

# RELEASE NOTES

## NETOPS CONSOLE SERVER

### VERSION 22.06.0



## INTRODUCTION

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This is a recommended production software release for all Operations Manager and Console Manager CM8100 products. Please check the [Operations Manager User Guide](#) for instructions on how to upgrade your device. No upgrade is required for this release on CM8100 appliances but the [CM8100 User Guide](#) is available.

## SUPPORTED PRODUCTS

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- OM1200
- OM2200
- CM8100

## KNOWN ISSUES

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- Cellular can be used as an interface for DNS queries instead of the IP address. [NG-4197]
  - No workaround
- Bond in bridge using switch ports doesn't work. [NG-3767]
- CM8100 Web UI incorrectly labels NET1 and NET2 and "Copper/SFP". There are no SFP cages on the CM8100 platform. [NG-4380]
- Configuration shell (config)
  - Baud rate values not in order. [NG-4347]
  - help and show list different entities and use a different style. [NG-4351]
  - Any field accepts the word "null". [NG-4348]
- Disabled local console still a working management console if kernel messages are enabled. [NG-4355]
  - Workaround is to disable kernel messages for disabled management consoles.

## CHANGE LOG

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**Production release:** A production release contains new features, enhancements, security fixes and defect fixes.

**Patch release:** A patch release contains only security fixes or defect fixes for high priority issues.

### 22.06.0 (June 2022)

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This is a production release.

#### Features

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**CM8100 Support** • This is the first NetOps Console Server release supporting the upcoming CM8100 Console Manager.

**Configuration Shell** • A new interactive CLI tool gives the user a more guided experience when configuring the device from the command line interface. It is launched by typing `config` from the shell prompt. The existing `ogcli` tool continues to be available and is particularly suited for scripting.

#### Enhancements

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**pmshell Control Codes** • Control codes can be assigned to any of the existing pmshell commands. For example, the following command assigns `ctrl-p` to the *choose ports* command, `ctrl-h` to the *show help* command, and `ctrl-c` to quit pmshell, applicable only when connected to *port01*. Control codes are configured *per-port*.

```
ogcli update port "port01" << END
control_code.chooser="p"
control_code.pmhelp="h"
control_code.quit="c"
END
```

The `set-serial-control-codes` script is a convenient way of assigning the same control code to all ports. For example, `set-serial-control-codes chooser p` to assign `ctrl-p` to the *choose ports* command for *all* ports.

**pmshell Console Session Timeout** • A console session is terminated if it has been idle for longer than the configurable timeout period. The timeout period is configured on the *Session Settings* page of the web UI, or using the `system/session_timeout` endpoint. The timeout is specified in minutes, where 0 is “never timeout” and 1440 is the largest allowable value. The following example sets the timeout to five minutes.

```
ogcli update system/session_timeout serial_port_timeout=5
```

**pmshell Reload Configuration** • Changes made to pmshell configuration are now immediately applied to any active sessions.

**TACACS+ Accounting** • It is now possible to enable or disable sending of accounting logs to a TACACS+ authentication server. When enabled (true by default), logs are sent to the first available remote authentication server. It is not possible to configure an accounting server that is distinct from the authentication server. Accounting is configured via the web UI, or using the `auth`

endpoint. The following example disables accounting.

```
ogcli update auth tacacsAccountingEnabled=false
```

**Configurable Net-Net Failover Interface** • The failover interface can now be configured on the *OOB Failover* page. Previously the failover interface was implicitly always the cell modem interface. Since this feature no longer requires a cell modem, the *OOB Failover* page is now available on all devices, even those without a cell modem. The language for the DNS queries configuration item has also been clarified.

