Asset-page categorie fields validation. (Issue [NMS-4963](#))
- ICMP Monitor packet-size parameter to set the packet size (Issue [NMS-5121](#))
- Events file for websense appliance (Issue [NMS-5314](#))
- Standardize the time zone format reports (Issue [NMS-4785](#))
- The Snmp Poller send oper Down event the first time it runs if admin status is up (Issue [NMS-4781](#))
- Let the provisioning system set if an interface should be polled via policy rules (Issue [NMS-4782](#))
- AvailabilitySummary (Issue [NMS-4786](#))

- AvailabilitySummary\_LastMonth (Issue [NMS-4787](#))
- AvailabilitySummary\_ThisMonth (Issue [NMS-4788](#))
- AvailabilitySummary\_LastYear (Issue [NMS-4789](#))
- NodeAvailabilityReport\_ThisMonth (Issue [NMS-4791](#))
- NodeAvailabilityReport\_ThisYear (Issue [NMS-4792](#))
- SnmpInterfaceUtilizationSummary (Issue [NMS-4793](#))
- ResponseTimeSummary\_Availability\_Offenders\_subreport (Issue [NMS-4794](#))
- ResponseTimeSummary\_Availability\_subreport (Issue [NMS-4795](#))
- Top25PercentDown\_subreport (Issue [NMS-4796](#))

# Release 1.10

## Changelog

### Release 1.10.14

Release 1.10.14 is the latest in the stable 1.10 series of OpenNMS releases. It contains a few small bugfixes including an important security fix.

The codename for 1.10.14 is *Chalumeau*.

#### Bug

- XSS vector in `admin/error.jsp` (Issue [NMS-6147](#))
- `maint_events.sh` is not working (Issue [NMS-6168](#))
- NPE on `output.log` due to null `ifSpeed` when calling `PhysicalInterfaceRow.getSpeed` (Issue [NMS-6169](#))
- Date issues in "Response time by node" JR report (Issue [NMS-6182](#))
- The `SnmpMonitor` is not returning the status with the `responseTime` value (Issue [NMS-6192](#))
- `Collectd` throws `ConcurrentModificationException` when accessing `PollOutagesConfigManager` (Issue [NMS-6277](#))
- `ConcurrentModificationException` inside `ThresholdingSet` (Issue [NMS-6279](#))
- `IfInfo` can throw `NullPointerException` (Issue [NMS-6280](#))
- `Provisiond` detectors sometimes fail to detect (Issue [NMS-6412](#))
- The `Valere` devices with broken SNMP agents are hanging `Provisiond`. (Issue [NMS-6484](#))
- Security: `downloadReport` allow download and view any file in filesystem (Issue [NMS-6580](#))

### Release 1.10.13

Release 1.10.13 is the latest in the stable 1.10 series of OpenNMS releases. It contains a few small bugfixes.

The codename for 1.10.13 is *Sopila*.

#### Bug

- ERROR: insert or update on table "notifications" violates foreign key constraint `fk_eventid3` (Issue [NMS-1668](#))
- Provisiond Error : `org.hibernate.exception.SQLGrammarException`: could not execute query (Issue [NMS-5348](#))
- "No Data for this Entry" in Serial Interface Utilization Summary report (Issue [NMS-5617](#))
- Debian init.d script wrong postgres dependency (Issue [NMS-5879](#))

- threshold filters not processed properly (Issue [NMS-5880](#))
- It is possible to define an *OnmsServiceType* twice and that can hurt some features. (Issue [NMS-5914](#))
- Duplicated parameter in `notification.xml` (Issue [NMS-5948](#))
- *Node availability report* wrong calculation of percentage (Issue [NMS-5990](#))
- Database connections leak until the system cannot obtain any more connections (Issue [NMS-6051](#))
- `opennms status` should return `3` when unconfigured, not `6` (Issue [NMS-6068](#))
- The JAR where the *GpDetector* is defined doesn't appear on the *RPM* or *DEB* files (Issue [NMS-6074](#))
- parent-foreign-source is not working anymore (Issue [NMS-6083](#))

## Enhancements

- Add new `sysOID` to *linkd* (Issue [NMS-6034](#))
- SNMP support for *Clavister* security devices (Issue [NMS-6107](#))

## Release 1.10.12

Release 1.10.12 is the latest in the stable series of OpenNMS releases. It contains a few bugfixes and enhancements, including a fix for the alarm detail page.

The codename for 1.10.12 is *Arghul*.

## Bug

- Alarm list and alarm details is not showing in the WebUI (Issue [NMS-5947](#))
- The report *SerialInterfaceUtilizationSummary* is showing duplicated data. (Issue [NMS-5978](#))
- *Serial Interface Utilization Report* is displaying the wrong start date on the report. (Issue [NMS-5985](#))

## Release 1.10.11

Release 1.10.11 is the latest in the stable series of OpenNMS releases. It contains a few bugfixes and enhancements.

The codename for 1.10.11 is *Nadaswaram*.

## Bug

- Release notes says *Gentoo* is not maintained (Issue [NMS-4338](#))
- Javamail file type overrides Database Report file type for CSV files (Issue [NMS-5020](#))
- Events shows interface *127.0.0.1* (Issue [NMS-5232](#))
- *Serial Interface Report* has Incorrect Title (Issue [NMS-5616](#))

- Duty schedule editor defaults to identical start and end time (Issue [NMS-5741](#))
- The *SnmpPoller* is sending the *interfaceOperDown* events every time a requisition is synched or a single node is rescanned. (Issue [NMS-5841](#))
- *Provisiond* fails with `java.lang.NullPointerException` (Issue [NMS-5922](#))
- Uncaught exception in webapp when viewing non-existent alarm: "Missing alarm request attribute" (Issue [NMS-5930](#))

## Release 1.10.10

Release 1.10.10 is the latest in the stable series of OpenNMS releases. It contains a number of bugfixes and enhancements.

The codename for 1.10.10 is *Tumpong*.

### Bug

- Bits of event-acknowledgement UI still showing (Issue [NMS-5733](#))
- Updates on strings.properties are not propagated when using the WebUI on a different server (Issue [NMS-5806](#))
- Current event definitions for Aruba Controllers are wrong (Issue [NMS-5830](#))
- Get details from a specific alarmId is redirecting to the wrong page. (Issue [NMS-5838](#))
- Uncaught exception in HostResourceSwRunMonitor when handling empty strings (Issue [NMS-5852](#))
- Outages appears to be not sorted on service.jsp (and probably interface.jsp) (Issue [NMS-5892](#))
- SmbMonitor no longer effective, needs fixing (Issue [NMS-5894](#))

### Enhancements

- SSH button on node information screen (Issue [NMS-699](#))
- *favicon* in webui? (Issue [NMS-3369](#))
- Add nodeID to title field on *element/node.jsp* (Issue [NMS-3398](#))
- Display the *Package Name* and *Service Parameters* on the *Service Page* (Issue [NMS-5876](#))
- Make optional the addition of default ports to HTTP Host Header on the *PSM*. (Issue [NMS-5884](#))
- How can I know which *poller packages* are actively being used for the services on a given interface? (Issue [NMS-5893](#))

## Release 1.10.9

Release 1.10.9 is the latest in the stable series of OpenNMS releases. It contains a number of bugfixes and enhancements.

The codename for 1.10.9 is *Nose Flute*.

## Enhancements

### Bug

- **HRULE** not working in JRobin graphs (Issue [NMS-2793](#))
- Event acknowledgement button, checkboxes, description should be hidden (Issue [NMS-3923](#))
- *XmlCollector* data collection failures (Issue [NMS-5464](#))
- OpenNMS start-up error - `javax.jmdns.impl.tasks.state.DNSStateTask` (Issue [NMS-5535](#))
- Ifspeed displayed is not right (Issue [NMS-5536](#))
- No decode for nodelabel in *nodeUp/nodeDown* event (Issue [NMS-5548](#))
- Error save and restart *Discovery* (Issue [NMS-5606](#))
- *XmlCollector* & thresholding exception (Issue [NMS-5642](#))
- *NullPointerException* in auto-action code path (Issue [NMS-5708](#))
- *HostResourceSwRunMonitor* doesn't work well with processes like **cron** (with many forks) (Issue [NMS-5710](#))
- Missing *isSnmpprimary* in *NetworkElementFactory* for Interface objects. (Issue [NMS-5720](#))
- Service Registration Strategy Runs up CPU on Mac OS 10.8 (Issue [NMS-5730](#))
- Bits of event-acknowledgement UI still showing (Issue [NMS-5733](#))
- Monitoring big file system using *hrStorageTable* with *Net-SNMP* breaks *Collectd* (Issue [NMS-5747](#))
- *promoteQueueData* should not be stored on the events table. (Issue [NMS-5752](#))
- Allow *ILR* to output durations in milliseconds (Issue [NMS-5755](#))
- Live threshold merging fails if threshold with new **ds-type** added to existing group (Issue [NMS-5764](#))
- Remote poller dies on startup if *LDAP*, *RADIUS*, *NSClient* present in *poller configuration* (Issue [NMS-5777](#))
- *Reportd* persistent-reports aren't listed. (Issue [NMS-4056](#))

