NOKIA

Release Notes 11.1.1

D50 and D50e System Software

NOKIA

The information in this document is subject to change without any notice and describes only the product defined in the introduction of this documentation. This documentation is intended for the use of Nokia's customers only for the purposes of the agreement under which the documentation is submitted, and no part of it may be reproduced or transmitted in any form or means without the written permission of Nokia. The documentation has been prepared to be used by professional and properly trained personnel, and the customer assumes full responsibility when using it. Nokia welcomes customer comments as part of the process of continuous development and improvement of the documentation.

The information or statements given in this documentation concerning the suitability, capacity, or performance of the mentioned hardware or software products cannot be considered binding but shall be defined in the agreement made between Nokia and the customer. However, Nokia has made all reasonable efforts to ensure that the instructions contained in the documentation are adequate and free of material errors and omissions. Nokia will, if necessary, explain issues which may not be covered by the documentation. Nokia's liability for any errors in the documentation is limited to the documentary correction of errors. NOKIA WILL NOT BE RESPONSIBLE IN ANY EVENT FOR ERRORS IN THIS DOCUMENTATION OR FOR ANY DAMAGES, INCIDENTAL OR CONSEQUENTIAL (INCLUDING MONETARY LOSSES), that might arise from the use of this documentation or information in it.

NOKIA

Table Of Contents

NOKIA

Table Of Contents

What's New in Release 11.1.1

New Features in Release 11.1.1

None

Bug Fixes in Release 11.1.1

Release 11.1.1 is primarily aimed towards providing bug fixes which are added into the system software to increase and stabilise the overall functionality of the D50/D50e system. Bug fixes for the following bugs, have been included in Release 11.1.1:

tAtApp task suspension

Under normal running conditions, the newly provisioned connections were not being programmed to the super trunk card due to the suspension of the address translator task on the super trunk card.

DMT8B3 line cards not passing any traffic

During the normal operation, some DSL-connections residing on 8-Port DSL-Cards stops forwarding Data. Card reset clears the problem and traffic starts flowing.

Bi-directional LMI fault declaration on DS1 card & IDSL8 card

The DS1 port configured in ITU mode & the CPE or Terminal Equipment configured in any other LMI mode other than ITU mode, LMI fault is not declared.

The DS1 port configured in ANSI Bi-directional LMI mode & CPE or Terminal Equipment provisioned in any LMI mode other than ANSI Bi-directional mode, LMI fault is not declared.

The same is the situation with IDSL8 card.

LSM2 DTF failures

During the upgrade to R11.1, some shelves stops passing data traffic and all the connections corresponding to the shelf were showing DTF. Upon resetting the LSM, the traffic resumes on the shelves.

D50e backup problem related to UTS launch error

The D50/D50e backup tool sometimes fails to take the backup due to UTS launch error

LCT Connectivity to DSLAM

Connectivity to DSLAMs were being lost few times a day. Ping operation was succesfull on DSLAMs however they could not be managed through Craft Terminal.

Status of Limitations in Release 11.1.1

Copies of Release Notes for all previous System Software releases are available via Nokia Online Services (NOLS) on Support Website of Nokia:
https://support.nokia.com/broadband

System Software

SHDSL WHIP support

SHDSL line card does not support WHIP over serial interface.

The number of WHIP clients that can connect to a DSLAM over TCP/IP network at a time is currently limited to one. However, multiple connections over DEMI boards to different line cards in a DSLAM are allowed with the limit of one connection per line card at a time.

DS1 line card LMI support

When the DS1 line card is in ANSI Bi-directional mode and the JetStream CPE is in ANSI Unidirectional mode or ANSI Network mode then the CPE reports "LMI Protocol Error".

DE to CLP, CLP to DE, and FECN to EFCI mapping for IDSL8 cards

DE to CLP and FECN to EFCI mapping is not effective as, 860 SAR TxBDs do not support fields for carrying this information

FRF.8 Transparent option on IDSL8 line card

This feature is supported in R11.1 & higher releases and due to unavailability of the CPEs the functionality is not completely tested.

