OpenNMS Meridian Release Notes

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OpenNMS Meridian 2020

System Requirements

- **Java 8 through 11**: OpenNMS Meridian 2020 runs on JDK 8 through 11. We recommend the most recent version of OpenJDK 11.

- **Default Heap Size**: The default heap size is 2GB.

- **PostgreSQL 10 or higher**: Meridian 2020 requires any supported version of PostgreSQL 10 or higher.

What's New in Meridian 2020

Since Meridian 2019, we have refined a number of the features introduced relating to telemetry, correlation, and other underlying APIs.

Meridian 2020 roughly matches the feature set available in Horizon 26.1.

Documentation Updates

Documentation improvements have been made in a number of areas:

- Docker
- Grafana PDF Reports
- Graph Service API
- Minion
- Telemetry/flows
- Thresholding
- Timeseries Integration

Graph API

A new API has been added for querying graph data, inspired by GraphML. This API consolidates a number of internal APIs for accessing topology, application, BSM, link, and other data.

Kafka and RPC

The RPC APIs for communicating between the OpenNMS core, Minion, and Sentinel have been improved, including adding support for gRPC communication.

It is now possible to configure Kafka to use a single topic for communication rather than one per module.

You can now configure flow data to be enriched with node metadata before being forwarded to Kafka.

Minion and Sentinel

- The Minion can now be configured using `confd` by creating a `minion-config.yaml` file. For details, see the README in the Minion source.

- The Minion Docker container has a number of enhancements:

  - Minion container sizes have been halved.

  - Native ICMP support has been added to improve performance.

  - Dockerized Minion now supports ARM.

- The Jolokia HTTP-JMX bridge has been added to the Minion and Sentinel.

Polling and Monitoring

- The HTTP POST monitor has been updated to support injecting headers into the request.

- The poller now does a better job of validating configs on startup/reload.

Provisioning

- Provisiond has been enhanced to improve performance of scans.

- Nodes provisioned through new suspect events now get assigned a foreign source.

Telemetry and BMP

- The flow classification editor now supports CIDR notation for IP address expressions.

- Support has been added for the BGP Monitoring Protocol (BMP).

Time-Series API

A new experimental internal API has been added for supporting persisting time-series data in a way that doesn't carry the baggage of the existing persistence APIs which are still heavily influenced by RRDTool.

Web UI Improvements

- The navbar notification alert now shows everywhere, not just the front page.

- The "user" menu has been reorganized and cleaned up.

- The requisitions UI now supports deleting a node from its node page in the editor.

Breaking Changes

Flow Classification

In Meridian 2019, the Flow Classification UI accepted invalid IP address values, e.g., `10,192.1,168.1,5.1-160`. When upgrading OpenNMS Meridian, existing Flow Classification Rules may be considered invalid. In this case they are silently ignored by the Flo w Classification Engine.

In order to assure no invalid Flow Classification Rules exist, please run the OSGi shell command `opennms-classification:list-invalid-rules` to list a ll invalid rules. If there are any invalid rules, you must manually fix them using the Flow Classification UI. For more details, refer to issue NMS-12422.

Events and Kafka

Events forwarded to Kafka are now keyed by `id` rather than `uei`.

Karaf Shell Command Changes

All of the custom Karaf shell commands have now been updated to use a common scope of `opennms`. This makes it easier to find and enumerate the commands.

Mapping from previous to new commands is as follows:

Previous Command	New Command
`opennms-provision:detect`	`opennms:detect`
`opennms-provision:list-detectors`	`opennms:list-detectors`
`opennms-provision:show-import`	`opennms:show-import`
`opennms-provision:import-requisition`	`opennms:import-requisition`
`opennms-dns:lookup`	`opennms:dns-lookup`
`opennms-dns:reverse-lookup`	`opennms:dns-reverse-lookup`
`opennms-ping:sweep`	`opennms:ping-sweep`
`opennms-ping:ping`	`opennms:ping`
`opennms-jira:list-projects`	`opennms:jira-list-projects`
`opennms-jira:verify`	`opennms:jira-verify`
`opennms-jira:show-config`	`opennms:jira-show-config`
`opennms-jira:list-priorities`	`opennms:jira-list-priorities`
`opennms-jira:list-fields`	`opennms:jira-list-fields`
`opennms-jira:list-versions`	`opennms:jira-list-versions`
`opennms-jira:list-issue-types`	`opennms:jist-list-issue-types`
`opennms-jira:list-components`	`opennms:jira-list-components`
`opennms-scv:set`	`opennms:scv-set`
`opennms-scv:get`	`opennms:scv-get`
`opennms-datachoices:reset-system-id`	`opennms:datachoices-reset-system-id`
`opennms-datachoices:display-usage-report`	`opennms:datachoices-display-usage-report`
`opennms-datachoices:send-usage-report`	`opennms:datachoies-send-usage-report`
`opennms-poller:test`	`opennms:poll-test`