## Enhancements

- Add the ack user in alarm list (Issue [NMS-5546](#))
- Enabler Filter for LDAP (Issue [NMS-5547](#))
- Need ability to hand-edit service and category names in requisition web editor (Issue [NMS-4858](#))
- varbind based notification filtering doesn't support regular expression (Issue [NMS-5399](#))
- Enhance poller with CIFS file and folder monitor (Issue [NMS-5725](#))
- Nodes with "Most Recent Outages" list (Issue [NMS-5754](#))
- Add a shell wrapper for the ILR (Issue [NMS-5766](#))
- "Nodes w/Active Problems" : A new box for the home page based on alarms similar to the Outages Box (Issue [NMS-5807](#))



## Release 1.10.8

Release 1.10.8 is the latest in the stable series of OpenNMS releases. It contains a number of bugfixes and enhancements.

The codename for 1.10.8 is *Trikiti*.

### Bug

- `NodeAvailabilityReport.jrxml` doesn't work: *SQLException* caused by date string in french locale (Issue [NMS-5379](#))
- `subreports/InterfaceAvailabilityReport_subreport1.jrxml` doesn't work on my locale (Issue [NMS-5457](#))
- *SnmpMonitor* is not able to manage "OCTET STRING" (Issue [NMS-5563](#))
- Selecting Surveillance Categories Per Node Broken (Issue [NMS-5609](#))
- Nodes with the same IP show up in the wrong categories (availability table on the index page) (Issue [NMS-5611](#))
- *JavaSendMailer* throws NPE when no e-mail address configured for report (Issue [NMS-5665](#))
- The search page is not displaying the services correctly if *Capsd* is disabled (Issue [NMS-5669](#))
- The *NTP Detector* is broken (Issue [NMS-5677](#))
- Add a way to use the IP address when building criteria selections for the SNMP interfaces on the *SNMP Poller's* configuration file. (Issue [NMS-5683](#))
- The *JRobin Converter* doesn't work when the *RRD Step* is different than 5 minutes (Issue [NMS-5685](#))
- The hover icon of the delete button from the Surveillance Categories Page is wrong. (Issue [NMS-5693](#))
- Categories with spaces or non alphanumeric characters breaks the delete operation on the WebUI. (Issue [NMS-5694](#))
- *google-collections* has been replaced with *guava* (Issue [NMS-5695](#))
- *HttpCollector* doesn't detect response locale (PATCH INCLUDED) (Issue [NMS-5701](#))
- Default `poller-configuration.xml` specifies timeout, retry, port for SNMP-based services (Issue [NMS-5703](#))
- *WMI Capsd plugin* mixes up username, domain, and password (Issue [NMS-5707](#))
- Wrong redirect after clicking on any ticket related button from the alarm details page (Issue [NMS-5713](#))
- `AssetRecordDao.findById` is not working (Issue [NMS-5714](#))

### Enhancements

- Improve the ticketer API in order to access more information about the ticket's originator. (Issue [NMS-5705](#))

## Release 1.10.7

Release 1.10.7 is the latest in the stable series of OpenNMS releases. It contains a number of bugfixes and enhancements.

The codename for 1.10.7 is *Buccina*

### Bug

- Missing IP interfaces in node.jsp list (Issue [NMS-5261](#))
- datacollection stops after making changes in "Schedules Outages" (Issue [NMS-5491](#))
- vague `provisiond.log` *DEBUG* verbage (and misspelling) (Issue [NMS-5518](#))
- DnsDetector logs an error message when attempting to detect the DNS service (Issue [NMS-5565](#))
- verbose messages about old import formats should be removed (Issue [NMS-5571](#))
- Latency thresholding fails for StrafePing, perhaps others when nulls exist in PollStatus properties (Issue [NMS-5600](#))
- Ability to disable the scheduling for rescan existing nodes when Provisiond starts (Issue [NMS-5622](#))
- Can't hide a single widget from dashboard.jsp (Issue [NMS-5638](#))
- missing `\` in `report.mikrotik.temp.command` in snmp-graphs.properties (Issue [NMS-5648](#))
- `nortel.kerneltasks` report uses incorrect column name (Issue [NMS-5649](#))
- typo in property name for novell report (Issue [NMS-5650](#))

### Enhancements

- Allow user documentation on alarms and a class of alarms (Issue [NMS-5632](#))
- Order of threshold groups (Issue [NMS-5647](#))

## Release 1.10.6

Release 1.10.6 is the latest in the stable series of OpenNMS releases. It contains a number of bugfixes and enhancements.

The codename for 1.10.6 is *Cornamuse*.

### Bug

- 1.10 Removed IP Hostname Field During Provisioning Scans (Issue [NMS-5233](#))
- `send-event.pl` changes system hostname on *Solaris* systems (Issue [NMS-5351](#))
- The "finished" logging statement is never called for CollectableService:doCollection() (Issue [NMS-5441](#))
- provisioning problem for simple services *java.net.SocketException* (Issue [NMS-5469](#))
- Thresholding on HTTP collections is broken (Issue [NMS-5504](#))

- Fedora 17 Packages (Issue [NMS-5538](#))
- *CollectionResourceWrapper* cache takes up large amounts of RAM (Issue [NMS-5557](#))
- Update *RRD* datasources to have a step field (Issue [NMS-5570](#))

## Enhancements

- Add UEI to the notification configuration UI (Issue [NMS-5559](#))

## Release 1.10.5

Release 1.10.5 is the latest in the stable series of OpenNMS releases. It contains a few minor bugfixes and enhancements.

The codename for 1.10.5 is *Tromboon*.

## Bug

- Arithmetic Exception in *QueuedStrategy* (Issue [NMS-4437](#))
- Installer fails when using the *EnterpriseDB PostgreSQL* database. (Issue [NMS-5431](#))
- WebStart (JNLP) remote poller is missing *ConfigurationGui* and other *Groovy* bits (Issue [NMS-5447](#))
- **I**n**cl**ude/**Ex**cl**ude** range (Issue [NMS-5465](#))
- Fix ReST **count** requests, refactor *PUT/POST* to use *Post/Redirect/Get* pattern (Issue [NMS-5489](#))
- Debian package misses **postgresql** requirement for dependency-based booting (Issue [NMS-5490](#))

## Enhancements

- No packaging for *mib2events*, *mibparser*, and *Provisioning Adapters* (Issue [NMS-3183](#))
- Greater flexibility in *RelativeTime* for *Statistics Reports* (Issue [NMS-5422](#))

## Release 1.10.4

Release 1.10.4 is the latest in the stable series of OpenNMS releases. It contains a few minor bugfixes and enhancements.

The codename for 1.10.4 is *Archlute*.

## Bug

- *Collectd* collects for deleted node (Issue [NMS-1996](#))
- No working breadcrumb on *System Report List* Page (Issue [NMS-4943](#))
- Services not deleted when removed from provisioning requisition (Issue [NMS-5198](#))
- An exception is thrown if a notification is configured to have a subject with more than 256 characters (Issue [NMS-5375](#))
- There are some NPE when trying to collect data from nodes managed by Capsd (Issue [NMS-](#)

5400)

- *IpAddressTableEntry*: Unable to determine IP address type (4) (Issue [NMS-5414](#))
- *MockSnmpAgent* does not parse properly *STRING* with quotes "" (Issue [NMS-5415](#))
- *HttpCollector* fails to parse numeric values in locales that use different decimal notation (Issue [NMS-5426](#))
- *NullPointerException* when printing errors in the *JNI6* code (Issue [NMS-5428](#))

## Enhancements

- Add logmsg support to send-event.pl (Issue [NMS-5373](#))
- Add notification ID to NotificationTask.toString() (Issue [NMS-5377](#))
- Add SNMP data collection and resource graph definitions for pfSense firewall / router (Issue [NMS-5378](#))

## Release 1.10.3

Release 1.10.3 is the latest in the stable series of OpenNMS releases. It contains a few bugfixes, most notably an important deadlock fix when using provisiond.

The codename for 1.10.3 is *Fiscorn*.

