Release Notes

NEMO 5.0.8

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1 Introduction

These release notes provide a comprehensive overview of the new features, enhanced functionalities, and resolved issues found in version 5.0 of NEMO. Additionally, it includes the details of the patch versions associated with release 5.0.

2 What's new in NEMO 5.0

2.1 Platform Upgrade

Nemo 5.0 is primarily an upgrade of all its components and subsystems, introducing support for both RHEL 8 and RHEL 7 as the underlying operating systems. The application now accommodates MongoDB versions up to 5.0, and all third-party libraries have been updated.

2.2 APIO Integration

2.2.1 Broadworks Multicountry Configuration

The Broadsoft plugin now includes support for extensible configuration parameters per Application server, enabling various behaviors:

- The application server can be tagged with a country set identifier. When presented to the APIO layer, this identifier allows querying for country-specific statistics.
- Custom normalization rules can be defined by the application server, allowing for the specification of different number normalization rules for different countries.

These parameters can be configured from the GUI Settings menu.

2.3 Statistics

2.3.1 Probes Post Dial Delay Metric

The probes have been enhanced to facilitate the measurement of post-dial delay for captured calls. This new metric is now accessible in the following functions:

- Call search criteria
- Call search results columns
- CDR exports
- Graphs
- Custom metrics
- Statistics exports
- Anomalies

3 Patch Versions Release Notes

3.1 Release 5.0.1

Pull id	Fix
674	fixed error when downloading PCAP from probe
670	fixed API CDR search query when searched group is not found
667	fixed queue runner auto-enable stats
664	fixed REST API CDR search to prevent finding Broadsoft calls with calling line identity presentation set to Anonymous

3.2 Release 5.0.2

Pull id	Fix
685	added pymongo estimated_document_count for speed
682	added record id export to netnetsd objects exports
679	added selective stats removal to nemo-admin

3.3 Release 5.0.3

Pull id	Fix
691	fixed coding handling of queue runner CDR files
688	adapted Broadsoft line type augmenter to resolve user id both with FQDN and without

3.4 Release 5.0.4

Pull id	Fix
695	fixed live capture messages exchange between GUI and orchestrator
693	fixed display of dashboard panels when only first one is shown

3.5 Release 5.0.5

Pull id	Fix
702	packaged third-party codec utilities
700	fixed RTP media retrieval from probe; fixed timestamp display in media streams list; fixed handling of STUN messages multiplexed with RTP

3.6 Release 5.0.6

Pull id	Fix
707	fixed trace download error for of IPFIX-captured calls
705	fixed user privileges creation (MongoDB save operation)

3.7 Release 5.0.7

Pull id	Fix
779	improved RPM packages files ownership
775	added anomalies SER/SEER/ISA for broadsoft plugin
769	improved collector termination speed; added batch inserter to Broadsoft CSV collector; removed record status update for Broadsoft CSV collector
767	improved GUI security; fixed device objects export; fixed download link to existing report templates
758	fixed parsing of Broadworks CSV CDR special characters escaping
742	added mechanism to filter out duplicate TCP segments

Pull id	Fix
740	disabled interpolation for config file reading of database settings
737	fixed decoding of TCP/TLS messages
735	fixed MongoDB connection when both replica set and authentication are defined
731	fixed IPFIX collection encoding issues
729	added call type filter internal to APIO layer; added line type filter hunt-group to APIO layer; improved Broadworks XML collector resiliency in presence of CDRs without service provider field
726	added option to mask periods of day in the APIO integration layer API
717	improved of datatables operations (caching, loading, sorting and filtering)
713	removed display of internal calls in graph legend for traffic intensity and max simultaneous calls when not enabled
710	added new APIO layer stats orig_calls_redirected_answered and orig_calls_redirected_not_answered

3.8 Release 5.0.8

Pull id	Fix
788	added support tools to allow re-inserting old CDRs with Broadworks CSV collector; improved records batch inserter performance
786	fixed password salting on user profile changes

4 Upgrade from 4.1

> If you are coming from a release prior to 4.1, refer to the release notes for that release to perform the intermediate steps

While previous Nemo versions supported only RHEL 7, Nemo 5.0 now supports both RHEL 7 and RHEL 8. If the operating system is not upgraded, the Nemo version can be updated by following the instructions in the relevant chapters. However, if the OS needs to be upgraded, the *Installation Guide* should be consulted to create a new RHEL 8 installation of Nemo.

