

Dialogic® NaturalAccess™ Signaling Software for Linux

Release Notes

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Release 5.3.9 (Build 8)

1 Overview

This is a feature release of the Dialogic® NaturalAccess™ Signaling Software for Linux. It adds support for Red Hat Enterprise Linux 6.2 and includes changes and corrections as detailed below.

This is the first generally available release of the Dialogic® NaturalAccess™ Signaling Software for Linux since Release 5.3.5 (Build 3). It is fully backwards compatible with that release.

1.1 Applicability

This release is suitable for all users. The release has been validated in conjunction with the following operating system distributions:

- Red Hat Enterprise Linux, ES, V 5.3, 32-bit, Kernel – 2.6.18-128 (SNMP or PAE Kernel support).
- Red Hat Enterprise Linux, ES, V 5.3, 64-bit compatibility mode, Kernel - 2.6.18-128.
- Red Hat Enterprise Linux, ES, V 6.0, 32-bit, Kernel – 2.6.32-71 (SMP or PAE Kernel support).
- Red Hat Enterprise Linux, ES, V 6.2, 64-bit compatibility mode, Kernel - 2.6.32-220.
- Red Hat Enterprise Linux, ES, V 6.2, 64-bit mode, Kernel - 2.6.32-131 2.6.32-220.

This product is designed for use in conjunction with the appropriate version of the *Dialogic® NaturalAccess™ Development Environment* software which can be downloaded from the Dialogic web site. The following table shows the compatibility between operating system distributions and the *Dialogic® NaturalAccess™ Development Environment* version and identifies which of the five packages contained in this release should be used in each configuration

| Operating System | NaturalAccess | Package to use |
|------------------------------------|---------------|-------------------------------|
| RHEL 5 (32 bit) | 9.0.4 | txss7-5.3.9-8-rhel5_32.tgz |
| RHEL 5 (64 bit compatibility mode) | 9.0.4 | txss7-5.3.9-8-rhel5_mixed.tgz |
| RHEL 6 (32 bit) | 9.0.5 | txss7-5.3.9-8-rhel6_32.tgz |
| RHEL 6 (64 bit compatibility mode) | 9.0.8 | txss7-5.3.9-8-rhel6_mixed.tgz |
| RHEL 6 (64 bit mode) | 9.0.8 | txss7-5.3.9-8-rhel6_64.tgz |

1.2 Software Installation

The flash memory of all TX boards must be updated with the TX Base kernel that ships with this software release. Typically this happens automatically when the `ss7load` batch file runs (it uses the `txflash` utility, with the `-s` option, to automatically update the flash image with the correct kernel.

*Note: In systems where `ss7load` is not used, refer to the *Installation Manual* for information regarding updating the kernel using the `txflash` utility.*

Before installing the TX Software package the user must first install the NaturalAccess 9.x appropriate to the specific Red Hat Enterprise Linux version in use, details on how to do this are provided in the installation manual *Installing the Dialogic® NaturalAccess™ Development Environment R9.x* available from the Dialogic web-site. After completing the instructions provided in the installation manual the following additional steps must be performed:

- Check that the `/etc/ld.so.conf` file has an entry for `/opt/nms/lib` (or add one) and then run `ldconfig -v`.
- Reboot the system.
- Now install the TX Software package as detailed in the installation manual *Installing Dialogic® NaturalAccess™ Signaling Software Release 5.3*. The TX board driver will be loaded during this procedure.

1.3 Resolved Customer Issues

This release corrects the following customer issues: IPY00115182, IPY00115466, IPY00115467, IPY00115605, IPY00115637, IPY00115971, IPY00116182 and IPY00116183.

2 New Functionality

2.1 SIGTRAN - SCTP Advertised Receive Window Credit

This release allows the user to optionally select an increased capacity (64k) Receive Window when operating on the TX 5000.

The receive window credit for the system is specified by setting the `RX_WINDOW_SIZE` parameter within the General SCTP Parameters sections of the SCTP configuration file processed by the `sctpcfg` utility.

For example, to set the Receive Window Credit field to 65535 octets, edit the `SCTPcp1.cfg` file and add the line shown below to the General SCTP Parameters section: `-RX_WINDOW_SIZE 65536`

The maximum permitted window size is 65536

3 Other Changes

3.1 TX 4000 – CPU Soft Lockup

This release corrects an issue with the TX 4000 device driver which, when operating at high traffic rates, could cause the kernel to crash, displaying the kernel message:

```
'soft lockup - CPU#0 stuck for ... seconds'
```

3.2 ISUP – Receipt of RSC (IPY00115971)

This release corrects ISUP operation in the case where a Reset Circuit (RSC) is received whilst expecting RLC (having sent REL). It ensures that the circuit transitions to the Idle state.

