



We change the shape of the world

January 2016

Remarks about the FW licence and FW update

Starting with FW-Version 00.06.07.00 every FW needs a licence file to enable the functionality of the target system. If the licence file is missing no calls can be made, only remote access is possible. The licence file is transmitted to the target system using the NovaTec configuration software or is already present in the target system if a new system is purchased. The following needs to be considered when updating a system:

General remarks on FW updates:

In general a new licence is required whenever you update to a non bugfix FW version. A non bugfix version differs in more than just the last two numbers from the previous installed version.

Your release number consists of 8 digits in the following form: XX.XX.XX.YY

A new license is **not** required if only the last two digits of your current FW release differ from the release updated to. Meaning only the Y-variables in the release number change (e.g. update from 00.08.02.00 to 00.08.02.05).

All FW releases with changes to the X-variables require a new license (e.g. update from 00.08.01.00 to 00.08.02.00).



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Remarks about the new licence policy introduced with firmware release 00.08.03.00:

The firmware now checks the number of licenced total and VoIP channels. If the configured number of total or VoIP channels exceeds the corresponding licenced number of channels the system will block all calls and only remote maintenance will be possible.

As in previous firmware versions the MAC address and the installed firmware version need to match the installed licence, otherwise the system will block all calls and only remote maintenance will be possible.

A separate TLS licence file is no longer required. The firmware licence file now includes the licence information for the basic licence and all additional features. Additional features at this time are: TLS and RMCS server. If an additional feature is not allowed by a licence file that feature will be not serviceable. Other features will work without problems as long as the basic licence is valid.

Please note:

- A firmware downgrade of a CCU4 to a version below 00.08.03.00 is not possible once version 00.08.03.00 or higher has been installed on the CCU4. A downgrade within the firmware family 00.08.03.xx is possible.
- The basic factory licence includes 16 channels total on purchase of hardware. If further channels are required these have to be purchased additionally from NovaTec (in this case please contact NovaTec sales department). Any combination of TDM and VoIP channels can be configured as long as the maximum of the total channel number and the maximum of the licenced VoIP channels are not exceeded.
- The features TLS and RMCS server are not active in the factory licence and must be purchased separately if required.



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NovaTec Release Information Firmware 00.08.03.07

Additionally to the points described below, this release includes fixes to “unspecific” problems. We recommend to update to this version if your systems are running release 00.08.03.00 or higher.

We also recommend an upgrade to this release or higher for all installations in which NovaTec Gateways are connected to a CUCM with version 10 or higher.

1. Bug fixes included in this release

2. New features

3. Other changes

4. Known issues

5. Dependencies

6. System requirements

1. Below is a list of bug fixes that have been resolved in this release

Related to all systems:

- If a SIP user mapping had been configured with a prefix in the field “ISDN” and the option “Wear Out”, the prefix was not cut off on outgoing SIP calls. This lead to wrong called numbers and thus to calls failing or being routed to a wrong destination. The problem has been solved.

2. New Features

None.

3. Other changes

None.

4. Known issues

- This firmware version does not support TLS client/server authentication for SHA-256 based certificates.
- MLPP calls on analogue lines fail and cause the analogue interface to go into non-operational mode for some seconds. The interface will go back to operation after a few seconds, a system reset is not required to bring the interface back.
- Due to performance reasons of the CCU3 or S3 hardware, the communication between the target and NAMES cannot be established properly with this firmware in case SHA-256 certificates are in use. We recommend to use firmware version 00.08.04.xx or higher for such PKI setups.



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5. Dependencies

A list of dependencies for the different features can be found on our website <http://www.novatec.de>.

6. System requirements

This firmware supports Cisco Unified Call Manager version 9.1 to 10.5.

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NovaTec Release Information Firmware 00.08.03.06

Additionally to the points described below, this release includes fixes to “unspecific” problems. We recommend to update to this version if your systems are running release 00.08.03.00 or higher.