## Security Fixes

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**Fix CVE-2022-1015** • Pertains to an out-of-bounds access due to insufficient validation of input arguments, and can lead to arbitrary code execution and local privilege escalation by extension. [NG-4101]

**Fix CVE-2022-1016** • Pertains to related insufficient stack variable initialization, which can be used to leak a large variety of kernel data to userspace. [NG-4101]

## Defect Fixes

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### Web UI

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- With the *Add New SNMP Alert Manager* page there is now default placeholder text for server address (127.0.0.1) and port (162). [NG-3563]
- With the *Remote Authentication* page there is now a prompt to set the remote authentication server address. Previously a user had to submit an empty value before being notified of missing data. [NG-3636]
- With the *System Upgrade* page improve reporting for software installation errors. [NG-3773, NG-4102]
- With the sidebar, multiple top-level page groupings can be open at once (e.g. *Monitor*, *Access*, and *Configure*). [NG-4075]
- Fix the web UI being logged out when invalid values are entered for *Web Session Timeout* on the *Session Settings* page. [NG-3912]
- Fix rendering glitch with the *System* or *Help* popover menus when viewing in narrow windows. [NG-2868]
- Fix accessing `https://<ip>/terminal` results in a quick error loop. [NG-3328]
- Fix closing and opening the browser may allow access to the device without allowing access to the web terminal. [NG-3329]
- Fix cannot create a SNMP v3 PDU. [NG-3445]
- Fix network interfaces are not displayed in the right order on multiple pages. [NG-3749]
- Fix no loading transition screen between services pages. Switching between slower loading service pages now provides a visual cue that something is happening. [NG-3776]
- Fix unexpected UI changes when creating a user with the name 'root' on the *New User*

page. [NG-3841]

- Fix being able to press “apply” while sending the request on the *New VLAN Interface*, *Session Settings*, and *Administration* pages. [NG-3884, NG-3929, NG-4058]
- Fix bad data sent when applying configuration on the *SNMP Service* page. [NG-3931]
- Fix web session timeout does not apply to console user. [NG-4070]
- Fix Docker Runtime Information in the support report which previously showed nothing meaningful. [NG-4160]
- Fix IPsec prints errors in support report when disabled. [NG-4161]

### **ogcli and Rest API**

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- Fix static route rest API validation doesn't allow valid static routes. [NG-3039]
- Fix to improve error reporting in the rest API when a password is not provided for the root user. [NG-3241]
- Fix to allow interface of static routes to be referenced by both id or device. [NG-3039]
- Fix to improve ogcli help text for the “ogcli replace groups” example, to more clearly differentiate between *update* and *replace* operations, and to simplify the basicogcli --help text. [NG-3893]
- Fix ogcli merge users command failing when remote-only users are present. [NG-3896]

### **Other**

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- Fix pmsHELL incorrectly listing port01 as available on a OM1200 when it is not. [NG-3632]
- Fix duplicate Lighthouse enrolment attempts succeeding when only one should succeed. [NG-3633]
- Fix RTC clock is not being updated with NTP sync (OM1200 and OM2200). [NG-3801]
- Fix Fail2Ban counts multiple attempts on login for disabled user. [NG-3828]
- Fix port logs forwarded to a remote syslog server no longer include port label. [NG-2232]
- Fix SNMP networking alerts do not work for cell interface link state. [NG-3164]
- Fix can't select all ports using ports=null for ports auto-discovery. [NG-3390]
- Fix excessive logspam from “ogconfig-srv”. [NG-3676]
- Fix unable to discover PDU outlets over USB dongle. [NG-3902]
- Fix fail upgrade when /etc/hosts is “empty”. [NG-3941]
- Fix disabling root account on OM means Lighthouse can't pmsHELL to ports. [NG-3942]
- Fix Spanning Tree Protocol not working on -8E and -24E devices. [NG-3858]
- Fix OM22xx-24E switch ports (9-24) in a bond do not receive LACP packets. [NG-3821]

- Fix switch ports not initialised on first boot when upgrading a -24E device. [NG-3854]
- Fix time-synchronization issue preventing enrollment with Lighthouse 22.Q1.0. [NG-4422]

### **21.Q3.1 (April 2022)**

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This is a patch release.