Previous Command	New Command
`opennms-poller:list-monitors`	`opennms:list-monitors`
`opennms-poller:poll`	`opennms:poll`
`opennms-filters:filter`	`opennms:filter`
`opennms-measurements:show-newts-samples`	`opennms:show-newts-samples`
`opennms-measurements:delete-resource`	`opennms:delete-measurement-resources`
`opennms-measurements:show-measurements`	`opennms:show-measurements`
`opennms-measurements:show-resources`	`opennms:show-measurement-resources`
`opennms-enlinkd:delete-topology`	`opennms:delete-topology`
`opennms-enlinkd:generate-topology`	`opennms:generate-topology`
`opennms-provision:list-detectors`	`opennms:list-detectors`
`opennms-collection:list-collectors`	`opennms:list-collectors`
`opennms-minion:id`	`opennms:minion-id`
`opennnms-minion:ping`	*Removed in favor of `opennms:health-check`
`opennms-dns:stress`	`opennms:stress-dns`
`opennms-kafka-producer:sync-alarms`	`opennms:kafka-sync-alarms`
`opennms-kafka-producer:push-topology-edges`	`opennms:kafka-push-topology-edges`
`opennms-kafka-producer:evaluate-filter`	`opennms:kafka-evaluate-filter`
`opennms-kafka-producer:list-alarms`	`opennms:kafka-list-alarms`
`opennms-nodecache:sync`	`opennms:sync-node-cache`
`opnennms-coordination:join-election-domain`	`opennms:join-election-domain`
`opennms-kv-blob:put`	`opennms:kv-put-blob`
`opennms-kv-blob:get`	`opennms:kv-get-blob`
`opennms-kv-blob:benchmark`	`opennms:kv-benchmark-blob`
`opennms-kv-json:get`	`opennms:kv-get-json`
`opennms-kv-json:put`	`opennms:kv-put-json`
`opennms-classification:list-rules`	`opennms:list-classification-rules`
`opennms-classification:reload-engine`	`opennms:reload-classification-engine`
`opennms-classification:list-groups`	`opennms:list-classification-groups`
`opennms-classification:list-invalid-rules`	`opennms:list-classification-invalid-rules`
`opennms-classification:classify`	`opennms:classify-flow`
`opennms-elasticsearch:send-historic-events`	`opennms:send-events-to-elasticsearch`
`opennms-events:show-event-config`	`opennms:show-event-config`
`opennms-reload:daemon`	`opennms:reload-daemon`

Previous Command	New Command
`opennms-events:stress`	`opennms:stress-events`
`opennms-events:send`	`opennms:send-event`
`opennms-bsm:generate-hierarchies`	`opennms:bsm-generate-hierarchies`
`opennms-bsm:delete-generated-hierarchies`	`opennms:bsm-delete-generated-hierarchies`
`opennms-bsm:render-graph`	`opennms:bsm-render-graph`
`opennms-asset-topology:regenerate`	`opennms:asset-topo-regenerate`
`opennms-asset-topology:remove`	`opennms:asset-topo-remove`
`opennms-asset-topology:list`	`opennms:asset-topo-list`
`opennms-asset-topology:create`	`opennms:asset-topo-create`
`opennms-asset-topology:regenerateall`	`opennms:asset-topo-regenerate-all`
`opennms-topo:show-history`	`opennms:topo-show-history`
`opennms-topo:delete-history`	`opennms:topo-delete-history`
`opennms-onms:listnamespaces`	`opennms:list-namespaces`
`opennms-topo:listoperations`	`opennms:topo-list-operations`
`opennms-activemq:stats`	`opennms:activemq-stats`
`opennms-activemq:purge-queue`	`opennms:activemq-purge-queue`
`opennms-sentinel:id`	`opennms:id`
`opennms-collection:list-collectors`	`opennms:list-collectors`
`opennms-collection:collect`	`opennms:collect`
`opennms-metrics:stress`	`opennms:stress-metrics`
`opennms-threshold-states:details`	`opennms:threshold-details`
`opennms-threshold-states:enumerate`	`opennms:threshold-enumerate`
`opennms-threshold-states:clear-all`	`opennms:threshold-clear-all`
`opennms-threshold-states:clear`	`opennms:threshold-clear`
`opennms-meta:test`	`opennms:metadata-test`
`opennms-rpc:stress`	`opennms:stress-rpc`
`opennms-kafka-sink:topics`	`opennms:kafka-sink-topics`
`opennms-kafka-rpc:topics`	`opennms:kafka-rpc-topics`
`opennms-snmp:fit`	`opennms:snmp-fit`
`opennms-snmp:show-config`	`opennms:snmp-show-config`
`opennms-snmp:remove-from-definition`	`opennms:snmp-remove-from-definition`
`opennms-snmp:walk`	`opennms:snmp-walk`
`snmp:local-engine-id`	`opennms:snmp-local-engine-id`