We also recommend an upgrade to this release or higher for all installations in which NovaTec Gateways are connected to a CUCM with version 10 or higher.

1. Bug fixes included in this release

2. New features

3. Other changes

4. Known issues

5. Dependencies

6. System requirements

7. Below is a list of bug fixes that have been resolved in this release

Related to all systems:

- Too long “To:” headers received in SIP signalling could lead to a system reset. Too long in this case means more than 128 signs. The problem has been solved.
- VLAN configuration settings were not saved in the backup IP configuration of the target system, which is used in case the system runs into default mode. This leads to the problem that a target system with configured VLAN became in-accessible if it ran into default mode. The problem has been solved.
- Too many hardware events reported from interfaces (e.g. a BRI interface) could lead to a system reset (occurrence of too many hardware events can take place in failure situations like defective hardware or miss-configured interfaces). The problem has been solved.
- A memory leakage resulting from an invalid certificate/certificate chain existed. This e.g. occurred if SHA256 based certificates were used but also occur in other situations in which a TLS certificate/certificate chain was rated invalid. The problem has been solved.

S3 and CCU3 related:

- It could happen that a system ran into a continuous reset after a re-boot, when the logbook in the target was close to its maximum size. The problem has been solved.

8. New Features

None.



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9. Other changes

None.

10. Known issues

- This firmware version does not support TLS client/server authentication for SHA256 based certificates.
- MLPP calls on analogue lines fail and cause the analogue interface to go into non-operational mode for some seconds. The interface will go back to operation after a few seconds, a system reset is not required to bring the interface back.
- Due to performance reasons of the CCU3 or S3 hardware, the communication between the target and NAMES cannot be established properly with this Firmware in case SHA-256 Certificates are in use. We recommend to use firmware version 00.08.04.xx or higher for such PKI setups.

11. Dependencies

A list of dependencies for the different features can be found on our website <http://www.novatec.de>.

12. System requirements

This firmware supports Cisco Unified Call Manager version 9.1 to 10.5.

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NovaTec Release Information Firmware 00.08.03.05

- 1. Bug fixes included in this release**
- 2. New features**
- 3. Other changes**
- 4. Known issues**
- 5. Dependencies**
- 6. System requirements**

1. Below is a list of bug fixes that have been resolved in this release

CCU3 related:

- A problem with the ARP cache could result in failing SIP connections after 5-10 minutes uptime of a NovaTec gateway. Once the problem occurred, all SIP calls failed until the system was restarted. The problem has been solved.

The problem occurred only under certain circumstances. The following circumstances need to exist to create the problem:

- The RTP stream needs to be sent to a destination in a different network/subnet (so the problem won't occur if all devices are in the same network/subnet)
- The NovaTec gateway does not recognize/receive any other IP/ARP messages which resolve the LAN gateway address. (that means the NovaTec gateway can also "learn" the MAC address from other packets/connections. E.g. from the Trace Info Client connection. But it could also be learned from the traffic of other devices if this is visible for the NovaTec gateway)

That means whether the problem occurs or not is strongly dependent on the specific network topology, the installed devices of an installation and the traffic that is present in the subnet in which the NovaTec gateway is placed.

If you do not encounter the problem described above and your systems are running fine, then it is not necessary to update to this version. The problem only relates to CCU3 and BCU based systems. The S3 and CCU4 based systems are not affected.

2. New Features

None.



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3. Other changes

None.

4. Known issues

None.

5. Dependencies

A list of dependencies for the different features can be found on our website <http://www.novatec.de>.

6. System requirements

This firmware supports Cisco Unified Call Manager version 9.1 to 10.5.