Both RHEL 7 and RHEL 8 versions of the RPMs are available. For instance: - nemo-5.0.0-1.el7.x86_64.rpm - nemo-5.0.0-1.el8.x86_64.rpm

4.1 OS Preparation (RHEL 7)

Release 4.1 is supporting only RHEL 7, so this section is referring exclusively to this deployment.

Packages required:

Package Name	Certified Version	Notes
nemo-5.0.x	5.0.x	The version could be different
zeromq	4.1.4-6	Use the version provided by Netaxis
zeromq-devel	4.1.4-6	Use the version provided by Netaxis
pfring	8.6.1-8876	Use the version provided by Netaxis
pfring-dkms	8.6.1-8876	Use the version provided by Netaxis
npdi	4.8.0-4618	Use the version provided by Netaxis

Package Name	Certified Version	Notes
libsodium		Dependency for zeromq. Use the version provided by the RHEL repositories
openpgm		Dependency for zeromq. Use the version provided by the RHEL repositories
hiredis		Dependency for zeromq. Use the version provided by the RHEL repositories
libmaxminddb		Dependency for zeromq. Use the version provided by the RHEL repositories

Package Name	Certified Version	Notes
numactl		Dependency for zeromq. Use the version provided by the RHEL repositories

Some additional packages are necessary to proceed with the upgrade: to be sure that are all installed, the following command should be used on all the VMs (both the central servers and probes)

```
1 yum install -y python36 net-tools wget vim screen man tcpdump at ntp rsync
   ↪ hdparm libxslt openssl libpcap pango cairo ansible pciutils glib2
```

The above command is valid in case the VMs are connected to the software repositories of RedHat.

Remember to edit the file /etc/yum.conf to remove the excluded packages.

4.1.1 Central server(s)

After having transferred the files, follow these steps:

1. install zeromq and its dependencies

```
1 yum install -y zeromq-*.rpm
```

2. copy the previous gui configuration file

```
1 cp /opt/nemo/gui/main.conf.rpmsave /opt/nemo/gui/main.conf
```

4.1.2 Probe(s)

After having transferred the files, follow these steps:

1. install zeromq and its dependencies

```
1 yum install -y zeromq-*.rpm
```

2. install pfring

```
1  yum install -y pfring-*.rpm ndpi-*.rpm
```

3. reboot

4.2 NEMO RPM Update

To launch the upgrade, on all servers do:

```
1  yum install /<path>/nemo-5.0.x-y.el7.x86_64.rpm
```

After you need to restart NEMO with:

```
1  systemctl restart nemo
```

> **Warning**
>
> In case the file `/opt/nemo/gui/main.conf` is customized, you can restore the previous version with the command:
>
> ```
> 1  cp /opt/nemo/gui/main.conf.rpmsave /opt/nemo/gui/main.conf
> ```
>
> Or edit the new one as desired.
>
> After the change, restart nemo:
>
> ```
> 1  systemctl restart nemo
> ```

5 Downgrade from 5.0 to 4.1

Install the previous rpm on all servers with the command:

```
1  yum downgrade /<path>/nemo-4.1.x.-y.x86_64.rpm
```

restore the previous versions of `zeromq`, `zeromq-devel`, `pfring`, `pfring-dkms`.

6 Patch Upgrade Path from 5.0.x

To upgrade to a target patch release, the Admin needs to check the upgrade path to know which actions to take.

It is important to highlight that an action needed at a patch level 5.0.N is also needed for direct upgrade to 5.0.N+1, 5.0.N+2, …

Patch release	Needed actions
5.0.1	None
5.0.2	None
5.0.3	None
5.0.4	None
5.0.5	None
5.0.6	Users created prior to version 5.0.6 were assigned incorrect privileges and need to be edited again in 5.0.6 to set the privileges correctly.
5.0.7	Passwords are now encoded in a more secure way in the DB. They are migrated automatically upon login. To allow rollback to a previous release, it is necessary to perform a backup of the users DB with `mongodump -d users`. In case of downgrade, the backup can be restored with `mongorestore --drop dump/`.
5.0.8	None

In addition to the listed needed actions:

On all servers, do as root:

```
1  # yum update /<path>/nemo-5.0.x-y.el7.x86_64.rpm
```