PVC Status Update with DS1 Card

Even if CPE sends status of more than 20 PVCs in the FULL STATUS RESPONSE, the DS1 card will update the status of first twenty PVCs sent by the CPE in the FULL STATUS response.

DMT8 Annex-A Card Replacement

To replace a DMT8 Annex-A line card (DMT8-1or DMT8-2, DMT8a3 and DMT8a4) with another type of DMT8 Annex-A line card, the card should be replaced physically before the “Replace” command is issued from the Craft Terminal.

Optimum Number of OAM Enabled Connections
The optimum number of connections that can be OAM enabled is 200. If more than 50% of connections enter the fault state at the same time, trunk will be overloaded with the AIS cell generation at the rate of 1 cell per second.

Optimum Number of OAM Enabled Connections per Shelf
The optimum number of connections that can be OAM enabled is 192 per shelf. If more than 50% of connections enter the fault state at the same time, LSM will be overloaded with the AIS cell generation at the rate of 1 cell per second.

DTF Alarm

The DTF alarm will be reported as a result of a Hardware fault, port level logical problems or congestion due to excessive traffic. The actual cause cannot be isolated.

DS1 ATM and Frame Relay Connections

For the DS1 line card, individual ports should not be configured with both an ATM connection and a Frame Relay connection. Only one connection type may be selected for each port.

Interleave Delay on the DMT8a4/eDMT8a4P Line Card

In the Release 11.0 User Documentation, Interleave Delay is not listed as a variable supported by the D50 DMT8a4 card or the D50e eDMT8a4P card. However, both of these cards do support Interleave Delay.

The Interleave Delay parameter allows the user to increase or decrease the transmission delay (latency), which increases or decreases the immunity to impulse noise. In general, the lower settings are used for latency-sensitive voice transmissions, and the higher settings are for data. This applies to the Interleaved Path operation only.

Maximum parameters can be set for both ATUC and ATUR. The range is from 5 mS to 255 mS. The default setting is 24 mS for ATUR and ATUC.

If the provisioned setting cannot be attained, the parameter is rounded down to the nearest available setting.

DS3TQ, OC3TQ, and eSTM1TQ Release 11.0 Supertrunk Cards

- Downstream traffic policing is normally performed as the traffic exits the equipment at the edge of the network boundary. As a result, the ATM switch (edge interface) provides the traffic policing function. Nokia has therefore disabled traffic policing on the eSTM1TQS, eSTM1TQL, eSTM1TQE, DS3TQ, OC3TQS, OC3TQL, and OC3TQM supertrunk cards.
- Due to the way in which the D50/D50e system allocates system memory, VPI value ranges are changed for Link A and Link Z as indicated below:

	Prior to Rel. 6.0.1	Rel. 6.0.1 onwards
VPI Link Z	0 – 4095	0 – 255
VPI Link A	0 – 255	0 – 31

Release 11.0.2 onwards, the permitted VCI values range has been changed to 31 – 65K.

If you have any connections mapped outside of the valid Release 6.0.1 VPI range, you will need to re-map to the valid range prior to upgrading systems to Release 6.0.1 & higher releases.

Broadband Tributary Card Traffic Policing

Downstream traffic policing is normally performed as the traffic exits the equipment at the edge of the network boundary. As a result, the switch (edge interface) provides the traffic

policing function. Nokia has therefore disabled traffic policing on the DS3L and OC3L cards for the D50, and the eE3L, eSTM1L, and eMLA-TX cards for the D50e.

Traffic Class per Connection Maximum Rates

Maximum per connection rates for all traffic classes supporting guaranteed bandwidth (CBR and VBR-rt) were implemented in Release 8.0. These recommended maximum per connection rates are established at 5% of the trunk, broadband tributary, or MLA/LSM interface rate, whichever is lower. The D50/D50e will support numerous connections at both maximum and sub-maximum rates. The maximum per connection rates are as follows:

Trunk /Broadband Tributary Interface

7.5 Mbps for an OC-3 or STM-1 interface (OC3TQ, OC3L, eSTM1TQ, eSTM1LS, eSTM1LL). Peak Cell Rate for the connection = 17,660 cells/second.