#### **Security Fixes**

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- Fixed CVE-2022-0847 (The Dirty Pipe Vulnerability)
- Fixed CVE-2022-0778

#### **Defect Fixes**

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- Exporting config when cellular is enabled no longer produces invalid config.
- Removed some noisy logs about signal strength when cellular is disabled.
- Changed SNMPv3 Engine ID to display in GUI.
- Changed SNMPv3 Engine ID to be generated based on the MAC address of net1.
- Improved validation of state route configuration (made more permissive).
- Increased groupname limit to 60 characters.
- Fixed cellular modems still responding to ping and holding an IP address even after disabling cellular.
- Fixed an issue with the parsing of wildcards in the rules for interzone forwarding.

### **21.Q3.0 (November 2021)**

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This is a production release.

#### **Features**

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- Allow DNS Search Domains to be set
- Support bonds in bridges via ogcli
- Static Routes UI
- Brute Force Protection
- TFTP server
- Configuration overwrite
- Configuration backup and restore via Web UI

#### **Enhancements**

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- Improve ogcli built-in help
- Improve ogcli port naming syntax
- Display hostnames that include . fully
- More than three DNS nameservers can be configured
- Prioritize DNS on failover interface during out-of-band failover

#### **Security Fixes**

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- Upgraded Yocto from Gatesgarth to Hardknott
- SNMP RO community strings appear in cleartext
- Password for serial PDU is visible when typing it in
- Download links leak the session token

## Defect Fixes

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- Fixed a race condition that could cause issues bringing up the cell modem on fresh/factory reset devices.
- Fixed an issue with serial port IP aliases incorrectly overwriting the network interface configuration on update.
- Fixed an issue with remote AAA authentication negotiation when using IP aliasing.
- Fixed an issue with installing new firmware images from a USB device.
- Improved the resource usage of the ogpsmon service.
- Improved the information display/layout for PDUs.
- Improved the stability and usability of ogcli via the addition of a number of crash fixes and endpoint specific help/error messages.
- Fixed an issue preventing the bridging of NET1 and switch ports for OM1200 devices.
- Reduced the amount of spurious log noise resulting from SNMP updates.
- Allowed manual setting of https certificate which bypasses CSR generation.
- Added support for the SNMP Controlled TrippLite LX and ATS LX Platform SNMP drivers.

## 21.Q2.1 (July 2021)

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This is a patch release.

## Defect Fixes

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- Fixed issue where nginx service would fail on bootup after a system upgrade

## 21.Q2.0 (June 2021)

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This is a production release.

## Features

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- Support for IPsec configuration
  - x509 certificate authentication
  - Dead Peer Detection (DPD)
  - Enhanced IPsec configuration options
- Improved support for automatic failover
  - Includes a SIM activated timestamp to show when failover takes place
  - Improved support for Verizon and AT&T
- Added SNMP Traps for PSUs
- ZTP Enhancements
- Added default password obfuscation and masking to ogcli

## Defect Fixes

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- Cell connection with a SIM card that requires a password will not connect
- URLs are not correctly validated
- Using ogcli commands in ZTP over USB script fails
- ogcli import [TAB] does not auto-complete existing files
- ttyd segfaults on exit
- systemd crashes in software boot when USB stick is inserted
- ogcli update fails when 2 items are added to a list
- Help text on Cellular SIM Failover does not change when selecting active SIM
- rsyslog collects debug logs showing passwords in clear text

- Web-UI “Cycle All Outlets” button/link fails when no outlets are selected
- v1 RAML is not compatible with raml2html
- Triggered auto-response playbooks dropdown menus fail after selecting an option
- SNMP temperature alert trap may not trigger in time
- Connecting a Cisco console does not reload portmanager as it should
- Ember proxy doesn’t work because of a cookie problem
- RTC self-test randomly fails
- USB-serial port incorrectly allows setting localConsole mode
- LDAPDownLocal with bad server key doesn’t fall back to local accounts
- TACACS+ errors when server returns large packet of Authorizations
- Local PDU breaks on port import
- puginstall downloads to /tmp (ie. tmpfs)
- Power select seems to be defaulting to allow search and does not work much of the time
- OM12XX has an empty Local Management Consoles page
- Entering an invalid URL for firmware upgrade results in a very long wait
- Uploaded images that fail to install are not removed until reboot
- ModemWatcher doesnt update sim, cellUim, or slotState for telemetry and SNMP
- Interzone forwarding to/from LHVPN zone is broken
- Removed weak ciphers from default SSH and SSL configuration options
  - Upgraded devices from older firmware versions will still have weak ciphers enabled

### 21.Q1.1 (May 2021)

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This is a patch release.