July 2015

NovaTec Kommunikationstechnik GmbH



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NovaTec Release Information Firmware 00.08.03.04

- 1. Bug fixes included in this release**
- 2. New features**
- 3. Other changes**
- 4. Known issues**
- 5. Dependencies**
- 6. System requirements**

1. Below is a list of bug fixes that have been resolved in this release

CCU4 related:

- The system was vulnerable for DOS attacks, which send RTP packets to the SRTP port of an existing SIP call. The problem has been solved.
- It could happen that the internal communication to the VoIP codecs (DSPs) was disturbed due to a wrong timer calculation. This could lead to codec resources becoming unavailable by the time. It could happen that no SIP calls at all were possible and the system had to be reset to bring it back to normal operation. The problem has been solved.
- It could happen that calls were aborted on connect. The problem occurred incidentally if a SSRC change was detected in the SRTP stream. The problem has been solved.

Related to all systems:

- A hot-plug of a CAU board with analogue cards on it could lead to a system reset. The problem has been solved.
- It could happen that a NovaTec-GW was not reachable for the NovaTec Configuration software after a system reset. But the system in general was accessible over TCP/IP e.g. using Trace Info-Client. The problem has been solved.
- A TCP-IP port scan on NovaTec-GWs could cause a system to hang or reset. The problem has been solved.
- It could happen that SIP calls were not cleared towards the SIP side by sending a SIP-BYE message if the system was reset using the TraceInfo Client. The problem has been solved.
- If an error occurred on the RTP connection (e.g. no packets received) the corresponding call was cleared internally and to the ISDN side but not towards the SIP side (by sending a SIP-BYE message). This problem also affected RMCS calls. The problem has been solved.



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- It could happen that error messages could not be written to the logbook because of limited resources. In such a case the message “entry loss” appeared in the logbook. The problem has been solved.
- A memory buffer was lost each time a call was made to a not attached device on an ISDN bus, if the device/subscriber was assigned to a SU04 board. This could lead to a system reset if some hundred calls were made to that device. The problem has been solved.
- A system crash could happen on calls being routed using the LCR module. The problem has been solved.
- A system crash could happen if a SIP call was cleared. The problem has been solved.
- If the NMP connection to the system was aborted during the configuration download, then from that time on it was not possible to download the configuration again. Only a new configuration upload could make the configuration become downloadable again. The problem has been solved.

2. New Features

None.

3. Other changes

The logbook size has been increased to 1 Megabyte.

4. Known issues

None.

5. Dependencies

A list of dependencies for the different features can be found on our website <http://www.novatec.de>.

6. System requirements

This firmware supports Cisco Unified Call Manager version 9.1 to 10.5.

July 2015

NovaTec Kommunikationstechnik GmbH



We change the shape of the world

NovaTec Release Information Firmware 00.08.03.03

- 1. Bug fixes included in this release**
- 2. New features**
- 3. Other changes**
- 4. Known issues**
- 5. Dependencies**
- 6. System requirements**

1. Below is a list of bug fixes that have been resolved in this release

CCU4 related:

- The firmware calculated 32 b-channels per E1 on doing the licence check. The problem has been solved.

CCU3 related:

- The firmware calculated 31 b-channels per E1 on doing the licence check. The problem has been solved.

CCU3 and S3 related:

- Sometimes a call which was forwarded because the called party was busy, was cleared as soon as the forwarded-to party answered the call. The problem has been solved.

Related to all systems:

- The firmware calculated 31 b-channels per E1 on doing the licence check. The problem has been solved.
- The UDP ports 53 and 1053 were open without being used. The problem has been solved.
- If a NovaTec system was connected as a slave to an ISDN bus and the ISDN interface used belonged to a SU04 board, then the signals on the bus were disrupted by the SU04 interface. The problem has been solved.
- If a DSS1 subscriber attempted call take over with an empty call take over group assigned to it, then the attempt/the call was not properly rejected. The call was not cleared by the NovaTec system and the caller did not hear a failure tone. The problem has been solved.



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- The firmware was unable to read the backplane ID from a S21 chassis. The problem has been solved.

2. New Features

None.

3. Other changes

The firmware supports a downgrade to versions before 00.08.03.00 if a special license is present on the target system.