3.3 SIGTRAN – TX 5000 Ethernet Frame Size (IPY00115466, IPY00115467)

This release corrects operation of the TX 5000 board so that it supports Ethernet frames of up to 1500 octets. Previously Ethernet frames greater than approximately 1400 octets could be discarded and this resulted in decreased throughput and a failure of SIGTRAN links. It also impacted operation in networks that use long HEARTBEAT messages to validate the end to end path capability.

3.4 SIGTRAN – Failure to Reinitialize Association following ABORT (IPY00115605)

This release corrects an issue in SCTP which could result in associations failing to connect to a peer following the reception of an ABORT chunk indicating insufficient resources at the peer.

3.5 SIGTRAN – SCTPMGR Failure on 64bit Operating Systems (IPY00115182)

This release corrects operation of the SCTP manager application when attempting to read the association status under 64bit operating systems.

3.6 SIGTRAN – SCTP Associations Established Multiple Times (IPY00115637)

This release corrects an issue where multiple activations caused an error message "SbUISctAssocReq: Invalid association ID (already exists)" to occur.

3.7 SIGTRAN - SCTP Association Failure

This release corrects an issue in SCTP where in some circumstances SCTP ceased generating HEARTBEAT messages resulting in failure to detect path recovery. Consequently this could lead to failure of an association when one path failed even though an alternative path should have been available.

3.8 SIGTRAN - M3UA Point Code Accessibility after Failure

This release corrects an issue in M3UA which in some circumstances resulted in failure to inform the User Part (eg SCCP or ISUP) of restored point code accessibility. The issue was triggered by receipt of a DUNA from one gateway at the same time that the connectivity to the other gateway was recovering.

Dialogic
30-Apr-14
Revised 12-Jun-14

Release 5.3.5 (Build 3)

1 Overview

This is a maintenance release of the Dialogic® NaturalAccess™ Signaling Software for Linux. It includes changes and corrections as detailed below.

This is the first full release of the Dialogic® NaturalAccess™ Signaling Software for Linux since Release 5.3.4 (Build 2). It is fully backwards compatible with that release.

1.1 Applicability

This release is suitable for TX 5000 and TX 4000 users. The release has been validated in conjunction with the following operating system distributions:

- Red Hat Enterprise Linux, ES, V 5.3, 32-bit, Kernel – 2.6.18-128 (SNMP or PAE Kernel support).
- Red Hat Enterprise Linux, ES, V 5.3, 64-bit compatibility mode, Kernel - 2.6.18-128.
- Red Hat Enterprise Linux, ES, V 6.0, 32-bit, Kernel – 2.6.32-71 (SMP or PAE Kernel support).
- Red Hat Enterprise Linux, ES, V 6.1, 64-bit compatibility mode, Kernel - 2.6.32-131.
- Red Hat Enterprise Linux, ES, V 6.1, 64-bit mode, Kernel - 2.6.32-131.

This product is designed for use in conjunction with the appropriate version of the *Dialogic® NaturalAccess™ Development Environment* software which can be downloaded from the Dialogic web site. The following table shows the compatibility between board types, operating system distributions and the *Dialogic® NaturalAccess™ Development Environment* version and identifies which of the five packages contained in this release should be used in each configuration

| Operating System | NaturalAccess | TX 4000 | TX 5000 |
|------------------------------------|---------------|-------------------------------|-------------------------------|
| RHEL 5 (32 bit) | 9.0.4 | txss7-5.3.5-3-rhel5_32.tgz | |
| RHEL 5 (64 bit compatibility mode) | 9.0.4 | txss7-5.3.5-3-rhel5_mixed.tgz | |
| RHEL 6 (32 bit) | 9.0.5 | Not supported | txss7-5.3.5-3-rhel6_32.tgz |
| RHEL 6 (64 bit compatibility mode) | 9.0.6 | Not supported | txss7-5.3.5-3-rhel6_mixed.tgz |
| RHEL 6 (64 bit mode) | 9.0.7 | Not supported | txss7-5.3.5-3-rhel6_64.tgz |

1.2 Software Installation

The flash memory of all TX boards must be updated with the TX Base kernel that ships with this software release. Typically this happens automatically when the ss7load batch file runs (it uses the txflash utility, with the `-s` option, to automatically update the flash image with the correct kernel.

Note: In systems where ss7load is not used, refer to the instructions in the TX 4000, TX 4000C, and TX 5000E Series Installation Manual for information regarding updating the kernel using the txflash utility.