#### Defect Fixes

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- Remote syslog can log SNMPv3 PDU credentials in debug mode
- Connecting to a Cisco console via USB did not work
- Booting while connected to a Cisco 2960-X USB console would prevent it from working
- USB drive may not be mounted on boot, causing ZTP to fail
- ogcli update could not append multiple items to a list

### 21.Q1.0 (March 2021)

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This is a production release.

#### Features

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- Support for OM120xx SKUs with dual AC power supply
- Support for OM2224-24E SKUs
- Improved list access in ogcli
- Remove Non-Inclusive Language References from WebUI
- SNMP Traps for PSU and system temperature
- Automatic failover support - AT&T and Verizon
- Password Complexity Enforcement
- New bridge inherits MAC address of the primary interface

#### Defect Fixes

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- ModemManager can probe the local console
- Description field on create bond/bridge is not cleared after submit
- 10G IPv6 crashes

- “ogcli update” is broken for all non-cellular interfaces
- Deleting an aggregate underneath a VLAN gives a confusing error message
- Cell Modems may come out of Auto-SIM mode
- “Internal Error.” is not a useful REST API error message
- Changing sim during failover causes device to come out of failover mode
- Allow uploading of firmware images over 400M
- “Port Number for Direct SSH Links” not working
- Console user can see the edit button on Access > Serial Ports page
- Aggregate creation errors not shown in web UI when f2c/failover is updated
- SNMP agent sometimes reports ports out of order
- Port Discovery requires multiple runs to complete
- Inform user of failure to add IP Alias to serial port configured as a local console
- Auto-Response Salt Master and Minion may not always sync keys
- REST failure messages not correctly reported in WebUI on Network Interfaces page
- Firewall Interzone Policy dropdowns show duplicate values when adding multiple entries
  - Redesigned UI to improve user experience
- odhcp6c script removes all IPv6 addresses and routes every time an RA event occurs
- search parameters in ‘/ports’ isn’t working
- Cannot use special characters in cell APN or username
- Portmanager does not re-open USB device after it is connected in some cases
- Access via Lighthouse proxy not working from behind NAT
- Configuration allowed multiple SNMP managers with the same destination and different message-types and protocol.
  - This resulted in multiple messages being received via SNMP.
  - Now it is invalid to have multiple SNMP managers with the same destination; each entry must have a unique combination of host, port and protocol.
  - Note: During upgrade to 21.Q1.0, if multiple entries with the same host, port and protocol are found, only the first entry will be kept.
- Mask client passwords in Support Report output
- Modem not present during initial boot, fails on subsequent boots
- Session tokens visible in URLs
- Session APIs are updated to not contain any session tokens
- Compatibility note for CURL users: POSTing to sessions and following the redirect (-L) without allowing cookies (-c /dev/null) will result in an error

## 20.Q4.0 (October 2020)

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This is a production release.

### Features

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- Remote syslog support for port logs
- Support for Multiple SNMP managers
- Dual SIM Support
- Support for additional OM12XX SKUs
- Added the ability to use unauthenticated SSH to console ports
- Configurable RemoteDownLocal/RemoteLocal policies for AAA
- Editing interfaces in existing aggregates
- The ability to enable spanning tree protocol on bridges
- Upgraded Yocto from Zeus to Dunfell

## Defect Fixes

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- When deleting bond interfaces, the web UI can identify the primary interface incorrectly
- Auto response reactions can not always be removed in UI
- IP Passthrough status can display incorrectly if interface is changed
- SNMP Manager V3 password is not set correctly and does not appear in export
- Firewall services with spaces should be invalid
- SNMP Service does not support IPv6
- Ogcli -j import fails when any property contains an apostrophe
- Ogtelem snmp agent using 6% cpu
- Firmware upgrade via WebUI using file upload doesn't work on OM1204/1208
- ssh to a bad port/label does not return expected error
- SNMP Alert Managers do not support IPv6 transport protocols
- Port forward does not work with perfrouted
- IPv6 cellular addresses are not reported in the UI
- Port forwarding does not work as expected on connections other than net1
- Port forwarding does not behave as expected for IPV6

## 20.Q3.0 (Jul 2020)

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This is a production release.