## Bug

- *Path-Outage*: parent-foreign-id is not recognized when defined in another requisition (Issue [NMS-4109](#))
- *JRobinRrdStrategy*: *JRobin*: Unrecognized graph argument: (Issue [NMS-4757](#))
- *Provisiond* leaks file handles, eventually causing "Too many open files" crashes (Issue [NMS-4846](#))
- Scheduled outages applied on latency thresholds are ignored by *Pollerd*. (Issue [NMS-5357](#))
- Unable to create reports after upgrade from 1.10.1 to 1.10.2 (Issue [NMS-5359](#))

## Release 1.10.2

Release 1.10.2 is the latest in the stable series of OpenNMS releases. It contains bugfixes, including a fix for a filehandle leak regression, Windows installer fixes, and some minor enhancements.

The codename for 1.10.2 is *Charango*.

## Bug

- *Path-Outage*: *parent-foreign-id* is not recognized when defined in another requisition (Issue [NMS-4109](#))
- *nodeAdded* event create when POSTing to REST api does not include *nodeLabel* (Issue [NMS-4891](#))
- POST for node/<nodeId>/ipinterface creates interface does not returns its data (Issue [NMS-4892](#))

- Unable to add custom poller with capsd disabled. (Issue [NMS-4924](#))
- Deletion of surveillance categories via WebUI is broken (Issue [NMS-4927](#))
- handle bad SNMP ranges gracefully (Issue [NMS-4947](#))
- *collectd* does not unschedule deleted nodes (Issue [NMS-5105](#))
- Graphing Fails on Windows (Issue [NMS-5139](#))
- *DO\_NOT\_PERSIST* fails on explicitly defined interface when matching any IP address (Issue [NMS-5154](#))
- Some XSDs are missing after installing *opennms-core* (Issue [NMS-5220](#))
- Show interfaces at search for nodes causes crash (Issue [NMS-5230](#))
- Correlator lacks its own log appender (Issue [NMS-5250](#))
- OpenNMS can't load *JICMP* and/or *JICMP6* (Issue [NMS-5253](#))
- OpenNMS-remote-poller debian package requires *sun-java6-jre* (Issue [NMS-5295](#))
- You cannot start OpenNMS with a configured Selenium-Monitor (Issue [NMS-5299](#))
- [Main] *C3P0ConnectionFactory*: C3P0 has no equivalent to *setMaxSize*. Ignoring. (Issue [NMS-5300](#))
- Copy of *jdhcp-1.1.1.jar* Not Included in the *opennms-plugin-protocol-dhcp* Debian Package (Issue [NMS-5305](#))
- Exception when installing OpenNMS 1.10.1 on Windows 2008 Server (Issue [NMS-5306](#))
- Debian package *libopennms-java* does not depend on *libpostgresql-jdbc-java* (Issue [NMS-5308](#))
- clicking on Nodelist throws an error (Issue [NMS-5316](#))
- Threshold Groups page "Request a reload threshold packages configuration" button produces 404 error on IE9 (Issue [NMS-5323](#))
- log messages show up in wrong log file (Issue [NMS-5331](#))
- Automatically created threshold event description missing % at %parm[all]% (Issue [NMS-5336](#))

## Enhancements

- Default netsnmp group *memAvailSwap* / *memTotalSwap* threshold raises alerts for devices that have no swap space allocated (Issue [NMS-5115](#))
- Events file for websense appliance (Issue [NMS-5314](#))
- Add the ability to apply the *SiblingColumnStorageStrategy* to resource's instance (Issue [NMS-5339](#))

## Release 1.10.1

Release 1.10.1 is the second in the latest series of stable releases. It contains plenty of bugfixes, as well as a few minor enhancements.

The codename for 1.10.1 is *Hurdy Gurdy*.

## Bug

- ONMS in "fr" and "de" locales: all event times end in hh:mm:00 (no seconds) (Issue [NMS-3111](#))
- Model importer can silently fail and report importSuccessful when given badly formed XML (Issue [NMS-4205](#))
- Errors in master pom.xml (Issue [NMS-4950](#))
- KSC Child Resource List is not in alphabetical order (Issue [NMS-4957](#))
- Excluded IP ranges are ignored in discovery (Issue [NMS-5045](#))
- Clicking the search button on the Node Interfaces Gizmo causes strange 128 Interface to appear (Issue [NMS-5054](#))
- missing interfaces on node page → physical interface list (Issue [NMS-5127](#))
- Asset CSV import will not import new asset fields. (Issue [NMS-5146](#))
- Reload KSC Report Configuration - Button fails (Issue [NMS-5148](#))
- Linkd generates undefined event (Issue [NMS-5149](#))
- Errors inside the Event Analysis Report related with "Top 25 events by node" (Issue [NMS-5161](#))
- opennms-core RPM is huge - war files packaged in /opt/opennms/lib (Issue [NMS-5166](#))
- Exceptions thrown by one provisioning adapter block further adapters from invocation (Issue [NMS-5167](#))
- etc-pristine in opennms-core contains configuration files from optional packages like the XML Collector (Issue [NMS-5168](#))
- malformed snmp-config.xml entry could cause config to not be read (Issue [NMS-5172](#))
- Only 20 interfaces shown (Issue [NMS-5176](#))
- database report input date wrong (Issue [NMS-5177](#))
- Unable to manually provision service via GUI without first defining detector (Issue [NMS-5178](#))
- Any authenticated user can use the snmpConfig ReST service (Issue [NMS-5184](#))
- Default Provisiond config contains a dns://localhost/localhost URL requisition-def (Issue [NMS-5188](#))
- Old asset field "maintContractNumber" in legacy requisitions breaks provisioning after upgrading to 1.10 (Issue [NMS-5191](#))
- reparenting of snmp interfaces fails (Issue [NMS-5195](#))
- Custom initial-delay not preserved in destination path web editor (Issue [NMS-5197](#))
- Delete an outage through the REST API is not working (Issue [NMS-5200](#))
- The provisioning GUI in the webapp presents the wrong services to add to an interface when creating requisitions (Issue [NMS-5211](#))
- Notifications cannot contain non-ASCII characters and will cause NPEs (Issue [NMS-5216](#))
- TcpHandler in eventd times out too soon (Issue [NMS-5224](#))
- upgrade from 1.8.11 to 1.10.0 breaks provisioning groups and discovery (Issue [NMS-5229](#))

- Nodes marked as deleted in the database still appear in the output of REST calls. (Issue [NMS-5231](#))
- output.log reports java.net.ConnectException error while starting (Issue [NMS-5238](#))
- syslog date parsing fails in non-English locales (Issue [NMS-5242](#))
- The Tcp Exporter cannot process a null Rrd value (Issue [NMS-5248](#))
- A restart is required after changing the resource filter of a threshold (Issue [NMS-5258](#))
- A restart is required after adding a new threshold package. (Issue [NMS-5259](#))
- Resource Types are not ordered on Choose Resources Page (Issue [NMS-5265](#))
- HostResourceSwRunPlugin is not working (Issue [NMS-5274](#))
- Data Export throws an exception when trying to process a '-nan' value. (Issue [NMS-5275](#))
- Small cosmetic problem with the feature "Add to KSC Report" (Issue [NMS-5287](#))
- Provisioning Groups WebUI error (Issue [NMS-5290](#))

## Enhancements

- Mib2opennms : replace the unreadable html entities by CDATA sections (Issue [NMS-5142](#))
- import update ArsDigita eclipse code formatter xml (Issue [NMS-5156](#))
- Increase Group Name Size (Issue [NMS-5181](#))
- Handle numbers with units when configuring the XML Collector (Issue [NMS-5185](#))
- Use multiples XPath for the resource identifier (resource key). (Issue [NMS-5186](#))
- Enhance JMXSecureCollector with RMI protocol support (Issue [NMS-5205](#))
- Split jmx-datacollection-config.xml (Issue [NMS-5213](#))
- Be able to control the filterOperator attribute from the WebUI (Issue [NMS-5239](#))
- Add any resource graph to a KSC report (Issue [NMS-5268](#))

## Release 1.10.0

Release 1.10.0 is the first in the latest series of stable releases.

The codename for 1.10.0 is *Alboka*.