Before installing the TX Software package the user must first install the NaturalAccess 9.x appropriate to the specific Red Hat Enterprise Linux version in use, details on how to do this are provided in the installation manual Installing the Dialogic® NaturalAccess™ Development Environment R9.x available from the Dialogic web-site. After completing the instructions provided in the installation manual the following additional steps must be performed:

- Check that the /etc/ld.so.conf file has an entry for /opt/nms/lib (or add one) and then run ldconfig -v.
- Reboot the system.
- Now install the TX Software package as detailed in the installation manual Installing Dialogic® NaturalAccess™ Signaling Software Release 5.3. The TX board driver will be loaded during this procedure.

1.3 Resolved Customer Issues

Updates to resolve the following customer issues are included in this release: IPY00102719, IPY00102720.

2 Changes

2.1 MTP123 – TX5000 Dual Redundancy Licensing

This release corrects an issue where a dual redundant TX5000 system would restrict the user to the number of links licensed by a single board rather than the sum of the two boards.

2.2 SIGTRAN – Disable Routing Context (IPY00102720)

This release adds the ability to disable the sending of Routing Context on a per-association basis. The user should add the following new command to the PSP section in the M3UA configuration file (M3UAcpn.cfg) for those PSPs where sending of Routing Context is not required.

```
RTE_CTX_DISABLE TRUE # Disable RC for this PSP
```

The PS configurations must still contain the RTE_CTX parameters. If multiple local PSs are configured to use the same PSP then the Routing Context is mandatory and must therefore not be disabled. Traffic received without a RC in this situation will cause a message to be logged to TXAlarm and an error message sent to the peer.

Dialogic
13-Aug-13

Release 5.3.4 (Build 2)

1 Overview

This is a maintenance release of the Dialogic® NaturalAccess™ Signaling Software for Linux. It includes changes and corrections as detailed below.

This is the first full release of the Dialogic® NaturalAccess™ Signaling Software for Linux since Release 5.3.3 (Build 2). It is fully backwards compatible with that release.

1.1 Applicability

This release is suitable for TX 5000 and TX 4000 users. The release has been validated in conjunction with the following operating system distributions:

- Red Hat Enterprise Linux, ES, V 5.3, 32-bit, Kernel – 2.6.18-128 (SNMP or PAE Kernel support).
- Red Hat Enterprise Linux, ES, V 5.3, 64-bit compatibility mode, Kernel - 2.6.18-128.
- Red Hat Enterprise Linux, ES, V 6.0, 32-bit, Kernel – 2.6.32-71 (SMP or PAE Kernel support).
- Red Hat Enterprise Linux, ES, V 6.1, 64-bit compatibility mode, Kernel - 2.6.32-131.
- Red Hat Enterprise Linux, ES, V 6.1, 64-bit mode, Kernel - 2.6.32-131.

This product is designed for use in conjunction with the appropriate version of the *Dialogic® NaturalAccess™ Development Environment* software which can be downloaded from the Dialogic web site. The following table shows the compatibility between board types, operating system distributions and the *Dialogic® NaturalAccess™ Development Environment* version and identifies which of the five packages contained in this release should be used in each configuration

| Operating System | NaturalAccess | TX 4000 | TX 5000 |
|------------------------------------|---------------|-------------------------------|-------------------------------|
| RHEL 5 (32 bit) | 9.0.4 | txss7-5.3.4-2-rhel5_32.tgz | |
| RHEL 5 (64 bit compatibility mode) | 9.0.4 | txss7-5.3.4-2-rhel5_mixed.tgz | |
| RHEL 6 (32 bit) | 9.0.5 | Not supported | txss7-5.3.4-2-rhel6_32.tgz |
| RHEL 6 (64 bit compatibility mode) | 9.0.6 | Not supported | txss7-5.3.4-2-rhel6_mixed.tgz |
| RHEL 6 (64 bit mode) | 9.0.7 | Not supported | txss7-5.3.4-2-rhel6_64.tgz |

1.2 Software Installation

The flash memory of all TX boards must be updated with the TX Base kernel that ships with this software release. Typically this happens automatically when the ss7load batch file runs (it uses the txflash utility, with the `-s` option, to automatically update the flash image with the correct kernel.

Note: In systems where ss7load is not used, refer to the instructions in the TX 4000, TX 4000C, and TX 5000E Series Installation Manual for information regarding updating the kernel using the txflash utility.

Before installing the TX Software package the user must first install the NaturalAccess 9.x appropriate to the specific Red Hat Enterprise Linux version in use, details on how to do this are provided in the installation manual Installing the Dialogic® NaturalAccess™ Development Environment R9.x available from the Dialogic web-site. After completing the instructions provided in the installation manual the following additional steps must be performed:

- Check that the /etc/ld.so.conf file has an entry for /opt/nms/lib (or add one) and then run ldconfig -v.
- Reboot the system.
- Now install the TX Software package as detailed in the installation manual Installing Dialogic® NaturalAccess™ Signaling Software Release 5.3. The TX board driver will be loaded during this procedure.