## Features

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- Support for a configurable Login Banner for SSH and Web-UI
- Discover 9600 baud serial devices before other speeds
- Speed up Auto-Response Triggered Playbooks Web-UI page loading time
- Miscellaneous Web-UI wording changes
- Software support for new SKUs, OM2248-10G and OM2248-10G-L
- SNMP Service support for telemetry state
- Allow device configuration import and export
- Support to provision via USB key
- Support for IPv4/v6 Firewall Interzone Policies
- Support for Firewall zone custom/rich rules
- Improved ogcli error reporting
- Upgraded Yocto from Warrior to Zeus
- Upgraded Ember JS from 2.18 to 3.0.4

## Defect Fixes

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- When unenrolling from a primary Lighthouse instance ensure the device is also unenrolled from secondary Lighthouse instances
- Switch uplink interface is unable to send/receive frames

## 20.Q2.0 (Apr 2020)

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This is a production release.

## Features

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- Software support for 10G SKU
- Software support for Ethernet Switch SKU
- Auto-Response Network Automation Solution

- 802.1Q VLAN Interfaces support
- Firewall Masquerading (SNAT)
- Firewall Port Forwarding
- PDU Control support
- Opengear Command Line Interface tool (ogcli)
- Static Route Support
- Console Autodiscovery Enhancements
- OOB Failover Enhancements

## Defect Fixes

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- Salt version on the Operations Manager has been upgraded from version 3000 to 3000.2
- Unable to change pinout mode on certain ports.
- LH/NGCS proxy breaks Web UI static resources.
- NGCS cannot connect to a remote TFTP server.
- Refreshing the Web UI causes the sidebar navigation to lose place on some pages.
- Deleting Multiple (3+) External Syslog Servers in a single operation causes Web UI errors.
- Serial port mode cannot be changed to 'Console Server' mode after configuring to 'Local Console' mode.
- Local Users 'Disable/Delete Selected' actions fail but claim to succeed on the Web UI.
- Adding a gateway using a static connection sets that gateway's route metric to 0.
- OM12xx firmware sends several lines to front serial port 1 on boot.
- Web UI fails to update USB serial port configuration.
- Auto Response reactions/beacons REST endpoints with missing module specific table return errors.
- Web UI dark mode dialog box background and text too light.
- Auto Response REST API has various bugs in JSON/RAML.
- Port 1 default mode should be "local console" on OM12xx.
- OM12xx USB-A port mapped incorrectly.
- IPv6 network interfaces are not truly deleted when deleted from the Web UI.
- Remote authentication should support IPv6 servers.
- USB serial port Autodiscovery: devices show disconnected after populating hostname.
- REST API allows deletion of uuids under unrelated endpoints.
- Pre-release REST API endpoints have been consolidated or removed as necessary.
- REST API /api/v2/physifs POST fails with a 500 on "Not Found" error.
- REST API /support\_report endpoint is not functional for API v1.
- Web UI session does not end session correctly when left on the web terminal.
- Remote AAA users are not granted expected access to device serial ports.
- Serial ports with lengthy label names do not display nicely in the Web UI.
- Support Report sfp\_info tool does not work for 1G network ports.
- Using a switch port as the probe address for failover doesn't work.
- Slow memory leak in ogconfig-srv causes OM22xx to eventually restart after ~125 days.
- Remote AAA user not granted port access via SSH/CLI pmshell.
- Slot switching should only ever be possible in the boot immediately after upgrade.
- Serial port label on access serial ports page can extend into next column.
- Web UI fixes on the Routing Protocol page.
- DELETE /config REST API documentation is incorrect.