## Bug

- OpenNMS does not keep track of changes that effect the psk map key (Issue [NMS-2384](#))
- VMware traps not recognized (Issue [NMS-2566](#))
- Cisco temperature threshold too low (Issue [NMS-3574](#))
- Link discovery gets confused by Cisco HSRP Mac Addresses (Issue [NMS-3626](#))
- Reasons Missing From nodeLostService events (Issue [NMS-3848](#))
- Opennms silently fails to detect SNMP on Dlink Switches (Issue [NMS-3961](#))



Standard OpenNMS Solaris SMF manifest creates an insane multi-user-server dependency (Issue [NMS-4543](#))

- Linkd can't collect QBridgeDot1dTpFdbTable from D-link switches (Issue [NMS-4930](#))
- KSC Overall Report Menu Formatted Strangely (Issue [NMS-4956](#))
- The opennms startup script doesn't work in Solaris on a fresh installation (Issue [NMS-4971](#))
- Resource graph code is forming bad URLs (Issue [NMS-4981](#))
- Invalid characters on MibObj's alias prevent their usage on thresholds expressions (Issue [NMS-5019](#))
- No Reason Code on IPv6 HTTPS outage (Issue [NMS-5028](#))
- linkd needs to "upsert" entries in the ipRouteInterface, atinterface, vlan tables (Issue [NMS-5029](#))
- Broken support for net-snmp (Issue [NMS-5036](#))
- CIDR-notation IP address in linkd causes exception (Issue [NMS-5050](#))
- dateParser in Rfc5424SyslogParser (Issue [NMS-5051](#))
- Map appears to show duplicate links (Issue [NMS-5052](#))
- Terminology around provisioning considered confusing (Issue [NMS-5056](#))
- Enabling DEBUG for Collectd, breaks SiblingColumnStorageStrategy (Issue [NMS-5062](#))
- The placeholders added to sample configuration files are not replaced when generating RPMs (Issue [NMS-5070](#))
- Field reference to script engine appears to cause memory bloat (Issue [NMS-5076](#))
- Change in hrStorage jrb directory naming usage breaks snmp graphs (Issue [NMS-5078](#))
- Notification names cannot contain an apostrophe it breaks the Java script (Issue [NMS-5090](#))
- 1.8-compatible CustomSyslogParser is not actually 1.8-compatible ;) (Issue [NMS-5091](#))
- SyslogNG parser can't handle older Syslog messages (Issue [NMS-5092](#))
- Spike hunter throws an exception that prevents to scan all RRAs. (Issue [NMS-5096](#))
- If a threshold configuration contains invalid data from evaluators point of view a silent exception is thrown. (Issue [NMS-5102](#))
- Security Roles seem to be busted (Issue [NMS-5108](#))
- Batch reports under database reports GUI seems to be broken (Issue [NMS-5111](#))
- Radius (potentially all) Detector logging incomplete (Issue [NMS-5122](#))
- XSS vulnerability in OpenNMS web UI (Issue [NMS-5128](#))
- provision.pl not working "set" (Issue [NMS-5130](#))
- Outage ReST Interface outputs invalid XML (multiple <ipAddress/> fields) (Issue [NMS-5138](#))
- Capsd should exit if org.opennms.provisiond.enableDiscovery is true (Issue [NMS-5157](#))

## Enhancements

- Making logging from linkd more readable (Issue [NMS-5081](#))
-

- Change of log level for certain messages from linkd (Issue [NMS-5087](#))
- Convert OPENNMS-MIB to SMIV2 (Issue [NMS-5099](#))

# Release 1.9

## Changelog

### Release 1.9.93

Release 1.9.93 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is blessed as the next stable release.

The codename for 1.9.93 is *Kora*.

#### Bug

- HttpMonitor marks service down when response-text matches first line of server response (Issue [NMS-2702](#))
- linkd not working (Issue [NMS-4005](#))
- events written to DB although dest=suppress (Issue [NMS-4006](#))
- linkd ignores <specific> in <iproutes> section of config file (Issue [NMS-4326](#))
- JDBCCollector Appears to Be Broken - stores last value only (Issue [NMS-4512](#))
- Outages crossing report time boundary counted fully in SNMP Interface Availability Report (Issue [NMS-4699](#))
- Interface MAC addresses don't display (and are missing from the DB) on some SNMP-capable nodes (Issue [NMS-4902](#))
- Configuring SNMP broken for biggish IPv4 ranges (Issue [NMS-4972](#))
- Bubble-up submap status (not severity) (Issue [NMS-4976](#))
- rrd.usetcp crashing on startup (Issue [NMS-4989](#))
- DHCP plugins changed (Java) package, old configs are no longer compatible (Issue [NMS-5011](#))
- ClassCastException when using complex threshold expressions. (Issue [NMS-5014](#))
- OnmsAlarm class incorrectly references the alarm\_attributes table as alarm\_details (Issue [NMS-5027](#))
- NPE in linkd with two Linux nodes (Issue [NMS-5030](#))
- interfaceOperDown events are sent every time a node with down interfaces is rescanned. (Issue [NMS-5040](#))

#### Enhancements

- Event definition for Juniper Chassis Cluster SNMP trap (Issue [NMS-4986](#))
- Events definition for Juniper access authentication related SNMP traps (Issue [NMS-4987](#))
- Separate out RADIUS implementation (Issue [NMS-4992](#))
- Split Syslogd configuration across multiple files, add useful definitions and matching events (Issue [NMS-5024](#))

- Missing OID in linkd's config for VLAN classes (Issue [NMS-5031](#))

## Release 1.9.92

Release 1.9.92 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is blessed as the next stable release.

The codename for 1.9.92 is *Superbone*.

### Bug

- Selected more than 56 things in an add hoc resource graph returns no data (Issue [NMS-2205](#))
- Statsd Database Deadlock (Issue [NMS-2390](#))
- normalize radius code (Issue [NMS-2812](#))
- Deleted node appear in KSC report creation (Issue [NMS-2977](#))
- Provisioning issues with Primary Interface (Issue [NMS-3324](#))
- Unable provisioned node when SNMP Agent is down (Issue [NMS-3470](#))
- provisiond does not create nodelabelchanged event (Issue [NMS-3594](#))
- webUI shows 100% availability although service is not monitored (Issue [NMS-3887](#))
- WebUI shows "rescan to suspend" for "forced unmanaged" services (Issue [NMS-3906](#))
- Thresholding - Absolutechange stored as floating-point value (Issue [NMS-4028](#))
- Poll failure reasons pooched in 1.9.1 Snapshot again (Issue [NMS-4073](#))
- XMPP Failure on empty XMPP addresses (Issue [NMS-4123](#))
- No nodeid found for next hop ip/0.0.0.0 (Issue [NMS-4185](#))
- Sending notifications causes exception in javamailer if user is missing smtp adress (Issue [NMS-4367](#))
- When an IP is configured on an interface, the interface name is no longer visible in Node Link Detailed Info (Issue [NMS-4412](#))
- Provisiond NodeCategorySettingPolicy. Nodes lose categorization in subsequent Synchronizations (Issue [NMS-4423](#))
- 404 NOT\_FOUND after generating a system report using FTP (Issue [NMS-4674](#))
- Provisiond allows duplicate nodes (Issue [NMS-4695](#))
- Service monitored with 100% availability instead of Not Monitored (Issue [NMS-4704](#))
- Requisition REST Service allows duplicate nodes (Issue [NMS-4749](#))
- WMI datacollection stops after changes in Schedules Outages (Issue [NMS-4830](#))
- Remote Poller state changes from Paused to Running (Issue [NMS-4834](#))
- InterfaceFilter does not normalize IP addresses (Issue [NMS-4881](#))
- HttpCollector ignores "port" parameter from Collectd config (Issue [NMS-4886](#))
- base-url not used when viewing resource graphs (Issue [NMS-4903](#))

- Provisiond NodeScan aborted scanning IP address tables (Issue [NMS-4904](#))
- wrong `org.opennms.netmgt.correlation.Correlator$EngineAdapter.getName()` ? (Issue [NMS-4914](#)) of
- Resource Graphs selector - doesn't indicate stale graph data (Issue [NMS-4918](#))
- Resource Graphs selector - "Show more" to infinity and beyond! and other quirks (Issue [NMS-4919](#))
- KSC Reports search box on home page is case sensitive (Issue [NMS-4922](#))
- RadiusAuthenticationProvider.java Tests against wrong variable. (Issue [NMS-4928](#))
- Availability Miscalculated in NodeAvailabilityReport.jrxml (and others) (Issue [NMS-4931](#))
- KSC Reports fails due to Missing Parameter: report (Issue [NMS-4934](#))
- The Snmp Poller does not follow the maxVarBindPerPDU statement (Issue [NMS-4935](#))
- Hung threads causing 100% CPU usage (possibly Jetty + HTTPS/SSL related) (Issue [NMS-4940](#))
- All SNMP Interfaces marked as "no collect" by default on any provisioned node (Issue [NMS-4965](#))
- ReinitializePrimarySNMPInterface event causes SNMP interfaces manually marked as "Collect" to revert to "No collect" (Issue [NMS-4967](#))
- Exception with ldapAuthoritiesPopulator with LDAP and / or Radius integration (Issue [NMS-4975](#))
- Notifications Fail with IPv6 Addresses (Issue [NMS-4977](#))

## Enhancements

- DELL DRAC/CMC power stats collection and graphs (Issue [NMS-3299](#))
- Default support AKCP SecurityProbe x20 (Issue [NMS-4156](#))
- New Cisco OIDs for linkd (Issue [NMS-4670](#))
- Report on Windows Servers disk usage (Issue [NMS-4948](#))
- Asset-page categorie fields validation. (Issue [NMS-4963](#))
- HostResourceSwRunMonitor: define the service-name parameter as a regular expression (Issue [NMS-4978](#))
- Make sure we add `-XX:+HeapDumpOnOutOfMemoryError` to default runtime arguments (Issue [NMS-4953](#))

## Release 1.9.91

Release 1.9.91 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is blessed as the next stable release.

