

Dialogic® Diva® softSS7 Software for Windows version 1.5.4

Reference Guide

Copyright Notice And Legal Disclaimer

Copyright © 2006-2009 Dialogic Corporation. All Rights Reserved. You may not reproduce this document in whole or in part without permission in writing from Dialogic Corporation at the address provided below.

All contents of this document are furnished for informational use only and are subject to change without notice and do not represent a commitment on the part of Dialogic Corporation or its subsidiaries ("Dialogic"). Reasonable effort is made to ensure the accuracy of the information contained in the document. However, Dialogic does not warrant the accuracy of this information and cannot accept responsibility for errors, inaccuracies or omissions that may be contained in this document.

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH DIALOGIC® PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN A SIGNED AGREEMENT BETWEEN YOU AND DIALOGIC, DIALOGIC ASSUMES NO LIABILITY WHATSOEVER, AND DIALOGIC DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF DIALOGIC PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT OF A THIRD PARTY.

Dialogic products are not intended for use in medical, life saving, life sustaining, critical control or safety systems, or in nuclear facility applications.

Due to differing national regulations and approval requirements, certain Dialogic products may be suitable for use only in specific countries, and thus may not function properly in other countries. You are responsible for ensuring that your use of such products occurs only in the countries where such use is suitable. For information on specific products, contact Dialogic corporation at the address indicated below or on the web at www.dialogic.com.

It is possible that the use or implementation of any one of the concepts, applications, or ideas described in this document, in marketing collateral produced by or on web pages maintained by Dialogic may infringe one or more patents or other intellectual property rights owned by third parties. Dialogic does not provide any intellectual property licenses with the sale of Dialogic products other than a license to use such product in accordance with intellectual property owned or validly licensed by Dialogic and no such licenses are provided except pursuant to a signed agreement with Dialogic. More detailed information about such intellectual property is available from Dialogic's legal department at 9800 Cavendish Blvd., 5th Floor, Montreal, Quebec, Canada H4M 2V9. **Dialogic encourages all users of its products to procure all necessary intellectual property licenses required to implement any concepts or applications and does not condone or encourage any intellectual property infringement and disclaims any responsibility related thereto. These intellectual property licenses may differ from country to country and it is the responsibility of those who develop the concepts or applications to be aware of and comply with different national license requirements.**

Using the AMR-NB resource in connection with a Dialogic® product does not grant the right to practice the AMR-NB standard. To seek a patent license agreement to practice the standard, contact the VoiceAge Corporation at <http://www.voiceage.com/licensing.php>.

Dialogic, Dialogic Pro, Brooktrout, Cantata, SnowShore, Eicon, Eicon Networks, Eiconcard, Diva, SIPcontrol, Diva ISDN, TruFax, Realblocs, Realcomm 100, NetAccess, Instant ISDN, TRXStream, Exnet, Exnet Connect, EXS, ExchangePlus VSE, Switchkit, N20, Powering The Service-Ready Network, Vantage, Making Innovation Thrive, Connecting People to Information, Connecting to Growth and Shiva, among others as well as related logos, are either registered trademarks or trademarks of Dialogic. Dialogic's trademarks may be used publicly only with permission from Dialogic. Such permission may only be granted by Dialogic's legal department at 9800 Cavendish Blvd., 5th Floor, Montreal, Quebec, Canada H4M 2V9. Any authorized use of Dialogic's trademarks will be subject to full respect of the trademark guidelines published by Dialogic from time to time and any use of Dialogic's trademarks requires proper acknowledgement.

Microsoft, Windows, Windows Server, and Windows Vista are registered trademarks of Microsoft Corporation in the United States and/or other countries. The other names of actual companies and products mentioned herein are the trademarks of their respective owners.

Software License Agreement

This Software License Agreement ("Agreement") is a legal Agreement for the conditional use of the software provided herein ("Program") between you, the end-user, and Dialogic Corporation ("Dialogic"). By downloading, copying or otherwise using the Program, you agree to be bound by the terms of the foregoing license.

YOU ASSUME RESPONSIBILITY FOR THE SELECTION OF THE PROGRAM TO ACHIEVE YOUR INTENDED RESULTS, AND FOR THE INSTALLATION, USE, AND RESULTS OBTAINED FROM THE PROGRAM.

The Program may contain certain software applications and portions of applications which are provided to You under terms and conditions which are different from this Agreement (such as open source or community source), or which require Dialogic to provide Customer and its Subsidiaries with certain notices and/or information ("Excluded Code"). Dialogic will identify such Excluded Code in a text file or about box or in a file or files referenced thereby (and shall include any associated license agreement, notices and other related information therein), or the Excluded Code will contain or be accompanied by its own license agreement. Your use of the Excluded Code will be subject to the terms and conditions of such other license agreement solely to the extent such terms and conditions are inconsistent with the terms and conditions of this Agreement or are required by such other license agreement. By using or not uninstalling such Excluded Code after the initial installation of the Excluded Code you acknowledge and agree to all such license agreements, notices and information.

License

Under the terms and conditions of this Agreement:

- You may install and use one copy of the Program on a single-user computer, file server, or on a workstation of a local area network.
- Some or all functions of the Program may be available solely if the Program is used with one or more legally acquired Dialogic Activation Key(s).
- To obtain an Activation Key you must first purchase a Proof of Purchase Code (PPC). A PPC may be included in your software or hardware package or you may have to purchase it separately.
- You will receive your Activation Key upon registering the Proof of Purchase Code as directed in the PPC document.
- It may be possible to install multiple Activation Keys into the Program; in such a case, the total functionality provided by the Program will be the sum of the licensed functionalities controlled by the installed Activation Keys as long as the maximum capabilities of the Program are not exceeded and the functionalities are compatible.
- Your Activation Key(s) will restrict your use of the Program. At least one of the following restriction schemes will be available to you when you register each Proof of Purchase Code (PPC) and request an Activation Key.
 - The Activation Key may be associated with a specific Dialogic hardware device. In this case, the licensed functionality controlled by the Activation Key will be available solely if the same Dialogic hardware is present in the computer. You can move the Program to another computer solely if you move the specified Dialogic hardware to the new computer.
 - The Activation Key may be associated with a specific Dialogic-supplied software protection device ('dongle'). In this case, the licensed functionality controlled by the Activation Key will be available solely if the same dongle is present in the computer. You can move the Program to another computer solely if you also move the dongle to the new computer.
 - The Activation Key may be associated with your specific computer hardware platform. In this case, the licensed functionality controlled by the Activation Key will be available solely if no significant change is made to the hardware installed in the computer. Replacement Activation Keys may be issued at the discretion of Dialogic solely if Dialogic can determine that you have not moved the Program to another computer. Sufficient information must be provided to Dialogic to allow it to make that determination.
- In addition to the above restrictions, each Activation Key may have a specific term of use commencing from the date of PPC registration. In this case, the licensed functionality controlled by the Activation Key will not be available after the Activation Key has expired.
- The Activation process requires that you enter the following information into the web-based system to obtain an Activation Key:
 - Proof of Purchase Code (PPC)
 - The Device ID provided to You by the 'Activation' function in the Program
 - Your email address so that the Activation Key can be delivered to You by email
- Dialogic will retain the information above for the following purposes:
 - Validation of future requests from You for replacement Activation Keys
 - Sending renewal reminders to You in the case of limited time licenses.
- If the Dialogic hardware device that Activation Keys are associated with is judged to be defective by Dialogic following its standard practices, Dialogic Support will issue to You replacement Activation Keys associated with the replacement device upon receipt of the faulty device by Dialogic. Replacement of the faulty device is subject to the terms of Dialogic's Hardware Warranty. If a valid Advance Replacement Insurance policy is in place for the Dialogic hardware, Dialogic will endeavor to expedite provision of Activation Keys associated with the replacement device.