## 20.Q1.0 (Feb 2020)

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This is a production release.

## Features

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- Bonding Support
- Bridging Support
- Console autodiscovery for labeling ports with the hostname of connected devices
- Force password reset on first use / factory reset
- Add support for Lighthouse cell health reports
- Serial port login / out SNMP alerts
- General improvements to user interface and user experience
- Added support for IPsec tunnels
- Improved CLI configuration tool (ogcli)
- Added IPv4 Passthrough support
- Add support for periodic cell connectivity tests
- Support for OM12XX device family
- Lighthouse OM UI Remote Proxy Support

## Defect Fixes

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- System Upgrade: "Error contacting server." appears after device begins an upgrade
- Fix issue with removing the last interface from a firewall zone using the web UI
- Improved firewall configuration change response time
- Firewall rules are not updated when a zone is deleted until the page is refreshed
- Ember error shows on network interface web UI page
- Web-UI fails to update USB serial port configuration
- Improved rest api documentation
- Unsaved hostname in Web UI leaks into heading and navigation components
- After importing config backup, web terminal and SSH links on Access Serial Ports do not work
- Log rotation improvements
- Improved exception handling
- IPv6 DNS support for cell modem unreliable
- Kernel using wrong realtime clock
- Interrupting an upgrade prevents further upgrades
- Lighthouse synchronisation improvements
- ZTP fixes and improvements

## 19.Q4.0 (Nov 2019)

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This is a production release.

## Features

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- Added new CLI configuration tool, ogcli.
- Support for the Network and Cellular LED.
- Support for cellular connections on the Verizon network.
- SNMP v1, v2c, and v3 Trap support for system, networking, serial, authentication, and config changes.
- Cellular modem can now autodetect carrier from SIM card.
- Device now constructs FQDN from hostname and DNS search domain.
- Maximum number of concurrent SSH connections is now user configurable (SSH MaxStartups).
- Added LLDP/CDP support.

- Added support for the following routing protocols:
  - BGP
  - OSPF
  - IS-IS
  - RIP
- Add support for rebooting the device in UI.

## Defect Fixes

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- Swapped default firewall zone assignment for net1 and net2.
- Removed default static IPv4 address on net2.
- Perl now reinstalled on the system.
- Improved reliability of cellular modems.
- Fixed some issues with IPv6 connectivity.
- Manual date and time setting now persist across reboot.
- Statically assigned cellular IP connections were not correctly appearing in UI.
- Modem was not being enabled correctly if ModemManager was in a disabled state.
- Fixed cell signal strength not being checked again if a previous check failed.
- SIM status was not always being correctly reported in the UI.
- Allow USB ports to be used in pmshell and display them correctly.
- ISO-8859-1 text messages were not being correctly handled.
- Correctly start chronyd for NTP.
- Fixed device stability issue from long-term REST API usage.
- IPv6 NTP servers could not be added in the UI.
- Fixed bug where an in-use IPv6 address could be added as a serial port address.
- Fix return code in REST API for port IP alias.
- Fixed rare issues with cellular failover and scheduled cellular firmware updates.
- Cellular connection was not being correctly brought down when performing cellular firmware upgrades.
- Administrator users were not being given correct rights when using pmshell.
- UI was not accepting valid URLs for system upgrade files.
- REST API was not indicating an error when an invalid date was sent.
- No new port logs appeared after rsyslogd was restarted.
- Changing assignment of interfaces to firewall zones had no effect on the firewall.
- Cellular interface did not come up when iptype was deleted from config.
- In the UI using enter on the keyboard now publishes the change instead of clearing it.
- Web server will now listen on IPv6 addresses.
- Cellular statistics were not updated if the modem was not connected.
- Running systemctl restart firewalld now works correctly.
- RAML documentation for PUT /groups/:id request was incorrect.
- Both network interfaces responded to ARP requests when connected to the same subnet (ARP flux).