2.0 Mbps for a DS-3 interface (DS3TQ, DS3L) using PLCP. Peak Cell Rate for the connection = 4,800 cells/second.

2.2 Mbps for a DS-3 interface (DS3TQ, DS3L) using ATM direct mapping. Peak Cell Rate for the connection = 5,260 cells/second.

1.5 Mbps for an E3 broadband tributary interface (eE3L) using PLCP. Peak Cell Rate for the connection = 3,600 cells/second.

1.7 Mbps for an E3 broadband tributary interface (eE3L) using ATM direct mapping. Peak Cell Rate for the connection = 4,050 cells/second.

MLA/LSM Interface

7.5 Mbps for an OC-3 or STM-1 interface (MLA2/LSM2 or eMLA2/eLSM). Peak Cell Rate for the connection = 17,660 cells/second.

2.0 Mbps for a DS-3 interface (MLAT3/LSMT3) using PLCP. Peak Cell Rate for the connection = 4,800 cells/second.

2.2 Mbps for a DS-3 interface (MLAT3/LSMT3) using ATM direct mapping. Peak Cell Rate for the connection = 5,260 cells/second.

1.5 Mbps for an E3 interface (eMLAE3/eLSME3) using PLCP. Peak Cell Rate for the connection = 3,600 cells/second.

1.7 Mbps for an E3 interface (eMLAE3/eLSME3) using ATM direct mapping. Peak Cell Rate for the connection = 4,050 cells/second.

300 Kbps for a 4xDS-1interface (MLAT1/LSMT1). Peak Cell Rate for the connection = 710 cells/second.

390 Kbps for a 4xE1 interface (eMLAE1/eLSME1). Peak Cell Rate for the connection = 920 cells/second.

Cell Delay Variation (CDV) Provisioning

For all traffic classes (CBR, VBR-rt, VBR-nrt, UBR and UBR+), cell delay variation (CDV) defines the duration that a flow exceeds the peak cell rate (PCR). Provision the

CDV value to be approximately equal to the inverse of the PCR. For example, if the connection PCR is 1,000 cells/sec., the recommended CDV is 1/1000 second, or 1 ms.

Note: In all equations below, R is greater than PCR.
All equations conform to Generic Cell Rate Algorithm (GCRA).

The following equation specifies the duration that the flow exceeds the PCR (R = actual cell rate):

Duration of exceeding PCR = CDV / (R/PCR - 1)

The number of cells transmitted during the duration is determined by the following equation:

Number of cells transmitted at rate (R) = CDV / (1/PCR - 1/R)

When CDV = 1/PCR, the number of cells that can be transmitted at rate (R) is determined by the following equation:

Number of cells transmitted at rate (R) = 1/(1 - PCR/R)

This equation can be written as an expansion series of the following equation:

Number of cells transmitted at rate (R) = 1
+ [PCR/R] + [PCR/R]^2 + [PCR/R]^3 +...

When PCR/R < 1, this equation is approximately equal to one.

Maximum Committed Bit Rate for MLA Slots 9, 10, 11 and 12

Maximum committed bandwidth by the CAC cannot exceed 95% of the trunk card capacity. MLA slots 1 through 8 support a maximum committed bit rate of 142 Mbps per slot. The maximum committed bit rate supported at MLA slots 9, 10, 11 and 12 is 105 Mbps per slot.

OAM End-to-End Loopback Test Through D50/D50e

When performing an Operations and Maintenance (OAM) end-to-end test on a connection from the CPE to an access router (upstream) or from the access router to the CPE (downstream), set the parameters on both Link A and Link Z of the connection as follows:

- For OAM Configuration, select **Disable**.
- For End Point Configuration, select **None**.