- If the Dialogic-supplied software protection device (a 'dongle' or 'USB-stick') that Activation Keys are associated with is judged to be defective by Dialogic following its standard practices, Dialogic Support will issue to You replacement Activation Keys associated with the replacement device upon receipt by Dialogic of the failed device. Replacement of the faulty device is subject to the terms of Dialogic's Hardware Warranty.
- You may copy the Program into any machine readable or printed form for backup in support of your use of one copy of the Program;
- You may make one copy of Dialogic's documentation provided that all copyright notices contained within the documentation are retained;
- You may transfer the Program, documentation and the license to another eligible party within your Company if the other party agrees to accept the terms and conditions of this Agreement. If You transfer the Program and documentation You must at the same time either transfer all copies whether in printed or machine readable form to the same party or destroy any copies not transferred;
- You may not rent or lease the Program. You may not reverse engineer, decompile or disassemble the Program. You may not use, copy, modify or transfer the Program and documentation, or any copy, modification or merged portion, in whole or in part, except as expressly provided for in this Agreement;
- You may not modify the Program in order to circumvent or subvert the protection mechanisms inherent in the program or attempt to use a time-limited Activation Key after it has expired;
- If You transfer possession of any copy, modification or merged portion of the Program or documentation to another party in any way other than as expressly permitted in this Agreement, this license is automatically terminated.

Term

The license is effective until terminated. You may terminate it at any time by destroying the Program and documentation together with all copies, modifications and merged portions in any form.

It will also terminate upon conditions set forth elsewhere in this Agreement or if you fail to comply with any terms or conditions of this Agreement at any time. You agree upon such termination to destroy the Program and documentation together with all copies, modifications and merged portions in any form.

Limited Warranty

The only warranty Dialogic makes, beyond the replacement of Activation Keys under the terms set out above, is that the medium on which the Program is recorded will be replaced without charge if Dialogic, in good faith, determines that it was defective in materials or workmanship and if returned to your supplier with a copy of your receipt within ninety (90) days from the date you received it. Dialogic offers no warranty for your reproduction of the Program. This Limited Warranty is void if failure of the Program has resulted from accident, misuse, abuse or misapplication.

Customer Remedies

Dialogic's entire liability and You and Your Authorized Users exclusive remedy shall be, at Dialogic's option, either (a) return of the price paid or (b) repair or replacement of the Program that does not meet the above Limited Warranty. Any replacement Program will be warranted for the remainder of the original Warranty period.

No Other Warranties

Dialogic disclaims all other warranties, either express or implied, including but not limited to implied warranties or merchantability and fitness for a particular purpose and the warranty against latent defects, with respect to the Program and the accompanying documentation. This limited warranty gives You specific legal rights. You may have others, which may vary from jurisdiction to jurisdiction.

No Liability for Consequential Damage

In no event shall Dialogic its subsidiaries, directors, employees or suppliers be liable for any damages whatsoever (including without limitation, damages for loss of business profits, business interruption, loss of information, or other pecuniary loss and indirect, consequential, incidental, economic or punitive damages) arising out of the use of or inability to use this Program, even if Dialogic has been advised of the possibility of such damages. As some jurisdictions do not allow the exclusion or limitation for certain damages, some of the above limitations may not apply to You or your Authorized Users.

Limit of Liability

The entire aggregate liability of Dialogic under any provision of this agreement shall be limited to the amount actually paid by You for the affected Program. Dialogic's subsidiaries, directors, employees and suppliers shall have no liability under this Agreement.

Right to Audit

If this Program is licensed for use in a Company, your Company agrees to keep all usual and proper records and books of accounts and all usual proper entries relating to each installation of the Program during the term of this Agreement and for a period of three (3) years thereafter. During this period, Dialogic may cause an audit to be made of the applicable records and of the installations of the Program in order to verify Your compliance with this Agreement and prompt adjustment shall be made to compensate for any errors or omissions disclosed by such audit. Any such audit shall be conducted by an independent certified public accountant selected by Dialogic and shall be conducted during the regular business hours at Your offices and in such a manner as not to interfere with Your normal business activities. Any such audit shall be paid for by Dialogic unless material discrepancies are disclosed.

For such purposes, 'material discrepancies' shall mean the Company exceeding by three percent (3%) or more the number of licensed channels for any function of the Program or the Company exceeding the licensed number of Authorized Users by three percent (3%) or more. If material discrepancies are disclosed, Your Company agrees to pay Dialogic for the costs associated with the audit as well as the license fees for the additional licensed channels or Authorized Users. In no event shall audits be made more frequently than semi-annually unless the immediately preceding audit disclosed a material discrepancy.

Supplementary Software

Any Supplementary Software provided with the Dialogic Program referred to in this License Agreement is provided 'as is' with no warranty of any kind.

U.S. Government Restricted Rights

The Program and documentation are provided with RESTRICTED RIGHTS. Use, duplication or disclosure by the U.S. Governments is subject to restrictions as set forth in subparagraph c) 1) ii) of The Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or subparagraph c) 1) and 2) of the Commercial Computer Software-Restricted Rights at 48 CFR52.227-19, as applicable.

Governing Law

This Agreement shall be construed and controlled by the laws in force in the Province of Quebec, Canada.

Contractor/ manufacturer is:

DIALOGIC CORPORATION.

9800 Cavendish Blvd., Montreal, Quebec, Canada H4M 2V9

This Agreement has been drafted in English at the express wish of the parties. Ce contrat a été rédigé en anglais à la demande expresse des parties.

Contents

Copyright Notice And Legal Disclaimer.....	2
Software License Agreement	3
About This Publication	7
How to use this online guide	7
Structure of this guide	7
About the Dialogic® Diva® softSS7 Software	8
Diva softSS7 software signaling features	8
Supported hardware	9
Preparing the Dialogic® Diva® Media Boards	10
Installing the Dialogic® Diva® softSS7 Software.....	11
Software Configuration	12
Test the Dialogic® Diva® Media Board	12
Activate the license	13
Install the license file	13
Change the Dialogic® Diva® softSS7 software configuration file	14
Starting the Dialogic® Diva® softSS7 Software	15
Verify if the Dialogic® Diva® softSS7 software is running	15
Tracing.....	17
Static tracing	17
Dynamic tracing	17
Dialogic® Diva® Diagnostics tool	18
Uninstalling.....	19
Issues While Running the Dialogic® Diva® softSS7 Software.....	20
Glossary.....	21
Appendix.....	22
Explanation of the divaSS7.cfg file	22
Back to Back test	26
First divaSS7.cfg file	27
Second divaSS7.cfg file	30
Example: One SS7 link on one controller and 31 CICs on another controller	33
ISUP: List of messages	36

About This Publication

How to use this online guide

- To view a section, click the corresponding bookmark located on the left.
- To view a topic that contains further information, click the corresponding blue underlined phrase.
- You may wish to print out the pages required for installing the drivers.