The codename for 1.9.91 is *Crumhorn*.

## Bug

- HTTP monitor nits (Issue [NMS-1802](#))
- When running the database checker rethrow any exceptions with details (e.g.: database URL) (Issue [NMS-2374](#))
- Make the severity element in event configuration an enumeration and fix our default config files (Issue [NMS-2375](#))
- Node when deleted remains in performance report list (Issue [NMS-2893](#))
- GUI error if we remove Switches from Surveillance (Issue [NMS-3143](#))
- Reporting is truncated by URL length limitation (Issue [NMS-3194](#))
- Broken paged grid in Select SNMP Interfaces (Issue [NMS-3515](#))
- WMI/WQL Poller - Wrong text in event (Issue [NMS-3606](#))
- Create detectors for all protocol plugins (Issue [NMS-3651](#))
- reload of Threshold configuration does not work - only after restart OpenNMS new threshold are applied (Issue [NMS-3905](#))
- Alarm Description in Dashboard not formatted (Issue [NMS-3912](#))
- SNMPPoller is the cause of loss of snmpinterfaces during the re-import / synchronization Provision Groups. (Issue [NMS-4040](#))
- Can't provision a node with one IP address and a policy to avoid all IP address (Issue [NMS-4049](#))
- spring/beanfactory issue Java 1.7.0 - pointcut issues (Issue [NMS-4350](#))
- Provisiond fails with a Unable to return specified BeanFactory instance exception at startup (Issue [NMS-4475](#))
- [patch] Show correct values in net-snmp CPU Usage graph (Issue [NMS-4502](#))
- Remote Poller implodes with lack of WMI classes (Issue [NMS-4526](#))
- Provisiond HOST-RESOURCES process detector (Issue [NMS-4544](#))
- Report Issue - Surveillance Category Not Correctly Chosen (Issue [NMS-4593](#))
- Resource Graph Resources - limited to 55 Resources or less (Issue [NMS-4675](#))
- Various linkd issues (Issue [NMS-4684](#))
- LDAP authorization fails - group to role mapping does not work (Issue [NMS-4725](#))
- Events generated from trapd are not associated with any node (Issue [NMS-4799](#))
- Node.jsp - double clicking physical interfaces goes to interface.jsp instead of snmpinterface.jsp (Issue [NMS-4800](#))
- Null (\0) characters in logmsg field of events causes org.postgresql.util.PSQLException: ERROR: invalid byte sequence for encoding "UTF8": 0x00 (Issue [NMS-4817](#))
- RrdUtils.createRRD log message is unclear (Issue [NMS-4845](#))
- Notification not being sent event if status="on", looks like notifd is not using the status in the config file properly (Issue [NMS-4851](#))
- unit tests on windows creates directories outside of temp directory (Issue [NMS-4853](#))

- StorageStrategy documentation does not match API in code (Issue [NMS-4857](#))
- Runaway threads consuming CPU when rendering certain graphs (Issue [NMS-4861](#))
- With Jetty + HTTPS, certain Web UI actions prompt browser to "Save As" JSP and HTML files (Issue [NMS-4871](#))
- Show all nodes with asset info not working (Issue [NMS-4872](#))
- Upgrade bug when Linkd tables contain data (Issue [NMS-4873](#))
- Typo in datacollection-config.xml (Issue [NMS-4877](#))
- java.lang.ClassCastException when building an event notification with a category filter (Issue [NMS-4880](#))
- IP address formatting does not match (Issue [NMS-4882](#))
- 1.9.90 newer graphics display inconsistency - node.jsp (Issue [NMS-4895](#))
- notifd DEBUG message "supress" misspelling (Issue [NMS-4899](#))
- Change StorageStrategy to throw an IllegalArgumentException when the arguments (or parameters) are not properly configured on datacollection-config.xml (Issue [NMS-4913](#))

## Enhancements

- Allow HttpCollector and PageSequenceMonitor to accept all SSL certificates (Issue [NMS-3622](#))
- Configure scheduling outages via RESTful Web Service (Issue [NMS-4232](#))
- Make Jetty headerBufferSize property configurable (Issue [NMS-4815](#))
- notifd.log - Info if message was send (Issue [NMS-4831](#))
- Poorly used INFO log message (Issue [NMS-4833](#))
- jmx collector does direct db lookup of nodeid (Issue [NMS-4838](#))
- Check if a node is currently covered by a scheduled outage using Rest (Issue [NMS-4839](#))
- Add PostgreSQL 9.1 support (Issue [NMS-4923](#))

## Release 1.9.90

Release 1.9.90 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is blessed as the next stable release.

The codename for 1.9.90 is *Balafon*.

## Bug

- threshd.log shows wrong nodeId in certain circumstances (Issue [NMS-1121](#))
- columnName argument to AssetModel.searchAssets allows SQL injection (Issue [NMS-1769](#))
- Trapd is not able to process SNMPv3 traps (Issue [NMS-2995](#))
- XMPPNotificationStrategy (or JavaMailNotificationStrategy) does not utilise the "Numeric Message" field -nm (Issue [NMS-3322](#))
- reportd missing ability to select mailer from javamail-configuration.xml (Issue [NMS-3771](#))



- Interface Deleted with SNMP supported and no ipAddrTable (Issue [NMS-3982](#))
- SNAPSHOT installer scripts are faulty (Issue [NMS-4034](#))
- translated events are displayed like the original event (Issue [NMS-4038](#))
- provisioning node with NodeCategorySettingPolicy policy in foreign source does not work if node has no SNMP available (Issue [NMS-4039](#))
- Win32ServiceDetector fails to detect services (Issue [NMS-4047](#))
- We need a WmiDetector (Issue [NMS-4106](#))
- Support relativetime in graph URL (Issue [NMS-4114](#))
- Thresholdvalue in scientific notation not displayed/stored correctly (Issue [NMS-4126](#))
- threshd process wrong counter-type SNMP data after SNMP data collection failed or restored (Issue [NMS-4244](#))
- In-line thresholder ignores scheduled outages (Issue [NMS-4261](#))
- Update Copyright Notice to include 2011 (Issue [NMS-4339](#))
- jetty allows directory listings (Issue [NMS-4375](#))
- Problems adding nodes during discovery (Issue [NMS-4376](#))
- Provisiond NodeCategorySettingPolicy. Nodes lose categorization in subsequent Synchronizations (Issue [NMS-4423](#))
- SnmpAsset Adapter has dependency on Trapd (Issue [NMS-4463](#))
- Services drop down list not alphabetized (Issue [NMS-4483](#))
- SiblingIndexStorageStrategy does SNMP Queries and makes collection VERY slow (Issue [NMS-4494](#))
- Collectd's ServiceCollector class was erroneously changed to take Map<String, String> (Issue [NMS-4500](#))
- IPAddress class overrides equals but not hashCode (Issue [NMS-4530](#))
- Provisiond silently fails to import an invalid model importer file but reports importSuccessful anyway. (Issue [NMS-4546](#))
- [patch] hardware asset fields need more space and one more field (Issue [NMS-4585](#))
- Node label changes outside requisition editor on nodes with a foreign-source ID (Issue [NMS-4590](#))
- Brocade resource-type and fcTable collection could be nicer (Issue [NMS-4661](#))
- Default JDBC data collection config does not work (Issue [NMS-4662](#))
- Capsd may reparent duplicate interfaces from requisitioned nodes (Issue [NMS-4663](#))
- c-ping fails to configure (Issue [NMS-4677](#))
- Permissions on multiple files/directories are poor (allow world-write, have setuid) (Issue [NMS-4682](#))
- OpenNMS GoogleMaps geo-encoder no longer functioning and creates a 503 error in UI (Issue [NMS-4691](#))