Previous Command	New Command
`opennms-health:metrics-list`	`opennms:metrics-list`
`opennms-health:metrics-display`	`opennms:metrics-display`
`opennms-health:check`	`opennms:health-check`
`opennms-graph:get`	`opennms:graph-get`
`opennms-graph:list`	`opennms:graph-list`
`opennms-graph:force-reload`	`opennms:graph-force-reload`
`opennms-graph:search`	`opennms:graph-search`

Kafka Producer Metrics

- For Interface Resources, a String attribute named `__ifIndex` is added to represent missing Interface ifIndex in String form.

Notable Internal Changes

- Kafka has been updated to version 2.4.0.
- Protobuf has been updated to version 3.11.4.
- The OpenNMS Integration API is now version 0.4.
- Internally, events are, in most cases, immutable. For the most part, you should see no changes in the external and code places that events are interacted with. They are converted to mutable versions in places where they are often manipulated (like Drools).

Other Improvements

Since Meridian 2020 is based on Horizon 26.1, it contains all the fixes and updates that have occurred since Meridian 2019 was created from the Horizon 25 codebase.

For a more complete list of major changes included in this release, see the "What's New" documentation for Horizon 26.1.3.

Release Meridian-2020.1.14

Release 2020.1.14 contains a few small features updates and a number of bug fixes, including an XSS security issue in the notifications wizard.

The codename for 2020.1.14 is *Tessellated Pavement*.

Bug

- The node and interface counters of the Evaluation Layer are incorrect (Issue NMS-13283)
- EvaluationMetrics.log is contaminated with non-related metrics. (Issue NMS-13284)
- Reflected XSS in webapp notice wizard (Issue NMS-13496)

- macOS Monterey: older OpenNMS branches do not start anymore (Issue NMS-13703)
- related events box in alarm detail shows all events when alarm has no node / interface / service / ifindex (Issue NMS-13705)

Enhancement

- Incorporate node related information to events and alarms topic in opennms-kafka-producer feature (Issue NMS-12778)
- Support multiple auth params for same SNMPV3 username (Issue NMS-13490)
- Show Link State when viewing links on the Enlinkd topology maps (Issue NMS-13619)

Release Meridian-2020.1.13

Release 2020.1.13 contains a couple of small bug fixes.

The codename for 2020.1.13 is *Strait*.

Bug

- Signed Minion container bleeding image shows revision as meridian-foundation-2021.1.4-1-487 (Issue NMS-13587)
- missing fields in search autocomplete (Issue NMS-13518)

Release Meridian-2020.1.12

Release 2020.1.12 contains a few small bug fixes, including a CVE dependency update.

The codename for 2020.1.12 is *Atoll*.

Bug

- Syslog messages missing nodelabel, location, and interface (Issue NMS-13485)
- Bump Apache Ant version to 1.10.11 (CVE-2021-36373, CVE-2021-36374) (Issue NMS-13509)

Release Meridian-2020.1.11

Release 2020.1.11 contains an update for a Jetty CVE plus a couple of XSS fixes and a Minion OOM bug.

The codename for 2020.1.11 is *Ayre*.

Bug

- OutOfMemory issue on Minion (corner case related to Offheap) (Issue NMS-13405)
- Jetty 9.4.38 security issues CVE-2021-28164, CVE-2021-34428 and CVE-2021-28169 (Issue NMS-13449)
- Reflected XSS in webapp notice wizard (Issue NMS-13496)

- Reflected XSS in scheduled outage editor (Issue NMS-13498)

Release Meridian-2020.1.10

Release 2020.1.10 contains a few dependency security updates and an enhancement to the Kafka producer.