Structure of this guide

This guide provides a detailed description of how to install and configure Dialogic® Diva® softSS7 software.

This guide is structured as follows:

Section	Contents
About the Dialogic® Diva® softSS7 Software	Dialogic® Diva® softSS7 software features, supported Dialogic® Diva® Media Boards
Preparing the Dialogic® Diva® Media Boards	Preparations before using the Diva softSS7 software
Installing the Dialogic® Diva® softSS7 Software	Installation of the Diva softSS7 software
Software Configuration	Modifications in the Dialogic® Diva® Configuration Manager, activation and installation of the license file
Starting the Dialogic® Diva® softSS7 Software	Start and verification of the Diva softSS7 software
Tracing	Creation of traces with the Dialogic® Diva® Diagnostics tool
Uninstalling	Uninstallation of the Diva softSS7 software
Issues While Running the Dialogic® Diva® softSS7 Software	How to solve problems with Diva softSS7
Glossary	Explanation of the most common terms in the SS7 environment
Appendix	Examples and explanations of the default Diva softSS7 configuration file

CHAPTER 1

About the Dialogic® Diva® softSS7 Software

The Diva softSS7 software is an add-on for the Dialogic® Diva® System Release Software. The Diva softSS7 software enables you to use your Dialogic® Diva® Media Board with Microsoft® Windows® XP, Windows Server® 2003, Windows Vista®, Windows Server® 2008, Windows® 7 and to have connectivity over the SS7 signaling network and still use applications with standard programming interfaces like CAPI and SDK.

This reference guide describes the basic Windows® configuration for the Diva softSS7 software. It is intended to provide advice and instructions on how to install the Diva softSS7 software modules as add-on software for Diva System Release Software.

Div a softSS7 software signaling features

- Basic inbound and outbound calls
- Support for ETSI (ITU-T) SS7 MTP3/ISUP protocols
- SS7 Signaling End Point (SEP) functionality
- Connection to other SEP or Signaling Transfer Point (STP)
- Associated signaling mode (SS7 link and bearer channels on same trunk)
- Quasi-associated signaling mode via STP (one or more SS7 link(s) on one or more trunk(s), bearer channels on different trunks)
- User-defined trunk number(s) and 64 kbps timeslot(s) for signaling link(s)
- Up to eight E1 trunks per installation
- Up to 247 bearer channels per installation
- Up to eight linksets with up to 16 SS7 signaling links
- Support of B-channel types (speech, 3.1 kHz audio, 64 kbps transparent, Data, 3G Video GW)
- Configuration for MTP 1-3, ISUP and call control parameters per text file
- Blocking/unblocking according to ITU-T ISUP
- Disabling incoming/outgoing calls on specific channels (CICs)
- User mode management interface for all layers
- Enable dynamic change of:
 - blocking states
 - disabling incoming/outgoing calls
 - debug maskvia user mode management interface
- Representation of layer 1 state on ISUP via blocking, e.g., if Layer 1 goes down on a trunk, the related interface is blocked
- Any event disabling signaling is represented on ISUP via blocking, e.g., if the signaling connection between the trunk card and the SS7 system service is down, the related interface is blocked
- Restricted representation of blocking state and disabling incoming/outgoing calls on specific channels via the Dialogic® Diva® Management tool
- 24-bit point code support as used in China

Supported hardware

The Dialogic® Diva® softSS7 software supports the following Dialogic® Diva® ISDN Media Boards:

Diva PRI 3.0:

- Diva PRI/E1/T1-CTI
- Diva PRI/E1/T1-8
- Diva PRI/E1-30

Diva V-PRI:

- Diva V-PRI/E1-30

Diva Multiport PRI PCI:

- Diva V-2PRI/T1-48 PCI
- Diva V-2PRI/E1-60 PCI
- Diva V-4PRI/T1-96 PCI
- Diva V-4PRI/E1-120 PCI

Diva Multiport PRI PCIe:

- Diva V-1PRI/E1/T1-30 PCIe HS
- Diva V-2PRI/E1/T1-60 PCIe HS
- Diva V-4PRI/E1/T1-120 PCIe HS
- Diva V-4PRI/E1/T1-120 PCIe FS
- Diva V-8PRI/E1/T1-240 PCIe FS

Note: "HS" stands for the half size and "FS" for the full size board format.

CHAPTER 2

Preparing the Dialogic® Diva® Media Boards

To use your Diva Media Board with the Dialogic® Diva® softSS7 software, you need to install the Dialogic® Diva® System Release WIN Software first. You can download the files for installing the software from the following Dialogic web site:

http://www.dialogic.com/products/tdm_boards/system_release_software/Diva_for_Windows_2000.htm?dl=1®ID=6628

The online Diva System Release WIN Software Reference Guide provides help for the installation of the software. You can download it from the following Dialogic web site:

<http://www.dialogic.com/manuals/>

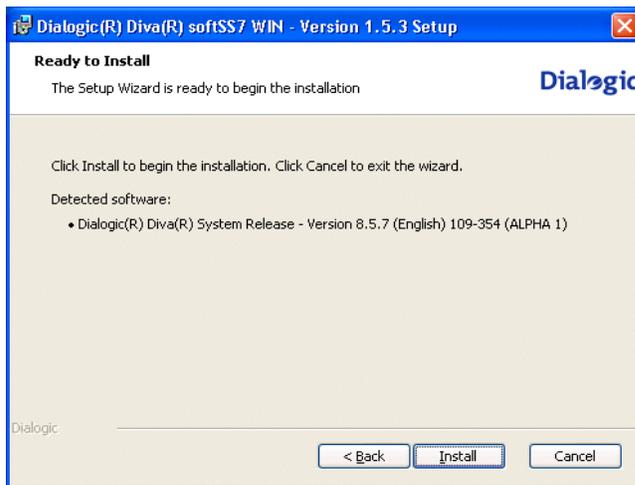
After the successful installation of the Dialogic® Diva® drivers, you can install the Diva softSS7 software add-on. See [Installing the Dialogic® Diva® softSS7 Software](#) on page 11 for more information.

CHAPTER 3

Installing the Dialogic® Diva® softSS7 Software

After you installed the Dialogic® Diva® System Release WIN Software as described in [Preparing the Dialogic® Diva® Media Boards](#) on page 10, you may install the Diva softSS7 software as described below:

1. Click **Start > Programs > Dialogic Diva > Install softSS7**.
2. The Diva softSS7 software welcome screen appears. Click **Next** to continue with the installation.
3. The **End-User Licence Agreement** box appears. Read the license agreement carefully. You need to accept it in order to install the drivers.
4. The **Ready to Install** box appears and displays information on the detected software.