- Email Notifications are not properly encoded when the message contains non us-ascii characters. (Issue [NMS-4692](#))
- Provisiond allows duplicate nodes (Issue [NMS-4695](#))
- Path not filtered correctly during build, etc/response-graph.properties (Issue [NMS-4697](#))
- Surveillance part of WEB GUI crashes after all default categories were removed and custom ones were created (Issue [NMS-4698](#))
- snmpStorageFlag="all" is being ignored by the threshold procesing (Issue [NMS-4700](#))
- Unable to add IPv6 address for discovery via web UI (Issue [NMS-4701](#))
- Data Collection Broken for some nodes in testing (Issue [NMS-4703](#))
- race condition in Provisiond IPv6 scanning (Issue [NMS-4717](#))
- When using the GoogleMaps remote poller interface, unchecked markers are visible on initialization (Issue [NMS-4734](#))
- Event Analysis report is missing in default configuration (Issue [NMS-4753](#))
- nodeList page fails to pass the foreignSource when "show interfaces" is selected (Issue [NMS-4777](#))
- DNS provisioning expression matching matches hostname but not record data (Issue [NMS-4783](#))
- DNS provisioning needs to allow foreign ID to be a hash of IP address instead of nodeLabel if administrator so chooses (Issue [NMS-4801](#))
- Word spelled wrong on log message (Issue [NMS-4804](#))
- SELECT tag not closed in asset/modify.jsp (Issue [NMS-4819](#))
- Reportd JavaMailDeliveryService always copies address in sendmail-message "to" attribute or root@localhost (Issue [NMS-4820](#))
- Trapd node-matching should prefer SNMP primary ifaces (Issue [NMS-4822](#))
- AttributeGroup and SiblingColumnStorageStrategy are producing a StackOverflowError (Issue [NMS-4832](#))
- Provisiond leaks file handles, eventually causing "Too many open files" crashes (Issue [NMS-4846](#))
- MExchangeDetectorClient is too verbose on exceptions (Issue [NMS-4856](#))

## Enhancements

- Add IPv6 Support to OpenNMS (Issue [NMS-1094](#))
- Enhancement - Assets with clean date input (Issue [NMS-2834](#))
- Implement PersistenceSelectorStrategy framework (Issue [NMS-3164](#))
- allow trapd to bind to specific address (Issue [NMS-3956](#))
- Enhance default JVM Monitoring configurations (Issue [NMS-4363](#))
- Create a poller monitor to "proxy" pings via the CISCO-PING-MIB (Issue [NMS-4668](#))
- Add alarm-data annotation for Powerware upsDischarged trap event (Issue [NMS-4679](#))

- Better provisiond debugging (Issue [NMS-4694](#))
- Add time it takes to persist the data to the ILR (Issue [NMS-4705](#))
- Enable support for filtering the displayed data (Issue [NMS-4706](#))
- Add ability for HttpMonitor to use node label as virtual host for HTTP polls (Issue [NMS-4707](#))
- MicroBlog doesn't support -nm (Issue [NMS-4708](#))
- Add the possibility to modify eventparms (as text) from Vacuumd (Issue [NMS-4712](#))
- DbHelper class should use dao's (Issue [NMS-4721](#))
- Add new opennms mib events definition (Issue [NMS-4722](#))
- Sort by Stat (Issue [NMS-4728](#))
- Add Label to thresholds for display on "Edit Group" page (Issue [NMS-4742](#))
- Event Analysis Report should be usable on postgres older than 8.4 (Issue [NMS-4752](#))
- Add support for matching syslog messages by process name, severity, facility in ueiMatch (Issue [NMS-4772](#))
- Alphabetize group names in the Users/Groups list (Issue [NMS-4776](#))
- Split syslogd-configuration.xml (Issue [NMS-4779](#))
- Standardize the time zone format reports (Issue [NMS-4785](#))
- collectd log entries could be enhanced (Issue [NMS-4809](#))
- Add a BSF (bean scripting framework) notification strategy (Issue [NMS-4837](#))
- Convert Linkd to use Hibernate (Issue [NMS-4850](#))
- Add command option to NRPE in provisiond (Issue [NMS-4862](#))

## Release 1.9.8

Release 1.9.8 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is declared feature-complete and stable.

The codename for 1.9.8 is *Pulalu*.

### Bug

- deleted interfaces are included in polling package ip lists (Issue [NMS-1158](#))
- nsclient-datacollection-config.xml only collects on 1st attribute in wpm group (Issue [NMS-2692](#))
- DemoUI - Leaving the search field blank causes an "Unexpected Error" (Issue [NMS-3500](#))
- Cpu Usage graph missing when using rrdtool (Issue [NMS-3703](#))
- Unexpected error (Issue [NMS-3902](#))
- archive\_events.sh still uses the old lib/scripts/\* style initialization (Issue [NMS-3933](#))
- outage editor problems (Issue [NMS-4093](#))
- prevent automatic start after installation / upgrade (Issue [NMS-4110](#))

- null pointer exception from Admin ? Instrumentation Log Reader jsp page (Issue [NMS-4118](#))
- 'some' matchType for WMI Poller matches 2 or more, not 1 or more as documented (Issue [NMS-4172](#))
- Failed to load the required jicmp library (Issue [NMS-4211](#))
- No services are registered in the database (Issue [NMS-4230](#))
- Patch for "CPU Usage graph missing when using rrdtool" (Issue [NMS-4346](#))
- HTTP Collector throwing exception "Host must be set to create a host URL" (Issue [NMS-4445](#))
- Reports throughin Exception when doing traffic based reports and store-by-group (Issue [NMS-4454](#))
- System Report: only "full" is working (Issue [NMS-4465](#))
- UI exception when deleting a service from an interface (Issue [NMS-4472](#))
- RRD-based JasperReports fail with JRobin exception (Issue [NMS-4482](#))
- Mail Transport Monitor deletes all mail (Issue [NMS-4537](#))
- Quoting problems in contrib/maint\_events.sh (Issue [NMS-4553](#))
- Page Sequence Monitor (PSM) doesn't appear to do retries (Issue [NMS-4558](#))
- org.opennms.netmgt.snmp.TableTracker writes to stderr. (Issue [NMS-4559](#))
- Report Issue - Average and Peak Traffic rates for Nodes by Interface (Issue [NMS-4565](#))
- Filter rules tend to get all IP addresses, even if they are deleted (Issue [NMS-4583](#))
- Remove ModelImporter stuff from log4j.properties (Issue [NMS-4587](#))
- service search constraints show up as "null" when used to filter the event list page (Issue [NMS-4591](#))
- Report Issue - Surveillance Category Not Correctly Chosen (Issue [NMS-4593](#))
- eventd cannot parse events which are missing an XML namespace (Issue [NMS-4595](#))
- send-event.pl errors on IPv6 addresses (Issue [NMS-4596](#))
- Primary keys are not set to not null (Issue [NMS-4597](#))
- Role provision has no effect (Issue [NMS-4598](#))
- MailTransportMonitor POP3 javax.mail.AuthenticationFailedException, but without connection to host at all (Issue [NMS-4605](#))
- Changing the default password in 1.9.7 (Issue [NMS-4608](#))
- Node Rescan → node.jsp not found (Issue [NMS-4610](#))
- Problem accessing /opennms/KSC/KSC/customGraphEditDetails.htm. Reason: Not Found - 404 (Issue [NMS-4614](#))
- Report Issue - Total Bytes Transferred by Interface (Issue [NMS-4616](#))
- Refactor ICMP Implementations and make sure that main works for JNA (Issue [NMS-4617](#))
- refactor XSDs to not rely on common XSDs (types.xsd) (Issue [NMS-4634](#))
- Don't print out the database administrator password during install. (Issue [NMS-4638](#))

- KSC reports "add graph" fails with a 404 (Issue [NMS-4643](#))
- Unable to start OpenNMS "An error occurred while attempting to start the "OpenNMS:Name=Eventd" service" (Issue [NMS-4644](#))
- Deleted nodes are showing up in available nodes when creating/editing a surveillance category (Issue [NMS-4652](#))
- Inconsistent use of org.opennms.web.api.Util.calculateUrlBase( request ) (Issue [NMS-4660](#))
- JNA library fails to work for IPv6 on Solaris (Issue [NMS-4664](#))
- Thresholds being evaluated on interfaces marked DISABLE\_COLLECTION (Issue [NMS-4669](#))

## Enhancements

- FilterDao calls need to return InetAddresses (Issue [NMS-4509](#))
- EventBuilder setInterface needs to take an InetAddress rather than a String (Issue [NMS-4510](#))
- Alphabetize the User List in the GUI (Issue [NMS-4561](#))
- make ICMP implementation configurable (Issue [NMS-4603](#))
- Add script execution, response times, logging, more to BSFMonitor (Issue [NMS-4604](#))
- add a No SNMP checkbox to the Node Quick-Add web page (Issue [NMS-4615](#))
- Maven settings.xml CR & LF format (Issue [NMS-4626](#))
- Convert snmp-config.xml code to use JAXB instead of Castor (Issue [NMS-4636](#))
- Add MSCHAPv1 and MSCHAPv2 support to RADIUS clients (Issue [NMS-4659](#))
- RADIUS MS-CHAPv2 (Issue [NMS-4665](#))

## Release 1.9.7

Release 1.9.7 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is declared feature-complete and stable.

