

# OpenNMS Meridian Release Notes

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# OpenNMS Meridian Development Team

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## OpenNMS Meridian 2018

### System Requirements

- **Java 8:** OpenNMS Meridian 2018 requires Java 8 as the runtime environment. To run Meridian 2018, we recommend the most recent version of Oracle JDK 8 for your platform.
- **PostgreSQL 9:** Meridian 2018 requires PostgreSQL 9.x, version 9.2 or higher.

### What's New in Meridian 2018

The biggest addition in Meridian 2018 is official support for [the Minion](#). Minion is an agent-like tool for remote monitoring isolated networks as if OpenNMS could reach them locally.

On top of that, there have been many smaller improvements and enhancements since Meridian 2017.

Meridian 2018 roughly matches the feature set available in Horizon 21 and parts of Horizon 22.

### Important Upgrade Notes

- **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`.

- 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

- **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](#).
- **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](#).
- 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.
- 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

- **Minion**: OpenNMS Meridian now supports running Minions.
- **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](#)).
- **ReST Updates**: A new experimental ReST API (`/opennms/api/v2`) has been enabled which supports [JEXL](#).
- The topology UI now supports [scriptable vertex status](#).
- **Alarm Northbounders**: There are [new alarm northbounders](#) for running arbitrary BSF scripts

or forwarding to Drools.

- **Web UI:** It is now possible to [customize the date format](#) used in the UI. You can configure it by overriding the `org.opennms.ui.datetimeformat` property in `opennms.properties`.
- **Hawtio:** Hawtio is now included as an optional webapp package (`opennms-webapp-hawtio`) for convenience.
- **IFTTT:** Support has been added for triggering IFTTT events based on alarms.

## Events

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

- IBM EIF
- IETF DLSW
- IETF DOCSIS
- Other IETF traps

## Other Improvements

- The Karaf OSGi container has been upgraded from 2.x to 4.1.5.
- The IPLIKE C and Pl/pgsql versions have been cleaned up and normalized to work the same between implementations.
- Many ActiveMQ/Camel/Kafka/etc. RPC-related APIs have been cleaned up and improved.
- Much of the data collection infrastructure has been updated and cleaned up as part of adding and improving Minion support.
- Asset addresses are now resolved to coordinates during provisioning, rather than at runtime.
- A number of improvements have been made to RADIUS support.
- It is now possible to reload Drools configuration without restarting OpenNMS.
- Many improvements were made to Enlinkd, especially in the bridge discovery code.
- Drools has been updated to 7.x. It should be backwards compatible with existing 6.x-based Drools configurations.
- Many other small enhancements and fixes for the topology UI.

## Release Meridian-2018.1.19

Release 2018.1.19 is a small release that fixes a couple of bugs.

The codename for 2018.1.18 is *Sinkhole*.

## Bug

- SystemExecuteMonitor fails with exit code 6 (Issue [NMS-12564](#))
- Reloading the Pollerd daemon causes multiple nodeDown messages (Issue [NMS-12681](#))

## Enhancement

- Add an example for SystemExecuteMonitor into the docs (Issue [NMS-12568](#))

## Release Meridian-2018.1.18

Release 2018.1.18 is an off-schedule release to fix a vulnerability in ActiveMQ and the Minion. Thanks to Florian Hauser of Code White for catching this one.

The codename for 2018.1.18 is *Wildfire*.

## Bug

- Authenticated RCE vulnerability via ActiveMQ Minion payload deserialization (Issue [NMS-12673](#))

## Release Meridian-2018.1.17

Release 2018.1.17 is a small update to 2018.1.16 that fixes another security issue that affects most current OpenNMS releases. Hat tip to Johannes Moritz for reporting this.

The codename for 2018.1.17 is *Pandemic*.

## Bug

- Security issue disclosures, 31 Jan 2020 (Issue [NMS-12513](#))
- Drools working memory facts are not restored properly on engine reload (Issue [NMS-12586](#))
- Confd download fails silently on Docker install (Issue [NMS-12642](#))

## Story

- Backport CircleCI pipeline to foundation-2018 (Issue [NMS-12476](#))

## Release Meridian-2018.1.16

Release 2018.1.16 is a small update to 2018.1.15 that fixes an HQL injection bug, as well as a few other issues. Hat tip to Johannes Moritz for the security report.

The codename for 2018.1.16 is *Hurricane*.