Click **Install** to install the Diva softSS7 software.

5. After the installation is complete, the **Completing the Diva softSS7 for Windows** box appears. Click **Finish** to complete the installation. Restart your computer if you are prompted to do so.

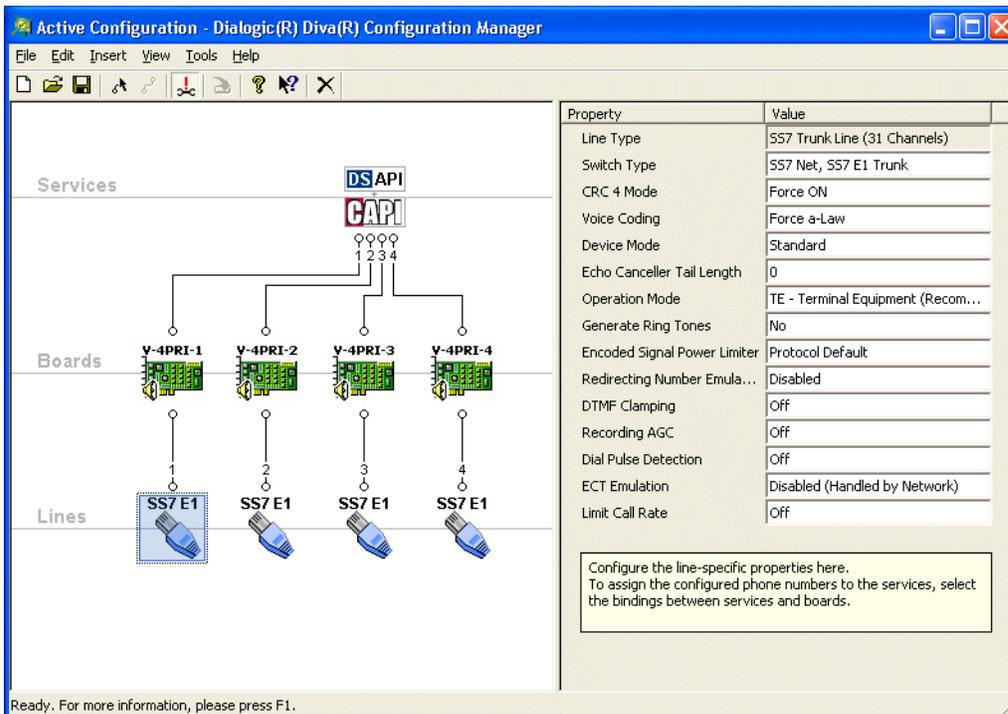
You can now configure the Diva softSS7 software as described in [Software Configuration](#) on page 12.

CHAPTER 4

Software Configuration

After you installed the Dialogic® Diva® softSS7 software as described in [Installing the Dialogic® Diva® softSS7 Software](#) on page 11, open the Dialogic® Diva® Configuration Manager to make some necessary changes.

1. Click **Start > Programs > Dialogic Diva > Configuration Manager**.
2. To enable the SS7 protocol, select the line and set the property **Switch Type** to **SS7 Net, SS7 E1 Trunk**. Depending on your network, you can either switch **CRC 4 Mode** to **Force ON** or to **Force OFF**. If the network provides the clock for the signaling, the **Operation Mode** should be set to **TE - Terminal Equipment (Recommended)**. Leave the rest of the settings at their default values.



3. Save your configuration. To do so, click **File > Save**, then go to the directory where you want to save the file, enter a name for the configuration file and click **Save**.
4. Activate your configuration. To do so, click **File > Activate**. Restart your PC when you are prompted to do so.

Test the Dialogic® Diva® Media Board

After the restart of the system, plug the 2MB trunk into one port of your Diva Media Board. If the red LED of this port is turned off, your configuration is working properly from the hardware point of view. If the red LED remains lit, you need to verify the configuration with help of the Dialogic® Diva® Configuration Manager or you need to make sure that the other end of the cable is properly connected to the end-point.

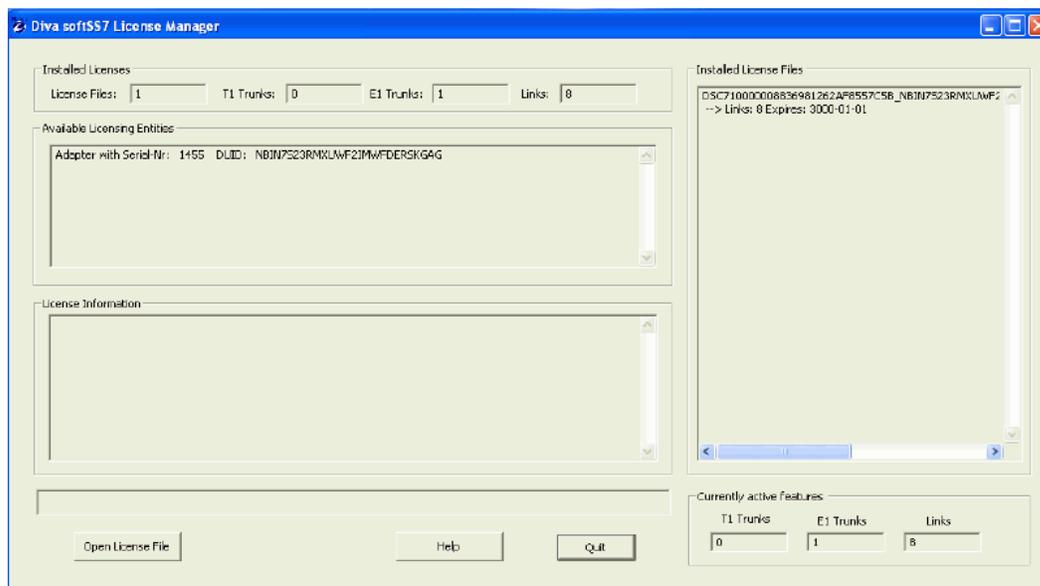
Loopback test

If your Diva Media Board has various ports or you have various Diva Media Boards installed, you can also do a loopback test. To do so, plug the loopback cable in the ports you want to test. If the red LED is turned off, your configuration is working properly on a hardware/electrical level. If they remain lit, you need to verify the configuration with help of the Diva Configuration Manager.

Activate the license

If you received a Proof of Purchase Code (PPC) for the Dialogic® Diva® softSS7 software instead of a license file from Dialogic Corporation, you need to activate your license yourself via the Dialogic web portal.

1. Open the following web site: <http://www.dialogic.com/activate>.
2. Follow the instructions on the web site.
3. If you are asked to enter your Device Unique ID (DUID), obtain this number as follows:
 - Click **Start > Programs > Diva softSS7 > Diva softSS7 License Manager**.