The codename for 1.9.7 is *Naqara*.

## Bug

- NullPointerExceptions in node IP route information (Issue [NMS-2482](#))
- [syslogd] OpenNMS's syslogd implementation does not handle all syslog facilities (Issue [NMS-2640](#))
- correlator service unable to start : java.lang.NoSuchMethodError org.eclipse.jdt.internal.compiler.CompilationResult.getProblems() (Issue [NMS-2847](#))
- statistics report pdf creation does not work (Issue [NMS-3855](#))
- Provisiond Deleting IpAddr On Nodes After Rescan (Issue [NMS-3997](#))
- Provisiond - simple TCP detector fails to detect services (Issue [NMS-4033](#))
- provisioning node with NodeCategorySettingPolicy policy in foreign source does not work if node has no SNMP available (Issue [NMS-4039](#))

- stored report data in non-unique named files (Issue [NMS-4058](#))
- Need to be able to acknowledge notifications through the ReST service (Issue [NMS-4069](#))
- send-event.pl timestamp is not parsed correctly (Issue [NMS-4148](#))
- Rescans Not Happening for Default Nodes (Issue [NMS-4168](#))
- Memcached graph definitions left out of default configuration (Issue [NMS-4208](#))
- Exception when Provisioning an ipv6 address on a node with SNMP Enabled (Issue [NMS-4251](#))
- Null pointer exception when listing outstanding notifications (Issue [NMS-4352](#))
- Documentation can't be build off-line (Issue [NMS-4416](#))
- interface.jsp gives NPE (Issue [NMS-4469](#))
- PageSequenceMonitor double-URL-encodes query parameters (Issue [NMS-4484](#))
- Poller not responding to nodeGainedService events when event interface is an ipv6 address (Issue [NMS-4488](#))
- jdbc-datacollection-config.xml has hard coded path for rrdRepository (Issue [NMS-4491](#))
- Don't require all code to pass the PRESERVE\_WHITESPACE constant to CastorUtils (Issue [NMS-4495](#))
- NSClient data collection only reads the first <nsclient-collection> tag (Issue [NMS-4499](#))
- Someone left two q's in the file ./WEB-INF/jsp/graph/chooserresource.jsp (Issue [NMS-4527](#))
- XSD definitions don't need to be anchored (Issue [NMS-4547](#))
- IP validation in web UI doesn't handle IPv6 (Issue [NMS-4555](#))
- Report Issue - Average and Peak Traffic rates for Nodes by Interface (Issue [NMS-4565](#))
- Physical Interface Page Doesn't load on IE (Issue [NMS-4575](#))
- Debian init script not LSB compatible (Issue [NMS-4578](#))
- The attribute "totalCount" for OnmsNodeList is not well calculated (Issue [NMS-4580](#))

## Enhancements

- Debian Startup Script hides important Debian Specific Error Output (Issue [NMS-3411](#))
- Remove c3p0 dependencies from installer code so we can change the DB connection pooling implementation (Issue [NMS-4388](#))
- Increase servicename in table service in the core schema to accommodate services with names longer than 32 characters (Issue [NMS-4477](#))
- All Event creation should use the EventBuilder (Issue [NMS-4489](#))
- Get rid of PostgreSQL-specific calls in installation/upgrade tools. (Upgrade to Liquibase 2.0) (Issue [NMS-4496](#))
- OnmsMonitoredService getIpAddress returns a String rather than an InetAddress (Issue [NMS-4507](#))
- OnmsOutage does not following the same getIpInterface pattern as OnmsIpInterface (Issue [NMS-4508](#))



- Convert Event XML to JAXB (Issue [NMS-4535](#))
- New events for traps from Sun/Oracle ILOM cards (Issue [NMS-4541](#))
- Trap events for Comtech EF Data CDM-625 satellite modems (Issue [NMS-4554](#))
- provisiond needs to be able to scan the new ipAddress table, in addition to the (deprecated) ipAddr table, and handle IPv6 addresses (Issue [NMS-4577](#))
- [patch] add new asset fields for hardware configuration data (Issue [NMS-4579](#))
- OpenNMS needs a way to do in-depth configuration testing without starting the daemon (Issue [NMS-4336](#))
- create a tool for migrating RRDs (Issue [NMS-4450](#))

## Release 1.9.6

Release 1.9.6 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is declared feature-complete and stable.

The codename for 1.9.6 is *Barbat*.

## Bug

- Stop distributing the non-Jetty webapp as part of the base distribution (Issue [NMS-2572](#))
- rrd-configuration.properties error in comment (Issue [NMS-3068](#))
- Split example poller package into components (Issue [NMS-4053](#))
- database reports ui enhancement request (Issue [NMS-4057](#))
- null pointer exception from Admin ? Instrumentation Log Reader jsp page (Issue [NMS-4118](#))
- Javascript error in IE7 on 1.8.7 (Issue [NMS-4368](#))
- Configure SNMP Data Collection per Interface generates org.postgresql.util.PSQLException (Issue [NMS-4391](#))
- Unable to see Telnet/HTTP/OpenManage links in node.jsp (Issue [NMS-4398](#))
- KSC reports editor broken in IE7 (Issue [NMS-4406](#))
- OpenNMS not installing on RHEL6 x86\_64 (Issue [NMS-4409](#))
- Node Availability report query incorrect (Issue [NMS-4410](#))
- opennms-webapp is built and contains all of the jars though they are not needed (Issue [NMS-4411](#))
- Java Exception opening Node Page → Admin → Configure SNMP Data Collection per Interface (Issue [NMS-4413](#))
- REST calls for iPhone and iPad App broken (Issue [NMS-4414](#))
- Deleting Foreign Source policy throws java.lang.NoSuchMethodException (Issue [NMS-4415](#))
- Interface Availability report query incorrect (Issue [NMS-4417](#))
- Need to update PostgreSQL JDBC JAR to 9.0 (Issue [NMS-4420](#))
- Only role.admin users are able to use the iphone app (Issue [NMS-4425](#))



- Acknowledging alarms results in an error (Issue [NMS-4426](#))
- Increase default max file descriptors setting (Issue [NMS-4428](#))
- runInPlace.sh script gives unclear instructions (Issue [NMS-4429](#))
- null pointer exception when attempting to enable snmp collection. (Issue [NMS-4432](#))
- WebUI Broken When Deleting Parameters in Foreign Sources (Issue [NMS-4438](#))

## Enhancements

- OpenNMS 1.9.x needs to depend on PostgreSQL ( $\geq 8.1$ ) and IPLIKE ( $\geq 2.0.0$ ) (Issue [NMS-4389](#))
- installer should make sure IPLIKE has IPv6 support (Issue [NMS-4408](#))
- Change event-label name "OpenNMS" for restartPollingInterface event in eventconf.xml (Issue [NMS-4421](#)) upgrade to JRobin 1.5.10 (Issue [NMS-4431](#))



JRobin 1.5.10 includes a new backend that can improve performance dramatically. For safety's sake, it is disabled by default, but users are encouraged on test systems to enable the new **MNIO** backend in `rrd-configuration.properties` and report issues.

## Release 1.9.5

Release 1.9.5 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is declared feature-complete and stable.

The codename for 1.9.5 is *Canjo*.

### Bug

- Installer still has RCS-style `$Id$` tag in banner (Issue [NMS-3922](#))
- OpenNMS unable to connect to opennms database with opennms username (Issue [NMS-4392](#))
- Clicking the Delete Icon next to a entity (node, interface, service) defined in the Edit provisioning group page causes exception (Issue [NMS-4394](#))
- yum update from 1.8.7 to 1.8.8 is breaking opennms (Issue [NMS-4396](#))
- rancid provisioning adapter jar still included in opennms-core RPM (Issue [NMS-4397](#))

## Release 1.9.4

Release 1.9.4 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is declared feature-complete and stable.

The codename for 1.9.4 is *Guzheng*.