SHDSL8/eSHDSL8 Line Card with Globespan CPE

When individual ports on the SHDSL8 or eSHDSL8 line card are connected to multiple Globespan-based CPEs, the software in each CPE must be Globespan firmware version 1.5 or higher to prevent repetitive retrains of the SHDSL link.

Service Category UBR Does Not Support CLP Tagging

The default UBR traffic descriptor (Index 10) indicates that Cell Loss Priority (CLP) tagging is supported. A UBR connection set up with this default traffic descriptor will operate without any problems, but it does not support CLP tagging.

DMT8/eDMT8 Line Card Operation Mode

For all DMT8/eDMT8[1] cards, Nokia recommends the Operation mode be set only to Auto. The cards provide optimal performance when set to Auto mode. If other operational modes are selected, loop performance may not be optimal.

DMT8a3/eDMT8a3 Line Card Downstream Fast Rate Mode

For the DMT8a3/eDMT8a3 card ports, the minimum downstream (ATUC) Fast Rate mode setting is 64 Kbps. The maximum setting must be no lower than 64 Kbps.

Loop Attenuation Value for Alcatel Chipset-based CPE

For all DMT8a3 and DMT8b3 line cards (D50 and D50e) connected to CPE with Alcatel chipsets, the downstream loop attenuation actual is displayed as 7.5 dB with null cable; the real attenuation level is “0.”

DS1/E1 Line Cards Maximum DLCI Support

The DS1 and E1 line cards support traffic through a maximum of 20 user-created Data Link Connection Identifiers (DLCIs) per port. Craft Terminal currently allows the user to create more than 20 DLCIs. When more than 20 DLCIs are created, a loss of traffic occurs on the first DLCIs according to the number of DLCIs in excess of 20. For example, creating 28 DLCIs results in loss of traffic on the first eight DLCIs. No error message is generated.

Traffic Descriptors and Connections In Excess of Limits Are Not Prevented

For all traffic classes supporting guaranteed bandwidth (CBR and VBR-rt), connections are limited to 5% of the trunk bandwidth. However, the system does not prevent users from creating traffic descriptors that exceed this limit, or from creating connections using these traffic descriptors. No error messages are generated when these traffic descriptors or connections are created.

LSM/eLSM Queue Settings Error Message

When upgrading to Release 11.0 & higher releases, if the sum total of the per port queue buffer allocations for the three priority queues on 2- and 4-port line cards is greater than the maximum 1024 cells per port, a “Provisioning Data Not Found” error message appears. The queue settings must be re-provisioned manually to clear the error message.

eMLA-TX Card Encapsulation Features

For the eMLA-TX card (D50e only), the following encapsulation features are not supported:

- LLC Bridged with FCS

1.The DMT8/eDMT8 cards are the DMT8a3 and DMT8a4 cards for the D50, and the eDMT8a3, eDMT8a3P, eDMT8aK, eDMT8a3S, eDMT8b3, eDMT8b3P, and eDMT8a4P cards for the D50e.

- VC Mux Bridged with FCS

LSM Terminal Loopback Test

Performing a terminal loopback test on the LSM/eLSM, LSM2/LSM2S/eLSM2, or LSMT3/eLSME3 cards disables communication and traffic between the associated LCS and the MCS for the duration of the test.

Entering a test duration value of "0" for a terminal loopback test on these LSM cards places the loopback test in an infinite loop, disabling communication between the LSM and the MCP card indefinitely. To restore communication, the LSM card must be manually reset.

Administration Utilities Suite

System Provisioning During Upgrade

The D50/D50e system should not be provisioned during upgrade process, as this might effect the upgrade process.

System Upgrade Using In-Band

Using In-Band Management to upgrade a system supporting 12 Line Card Shelves (LCSs) may require in excess of eight hours to complete.

Multi-Upgrader Documentation Name Change

The *Multi-Upgrader User's Guide* has been renamed. As of Release 6.0 it is titled *D50/D50e Administration Utilities – User's Guide.*

Administration Utilities Issues Prior to Release 11.0

The Release 11.0 & higher releases Administration Utilities Suite will not resolve outstanding issues related to previous versions of the Administration Utilities Suite. Before installing the Release 11.0 & higher releases suite, be sure to resolve outstanding issues (including recreating deleted "Name" and "TimeZone" columns) within previous versions of the suite.