The codename for 2020.1.10 is *Calanque*.

Enhancement

- Incorporate node related information to events and alarms topic in opennms-kafka-producer feature (Issue NMS-12778)

Bug

- CVE-2020-13956: Update commons-httpclient to 4.5.13 (Issue NMS-13360)
- CVE-2017-5929: bump logback-classic version to latest (Issue NMS-13361)

Release Meridian-2020.1.9

Release 2020.1.9 contains a few bug fixes and enhancements.

The codename for 2020.1.9 is *Wave-Cut Platform*.

Bug

- IP interface link in Response Time graph page is broken (Issue NMS-13158)
- Got Access Denied when viewing On-Call Role schedule (Issue NMS-13287)
- Validate query parameters in snmpInterfaces.jsp (Issue NMS-13308)
- Validate name parameter in DestinationWizardServlet (Issue NMS-13309)

Enhancement

- Incorrect reference to org.opennms.netmgt.syslog.cfg (Issue NMS-13223)
- Location aware Requisitions from DNS (Issue NMS-13278)

Release Meridian-2020.1.8

Release 2020.1.8 contains a number of security fixes, as well as fixes for a few other bugs.

The codename for 2020.1.8 is *Isthmus*.

Bug

- Not possible to define notification parameters via "Configure notifications" UI (Issue NMS-8581)
- Race condition on ALEC's config bundle after installation (Issue NMS-12766)
- Reflected XSS reported 2021-03-31 (update summary after disclosure) (Issue NMS-13229)

- vmware integration connection pool not expiring connections (Issue NMS-13234)

- Cleared alarms with closed ticket state not removed when using a hybrid approach (Issue NMS-13237)

- Sidebar navigation on the graph results page is not working (Issue NMS-13259)

- Time zone is handled different on Minion container image based on Ubuntu (Issue NMS-13276)

- Apache Commons IO Security Update: CVE-2021-29425 (Issue NMS-13279)

Release Meridian-2020.1.7

Release 2020.1.7 contains an enhancement to event forwarding performance in the Kafka producer, plus a number of bug fixes including a Jetty DoS CVE.

The codename for 2020.1.7 is *Firth*.

Bug

- Change Jetty default settings to eliminate TLS 1.0 and TLS 1.1 support (Issue NMS-10256)

- Wrong UEI is picked when threshold alarms are generated (Issue NMS-13120)

- XSS in notification wizard (Issue NMS-13123)

- Generate Data collection throws error message "There is a group with same name, please pick another one" under MIB browser (Issue NMS-13143)

- 'Links on interface' table was missing for interface under node list (Issue NMS-13145)

- Regular Expression field textbox greyed out for other Events except 'REGEX_FIELD' under Event notifications (Issue NMS-13149)

- Query Regarding saving a filter URL with more than 255 characters in events ILP (Issue NMS-13152)

- Kafka producer uses resource name instead of ifIndex as the instance for InterfaceLevelResource (Issue NMS-13185)

- The behavior of the Ticketing API differs from older versions. (Issue NMS-13189)

- CVE-2020-27223: Jetty DoS vulnerability (Issue NMS-13201)

- Minion: Kafka related WARN log messages (AdminClientConfig The configuration X isn't a known config) (Issue NMS-13208)

- Minion SNMPv3 trap configuration query is done every 60 seconds (Issue NMS-13217)

Enhancement

- Improve Event forwarding performance for Kafka producer (Issue NMS-13211)

Release Meridian-2020.1.6

Release 2020.1.6 contains a number of small bug fixes and enhancements, including some UI cleanups, Newts fixes, and a security update to Apache POI.

The codename for 2020.1.6 is *Bight*.

Bug

- Timezone and Grafana Dashboard fields not preserved when editing a scheduled report (Issue NMS-13064)
- No option provided to change the number of records per page in Events ILP and Events/Alarms ILP under Topology (Issue NMS-13137)
- The OpenNMS Web User Interface Has Experienced an Error observed when searching for a Event under Event notifications (Issue NMS-13148)
- Node's sub-option 'Availability' exceeds table alignment and overlaps next table of 'Notifications' under Topology section (Issue NMS-13153)
- Newts Cache priming flag is inverted (Issue NMS-13156)
- Dependabot: Upgrade Apache POI to 3.17 (CVE-2017-12626) (Issue NMS-13161)

Enhancement

- add service status to rest `/info` API (Issue NMS-13135)
- create a table to show related events in the alarm detail view (Issue NMS-13170)

Release Meridian-2020.1.5

Release 2020.1.5 contains a few bugfixes and a log verbosity enhancement.

