Release Notes Connectivity Suite

16. January, 2024

Release 3.5

This release incorporates several changes and updates which are depicted as follows.

Release Information

Version 3.5.0

Date: 16. January 2024

Supported NetModule Router software (NRSW): 4.6, 4.7, 4.8

Supported OS: Ubuntu 20.04 / 22.04, Debian 10,11, 12

Important Information

Starting with this release, a License Key is required for operating Connectivity Suite. Each CS instance running software v3.5 or later requires its own License Key.

Obtaining a License:

- A License Key, delivered in form of a file, is issued and distributed by NetModule (**sales@netmodule.com**) or through authorized distribution partners.

- Get your license file(s) through your regular commercial channel and have it ready when starting the installation / update of Connectivity Suite. Provide the FQDN of the same when ordering.

- Licenses are valid for a subscription period of 12 months. NetModule will notify its customers and partners in advance and early enough for the renewal to be executed in time.

Operation:

- As part of the installation process the user is prompted to upload a valid License in the WEB UI under "Settings/Licenses"– See the User Manual for more details **https://connectivity-suite-user-manual.readthedocs.io/en/latest/3_first_steps.html#license**

- The License status providing the below parameters, is visible in the WEB UI and may be queried through API as well:

    o License status

    o Subscription period; Start- and end-date

    o Number of devices included vs. in connected to Connectivity Suite

Any questions related to this topic, please address them by completing the following **Request Form**.

Features added

- **Reverse Proxy Records**

    o Accessing devices and child devices with a standard web browser, without the need of an OpenVPN connection.

    o Configuring reverse proxy records for accessing devices and child devices using https

    o Utilization of sub-domain names to access devices and child devices securely via https

    o Setting target port(s) for devices and child devices

- **Debian 12 Support**

    o Connectivity Suite is now supporting Debian 12 Linux OS

Improvements

- **API Swagger Documentation**
    - The documentation for the Swagger API Interface has been improved. Each API Call now has a detailed description of its functionality and parameter(s).

- **Improved progress information on Jobs**
    - A detailed task-level view is now available for Jobs, which allows for more effective monitoring of the job progress.

- **Optional Device properties in Device List**
    - The Device List now provides the option to include Device properties such as temperature, storage capacity, or module firmware version as columns.

- **Reduced load on backend OpenVPN servers**
    - The communication between the API and devices no longer passes through the backend OpenVPN server, leading to quicker deployment processes.

Bugs fixed

Various Bugs have been fixed in this release. The most relevant for users are listed below (list is non exhaustive).

- **CS-3532 – Valid Network Pools Available:** When creating new Networks, unavailable subnets are now greyed out. This helps to prevent IP Address conflicts.

- **CS-3785 - Tech Support File:** Generating a Tech support File, caused a out of memory error message in some cases. This has been fixed now and the error no longer occurs.

- **CS-3886** – **Core Address Block Validation;** Previously, the Core Address Block (the /20 block) could accept an invalid IP address and netmask pair. This made the CS seem functional, but the API was unable to connect to the routers through the provisioning network. With this version the IP Address and Netmask is being validated.

- **CS-3892 – MAC Address Info:** The MAC address, which is visible in the Hardware Tile as part of the device details, was improved to reflect the first MAC address of the device`s LAN ports.

- **CS-3903 – Connection issues between OpenVPN and API**: A bug has been identified in a third-party library related to Ed25519 private keys, specifically when private keys with leading zeros are utilized for SSH communication between the API and the OpenVPN Servers. This issue has resulted in various complications, such as moving devices between networks.

- **CS-3922 – Mitigate Terrapin Attack:** OpenSSH version was updated to 9.3_p2-r1 in the OpenVPN Server Docker images to address and mitigate the potential Terrapin attack.

Release 3.4

This release incorporates several changes and updates which are depicted as follows.

Release Information

Version 3.4.0

Date: 26. September 2023

Supported NetModule Router software (NRSW): 4.3, 4.4, 4.6, 4.7, 4.8

Supported OS: Ubuntu 20.04 / 22.04, Debian 10, 11.

Features added

- **Scripts- & Router-Software License Management**
  - SDK Scripts can now be managed and deployed. Furthermore, there is an onboard editor, that supports the recently introduced variables as well. Deployments of the same can be done immediately or be scheduled to not disturb operations.
  - Router Software Licenses deployed in a simple and time saving manner.
- **Updated Components**
  - Several Software components of Connectivity Suite were updated to the latest state. This improves software stability and security, supporting the latest security patches.