Trunk Card Provisioning Prior to Inband Upgrade

The D50/D50e trunk card(s) must be provisioned prior to beginning an Inband upgrade.

L file Backup Prior to Upgrade

It is recommended to back up the L file prior to an upgrade.

Internet Explorer 5.0 Required for Upgrade

Internet Explorer 5.0 or newer must be used for system upgrades, to enable.dll sharing.

MIB Walk Removed

The MIB Walk backup and restore method has been removed from the Backup Wizard. Backup and restore procedures are now performed by the L file method only, which does

not support MIB Walk backups from previous versions of the Administration Utilities Suite.

Release 11.1.1 Backward Compatibility

The Release 11.1.1 Backup Wizard can be used with systems that are running Release 9.0 and later system software only, due to a change in the system's data backup completion process.

L File Restore

When restoring a previously backed up L file on a D50/D50e system with an In-Band Management connection, confirm the IP addresses to be sure you have the correct L file for the corresponding D50/D50e. The wrong L file will erase the current provisioning and connection information, import incorrect information, and render the D50/D50e inaccessible via network management.

L File Restore Across Software Versions

The L file backed up from system running with version 9.x can be restored to the system after the system has been upgraded to Release 11.x software. However the L file backed up from system running with version prior to 9.x cannot be restored to the system after the system has been upgraded to Release 11.x software. In such cases, system should be upgraded first to Software Release 9.x and then should be upgraded to Release 11.x.

Name and TimeZone Columns

Release 9.1 and earlier releases of the Multi-Upgrader allowed users to delete the "Name" and "TimeZone" columns. The Multi-Upgrader will not function without these columns. In Release 10.0 & higher releases, this issue was eliminated: the "Name" and "TimeZone" columns cannot be deleted.
IMPORTANT: If one or both of these columns were deleted in a previous version of the Multi-Upgrader, they must be recreated in the previous version before upgrading to Release 11.0 & higher releases. Follow these steps to recreate the column(s):

1.) In the main menu bar, select List.

2.) In the drop-down menu, select Add Column.
Note: If both columns were deleted, the "Name" column must be re-added first. Steps 1 and 2 above must then be repeated to re-add the "TimeZone" column.

3.) Type in the column name as follows:

- For the "Name" column, type: *Name
  Note: The " * " (asterisk) symbol must precede the word "Name".
- For the "TimeZone" column, type: @TimeZone
  Note: The " @ " symbol must precede the word "TimeZone".

4.) Click **OK**. The column is displayed.

5.) If the column was deleted while an item in the column was selected, the Multi-Upgrader must be closed and restarted to clear the selected item.

Running Multi-Upgrader with Backup Wizard

When the Multi-Upgrader is in use, the Backup Wizard utility cannot be used and vice-versa..

Procedure Completion Percentage Displays

Completion percentages displayed during individual procedures refer to the specific procedure being performed rather than to an entire process. Prior to Release 11.0 these were displayed during Upgrade, backup and restore processes, From Release 11.0 onwards it is displayed only during Upgrade process. Displays reflect the actual percentage of completion at the moment they first appear only. They are updated periodically to indicate that the procedure is still running.

Unlock Active Trunk Card

After the Restore procedure is completed, unlock the active trunk card to clear the Uninitialized alarm from all Permanent Virtual Channels (PVCs).

Connection Counters in MLA Card

Connection counters are not supported by MLA. MLA2, MLAT1/E1, MLAT3/E3, supports them.

Retrieving Log Files

NOTE: It is extremely important that log files NOT be retrieved (viewed) during an upgrade, restore, or backup of a D50/D50e system(s) or during an FTP session. Retrieving (viewing) a log file during an upgrade, restore, or backup session can compromise the process and negatively affect performance. Log files should only be viewed after completion of an upgrade, backup, or restore.