1.3 Resolved Customer Issues

Updates to resolve the following customer issues are included in this release: IPY00101677, IPY00101700, IPY00102002, IPY00102059, IPY00102145 and IPY00102158.

2 Changes

2.1 HMID - Long term memory leak (IPY00102158)

This release corrects an issue in HMID where a memory leak would eventually exhaust all memory on a system resulting in a failure of the HMID module.

2.2 TX Base - GetLocalStreamInfo (IPY00101677)

This release corrects an issue where an attempt to retrieve local stream information using the GetLocalStreamInfo() function would always return a result code of INV_PARAM.

2.3 MTP123 - Link reconfiguration (IPY00101700)

This release corrects multiple issues where attempting to remove and reinsert MTP3 links would remove the configuration at MTP2 but fail to remove the entire MTP3 link configuration resulting in an inability to reconfigure the MTP3 link.

2.4 MTP123 - Failure on TFP/TFR receipt (IPY00102145)

This release corrects an issue in MTP3 where, under certain conditions, a board failure could be observed when TFP was received on the only valid link in a linkset.

2.5 SCCP – sccpmgr causes failure (IPY00102002)

This release corrects an issue where an out of range SAP parameter within sccpmgr can cause a board failure.

2.6 SIGTRAN – Failure to Reinitialise Association following ABORT (IPY00102059)

This release corrects an issue in SCTP which could result in associations failing to connect to a peer following the reception of an ABORT chunk.

Dialogic
16-May-13

Release 5.3.3 (Build 2)

1 Overview

This is a maintenance release of the Dialogic® NaturalAccess™ Signaling Software for Linux. It includes support for full 64 bit applications and support for Red Hat Enterprise Linux 6.2 and 6.3.

In addition the release includes other changes and corrections as detailed below.

This is the first full release of the Dialogic® NaturalAccess™ Signaling Software for Linux since Release 5.3.2 (Build 8). It is fully backwards compatible with that release.

1.1 Applicability

These release notes document the content of Release 5.3.3 (Build 2).

This release is suitable for TX 5000 and TX 4000 users. The release has been validated in conjunction with the following operating system distributions:

- Red Hat Enterprise Linux, ES, V 5.3, 32-bit, Kernel – 2.6.18-128 (SNMP or PAE Kernel support).
- Red Hat Enterprise Linux, ES, V 5.3, 64-bit compatibility mode, Kernel - 2.6.18-128.
- Red Hat Enterprise Linux, ES, V 6.0, 32-bit, Kernel – 2.6.32-71 (SMP or PAE Kernel support).
- Red Hat Enterprise Linux, ES, V 6.1, 64-bit compatibility mode, Kernel - 2.6.32-131.
- Red Hat Enterprise Linux, ES, V 6.1, 64-bit mode, Kernel - 2.6.32-131.

This product is designed for use in conjunction with the appropriate version of the *Dialogic® NaturalAccess™ Development Environment* software which can be downloaded from the Dialogic web site. The following table shows the compatibility between board types, operating system distributions and the *Dialogic® NaturalAccess™ Development Environment* version and identifies which of the five packages contained in this release should be used in each configuration

| Operating System | NaturalAccess | TX 4000 | TX 5000 |
|------------------------------------|---------------|-------------------------------|-------------------------------|
| RHEL 5 (32 bit) | 9.0.4 | txss7-5.3.3-2-rhel5_32.tgz | |
| RHEL 5 (64 bit compatibility mode) | 9.0.4 | txss7-5.3.3-2-rhel5_mixed.tgz | |
| RHEL 6 (32 bit) | 9.0.5 | Not supported | txss7-5.3.3-2-rhel6_32.tgz |
| RHEL 6 (64 bit compatibility mode) | 9.0.6 | Not supported | txss7-5.3.3-2-rhel6_mixed.tgz |
| RHEL 6 (64 bit mode) | 9.0.7 | Not supported | txss7-5.3.3-2-rhel6_64.tgz |

1.2 Software Installation

The flash memory of all TX boards must be updated with the TX Base kernel that ships with this software release. Typically this happens automatically when the ss7load batch file runs (it uses the txfash utility, with the -s option, to automatically update the flash image with the correct kernel.

Note: In systems where ss7load is not used, refer to the instructions in the TX 4000, TX 4000C, and TX 5000E Series Installation Manual for information regarding updating the kernel using the txfash utility.