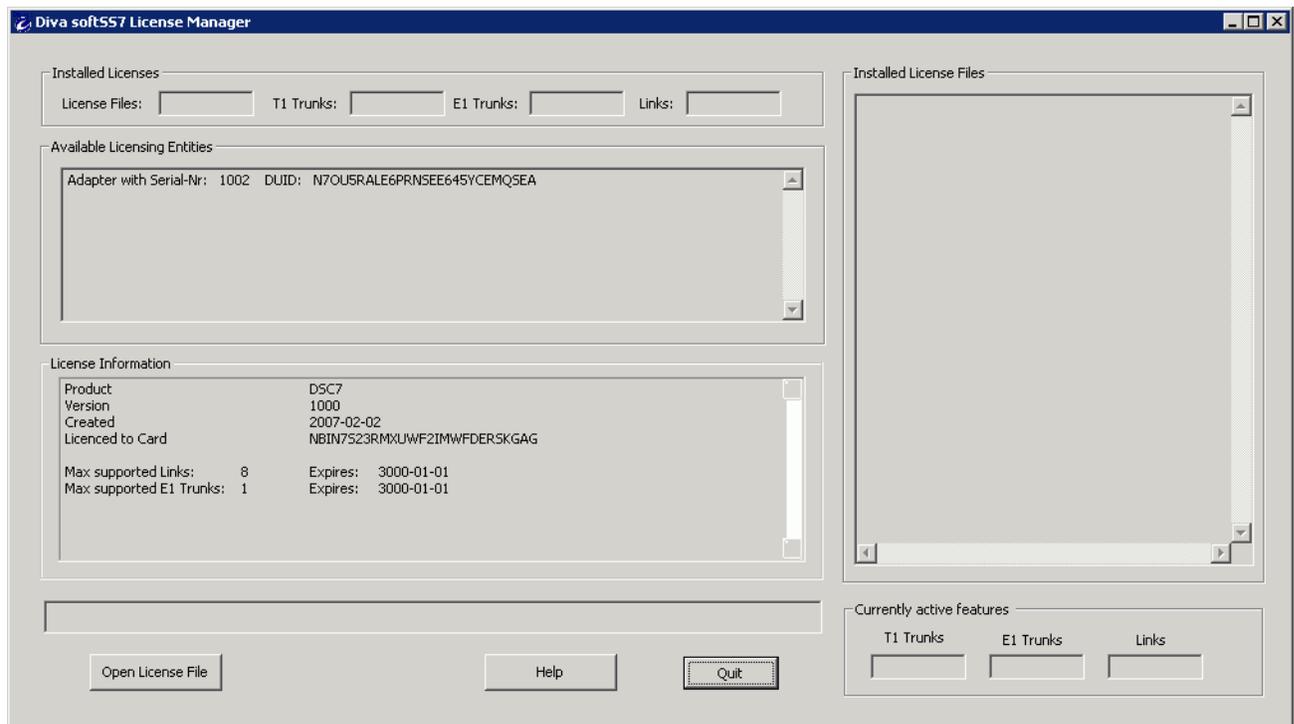
- The serial number of the installed Diva Media Boards and the Device Unique ID are displayed under **Available Licensing Entities**.
4. Copy and paste the Device Unique ID from the Diva softSS7 License Manager into the web site.
 5. Follow the remaining instructions.
 6. The license file will be generated and sent to the email address you entered.

Install the license file

The license file you receive as an attachment of an email looks similar to this example:
SC71000_000093_N13ZC4VYX22PR4NHG3UVDP1T2AJ.lic

1. Copy the license file to the computer where you installed the Dialogic® Diva® softSS7 software.
2. Click **Start > Programs > Diva softSS7 > Diva softSS7 License Manager**.
3. Click **Open License File** and go to the directory where your file is stored. Select the license file and click **Open**.
4. In the License Manager window, click **Install License File** to copy and install the license file into the Diva softSS7 software directory.

5. All information regarding the license are displayed under **License Information**.



6. Click **Quit** to close the Diva softSS7 License Manager.

Change the Dialogic® Diva® softSS7 software configuration file

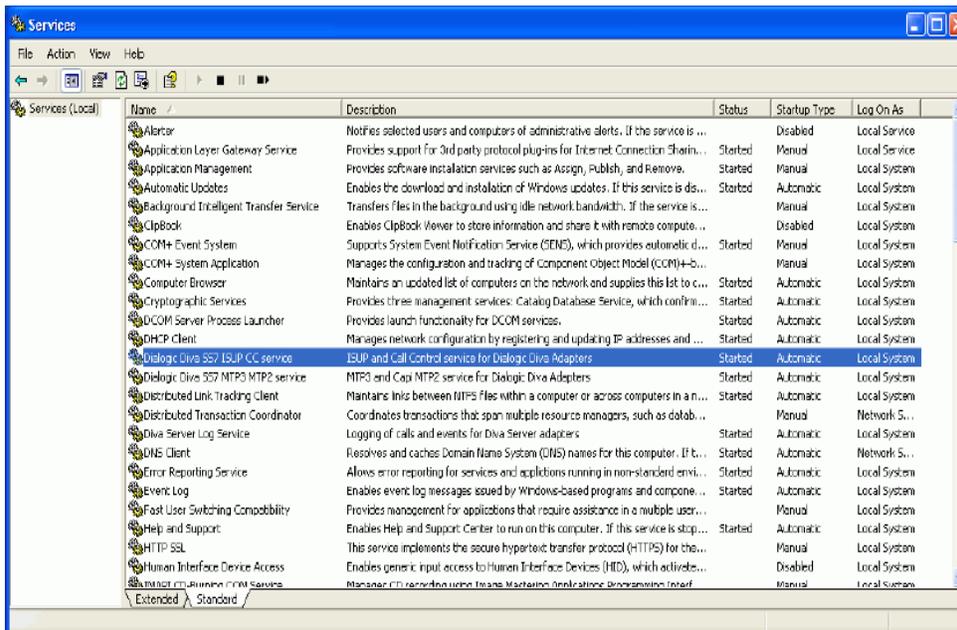
A default configuration file is installed with the Diva softSS7 software package. This configuration file called "divaSS7.cfg" is text based. You need to change the configuration file and enter your own SS7 configuration parameters. To do so, open the configuration file via: **Start > Programs > Diva softSS7 > Edit Diva softSS7 Configuration File**. See the [Appendix](#) on page 22 for a more detailed description of this file. If the Diva softSS7 software was configured before that update, the configuration from the former version will be loaded.

CHAPTER 5

Starting the Dialogic® Diva® softSS7 Software

After you installed the Diva softSS7 software and the license file and made the necessary changes to the divaSS7.cfg configuration file, you can start the Diva softSS7 software.

1. Click **Start > Programs > Diva softSS7 > Start SS7 Services**.
2. If an error message appears, you might have an error in your DivaSS7.cfg configuration file or a license problem. Verify your configuration and license file again.
3. To stop the services, click **Start > Programs > Diva softSS7 > Stop SS7 Services**.
4. To see the services running, click **Start > Control Panel > Administrative Tools > Services**.



5. The default start-up settings for the Dialogic Diva softSS7 services are **Automatic**. This means that Diva softSS7 software will start automatically after a restart of the system. You can change this as follows:
 - Select the service you want to change, right-click it and select **Properties**.
 - In the windows that opens select under **Startup type** the type you need.