## Bug

- The Karaf poller:test command is not location aware (Issue [NMS-12460](#))
- NPE while compiling a MIB (Issue [NMS-12472](#))
- Cannot process SNMPv3 Informs due to random Engine ID associated with users (Issue [NMS-12473](#))
- Backport date/time format fixes to Meridian 2018 (Issue [NMS-12514](#))
- HQL Injection (Issue [NMS-12572](#))

## Release Meridian-2018.1.15

Release 2018.1.15 is a tiny update containing a logging fix in Provisiond and an update to allow for choosing a layer when linking to the topology UI.

The codename for 2018.1.15 is *Cyclone*.

### Bug

- Cannot define a specific layer in topology app URL (Issue [NMS-12431](#))

## Release Meridian-2018.1.14

Release 2018.1.14 is a small update to 2018.1.13 that fixes a few bugs including a fix to syslog date parsing, Drools fixes, and a few other changes.

The codename for 2018.1.14 is *Earthquake*.

### Bug

- Syslog incorrect dates being parsed into database (Issue [NMS-10605](#))
- Cannot use poller:poll karaf command with WsManMonitor through Minions (Issue [NMS-12365](#))
- Upstream Drools Bug: From with modify fires unexpected rule (Issue [NMS-12367](#))
- "Page Not Found" in alarm-list when choosing number of alarms in dropdown-list (Issue [NMS-12379](#))
- Elasticsearch event forwarder manipulates in-flight event (Issue [NMS-12390](#))

## Release Meridian-2018.1.13

Release 2018.1.13 is a small update to 2018.1.12 that fixes a few UI bugs.

The codename for 2018.1.13 is *Flood*.

### Bug

- Listing monitoring locations from the administrative WebUI is not working (Issue [NMS-12377](#))

### Enhancement

- Availability boxes on node pages including sub pages differ (Issue [NMS-12321](#))

## Release Meridian-2018.1.12

Release 2018.1.12 is a small update to 2018.1.11 that fixes a number of (mostly UI) bugs.

The codename for 2018.1.12 is *Hurricane Force*.

## Bug

- "Graph all" fails with 'Request Header Fields Too Large' error (Issue [NMS-8712](#))
- No class found exception in OSGi for org.osgi.service.jdbc.DataSourceFactory (Issue [NMS-9341](#))
- Updating external lists referenced by include-url requires restart OpenNMS (Issue [NMS-10071](#))
- Telephone PIN Field in User Details is Misplaced (Issue [NMS-10073](#))
- Cannot change the type of a scheduled outage (Issue [NMS-12255](#))
- Short outages are not visible in Availability-Bar (Issue [NMS-12262](#))
- vmwarereqtool freezes and never return to the prompt after is executed (Issue [NMS-12265](#))
- On the scheduled outage UI, the day is displayed as null for weekly schedule (Issue [LTS-233](#))
- Using special characters on the scheduled outages name breaks the UI (Issue [LTS-234](#))

## Release Meridian-2018.1.11

Release 2018.1.11 is a small update to 2018.1.10 that adds improved diagnostics for JMS RPC and fixes a few other small bugs.

The codename for 2018.1.11 is *Violent Storm*.



This update modifies the `custom.properties` file in `$OPENNMS_HOME/etc`. This is generally not a user-modified file and should always be overwritten, but if you are in the unlikely situation of modifying `custom.properties` in your local environment, make sure you incorporate the update.

## Bug

- DNS Requisition import fails if location is specified (Issue [NMS-11748](#))
- Drools engine hangs on shutdown (Issue [NMS-12201](#))

## Enhancement

- Improve diagnostics and resiliency of JMS RPC (w/ embedded ActiveMQ) (Issue [NMS-12222](#))

## Release Meridian-2018.1.10

Release 2018.1.10 is a small update to 2018.1.9 that fixes a KSC report search issue, and adds a tool for evaluating config changes.

The codename for 2018.1.10 is *Storm*.

## Bug

- KSC Reports search box on home page is case sensitive (Issue [NMS-12137](#))



## Enhancement

- Add a command to show configuration diffs (Issue [NMS-12129](#))

## Release Meridian-2018.1.9

Release 2018.1.9 is a small update to 2018.1.8 that fixes an issue with timeline graphs in the node details page.

The codename for 2018.1.9 is *Strong/Severe Gale*.

## Bug

- Timeline missing for service names including slashes (Issue [NMS-12097](#))

## Release Meridian-2018.1.8

Release 2018.1.8 is an update to Meridian 2018.1.7. It contains a few UI fixes and security updates, as well as a fix for memory leaks in Drools config reloading, WS-Man monitoring, and the JMX collector.