Service Pack

Service pack 6a should be used with the Administration Utilities Suite for Windows NT and when using NT emulation on the Sun platform. Service pack 2 should be used for Windows 2000.

Uninstall Previous Versions of the Administration Utilities Suite

You should uninstall previous versions of the Administration Utilities Suite (Release 10.0.1 or earlier) from your PC prior to installing the Release 11.1.1 suite. To insure that the older version is uninstalled properly, use NT's Add/Remove Programs function.

To remove older versions of the Administration Utilities Suite, do the following:

- From the task bar, click **Start**, select **Settings**, and choose **Control Panel**.
- Double-click the **Add/Remove Programs** icon in the Control Panel window.
- Click the Install/Uninstall tab in the Add/Remove Programs Properties dialog box.
- Select “Speedlink Upgrader” or “D50 Installer” from the list box.
- Click the **Add/Remove** button.
- Click **OK**.

Upgrading Multiple Systems

The Multi-Upgrader supports the upgrade of up to ten D50 or D50e systems simultaneously.

ATL Directory Required for Installation

The contents of the ATL directory must be installed on your PC’s local hard drive before installing the Administration Utilities Suite. The user is prompted to complete this installation before proceeding with the installation of the Administration Utilities software.

If the contents of the ATL directory are NOT currently installed, do the following to install them:

- Open the ATL folder on the Administration Utilities installation CD.
- Double-click the file named Setup.exe.
- The Administration Utilities will install the contents of the ATL directory.

D50/D50e System Software

Problem No.:	255549
Description:	D50e stops forwarding Data on DSL-Connections.
Work around	Software has been enhanced from the Release 11.1.1 onwards, to improve the situation.
Status:	Work around Fix included.

Problem No.:	255910
Description:	MCP switch over causes some of the PVC connections to be lost.
Work around	After adding the connections, MIB commit and MIB sync needs to be performed as a workaround for this problem.
Status:	Open.

Problem No.:	259260
Description:	D50e backup problem related to UTS launch error
Status:	Fixed.

Problem No.:	266833
Description:	tAtApp task suspended.
Status:	Fixed.

Problem No.:	285591
Description:	Problems in LCS related to tAtApp task suspension.
Status:	Fixed

Problem No.:	291214
Description:	DMT8B3 linecards, not passing any traffic.
Work around	Software has been enhanced from the Release 11.1.1 onwards, to improve the situation.
Status:	Work around Fix included.

Problem No.:	299454
Description:	LSM2 DTF failures: Rel 11.1 upgrade issues
Status:	Fixed.

Release 11.1.1 Problem Reports

Problem No.:	303076
Description:	Bi-directional LMI fault declaration on DS1.
Additional Note:	The same enhancements have been made for IDSL8 card
Status:	Fixed.

Problem No.:	303336
Description:	Inconsistent Active Alarm display.
Note:	Software has been enhanced from the Release 11.1.1 onwards, to improve the situation.
Status:	Open

Problem No.:	319431
Description:	LCT connectivity to DSLAM
Status:	Fixed

D50/D50e DSL Chipset Firmware Versions

The Following table lists the major D50/D50e line cards and their DSL chipset firmware Versions.

Table 1: Firmware Versions

Unit	Chipset	Firmware Version
DMT4	ADTSP-2183	0x2220001
DMT4F	STLC60135D	4
DMT4IP	STLC60135D	5.01
DMT8a4	TI AC5	AC5 3.50.0
DMT8c	GS7066-174, ANNEX C	O.71
DMT8a3	Fourte Plus, GS7266-474 (ANNEX A)	U24.13.5
DMT8b3	Fourte Plus, GS7266-474 (ANNEX B)	P.46
DMT8c3	Fourte Plus, GS7266-474 (ANNEX C)	O.78
DMT8-1, DMT8-2	GS7066-174	M11.2.1
SDSL	Conexant (Rockwell/Brooktree) Bt8970EHF	5.1
SHDSL	Orion, GS2237-208	1.7.2