Verify if the Dialogic® Diva® softSS7 software is running

To verify if the Diva softSS7 software starts up properly, you can use the following command in a command line box:

```
ditrace -p | find " S-"
```

This command shows the start-up of MTP3 and ISUP and all signaling link status related events, for example when a link goes down or a point code is unreachable.

```

Administrator: Command Prompt
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.

C:\Users\labor>dirtrace -p ! Find "S-"
16:12:58.223 0 L 12 S-MTP23: VerifySS7Licence success
16:12:58.229 0 L 12 S-MTP23: Dialogic Diva SS7 MTP3 Capi MTP2 service (1.5.0.117) started
16:12:58.239 0 L 12 S-CMPT2: CONFIGURATION for Link 1#1:
16:12:58.239 0 L 12 S-CMPT2: MTP2 Id: 0
16:12:58.239 0 L 12 S-CMPT2: Log Link Id: 1
16:12:58.239 0 L 12 S-CMPT2: cfm Controller: 1
16:12:58.239 0 L 12 S-CMPT2: serial: 5-1
16:12:58.239 0 L 12 S-CMPT2: timeslot: 16
16:12:58.239 0 L 12 S-CMPT2: mode: normal
16:12:58.254 0 L 12 S-CMPT211: Changing state to OUT_OF_SERVICE
16:12:58.254 0 L 12 S-CMPT211: RR - MTP2_T0_MTP3_CongestionLevelChange
16:13:04.301 1 L 12 S-ISUPCC: VerifySS7Licence success
16:13:04.301 1 L 12 S-ISUP-CC: Dialogic Diva SS7 ISUP CC service (1.5.2.202) started
16:13:04.301 1 L 12 S-CC: CONFIGURATION:
16:13:04.301 1 L 12 S-CC: No USig Controller: 1
16:13:04.301 1 L 12 S-CC: Log Controller: 1
16:13:04.301 1 L 12 S-CC: Serial: 5-1
16:13:04.301 1 L 12 S-CC: Law: asLaw
16:13:04.301 1 L 12 S-CC: Initial State: PAUSED
16:13:04.301 1 L 12 S-CC: Number of Terms: 30
16:13:04.301 1 L 12 S-CC: CIG: 1 OPC: 130 DPC: 129 timeslot: 1 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 2 OPC: 130 DPC: 129 timeslot: 2 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 3 OPC: 130 DPC: 129 timeslot: 3 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 4 OPC: 130 DPC: 129 timeslot: 4 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 5 OPC: 130 DPC: 129 timeslot: 5 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 6 OPC: 130 DPC: 129 timeslot: 6 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 7 OPC: 130 DPC: 129 timeslot: 7 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 8 OPC: 130 DPC: 129 timeslot: 8 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 9 OPC: 130 DPC: 129 timeslot: 9 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 10 OPC: 130 DPC: 129 timeslot: 10 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 11 OPC: 130 DPC: 129 timeslot: 11 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 12 OPC: 130 DPC: 129 timeslot: 12 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 13 OPC: 130 DPC: 129 timeslot: 13 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 14 OPC: 130 DPC: 129 timeslot: 14 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 15 OPC: 130 DPC: 129 timeslot: 15 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 16 OPC: 130 DPC: 129 timeslot: 16 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 17 OPC: 130 DPC: 129 timeslot: 17 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 18 OPC: 130 DPC: 129 timeslot: 18 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 19 OPC: 130 DPC: 129 timeslot: 19 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 20 OPC: 130 DPC: 129 timeslot: 20 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 21 OPC: 130 DPC: 129 timeslot: 21 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 22 OPC: 130 DPC: 129 timeslot: 22 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 23 OPC: 130 DPC: 129 timeslot: 23 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 24 OPC: 130 DPC: 129 timeslot: 24 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 25 OPC: 130 DPC: 129 timeslot: 25 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 26 OPC: 130 DPC: 129 timeslot: 26 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 27 OPC: 130 DPC: 129 timeslot: 27 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 28 OPC: 130 DPC: 129 timeslot: 28 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 29 OPC: 130 DPC: 129 timeslot: 29 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 30 OPC: 130 DPC: 129 timeslot: 30 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC: CIG: 31 OPC: 130 DPC: 129 timeslot: 31 block state:0x0000 (UNBLK) ENABLED BOTH
16:13:04.301 1 L 12 S-CC:01/: controller mapping: serial=5-1 log=/ log:CAPI (5) sys:MCMT141
16:13:04.317 1 L 12 S-CC:01/: setTrunkNewLogHUResourceUnavail - from 0111:1111:1111:1111:0111:1111:1111:1111 to 000300:0000:
16:13:04.322 1 L 12 S-CC:01/: H event_notify activated
16:13:04.322 1 L 12 S-MTP23: ntp3_prov - self point code OPC:130 Type:"Primary FC"
16:13:04.322 1 L 12 S-MTP23: ntp3_prov - destination DPC:129 Type:"adj broadcast disabled, non mated STP"
16:13:04.322 0 L 12 S-ISUP-CC: isup_prov - OPC:130 DPC:129 Start-CIG:1 Num.CIG:15
16:13:04.322 1 L 12 S-MTP23: ntp3_prov - link OPC:130, DPC:129 ELC:0, MTP2 Id:0, Log_data link Id:1 Type:"0"
16:13:04.322 0 L 12 S-ISUP-CC: isup_prov - OPC:130 DPC:129 Start-CIG:17 Num.CIG:15
16:13:04.322 1 L 12 S-MTP23: ntp3_prov - linkset OPC:130, DPC:129, num. links:1, num. norml. links:1
    
```

CHAPTER 6

Tracing

With the Dialogic® Diva® softSS7 software you can collect trace information with static tracing or dynamic tracing as described below.

Static tracing

Trace information will be written via the standard Dialogic® Diva® trace facilities. To enable tracing for the Diva softSS7 software you have to make sure that you have the following entries in the "divaSS7.cfg" file:

```
ISUP_CC_DEBUG_MASK 0x00000007 # set to STATUS|ERROR|WARN
MTP3_MTP2_DEBUG_MASK 0x00000007 # set to STATUS|ERROR|WARN
```

See the [Appendix](#) on page 22 for a full description of the debug mask. If you need to make changes to the "divaSS7.cfg" file, you need to stop and start the Diva softSS7 software, after the configuration file is saved.

To do so, click **Start > Programs > Diva softSS7 > Stop SS7 Services** and then **Start > Programs > Diva softSS7 > Start SS7 Services**.

Now you can use the Dialogic® Diva® Diagnostic Tool to create a trace. See [Dialogic® Diva® Diagnostics tool](#) on page 18 for more information.