## 19.Q3.0 (July 2019)

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This is a production release.

## Features

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- Cellular failover and out-of-band access.
- Carrier firmware update ability for cellular modem.
- Administrators can force SSH logins via public-key authentication only, on a per-user basis.

- Users can now store their public-keys for SSH authentication in the configuration system.
- Ability to see users connected via pmshell to each serial port.
- User pmshell sessions can be terminated via the web-UI and from inside pmshell.
- Logs are now more efficient with their use of disk space.
- Users are now warned about high levels of disk use.
- Support report displays list of files that have been modified in each config overlay.
- Configuration backups can now be made and imported via ogconfig-cli.

### Defect Fixes

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- UI now navigates to the login screen as soon as session expires.
- Fixed ogconfig-cli pathof command returning incorrect paths for list items.
- Disabled ability for root user's group to be changed in the UI.
- Model and serial number were not appearing in web-UI system dropdown.
- Refresh button was not functioning correctly on network interfaces page.
- Ethernet link speed changes were not being applied.
- Conman was bringing down network link unnecessarily on address changes.
- Conman took too long after a reload to notice the Ethernet links were up.
- Fixed missing text on syslog web-UI page.
- Some cell carriers with special characters in their name were not being handled correctly.
- SSL certificate upload via the web-UI was broken.
- Serial port IP Alias changes were being applied without clicking the apply button.
- Web UI terminal pages weren't updating their page title.
- Serial port direct SSH did not accept public-key authentication.

### 19.Q2.0 (April 2019)

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This is a production release.

### Features

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- USB console support for front and rear USB ports.
- LH5 enrolment support to ZTP.
- Cellular configuration support to UI and REST API with automatic SIM detection.
- Ruby scripting support for use with Puppet Agent.
- Model now displayed in System Details UI.
- Power LED enabled on front panel. Amber when only one PSU is powered, green if both are.
- Comment character support to ogconfig-cli. Character is '#'
- Upgraded underlying base system packages for security and stability enhancements.
- Support for configuring pmshell escape character.
- Basic support for OM2224-24E models gigabit switch.
- Enabled per-interface default routing.
- User configurable IPv4/v6 Firewall.
- Cellular modem firmware upgrade mechanism for CLI.

### Defect Fixes

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- Issue with small delay to CLI after login.
- REST API and UI not showing all IPv6 addresses on an interface.
- Incorrect description for Cellular Interface in config.
- Management Console connection wasn't re-establishing after baud rate changes.

## 18.Q4.0 (December 2018)

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This is a production release.

### Features

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- System upgrade capability

### Defect Fixes

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- Fix issue in pmsHELL which produced brief high CPU usage periods
- Removed excessive udhcpc messages
- Updated schema for UART hardware settings

## 18.Q3.0 (September 2018)

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First release for the Opengear OM2200 Operations Manager.

### Features

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- Built-in cellular modem for use as an Out Of Band connection.
- Dual SFP network ports for Gigabit Ethernet and fiber.
- Secure hardware enclave for storing secrets for encrypting configuration and logs.
- Support for running standalone Docker containers natively on the OM2200.
- Modern HTML5 and JavaScript based Web UI.
- Modern tab-completing configuration shell, ogconfig-cli.
- Consistently validated configuration backend.
- Configurable IPv4 and IPv6 networking stacks.
- Comprehensive REST API for external configuration and control of the OM2200.
- Streamlined user and group configuration and authentication mechanisms, including Radius, TACACS+, and LDAP.
- The ability to enroll and manage the OM2200 with Lighthouse 5.2.2.
- NTP client for accurate time and date settings.
- Support for provisioning the OM2200 via DHCP ZTP.
- Initial support for monitoring the OM2200 via SNMP.
- The ability to manage serial consoles via SSH, Telnet, and WebTerminal.
- Support for running Opengear NetOps Modules.
- Support for the Secure Provisioning NetOps Module which provides a platform to distribute resources and configuration (ZTP) to devices managed by the Lighthouse 5 platform and connected to the OM2200 appliance.