Before installing the TX Software package the user must first install the NaturalAccess 9.x appropriate to the specific Red Hat Enterprise Linux version in use, details on how to do this are provided in the installation manual Installing the Dialogic® NaturalAccess™ Development Environment R9.x available from the Dialogic web-site. After completing the instructions provided in the installation manual the following additional steps must be performed:

- Check that the /etc/ld.so.conf file has an entry for /opt/nms/lib (or add one) and then run ldconfig -v.
- Reboot the system.
- Now install the TX Software package as detailed in the installation manual Installing Dialogic® NaturalAccess™ Signaling Software Release 5.3. The TX board driver will be loaded during this procedure.

1.3 Resolved Customer Issues

Updates to resolve the following customer issues are included in this release: IPY00099786, IPY00100807, IPY00100952, IPY00100953, IPY00101159, IPY00101622, IPY00101641 and IPY00101681.

2 New Functionality

2.1 Support for 64 Bit Applications

This release includes a build that supports full 64 bit application support.

2.2 Support for Red Hat Enterprise Linux 6.2 and 6.3 (IPY00101641)

This release adds support for Red Hat Enterprise Linux 6.2 and 6.3.

2.3 SIGTRAN – Association status to user parts

This release adds the option of providing association status indications (M3UA_ASSOC_DOWN and M3UA_ASSOC_ACTIVE) to user parts. These indications are received via a call to the M3UARetrieveMessage() function as an alternative to calling the M3uaPspStatus() function to request the association status.

To enable the new indications set options bit 3 in the '-o' options on the command line of the sigtran task, for example:

```
cplot -c 1 -f sigtran.elf -n sigtran -o 8 -p 20 -a -s 256000
```

Starting m3uaapp will result in the initial status of the associations being reported. Indications will also be generated when the association state changes (Active/Down).

3 Other Changes

3.1 TX 5000 Blower Speed (IPY00101622)

This release corrects the algorithm for determining the speed of the blower when using boards fitted with the latest firmware. Previously if a new type blower was fitted as a spare in the field it was not possible to obtain the correct speed indication.

If a new type blower is fitted as a replacement in the field it is necessary for the user to set S2 switch 7 to 'ON'. The software then knows to assume that a new type blower is fitted.

3.2 TCAP – Data buffers not being released (IPY00099786)

This release corrects an issue where if the Dialogue Portion of a TCAP message received from the network has User Information data and the Component Portion is rejected by the module, the data buffer holding the User Information failed to be released by the module.

3.3 SIGTRAN - Association status showing 'Cookie Wait' (IPY00100807)

This release corrects an issue in SCTP where, under certain conditions, an uninitialized timer could cause the association to stop resending INIT chunks and remain in the COOKIE_WAIT state indefinitely.

3.4 SIGTRAN – ASP Active Retries (IPY00100952)

On receiving no response or an error (e.g. management blocking), this release periodically retries ASP Activation until either the PSP becomes active, or ASP Inactive/Down is sent.

3.5 SIGTRAN – Single RC in ASP Inactive (IPY00100953)

Where ASP Inactive is sent automatically (e.g. as a result of a board changing from primary to backup), it will now contain a single RC (Routing Context) parameter. Where multiple RCs are in use, multiple ASP Inactive messages will be sent. This now matches the existing behavior of the ASP Active request.

Management control commands remain unchanged, in that the number of RCs present will be determined by the command.

3.6 SIGTRAN – Sequencing of bundled SCTP chunks (IPY00101159)

This release corrects an issue in SCTP which could result in message miss-sequencing when recovering multiple messages which had been transmitted as a single SCTP bundle.

3.7 SIGTRAN – SCTP Associations Established Multiple Times

This release corrects an issue where multiple activations caused an error message "SbUiSctAssocReq: Invalid association ID (already exists)" to occur.

3.8 SIGTRAN – Header File Changes (IPY00101681)

This release corrects an issue which prevented both mtp3 and m3ua header files being included in the same source file. Applications using both mtp3def.h and m3uadef.h will now compile.

Dialogic
14-Dec-12

Release 5.3.2 (Build 8)

1 Overview

This is a feature release which adds support for TX 5000 boards under Red Hat Enterprise Linux 6. The release also consolidates all previously released patches for the TX SS7 5.3 release into a single release.

This is the first full release since 5.3.0 (Release 5.3.1 having been used internally only) and it is fully backwards compatible with that release.

1.1 Applicability

These release notes document the content of Release 5.3.2 (Build 8).