Dynamic tracing

With the Dialogic® Diva® softSS7 software it is possible to enable and disable tracing dynamically. You can use the specially provided batch files for this: `setTraceMaskISUPCC.bat` as shown in the first graphic and `setTraceMaskMTP.bat` as shown in the second graphic. These batch files are located under: `C:\Program Files\Diva Server SoftSS7`

```

C:\Program Files\Diva Server SoftSS7>setTraceMaskISUPCC.bat
-----
current:
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1011
-w-----hit-[Debug\debug_mask .....] = 0x3ff
-----
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1011
ERROR: invalid parameter
-----
new:
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1011
-w-----hit-[Debug\debug_mask .....] = 0x3ff
-----
C:\Program Files\Diva Server SoftSS7>setTraceMaskISUPCC.bat 0x0
-----
current:
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1011
-w-----hit-[Debug\debug_mask .....] = 0x3ff
-----
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1011
-----
new:
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1011
-w-----hit-[Debug\debug_mask .....] = 0x0
-----
C:\Program Files\Diva Server SoftSS7>_

```

```

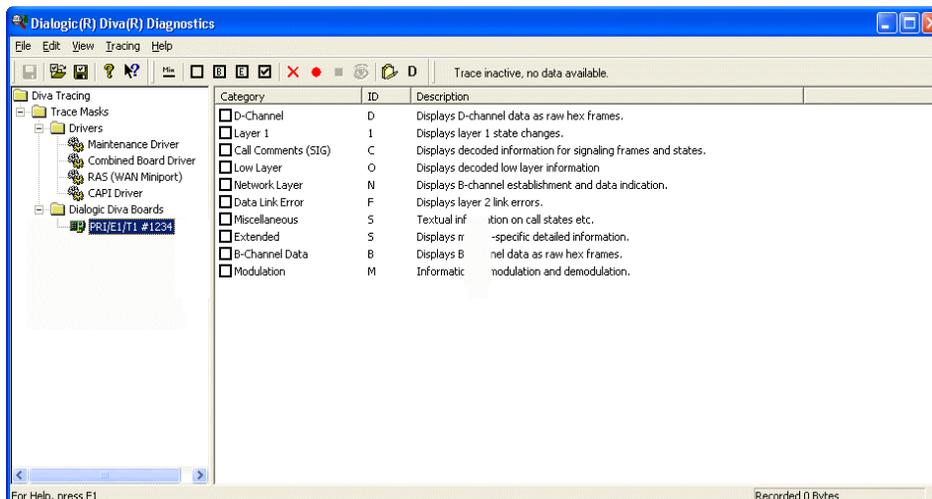
C:\Program Files\Diva Server SoftSS7>setTraceMaskMTP.bat
-----
current:
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1010
-w-----hit-[Debug\debug_mask .....] = 0x0
-----
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1010
ERROR: invalid parameter
-----
new:
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1010
-w-----hit-[Debug\debug_mask .....] = 0x0
-----
C:\Program Files\Diva Server SoftSS7>setTraceMaskMTP.bat 0x3ff
-----
current:
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1010
-w-----hit-[Debug\debug_mask .....] = 0x0
-----
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1010
-----
new:
Management Interface utility for Diva cards
BUILD (local-Feb 2 2007-14:40:34)
Copyright (c) 1991-2003 Eicon Networks
CONTROLLER: 1010
-w-----hit-[Debug\debug_mask .....] = 0x3ff
-----
C:\Program Files\Diva Server SoftSS7>_

```

After setting the trace masks for the ISUP and MTP processes you can use the Diva Diagnostics tool to start your tracing as described below.

Dialogic® Diva® Diagnostics tool

Now you can use the Diva Diagnostics tool to create a trace. To open the tool, click **Start > Programs > Dialogic Diva > Diagnostics**. If you want to trace only on SS7 level, you need to disable all other categories as shown below.



For more information on how to create a trace file see the Dialogic® Diva® Diagnostics Online Help file (DivaTrace.chm).

CHAPTER 7

Uninstalling

To uninstall the Dialogic® Diva® softSS7 software do the following:

1. Click **Start > Control Panel > Add or Remove Programs**.
2. Select the Diva softSS7 software and click **Remove**.
3. Your Diva softSS7 software is now uninstalled.
4. License files and configuration files are not removed. They are saved and stay in the Diva softSS7 software folder under C:\Program files\Diva Server SoftSS7.

CHAPTER 8

Issues While Running the Dialogic® Diva® softSS7 Software

If you have any problems with the Diva softSS7 software, please contact Dialogic support at <http://www.dialogic.com/support/contact/>.

Note: When contacting support, you will be asked to provide traces of your Diva softSS7 software application as well as of the CAPI and Dialogic® Diva® Media Board. For more information, see [Tracing](#) on page 17.

Glossary

APC	Adjacent Point Code
CAPI	COMMON-ISDN-API: CAPI - the ISDN interface
CIC	Circuit Identification Code
DPC	Destination Point Code
ETSI	European Telecommunications Standards Institute
ISUP	ISDN User Part
ITU-T	International Telecommunication Union
LPC	Local Point Code this is the same as the OPC
MTP2	Message Transfer Part level 2
MTP3	Message Transfer Part level 3
OPC	Originator Point Code
SDK	Software Development Kit
SEP	Signaling End Point
SLC	Signaling Link Code
SLS	Signaling Link Selection
SS7	Signaling System Number 7
STP	Signal Transfer Point