The codename for 2018.1.8 is *Gale*.

## Bug

- Memory Leak on Drools while reloading config (Issue [NMS-10678](#))
- Node detail page renders with no content when invalid node ID specified (Issue [NMS-10679](#))
- Apparent memory leak in JMX collector, possibly restricted to "weird" JMX transports (Issue [NMS-10684](#))
- CVE-2018-20433: XXE Vulnerability in c3p0 < 0.9.5.3 (Issue [NMS-10694](#))
- Memory leak in WS-Man (Issue [NMS-10696](#))
- Jetty HTTPS selectors can become unresponsive following CancelledKeyException (Issue [NMS-10701](#))
- Reflected XSS vulnerability in notification/detail.jsp and outage/detail.htm (Issue [NMS-10707](#))

## Release Meridian-2018.1.7

Release 2018.1.7 is an update to Meridian 2018.1.6. It contains a few changes including UI updates and an SNMP loop bug that could cause out-of-memory crashes.

The codename for 2018.1.7 is *High Wind*.

## Bug

- Cannot run Minion as non-root (Issue [LTS-231](#))
- ROLE\_PROVISION doesn't work on the UI when the ACL feature is enabled. (Issue [NMS-9786](#))
- Search on KSC Reports page in WebUI does not work (Issue [NMS-10416](#))

- Incorrect date formatting in send-event.py (Issue [NMS-10602](#))
- The MIB Compiler is unable to parse certain MIBs (Issue [NMS-10609](#))
- ArrayIndexOutOfBoundsException during error handling in SNMP MIB Compiler (Issue [NMS-10647](#))
- When editing a surveillance category from Admin flow, lists of nodes are not sorted by node label (Issue [NMS-10654](#))
- Karaf shell history thrown out with bathwater on upgrade (Issue [NMS-10664](#))

## Enhancement

- Improve test coverage of SNMPv3 traps and informs (Issue [NMS-10630](#))
- Allow the "step" (or interval) to be referenced from a Measurement API expression (Issue [NMS-10633](#))
- "Event text contains" should search beyond eventlogmsg (Issue [NMS-8444](#))

## Release Meridian-2018.1.6

Release 2018.1.6 is an update to Meridian 2018.1.5. It contains a number of changes including a ReST issue with truncated numbers, 3rd-party JDBC support in the Minion, a performance fix for the Measurements API, and a fix for bad (looping) SNMP agents.

The codename for 2018.1.6 is *Strong Breeze*.

## Bug

- Collection results via Minion is limited to MAX\_INT (Issue [NMS-10516](#))
- JDBC via Minion fails to find 3rd party classes (Issue [NMS-10559](#))
- Poor performance when using filters in the Measurements API (Issue [NMS-10589](#))
- Update webapp copyright dates to 2019 (Issue [NMS-10591](#))
- Bad response from SNMP agent leads to infinite loop in SNMP tracker (Issue [NMS-10621](#))

## Enhancement

- Upgrade to Jetty 9.4.12 (Issue [NMS-10558](#))

## Release Meridian-2018.1.5

Release 2018.1.5 is an update to Meridian 2018.1.4. It contains a number of bug fixes including fixes for sending notifications for events without associated nodes, XSS issues, and more. It also includes a number of performance improvements.

The codename for 2018.1.5 is *Fresh Breeze*.

## Bug

- JDBC collector event reason provides no useful information (Issue [NMS-9633](#))

- syslog events are creating notifications and disregarding rules in place (Issue [NMS-10486](#))
- Node page very slow to load for nodes with more than 1000 events (Issue [NMS-10506](#))
- SNMP configuration UI should select location "Default" by default, not the first location alphabetically (Issue [NMS-10514](#))
- Wallboard URLs with board name should be permalinks, but return "Nothing to display" instead (Issue [NMS-10515](#))
- Event parameters table have strong limits for the columns (Issue [NMS-10525](#))
- Cross-Site Scripting: Reflected (Issue [NMS-10546](#))
- Cross-Frame Scripting (Issue [NMS-10547](#))
- syslog parsing of messages without a year will sometimes infer the wrong year (Issue [NMS-10548](#))

## Release Meridian-2018.1.4

Release 2018.1.4 is an update to Meridian 2018.1.3. It contains a number of bug fixes and a few enhancements, including a bunch of performance fixes to topology maps and a number of other smaller changes.

The codename for 2018.1.4 is *Moderate Breeze*.