This release is suitable for TX 5000 and TX 4000 users. The release has been validated in conjunction with the following operating system distributions:

- Red Hat Enterprise Linux, ES, V 5.3, 32-bit, Kernel – 2.6.18-128 (SNMP or PAE Kernel support).
- Red Hat Enterprise Linux, ES, V 5.3, 64-bit compatibility mode, Kernel - 2.6.18-128.
- Red Hat Enterprise Linux, ES, V 6.0, 32-bit, Kernel – 2.6.32-71 (SMP or PAE Kernel support).
- Red Hat Enterprise Linux, ES, V 6.1, 64-bit compatibility mode, Kernel - 2.6.32-131.

This product is designed for use in conjunction with the appropriate version of the *Dialogic® NaturalAccess™ Development Environment* software which can be downloaded from the Dialogic web site. The following table shows the compatibility between board types, operating system distributions and the *Dialogic® NaturalAccess™ Development Environment* version and identifies which of the four packages contained in this release should be used in each configuration

| Operating System | NaturalAccess | TX 4000 | TX 5000 |
|------------------------------------|---------------|-------------------------------|-------------------------------|
| RHEL 5 (32 bit) | 9.0.4 | txss7-5.3.2-8-rhel5_32.tgz | |
| RHEL 5 (64 bit compatibility mode) | 9.0.4 | txss7-5.3.2-8-rhel5_mixed.tgz | |
| RHEL 6 (32 bit) | 9.0.5 | Not supported | txss7-5.3.2-8-rhel6_32.tgz |
| RHEL 6 (64 bit compatibility mode) | 9.0.6 | Not supported | txss7-5.3.2-8-rhel6_mixed.tgz |

1.2 Software Installation

The flash memory of all TX boards must be updated with the TX Base kernel that ships with this software release. Typically this happens automatically when the `ss7load` batch file runs (it uses the `txflash` utility, with the `-s` option, to automatically update the flash image with the correct kernel.

Note: In systems where `ss7load.bat` is not used, refer to the instructions in the TX 4000, TX 4000C, and TX 5000E Series Installation Manual for information regarding updating the kernel using the `txflash` utility.

Before installing the TX Software package the user must first install the NaturalAccess 9.x appropriate to the specific Red Hat Enterprise Linux version in use, details on how to do this are provided in the installation manual *Installing the Dialogic® NaturalAccess™ Development Environment R9.x* available from the Dialogic web-site. After completing the instructions provided in the installation manual the following additional steps must be performed:

- Check that the `/etc/ld.so.conf` file has an entry for `/opt/nms/lib` (or add one) and then run `ldconfig -v`.
- Reboot the system.
- Now install the TX Software package as detailed in the installation manual *Installing Dialogic® NaturalAccess™ Signaling Software Release 5.3*. The TX board driver will be loaded during this procedure.

1.3 Resolved Customer Issues

Updates to resolve the following customer issues are included in this release: IPY00055573, IPY00092366, IPY00092459, IPY00092729, IPY00098870, IPY00099122, IPY00099785, IPY00100101, IPY00100235, IPY00100399, IPY00100512, IPY00100596, IPY00100609 and IPY00100716.

The following previously released patches are all included within this release: 8248, 8251, 9075, 9086, 9129, 9214, 9241, 9242, 9259, 9261, 9274, 9282, 9283, 9288, 9295, 9314, 9341, 9343, 9358, 9359, 9363, 9365, 9366, 9367 and 9368.

2 New Functionality

2.1 Support for Red Hat Enterprise Linux 6

This release adds TX 5000 support for the Red Hat Enterprise Linux 6 distribution. Depending on the version of the *Dialogic® NaturalAccess™ Development Environment* in use, TX5000 boards can be used in 32 bit mode under RHEL 6.0 or 64 bit compatibility mode under RHEL 6.1.

No official support for TX4000 boards under Red Hat Enterprise Linux 6 is provided but the TX 4000 board can still be used under Red Hat Enterprise Linux 5.

3 Other Changes

3.1 TX Base - TX 4000 Reset Failure (Patch 9075)

This release corrects an error with the TX 4000 device driver which would fail to allocate an interrupt if the Linux kernel boot parameter 'noapic' was specified.

3.2 TX Base - TX 4000 Failure to Close CPI Channel (IPY00092729, Patch 9274)

This release corrects a problem that sometimes prevented the CPI channel from closing.

3.3 TX Base – TX 5000 Kernel Panic

This release corrects an issue within the device driver which could result in the exhaustion of an internal resource and a kernel panic when cpcon_ is repeatedly run.

3.4 TX Base – TX 5000 Linux message log reports CPU unresponsive (IPY00092366, Patch 9241)

A timing window existed in which the logic used to manage thread-safe access to critical data sections could result in failure to release a lock. This has been corrected.