The codename for 2020.1.5 is *Strandflat*.

Bug

- Timezone and date range inconsistencies when scheduling database reports associated with Grafana dashboards. (Issue NMS-13070)
- Exception messages during node import (log noise) (Issue NMS-13082)
- SFlow enhancment is not functional (Issue NMS-13093)
- JEXL expression handling updates (Issue NMS-13103)

Enhancement

- Optionally silence file not found warnings for JICMP, JRRD when properties are not set (Issue NMS-13081)

Release Meridian-2020.1.4

Release 2020.1.4 contains an SNMP poller fix and a small enhancement to package dependencies.

The codename for 2020.1.4 is *Machair*.

Bug

- When using a custom prefix, the Elasticsearch Forwarder for events and situation-feedback creates a wrong template. (Issue NMS-13030)

Enhancement

- Depend on haveged (and supply it in our repo) (Issue NMS-8959)

The codename for 2020.1.4 is *Ria*.

Release Meridian-2020.1.3

Release 2020.1.3 is the fourth release in the Meridian 2020 series.

It contains a critical fix to a reporting API bug that could cause OpenNMS to fail to start.

BREAKING: If you created reports in 2020.1.2, they will need to be recreated in 2020.1.3.

The codename for 2020.1.3 is *Fjord*.

Bug

- report timezone changes break reading pre-existing reports from Quartz (Issue NMS-13037)

Release Meridian-2020.1.2

Release 2020.1.2 is the third release in the Meridian 2020 series.

It contains a number of bug fixes including a fix for a critical Jetty CVE.

The codename for 2020.1.2 is *Skerry*.

Bug

- Timezone inconsistency when generating PDF reports from Grafana dashboards (Issue NMS-12930)
- RRD files for SNMP data are not created until a Service Restart (Issue NMS-12974)
- Unable to enable Jaeger tracing in Sentinel (Issue NMS-12998)
- Update typo in BMP docs (Issue NMS-13002)
- CVE-2020-27216: Jetty webserver vulnerability (Issue NMS-13009)
- Null pointer exception whe minion receives traps (Issue NMS-13015)

Release Meridian-2020.1.1

Release 2020.1.1 is the second release in the Meridian 2020 series.

It contains a number of bug fixes and enhancements.

The codename for 2020.1.1 is *Tombolo*.

Bug

- Unable to poll Vcenter CIM - Calling something in OpenJDK11 that has been removed. (Issue NMS-12919)

- service starts / restarts work but spit out an error if configured to wait for startup (Issue NMS-12966)

- Alarm (v1 & v2) ReST Service PUT Can't PUT Multiple Things (Issue NMS-12979)

Enhancement

- Add custom string attributes based on indirect and complex SNMP Indices (Issue NMS-8484)

- Identify message broker strategies in web "about" page (Issue NMS-12971)

Release Meridian-2020.1.0

Release 2020.1.0 is the first release in the Meridian 2020 series, based on Horizon 26.1.x.

The codename for 2020.1.0 is *Archipelago*.

Bug

- HTTP Detector does not accept a response without a reason as valid (Issue NMS-10351)

- Slack-compatible notification strategies expect "url" for switch name, should be "-url" (Issue NMS-10552)

- opennms.pid missing when started by Systemd (Issue NMS-12769)

- Interfaces incorrectly marked as having flows resulting in no data via Helm (Issue NMS-12814)

- Response Time Summary database report missing latency caluculation (Issue NMS-12837)

- SslContextFactory needs to be changed to SslContextFactory.Server in jetty.xml (Issue NMS-12847)

- Wrong startup command for Minion running with Docker and health check issues (Issue NMS-12872)

- Install guide RHEL instructions are invalid on RHEL 7 (Issue NMS-12891)

Enhancement

- Update collectors chapter (Issue NMS-12682)

- Include XML schema for wsman-datacollection-config.xml in assemblies (Issue NMS-12813)

- Fix CollectdTest mock'ing errors (Issue NMS-12828)

- Fix JMX datacollection config generator test (Issue NMS-12829)

- Remove unused import in BsonUtils (Issue NMS-12830)

- Update mockito/powermock dependencies (Issue NMS-12831)

- Update Minion installation documentation (Issue NMS-12917)

- sort custom reports (Issue NMS-12931)

- Update Copyright notice for 2020 (Issue NMS-12933)