### Bug

- icmp and http thresholds not working properly (Issue [NMS-1657](#))
- Liquibase: ERROR: there is no unique constraint matching given keys for referenced table

"datalinkinterface" (Issue [NMS-3465](#))

- webapps won't deploy with Tomcat in 1.7.7 and 1.7.8-SNAPSHOT (Issue [NMS-3469](#))
- Can't proceed in Reports Database Run (Issue [NMS-3717](#))
- Invoking rest method with orderBy triggers sql error (Issue [NMS-3756](#))
- Case sensitive inconsistency between capsd and poller for HostResourceSwRunMonitor (Issue [NMS-3882](#))
- provision group does not validate ip-addr field on input (Issue [NMS-4084](#))
- JRFontNotFoundException for Early-Morning-Report (Issue [NMS-4102](#))
- On IE8/Win7 the date in the page banner is shown twice (Issue [NMS-4146](#))
- "View Node Link Detailed Info" problem (Issue [NMS-4243](#))
- Provisioning problem due to ipv6 address formatting (Issue [NMS-4252](#))
- Date offsets incorrectly applied when batch reports (Issue [NMS-4253](#))
- Upgrade from jetty 6.1.24 to 6.1.26 breaks AJP13-connections from apache 2.2.x (Issue [NMS-4275](#))
- OpenJDK fails privatevoidcheckJvmName() check (Issue [NMS-4277](#))
- Missing fonts when running newly committed reporting stuff in 1.8.7 (Issue [NMS-4286](#))
- NPE when trying to generate reports from JRB datasources (Issue [NMS-4287](#))
- Build failure - NtpDetector tests fail (Issue [NMS-4292](#))
- Remove option C from SNMP Primary pick-list in provisioning groups editor (Issue [NMS-4293](#))
- Node-Availability-Report failing - possibly due to a parameter that should be marked notForPrompting (Issue [NMS-4294](#))
- JRobin VDEFs sometimes do not work (Issue [NMS-4295](#))
- Provisiond discovers services on capsd provisioned nodes (Issue [NMS-4297](#))
- Default categories for CIORPTS (Issue [NMS-4299](#))
- linkd UndeclaredThrowableException (Issue [NMS-4303](#))
- "View Node Ip Route Info" link causes exception (Issue [NMS-4305](#))
- Topo map error popup: Load Label Map failed (Issue [NMS-4306](#))
- Provisioning Groups UI throws exception when trying to sync unmodified group (Issue [NMS-4308](#))
- duplicate jars in packages (Issue [NMS-4310](#))
- Asset adapter does not store Hex-STRINGs (Issue [NMS-4312](#))
- Dashboard loading image tag missing (Issue [NMS-4314](#))
- Serial Interface Utilization Report (Issue [NMS-4315](#))
- [Build] Some changes needed to get a clean build in Eclipse (Issue [NMS-4320](#))
- PSQLException - Configure SNMP Data Collection per Interface (Issue [NMS-4321](#))
- Fonts Very Large on KSC Reports and Admin Surveillance Categories (Issue [NMS-4322](#))

- Interface Page Broken in 1.8 Testing (Issue [NMS-4323](#))
- Opennms cannot start up without Internet access (Issue [NMS-4341](#))
- Typo in MemcachedMonitor.java (Issue [NMS-4347](#))
- Make compile.pl / assemble.pl actually exit with maven exit code (Issue [NMS-4349](#))
- generic values wrong for certain OIDs in Cisco2.events.xml (Issue [NMS-4351](#))
- Package building fails on Ubuntu due to default shell usage (Issue [NMS-4357](#))
- Exception raised when trying to view ip route info (Issue [NMS-4362](#))
- Change the logmsg and description fields for events and alarms to text object. (Issue [NMS-4369](#))
- OpenNMS will not start if unable to connect to the database as "postgres" (admin) user (Issue [NMS-4378](#))
- Provisioner always punts on deleteService events when discovery not enabled (Issue [NMS-4379](#))
- Make sure tests pass on bamboo (Issue [NMS-4384](#))

## Enhancements

- Upgrade JasperReports 3.6.0 to 3.7.4 (Issue [NMS-4103](#))
- Sort saved database Reports and display more than 10 of them (Issue [NMS-4201](#))
- dispatcher-servlet.xml should be listed as a *config* file for debian package install (Issue [NMS-4296](#))
- reportd-configuration.xml, update quartz URL (Issue [NMS-4318](#))
- include script output in event reason text for *GpPoller* notifications (Issue [NMS-4325](#))
- Customize Subject on Emailed Batch Reports (Issue [NMS-4331](#))
- Catch NullPointerException when running BSFScripts (Issue [NMS-4332](#))
- Make Node available to the Beanshell (Issue [NMS-4358](#))
- Add a build script to clean everything (top-level and full assembly) (Issue [NMS-4386](#))
- make it easier to open support tickets from the web UI (Issue [NMS-4307](#))

## Release 1.9.3

Release 1.9.3 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is declared feature-complete and stable.

The codename for 1.9.3 is *Recorder*.

## Bug

- Web users can bypass ACLs by editing params of element/node.jsp URLs (Issue [NMS-3184](#))
- Going to edit KSC reports generates an uncaught exception (Issue [NMS-3414](#))
- Yet another uncaught exception, KSC reports (Issue [NMS-3455](#))
- Home / Admin / Provisioning Groups page generating bad HTML when a provisioning group has

an apostrophe in the name (Issue [NMS-3601](#))

- provisiond logging to `output.log` (Issue [NMS-4023](#))
- DNS outage identified on interface X with reason code: IOException while polling address (Issue [NMS-4071](#))
- Bug in netapp.fsfile report (Issue [NMS-4171](#))
- deprecated -c installer option does not produce a warning or error (Issue [NMS-4174](#))
- Net-SNMP agent 5.5 always misreports sysObjectID as `.1.3` or `.0.1` (Issue [NMS-4192](#))
- Notifications fail when Notification name is longer than 63 chars (Issue [NMS-4194](#))
- NPE in "View Node Link Detailed Info" (Issue [NMS-4215](#))
- deleting old notifications is slow (Issue [NMS-4217](#))
- SNMP fails while accessing a Dell/Avocent 2161DS KVM Device (Issue [NMS-4219](#))
- 1.8.5 Solaris package fails to install (Issue [NMS-4227](#))
- ThresholdingVisitor: create: Can't create ThresholdingVisitor for <IP ADDRESS> (Issue [NMS-4233](#))
- JMX datacollection aliases longer than 19 characters (Issue [NMS-4236](#))
- Two BGP-related SNMP graphs use daily RRAs (Issue [NMS-4245](#))
- Acknowledgement Service bails when an ack is sent for an invalid ID (Issue [NMS-4248](#))
- TableTracker failing in some instances (Issue [NMS-4250](#))
- In-line thresholding should ignore Aliased Resources if they are not enabled (Issue [NMS-4255](#))
- Fix lower limit in Net-SNMP CPU graphs (Issue [NMS-4257](#))
- Make SNMPv2c the default in web SNMP config dialog (Issue [NMS-4263](#))
- build blacklists JDKs other than version 1.5 or 1.6 (Issue [NMS-4270](#))

## Enhancements

- SNMP Asset Provisioning Adapter: suppress output like No such instance (Issue [NMS-4173](#))
- Add a few more Cisco Catalyst `sysObjectIDs` to default Linkd config (Issue [NMS-4191](#))
- Add events for Compuware ServerVantage traps (Issue [NMS-4195](#))
- Reportd should create events run or delivery failure (Issue [NMS-4213](#))
- fix locking in configuration file access (Issue [NMS-4234](#))
- make build system Maven3-compatible (Issue [NMS-4235](#))
- Add new options for `domain/alias` resource collection (Issue [NMS-4239](#))
- Improve Liebert power-related SNMP data collection and resource graph definitions (Issue [NMS-4241](#))
- Create performance resource graphs for MS HTTP stats (Issue [NMS-4242](#))

## Release 1.9.2

Release 1.9.2 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is declared feature-complete and stable.

The codename for 1.9.2 is *Psaltery*.

### Changes in OpenNMS 1.9.2

Version 1.9.2 is identical to 1.9.1, except it contains the changes present in [OpenNMS 1.8.5](#).

## Release 1.9.1

Release 1.9.1 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is declared feature-complete and stable.

Since 1.9.0, [a few new features](#) were added.

The codename for 1.9.1 is *Oboe*.

### Enhancements

- Some of the groundwork for IPv6 support has been started.
- Syslogd has been refactored and has a number of new features and parsing options. (Bug [#4112](#))
- You can now specify whether to be strict or loose when verifying HTTPS connections in the [PageSequenceMonitor](#). (Bug [#4113](#))

## Release 1.9.0

Release 1.9.0 is the latest in a series of development releases of OpenNMS. This represents what will eventually become OpenNMS 1.10.0 when it is declared feature-complete and stable.

Since 1.8, [a few new features](#) were added.

The codename for 1.9.0 is *Timple*.

### Enhancements

- You can now have syslogd bind to a specific IP address. (Bug [#3192](#))
- Threshold expressions have been enhanced and now use JEXL instead of JEP. (Bug [#3413](#))
- Data collection configuration has now been split out into multiple include files, like events. (Bug [#4031](#))