3.5 TX Base – TX 5000 TX CPKOS can become locked (Patch 9242)

This release corrects a problem that under heavy traffic load with multiple TX board-based tasks running at the same priority could result in failure of the heartbeat mechanism.

3.6 TX Base - TXMON Generates Traffic on Redundancy Link (Patch 9259)

This release corrects a problem where TXMON, operating in stand-alone mode, would attempt to communicate with a non-existent mate.

3.7 TX Base - Clock Synchronization (Patch 8248)

By default, the TX 4000 and TX 5000 boards synchronize their on-board clocks with the host every 5 minutes. A new command has been added to the cpcon_ utility to allow the user to change the synchronization interval.

The TX 4000 [hbus] and TX 5000 [hcomm] command sets include the new command timesync which has the following syntax where <new_timer_value> is the synchronization interval, specified in seconds:

```
timesync <new_timer_value>
```

3.8 TX Base – Health-Management Interface Daemon Failure (Patch 9214)

The Health-Management Interface (HMI) Daemon has been updated to prevent a deadlock which caused the HMI to stop generating events or processing commands.

3.9 TX Base - Health-Management Interface Traffic Lost (IPY00092459, Patch 9261)

This release corrects a problem that caused communication between the health-management API and the health-management task to be lost.

3.10 TX Base– TXMON Health Management Interface Network Connectivity Events (IPY00100609, Patch 9366)

This release corrects an issue which prevented generation of the HMI network connectivity events (HMI_EVN_NETWORK_DOWN and HMI_EVN_NETWORK_UP).

3.11 TX Base - Add support for new TX 5000 Blower (IPY00100716, Patch 9367)

The blower mounted on the TX 5000 board has been replaced by an alternative model. The new blower is form, fit and function identical except that it produces twice as many pulses per revolution to indicate fan speed and this results in an incorrect fan speed being reported by the cpcon utility. This release supports both the 'old' and the 'new' blower.

New production boards identify the blower type in onboard non-volatile memory allowing the software to automatically detect that a 'new' type blower is fitted.

When the new type blower is fitted as a replacement in the field, there is no automatic way for the software to detect the blower type. Therefore it is necessary for the user to set S2 switch 7 to 'ON'. The software then knows to assume that a new type blower is fitted.

3.12 MTP123 - MTP Protocol Failure (Patch 9282)

MTP has been updated to prevent a failure occurring during the link set proving interval.

3.13 MTP123 –Japanese MTP Operation (Patch 9282)

This release includes the following corrections for Japanese operation:

- Support multiple destinations in JNTT transfer messages
- TFP not honored after double switchover. T5 used for JNTT
- Use correct SLC value in CBD/CBA for Japanese variants

- 3.14 MTP123 - Japanese Operation SUERM Expiry (IPY00099785, Patch 9358)**
This release corrects an issue where under certain circumstances MTP2 would fail to detect link failure when the physical TDM was disconnected.
- 3.15 MTP123 –Inter-Board Link (IPY00100596, Patch 9368)**
This release resolves an issue where repeated insertion / removal of the inter-board link could cause the MTP3 links on the backup board to fail to come up.
- 3.16 ISUP - ITU-BICC CIC Parameter Size (IPY00055573, Patch 9086)**
Previously, ISUP incorrectly used a 2 byte CIC parameter in the CGB message. ISUP has been updated to use a 4 byte CIC parameter.
- 3.17 ISUP - Unexpected Blocking Acknowledgement (Patch 9359)**
A new ISUP option (Bit 16) has been introduced that when set will cause an unblocking request (UBL) to be sent in response to an unexpected blocking acknowledgement (UBA) rather than simply discarding the unsolicited UBA.
- 3.18 ISUP - Circuit Status Mismatching (IPY00100101, Patch 9359)**
Previously, when ISUP was in an unequipped state due to T17 timer expiry (no acknowledgement to a RSC) and was remotely blocked, when ISUP subsequently retransmitted a RSC and received BLO followed by a RLC to acknowledge the RSC the circuit state changed to an in service state ignoring that it had received a blocking indication from the remote switch. In this situation ISUP will now remember that it has been remotely blocked and not attempt to route new calls on the circuit.
- 3.19 ISUP - Outgoing Call Circuit Not Transitioning to Idle (IPY00100235, Patch 9359)**
Prior to this release when ISUP was attempting to release an outgoing call and it received a RSC it did not stop timers T1 and T5 and did not transition to an idle state. This has been corrected.
- 3.20 ISUP - User Override of REL Message Cause Value (Patch 9295)**
ISUP has been updated to allow the user to configure the location field value in the cause value of REL messages generated within the ISUP layer (for example on expiry of timer T7). This feature does not affect REL messages generated due to a request by the application; in this case, all cause value parameter fields are under control of the application.