A DHCP call home event was only sent if the call home event was enabled in the configuration. Now it is sufficient to enable the DHCP call home option under "System IP options".

Unexpected/faulty user fields received in a "to header" could cause incoming SIP calls to fail. The problem has been solved by a Workaround.

4. Known issues

None.

5. Dependencies

A list of dependencies for the different features can be found on our website <http://www.novatec.de>.

6. System requirements

This firmware supports Cisco Unified Call Manager version 9.1 to 10.5.

November 2014

Novatec Kommunikationstechnik GmbH



We change the shape of the world

NovaTec Release Information Firmware 00.08.03.02

1. Bug fixes included in this release

2. New features

3. Other changes

4. Known issues

5. Dependencies

6. System requirements

1. Below is a list of bug fixes that have been resolved in this release

CCU4 related:

- If fallback occurred on an outgoing SIP call (e.g. first SIP counter part e.g. CUCM is not available or out of order) then no ring back tone was heard by the calling user. The problem has been solved.

CCU3 and S3 related:

- None.

Related to all systems:

- It could happen that the target system performed a reset if a SIP trunk was closed. The problem has been solved.
- It could happen that the target system performed a reset if the distinguished subject name of the received TLS server certificate was longer than 200 signs. The distinguished subject name has the following format: "*subject name*: /serialNumber=.../C=.../ST=.../L=.../O=.../OU=.../CN=...". The problem has been solved.
- It could happen that the target system performed a system reset if a response for an NTP request was received. The problem has been solved.
- The OpenSSL stack included in the firmware had a MITM security problem (see "OpenSSL Security Advisory [05 Jun 2014]: SSL/TLS MITM vulnerability". The problem has been solved. NovaTec recommends for all security operation to use this Firmware version only within the 00.08.03.xx Firmware range.



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2. New features

None.

3. Other changes

None.

4. Known issues

None.

5. Dependencies

A list of dependencies for the different features can be found on our website <http://www.novatec.de>.

6. System requirements

This firmware supports Cisco Unified Call Manager version 8.6 to 9.1.

June 2014

NovaTec Kommunikationstechnik GmbH



We change the shape of the world

NovaTec Release Information Firmware 00.08.03.01

- 1. Bug fixes included in this release**
- 2. New features**
- 3. Other changes**
- 4. Known issues**
- 5. Dependencies**
- 6. System requirements**

1. Below is a list of bug fixes that have been resolved in this release

CCU4 related:

- After a call had been successfully pre-empted (cleared because of a call with higher priority coming in) the higher priority call was cleared as soon as the called user hung up to finish clearing of the pre-empted call. The problem only occurred if the called user was using an analogue phone, ISDN lines were not affected. The problem has been solved.
- It could happen that the log statistic in the Trace Info Client on the "Diagnosis" page only showed the value 0 for all counters. The problem has been solved.
- Calls were possible but no tones (e.g. ring back tone) were played out if the CCU4 was configured with VoIP disabled. After the callee answered the call the audio connection between both parties was fine. The problem has been solved.

CCU3 and S3 related:

- None.

Related to all systems:

- It could happen that the system crashed on making a call if the system was configured to generate charging information in the LCR (Least Cost Routing) module. The problem has been solved.
- SIP calls were cleared by the system if the system time was set back during the call. The problem has been solved.
- It could happen that a calling user heard a ring tone on not successful calls (destination phone not connected or busy). The problem occurred e.g. if the option "Early offer" was active in the Cisco UCM SIP trunk profile of the called NovaTec gateway. The problem has



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been solved.

- The Trace Info Client showed that the license was valid under the "System Security" view if a firmware license in the old format was transmitted to the target system. In fact, the license was not valid and no calls were possible. The problem has been solved.
- A call using overlap dialling which is routed over the LCR module usually receives an external dial tone. The tone was present on ISDN lines but was missing on analogue lines. The problem has been solved.
- An out-going line group call over SIP was unnecessarily delayed by the "inter digit timer". That means the system was waiting for additional digits until a timer ran out. The problem has been solved.