### Bug

- BestMatchPingerFactory returns NullPinger when better options are available (Issue [NMS-9659](#))
- When selecting a vertex which is neither visible nor in focus the ui state is stuck (Issue [NMS-10451](#))
- Building the menu takes forever if a visible node has an invalid ip address set (Issue [NMS-10452](#))
- "Use Default Focus" may not show the "add nodes manual" indicator if "getDefaults().getCriteria()" returns empty list rather than null (Issue [NMS-10453](#))
- Kafka Producer: Sync timing issues cause erroneous deletes (Issue [NMS-10474](#))
- When using the events:stress command, the node-id or interface passed as parameters are ignored when using jexl (Issue [NMS-10475](#))
- Alarm Dashlet CriteriaBuilder In-Restriction not working (Issue [NMS-10479](#))

### Enhancement

- Performance problems with the Topology Map on large networks (Issue [NMS-10369](#))
- Find out why intial loading of the topology map takes so long, fix for CDP (Issue [NMS-10398](#))
- Apply initial loading improvements to IsIs, lldp, ospf protocols (Issue [NMS-10439](#))
- Allow PostgreSQL 11.x (Issue [NMS-10450](#))
- Support Additional EIF Protocol Version (Issue [NMS-10454](#))
- Measure and improve performance of Interface loading and mapping (Issue [NMS-10459](#))

- Measure and improve performance of Cdp/Lldp/IsIsElement loading (Issue [NMS-10487](#))

## Release Meridian-2018.1.3

Release 2018.1.3 is an update to Meridian 2018.1.2. It contains a number of bug fixes and a few enhancements, including additional HTTP proxy support, reliability updates, and UI performance improvements.

The codename for 2018.1.3 is *Gentle Breeze*.

### Bug

- Other classes that use Http (Issue [NMS-10379](#))
- Sink API drops messages when there is no connectivity with Kafka (Issue [NMS-10395](#))
- Discovery UI should not allow selection of Minions as Foreign Source (Issue [NMS-10400](#))
- Find out why selecting a node takes so long in a big topology (Issue [NMS-10419](#))
- Typo in BSFMonitor Documentation (Issue [NMS-10428](#))
- Default Metaspace configuration is insufficient (Issue [NMS-10437](#))
- Improve performance of node search (Issue [NMS-10445](#))

### Enhancement

- Change eventconf for newSuspect to include location name in logmsg (Issue [HZN-814](#))
- Be able to use Proxy for any Monitor or Collector that uses HttpClient (Issue [NMS-9710](#))
- Detect and Attempt to Restart Failed Drools Engines (Issue [NMS-10363](#))

## Release Meridian-2018.1.2

Release 2018.1.2 is an update to Meridian 2018.1.1. It contains a number of bug fixes and a few enhancements, including improvements to VMware connection pooling.

The codename for 2018.1.2 is *Light Breeze*.

### Bug

- Wrong data type for certain Cassandra JMX counters (Issue [NMS-10352](#))
- Cannot override TTL when running the Karaf Command collections:collect through Minions (Issue [NMS-10367](#))
- Erroneous INFO-level log messages during every forced node rescan (Issue [NMS-10370](#))
- Wrong JMX MBeans for minions (Issue [NMS-10372](#))
- `find-java.sh` doesn't understand newer JDK output (Issue [NMS-10401](#))
- int overflow in InstallerDb causes bamboo failures (Issue [NMS-10402](#))

## Enhancement

- Be able to use Proxy for any Monitor or Collector that uses HttpClientWrapper directly (Issue [NMS-10312](#))
- Be able to use Proxy for any Monitor or Collector that uses HttpClient via UrlFactory (Issue [NMS-10313](#))
- Improve concurrency in Vmware Connection Pool (Issue [NMS-10373](#))

## Release Meridian-2018.1.1

Release 2018.1.1 is an update to Meridian 2018.1.0. It contains a few bug fixes and enhancements.

The codename for 2018.1.1 is *Light Air*.

## Bug

- Minions without nodes should show "unknown" status (Issue [NMS-10338](#))
- navbar.ftl not rendering (Issue [NMS-10342](#))

## Enhancement

- add polling interval definition on service UI (Issue [NMS-9747](#))
- Improve CDP topology calculation performance (Issue [NMS-10317](#))
- Memory related env-variables from /etc/sysconfig/minion are not honored (Issue [NMS-10332](#))
- Manage Minions page should link to the node for the minion (Issue [NMS-10296](#))

## Release Meridian-2018.1.0

Release 2018.1.0 is the first release in the Meridian 2018 series.