This feature is controlled using the `-o` parameter when configuring ISUP. Bit 17 should be set to 1 and Bits 23 to Bits 20 should be set to the hex representation of the required location value.

For example, to enable override of the location value to ITU-T Q.850 value '4 - public network serving the remote user', the options parameter should be set to `"-o 0x4200"`.

```
$TXUTIL/cplot -c $BRD -f $TXBASE/isup.$TASKTYPE -n isup -p 21 -a  
-s 40960 -o 0x4200
```

3.21 ISUP - Blocked Management Events (IPY00098870, Patch 9341)

ISUP has been updated to prevent entering a state where ISUP management event indications would become queued behind ISUP data messages, preventing user applications from receiving messages.

3.22 ISUP - Handling of Japan NTT CQM/CQR (IPY00099122, Patch 9343)

ISUP has been update to correctly handle the circuit group query response message (CQM/CQR).

3.23 BICC - Reception of Messages Larger than 272 Octets (IPY00100399, Patch 9363)

This patch removes a restriction which previously prevented receipt of BICC variant messages containing more than 272 octets and generated a 'buffer overflow' indication.

3.24 SCCP – BACKUP_PC/SSN_BPC Cross Reference (Patch 8251)

This release corrects an issue where the SCCP task would fail if the SCCP configuration ROUTE command BACKUP_PC or SSN_BPC fields referenced each other.

3.25 SCCP - SLS Override Value (Patch 9314)

In previous releases, SCCP was incorrectly setting the SLS value to 0 when operating in SLS Override mode. This has been corrected and the least-significant 8 bits of the TCAP transaction Id are used for the SLS value.

3.26 SIGTRAN - Support for 128 Associations (Patch 9288)

The SIGTRAN stack now supports up to 128 associations, DPC's, and routing contexts.

3.27 SIGTRAN - Source-Based Routing (Patch 9283)

The SIGTRAN stack now supports source-based routing which restricts each outbound packet to a particular Ethernet interface. If the destination IP address is within that interface's subnet then the packet is sent over the local network. All other packets are sent to the interface's source route gateway, if defined, otherwise to a gateway that is located on the given interface's subnet.

When using source-based routing, certain network configurations can require that a specific gateway address be assigned to each Ethernet interface. The `ifcreate` command has been extended to include an optional source route gateway. The gateway address is used whenever performing source-based routing and a destination endpoint falls outside of the interface's local network.

The updated `ifcreate` command is:

```
ifcreate <ifNum> <IP addr> <mask> [<srcRteGw>]
```

where

<ifNum> = 1-based Ethernet interface number

<IP addr> = IP address to assign to interface

<mask> = IP Subnet Mask

<srcRteGw>= optional gateway used when routing by source address

For example:

```
ifcreate 1 10.3.9.15 255.255.255.0 10.3.9.1
```

Note: Gateway route definitions are still required for non-SIGTRAN IP communication (such as outbound ICMP requests).

3.28 SIGTRAN - Peer-Server Support of Duplicate Routing Context (Patch 9129)

The SIGTRAN stack has been updated to support a single, duplicate routing context for multiple Peer-Server (PS) configurations. This feature is activated updating the SIGTRAN load line within `ss7load` and setting Bit 1 of the '-o' parameter in the `ss7load` shell script. For example:

```
$TXUTIL/cplot -c $BRD -f $TXBASE/sigtran.$TASKTYPE -n sigtran \  
-p 20 -a -s 256000 -o 0x02
```

Note: Enabling this feature will cause all inbound routing to be based on the incoming packet's service information field (SIF).

3.29 SIGTRAN - ASP Sends Route Context Within DATA Message (Patch 9129)

The SIGTRAN stack, when configured as an ASP, now correctly sends a route context within a DATA message.

3.30 SIGTRAN - SCTP INIT Disable Source IP Address (Patch 9288)

The SIGTRAN stack has been updated to optionally disable the sending of the Source IP address in the SCTP INIT Message. This feature can be enabled by setting Bit 0 of the Sigtran load link '-o' parameter in the ss7load shell script.

3.31 SIGTRAN - Delay re-establishment of associations (Patch 9365)

If an ABORT is received in response to an INIT there is potential for the same sequence to be immediately repeated as M3UA immediately attempts to start a new association. This release adds a 10 second delay in M3UA after termination indication before attempting a new association to avoid the issue.

This release also causes ABORT with code 'Invalid Mandatory Parameter' to generate SCT_STATUS_ABORT rather than SCT_STATUS_INV to ensure that the association recovery is attempted.

Dialogic
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