2. New features

None.

3. Other changes

None.

4. Known issues

None.

5. Dependencies

A list of dependencies for the different features can be found on our website <http://www.novatec.de>.

6. System requirements

This firmware supports Cisco Unified Call Manager version 8.6 to 9.1.

January 2014

NovaTec Kommunikationstechnik GmbH



We change the shape of the world

NovaTec Release Information Firmware 00.08.03.00

- 1. Bug fixes included in this release**
- 2. New features**
- 3. Other changes**
- 4. Known issues**
- 5. Dependencies**
- 6. System requirements**

1. Below is a list of bug fixes that have been resolved in this release

CCU4 related:

- None.

CCU3 and S3 related:

- None.

Related to all systems:

- On calls from a DSS1 trunk to a GSM trunk it could happen that a busy tone from the GSM network was not passed through to the caller so that he still heard a ring tone. The problem only occurred if a GSM callee rejected the call after the NovaTec-GSM-Gateway had already sent a fake alerting. The problem has been solved.
- Incoming calls in "ringing" state were misstated as "dialling" in the call server. The problem only occurred on calls going out over a GSM trunk if the NovaTec-GSM-Gateway had already sent a fake alerting. The problem has been solved.

2. New features

- The new CAU board is now supported. The board replaces the old CAU and can carry the same amount of daughter boards. The connectors on the front panel are RJ45 connectors. The feature requires NMP version 7.3.0.
- The new UK04 card is now supported. It replaces the old ULU board but is a daughter board like the BRI and PRI cards. Thus it is possible to have 12 U interfaces in one slot by using 3 UK04 boards instead of only 4 with the ULU board. The lines delivered by the UK04 board are powered. As an hardware option, the UK04 card can be delivered with line code 2B1Q (article no. 1F5010-5) or 4B3T (article no. 1F5010-6). The feature requires NMP version 7.3.0.



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- The firmware now supports the automatic calculation of the daylight saving time for Europe. The feature requires NMP version 7.3.0.
- The firmware now supports the signalling of MSNs in international format via SIP using '+' instead of only '00'. '00' is used internally in the MSN and in the numbering plans because '+' is not a valid sign in ISDN/DSS1 party numbers. '00' is only replaced by '+' if the option "Do not insert '+' for international numbers" is switched off.
- The firmware now supports SMS notifications on rejected calls to a GSM party. The feature requires NMP version 7.2.0.3.

3. Other changes

Related to all systems:

- A new licence format has been introduced. The licence allows a certain number of total and VoIP channels. The system will only be operable if the licence is sufficient for all configured channels. All licences are now included into one file. A separate TLS licence file is no longer required. With this new licence format the RMCS server will only be operable if the service RMCS-Server is allowed by the licence. RMCS clients do not require a licence.

4. Known issues

- With a S3 connected to a CUCM as a line device it can happen that a calling IP phone receives a ring back tone even when the callee behind the S3 is busy or not plugged in.
- In case an ISDN phone behind a NovaTec gateway is busy it will take three seconds until the caller is informed that the callee is busy. This behaviour is mandatory for the ISDN bus and is specified in European and international ISDN standards. This is not a bug but because of this ISDN behaviour the user experience is different compared to SIP to SIP or SIP to analogue calls.
- Call forwarding busy on the S3 line is not working if it is activated from the ISDN or analogue phone. The locally forwarded call from the S3 is rejected from CUCM with "Busy here". But the destination of the call has no active call. The problem is caused by the "Busy trigger" in the CUCM configuration for the S3. As a workaround call forwarding busy can be activated in the CUCM configuration.

5. Dependencies

A list of dependencies for the different features can be found on our website <http://www.novatec.de>.

6. System requirements

This firmware supports Cisco Unified Call Manager version 8.6 to 9.1.

September 2013

NovaTec Kommunikationstechnik GmbH