The codename for 2018.1.0 is *Calm*.

## Bug

- maxRetCode in HttpDetector does not work (Issue [NMS-3974](#))
- VMWare-Center-Monitoring make for every virtual machine a login/logout (Issue [NMS-8204](#))
- bridge topology is wrong on nodelink.jsp (Issue [NMS-8295](#))
- The ReST API used to return XMLs with namespace, and now it doesn't (Issue [NMS-8524](#))
- Content-Type tag wrong in emailed reports (Issue [NMS-9027](#))
- The upgrade task for magic-users.properties fails because of the read-only attribute (Issue [NMS-9267](#))
- Topology on Map is not properly displayed (Issue [NMS-9288](#))
- Exceptions in Bridge Discovery (Issue [NMS-9557](#))
- Config-tester not validating varbind matching in event files (Issue [NMS-9821](#))

- Wrong initial message displayed on AngularJS based tables. (Issue [NMS-9932](#))
- Home Page Map does not display node details (Issue [NMS-10008](#))
- Asset record is not being updated with user name that performed the update (Issue [NMS-10087](#))
- wrong statement in event description for serviceDeleted (Issue [NMS-10148](#))
- Radius Login Problem (Issue [NMS-10212](#))
- Trapd does not validate config against XSD (Issue [NMS-10242](#))
- Drools correlation engine do not always respond to targeted reloadDaemonConfig events (Issue [NMS-10257](#))
- newSuspect events do not get processed when they reference a missing system id (aka distpoller) (Issue [NMS-10261](#))
- Change in JMS NBI Date Format (Issue [NMS-10282](#))
- NoClassDefFoundError for net/sf/json/JSONSerialize with the JSON collector on Minion (Issue [NMS-10286](#))
- DefaultProvisionService logs noisily for monitored service having state "N" (Issue [NMS-10291](#))
- Doughnut chart shows certain closed outages as "current" (Issue [NMS-10293](#))
- KSC Report Changes Destroys Existing Reports (Issue [NMS-10309](#))
- Minions can't be deleted from minion menu (Issue [NMS-10321](#))

## Enhancement

- Remove Telemetryd from the configuration files to avoid confusions (Issue [LTS-223](#))
- Release notes in Help / Support links to 2015 (Issue [LTS-214](#))
- UI stack trace is truncated (Issue [NMS-7555](#))
- Add Ironport AsyncOS Mail Gateway Events (Issue [NMS-9794](#))
- Make hawtio available for OpenNMS as installable RPM/DEB (Issue [NMS-9858](#))
- Upgrade Drools to 7.x (Issue [NMS-9923](#))
- Subsume "Event Configuration How-To" from wiki into admin guide (Issue [NMS-9926](#))
- Can't receive SNMP v3 Trap (Issue [NMS-10009](#))
- Enhance AlarmPersisterImpl to support updating acknowledgment values on reduction (Issue [NMS-10067](#))
- Normalize date formats across the WebUI (Issue [NMS-10072](#))
- Support customizing the default time zone when parsing dates in syslog messages (Issue [NMS-10164](#))
- Consolidate Kafka client library versions (Issue [NMS-10165](#))
- Link to privacy policy from Data Choices UI elements (Issue [NMS-10169](#))
- Karaf shell command to enumerate nodes that match a given filter (Issue [NMS-10172](#))
- Optionally persist the results when calling collectors:collect (Issue [NMS-10173](#))

- Two Port Bridge - Topology mismatch (Issue [NMS-10225](#))
- use user defined time zone for date formatting (Issue [NMS-10228](#))
- render date for Javascript with moment.js (Issue [NMS-10233](#))
- plpgsql IPLIKE does not behave the same as the C version (Issue [NMS-10238](#))
- apply centralized datetime rendering to freemarker template(s) (Issue [NMS-10239](#))
- apply custom tag to ncs-alarms.jsp (Issue [NMS-10243](#))
- Update log4j2.xml with kafka logging (Issue [NMS-10269](#))
- Syslog messages should default to using the time at which they were received (Issue [NMS-10271](#))
- Syslog messages should default to being associated with the hosts from which they were received (Issue [NMS-10272](#))
- implement minion "status" field (Issue [NMS-10295](#))
- expose datetimeformat in InfoService REST Endpoint (Issue [NMS-10301](#))
- Set the default resource graph time range to "Last Day" (Issue [NMS-10324](#))