Improvements

- **Graphical User Interface (GUI) improvements**
  - Improvements on the graphical user interface were undertaken, to provide a better usability.
- **VPN Server Device Tab contains more data**
  - Actively maintained list of clients connected to corresponding VPN Server
  - Provides a good overview and is helpful during onboarding when devices don`t appear properly under the device list.
- **Service Access Events**
  - Events for service access to VPN Networks have been enriched. They now include the corresponding NetworkID, which allows a more granular view on who was logged in for how long to which VPN Network.

Bugs fixed

Various Bugs have been fixed in this release. The most relevant for users are listed below (list is non exhaustive).

- **CS-3698:** Improved migration from v2.5 to v3.x. In rare cases, migrating from v2.5 to 3.x produced some error which is no longer the case now.

Release 3.3

This release incorporates several changes and updates which are depicted as follows.

Release Information

Version 3.3.0

Date: 02. June 2023

Supported NetModule Router software (NRSW): 4.3, 4.4, 4.6, 4.7, 4.8

Supported OS: Ubuntu 20.04 / 22.04, Debian 10, 11.

Features added

- **Certificate Lifetime & Renewal Management**
    - Connectivity Suite based CA, managing certificates of:
        - Devices
        - Service Access
        - VPN Networks
    - Automatic Certificate renewal & deployment
    - Optional: custom Settings for both, Certificate Lifetime, and renewal period
- **Firmware Module Deployment**
    - Updating Module firmware for Cellular Modems
    - Mass deployment, like Device Software update
- **Additional Log Download Function – Download Support File**
    - When contacting technical support, there is now an easy way to provide all necessary logs
    - Providing these logs, tech support personnel get a better overview of the corresponding Connectivity Suite state, when issuing a support ticket

Bugs fixed

Various Bugs have been fixed in this release. The most relevant for users are listed below (list is non exhaustive).

- **CS-3316:** Device status history in some cases indicated a flaky connection which was not always accurate. Now, the mechanism has been improved, so that the connection status history provides accurate information.

Release 3.2

This release incorporates several changes and updates which are depicted as follows.

Release Information

Version 3.2.0

Date: 04. May 2023

Supported NetModule Router software (NRSW): 4.3, 4.4, 4.6, 4.7, 4.8

Supported OS: Ubuntu 20.04 / 22.04, Debian 10, 11.

Summary Of Improvements

Various bug fixes and improvements.

Features added

- **Configuration Variables**
    - Simplifies management of a large number of devices in the Connectivity Suite.
    - Save time by easily setting individual configuration parameters for each device.
    - Maintain a central repository of variable/value pairs for efficient access.
- **Device Bulk Updates**
    - Enhances the Config variables feature for deploying configurations to multiple devices at once.
    - Export device list in .xlsx format, with the ability to choose specific variables and properties being included or excluded.
    - Offline editing of device parameters in .xlsx format.
    - Bulk import of .xlsx device list, with parsing of configuration values.

Bugs fixed

Various Bugs have been fixed in this release. The most relevant for users are listed below (list is non exhaustive).

- CS-3456: GNSS (GPS) info with real world data, was missing in the device detail view, which has been added now
- CS-3368: The VPN IP Subnet information, displayed on the VPN detail page was wrong, in terms of the number of devices that can be added to the Subnet.
- CS-3470: AP3400 config template files, do no longer fail when an update is being performed

Release 3.1.0

This release incorporates several changes and updates which are depicted as follows.

Release Information

Version 3.1.0

Date: 05. December 2022

Supported NetModule Router software (NRSW): 4.3, 4.4, 4.6, 4.7

Supported OS: Ubuntu 20.04 / 22.04, Debian 10, 11.

Summary Of Improvements

Various bug fixes and improvements.

Features added

- **Custom routes support**
    - Simplifies direct access to given devices residing behind a NAT

- **AP3400, WiFi 6 Access Point device support**
  - New device type Access Point (AP) being supported
  - Visibility of Access Points in Connectivity Suite, installed behind a Router
  - Functions of Connectivity Suite can now be used to manage Access-Points AP3400

Bugfixes

Various Bugs discovered and fixed in the previous releases 3.0.1 – 3.0.11 are now part of release 3.1.0.

Releases 3.0.1 – 3.0.11

The releases v3.0.1 to v3.0.11 incorporate several changes and updates which are depicted as follows.

Release Information

Version 3.0.1 - 3.0.11

Date: 10. November 2022

Supported NetModule Router software (NRSW): 4.3, 4.4, 4.6, 4.7

Supported OS: Ubuntu 20.04 / 22.04, Debian 10, 11.

Summary Of Improvements

Various bug fixes and improvements have been done.

Furthermore, the migration from version 2.6 to version 3.x has been further advanced, making the transition smoother and more reliable.

Migrating From Version 2.6 To 3.0.x

Before upgrading to release 3.0.x, consult the instructions in the dedicated section of the Release Notes v3.0.0.

Release 3.0.0

The version v3.0 contains a major modernisation of the architecture as well as an extension of the switch management functions.

Release Information

Version 3.0.0

Date: 31 August 2022

Supported NetModule Router software (NRSW): 4.3, 4.4, 4.6, 4.7

Supported OS: Ubuntu 20.04 / 22.04, Debian 10.

What are the new features?

- Integration of of Tronteq Switches in addition to NetModule ES3300
  - Deployment of software and configuration
  - Monitoring of online/offline states
  - Remote service access
- The following Tronteq Switch models are supported
  - ROQSTAR 2GE+8FE M12 Managed Gigabit Switch (006-130-117)
  - ROQSTAR 2GE+8FE M12 Managed Gigabit PoE Switch (006-130-118)
  - ROQSTAR 4GE+12FE M12 Managed Gigabit Switch (006-130-124)
  - ROQSTAR 4GE+12FE M12 Managed Gigabit PoE Switch (006-130-125)
- Mass configuration a fleet of routers and switches is now possible by deploying the complete configuration via the Connectivity Suite

What are the improvements?

New API

The CS v3.0 offers a new REST API which allows customers to easily integrate the Connectivity Suite into their environment. It provides an OpenAPI file which allows easy client generation or integration into 3rd party platforms. Compared to previous versions, the v3 REST API is more consistent when it comes to the following aspects:

- HTTP Verbs/Actions
- HTTP Status Codes
- HTTP Request & Response Headers
- Request & Response Models
- Payload Format
- Wording
- Endpoint Names

New Command Line Tool "cs-cmd"

Connectivity Suite v3.0 comes with a new console application that allows the user to install, upgrade, configure and remove a Connectivity Suite instance to make the installation more user-friendly.

UI Improvements

The UI has undergone various improvements to further increase usability. The most significant changes are a new structure of the main menu and an improved terminology.

Backend Improvements

The backend of the Connectivity Suite has been restructured and simplified leading to reduced system complexity, improved performance, maintainability, reliability, and security. 3rd party components such as KeyCloak, Traefik, etc. have been upgraded to their latest versions.

Events

The Connectivity Suite now has a new event store which contains relevant events that occur within the Connectivity Suite. These events include requests such as "move device", "deploy software", "revoke certificate", "create user", etc. and can be used as an audit source. The information is only available via the REST API and not via the user interface.

Structured Logs

The logging messages created by the Connectivity Suite API are now stored as structured data. Exporting these structured logs as json documents and then processing them in third-party applications such as ELK-Stack or New Relic enables flexible and intelligent monitoring of the logs.

W3C trace context support

End-to-end transaction tracing in distributed systems is possible thanks to W3C trace context support. When a third-party application triggers an API request and provides a trace context header, it is processed accordingly and stored in the logs, etc.

Service Access VPN configuration files

The VPN client configuration for service access is now provided as a single OVPN configuration file including the keys.

What are the Bug fixes?

- Long VPN network (tenant) names can now be displayed in the user role list without overlapping each other

- Service Access file names can now handle umlauts correctly

- VPN network t names can now handle slashes correctly

- A UDP port used for a VPN network can be reused if the VPN network is deleted without displaying an error message

- Snippet jobs that trigger a restart of a device are no longer recognised as failed due to the reboot

- Grouping of switches and routers that are connected to each other now works

Upgrade from Version to 2.6 to Version 3.0

During the upgrade from v2.6 to v.3.0 not all data of v2.6 will be migrated:

- **Replacement Devices**
  Devices which should replace an existing device and their replacement provisioning config will not be migrated. Please make sure to complete all device replacement jobs before performing the upgrade to v3.0.
- **Provisioning Devices**
  Devices currently connected to the provisioning network will not be migrated. Please make sure to move all devices to their network before performing the upgrade to v3.0.
- **Provisioning Configurations**
  Provisioning configuration templates will be converted during migration. Already downloaded Provisioning configuration files from CS v2.6 will no longer work for CS v3.0.
- **Jobs**
  Jobs will not be migrated. Please make sure that there are no open jobs before performing the upgrade to v3.0.
- **Logs**
  The plain-text logs will not be migrated.
- **Device health data**
  Max. 6 Months Online/Offline device state changes per Device will be migrated.

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