Appendix

Explanation of the divaSS7.cfg file

It is necessary to configure the Dialogic® Diva® softSS7 software via file editing. Below you find the default divaSS7.cfg file that is delivered with the Diva softSS7 software:

```
#-----
# STACK_STANDARD_TYPE : Specifies the variant of the stack
# ITU= 1, ETSI=2
#-----
STACK_STANDARD_TYPE          1
#-----
# NETWORK_INDICATOR : Specifies the network indicator of ISUP and MTP3
# International 0 = 0, International 1 / SPARE = 1,
# National 0 = 2, National 1 (Reserved for national use) = 3
#-----
NETWORK_INDICATOR           2
#-----
# MTP3 and ISUP are communicating via (local) sockets with each other
# -> therefore the below paragraph is required
# MTP3_IP_ADDRESS            - IP of MTP3
# ISUP_IP_ADDRESS            - IP of ISUP
# MTP3_SERVER_PORT           - MTP3 server port to which the ISUP client is connecting
# ISUP_SERVER_PORT           - ISUP server port to which the MTP3 client is connecting
# MTP3_CLIENT_TO_ISUP_PORT   - MTP3 client port which connects to the ISUP server
# ISUP_CLIENT_TO_MTP3_PORT   - ISUP client port which connects to the MTP3 server
# all entries are required
#-----
MTP3_IP_ADDRESS               127.0.0.1
MTP3_SERVER_PORT              13000
MTP3_CLIENT_TO_ISUP_PORT      13100
ISUP_IP_ADDRESS               127.0.0.1
ISUP_SERVER_PORT              14000
ISUP_CLIENT_TO_MTP3_PORT      14100
#-----
# DEBUG MASKS
# set debug mask according to the definitions below
# debug information is written via standard log mechanism
# STATUS 0x00000001 - output STATUS (marked with 'S-')
# ERROR  0x00000002 - output ERRORS (marked with 'E-')
# WARN   0x00000004 - output WARNINGS (marked with 'W-')
# INFO   0x00000008 - output info (marked with 'I-')
# WRAPPER 0x00000010 - output details of the stack encapsulation (marked with 'A-')
# DETAIL  0x00000020 - output detail (creates a lot of output) (marked with 'V-')
# DATA   0x00000040 - output data (for data messages) (marked with 'D-')
# PERROR  0x00000080 - output pointer errors (marked with 'R-')
# NCCI_STM 0x00000100 - output Capi NCCI statemachine (marked with 'N-')
# PLCI_STM 0x00000200 - output Capi PLCI statemachine (marked with 'P-')
# CONT_STM 0x00000400 - output Capi Controller statemachine (marked with 'C-')
# MALLOC  0x00000800 - output memory allocation errors
#                                     (creates a lot of output, do not use if not requested)
#                                     (marked with 'M-')
# TIMER   0x00001000 - output timer handling
#                                     (creates a lot of output, do not use if not requested)
#                                     (marked with 'T-')
# in general a debug mask set to 0x00000007 should be sufficient
#-----
ISUP_CC_DEBUG_MASK 0x00000007 # set to STATUS|ERROR|WARN
MTP3_MTP2_DEBUG_MASK 0x00000007 # set to STATUS|ERROR|WARN
#-----
#-----
# Controller configuration
# This paragraphs were changed from 1.2 to 1.5
# The 'old' style configuration will still work
# Using the 'old' style will cause the following Warning on startup:
# W-CONFIGURATION: cc_prov: no Controller Configuration found - assuming old format
# W-                                     This may cause fatal errors if your DIVA server adapter
# W-                                     numbering changes
# W-                                     (e.g. adapter was not found while rebooting)
#
```

```

# Reason for the change:
# The 'old' configuration may cause fatal errors.
# In the 'old' configuration the CAPI adapter number was used to
# identify the DIVA server controller/trunk.
# The mapping between the CAPI adapter number and the physical
# DIVA server controller/trunk is not hard wired.
# When adding an additional, removing or crash of a DIVA server
# controller/trunk the mapping between CAPI adapter number
# DIVA server controllers/trunks may change.
# Even on startup the DIVA server controllers/trunks may be detected
# in a different sequence and therefore the mapping may change.
# The only secure way to identify a DIVA server controller/trunk is
# via serial number.
#
#       There are different formats for the serial numbers:
#       1234      - single controller
#                 or first controller of a multispan DIVA server card
#                 running on LINUX
#
#       1234-1    - serial numbers of controllers on a multispan card
#       1234-2    LINUX would not display 1234-1 but 1234
#       1234-3    -> the serial numbers in the configuration of Linux
#       1234-4    would be 1234, 1234-2, 1234-3, 1234-4
#
#       Windows adds an additional number identifying the DIVA server
#       card type: 1234-72  -> PRI v3.0 E1/T1 8M
#                       1234-1-85 -> first controller on Diva Server 4PRI/E1/T1
#       The cardtype is ignored -> please do not add the type to the
#       configuration of the serial
#
# How to obtain the serial number of your adapters:
#   Windows: - open the Diva Server Configuration Manager
#             - click onto the corresponding adapter symbol
#             - in the properties You will find the serial number
#             - for multispan adapters you have to append the 'Lines'
#               after the serial '-1', '-2', ...
#   Linux:   run the tool adapter_info.sh and the serial numbers of the
#             DIVA Server controllers will be displayed
#
# Note: to enable the handling of the serials (windows/linux), serial
#       numbers without the 'port'-number (sub adapter number) will have appended
#       automatically the '-1'
#-----
NUM_CONTROLLER 1
#-----
#LogControllerNum local law SerialN
CONTROLLER_CONFIG_START
1 local A 1300
CONTROLLER_CONFIG_END
#-----

#-----
#CC_PROVISIONING
#-----
# number of terminals configured/used
CC_NUM_TERMINALS 30
#-----
# length called party number
CC_LENGTH_CALLED_PARTY_NUMBER_START
0
CC_LENGTH_CALLED_PARTY_NUMBER_END
#-----
# initial state 0-PAUSE 1-ACTIVE
CC_INITIAL_STATE 0
#-----
# Due to the increased functionality of the blocking, the configuration of
# the blocking is enhanced
#
# LSB - bit 0 0x01 local maintenance blocking (by operator) (Note1)
#       bit 1 0x02 local hardware blocking (by operator) (Note2)
#       bit 2 reserved
#       bit 3 reserved
#       bit 4 0x10 follow remote blocking (Note3)

```

```

#      bit 5      reserved
#      bit 6 0x40  inbound calls disabled          (Note4)
# MSB  bit 7 0x80  outbound calls disabled        (Note4)
#
# All these values may be superseded by management when
# ISUP/CallControl is started
# Note1: local maintenance blocking may be set/reset additionally via
#       DIVA server adapter management and when follow remote is set
# Note2: local hardware blocking is as well set/reset when Layer 1 of
#       DIVA server adapter is Down OR the CAPI connection to the
#       DIVA server adapter is lost (no path to the applications)
# Note3: When follow remote is set, local maintenance blocking will be
#       set/reset when blocking/unblocking is received from the
#       remote peer
# Note4: The disabling of in-/outbound calls can NOT be signaled to
#       the remote peer.
#       Therefore be sure, that the administrator of the peer is
#       aware if the disabling is set.
#       Even if those values can be set/reset when started, but
#       it does not make sense to do it, other than for testing purpose.
#
# These bits may be combined
# Examples: 0x11 - local maintenance blocking is set,
#           follow remote is set
#           0xC0 - inbound and outbound calls are disabled
#
# You may set those values as well decimal:
# Examples: 0x11 corresponds to 17
#           0xC0 corresponds to 192
#-----
#CIC OPC DPC LogContrNum Timeslot  Blocked
CC_TERMINAL_CONFIG_START
 1  129 130      1      1      0
 2  129 130      1      2      0
 3  129 130      1      3      0
 4  129 130      1      4      0
 5  129 130      1      5      0
 6  129 130      1      6      0
 7  129 130      1      7      0
 8  129 130      1      8      0
 9  129 130      1      9      0
10  129 130      1     10      0
11  129 130      1     11      0
12  129 130      1     12      0
13  129 130      1     13      0
14  129 130      1     14      0
15  129 130      1     15      0
17  129 130      1     17      0
18  129 130      1     18      0
19  129 130      1     19      0
20  129 130      1     20      0
21  129 130      1     21      0
22  129 130      1     22      0
23  129 130      1     23      0
24  129 130      1     24      0
25  129 130      1     25      0
26  129 130      1     26      0
27  129 130      1     27      0
28  129 130      1     28      0
29  129 130      1     29      0
30  129 130      1     30      0
31  129 130      1     31      0
CC_TERMINAL_CONFIG_END
#-----
#CC_PROVISIONING_END
#-----

```

```

#-----
#ISUP_PROVISIONING
#-----
ISUP_CIC_CONFIG_START
#   Status:  Delete = 0, Add = 1
ISUP_CIC_CONFIG
      OPC      DPC      START_CIC      NUM_OF_CICS
      129      130      1              15
      129      130      17              15
ISUP_CIC_CONFIG_END
#-----
# Network Protection timer (ITU-T Q.764 T7)
# Started after the transmission of an IAM. Stopped when ACM is received.
# On expiry the connection is released.
# ITU-T Q.764 - Standard: 20-30 sec
# Implementation default: 20 sec
# If You require a different value, uncomment line and change value according
# ISUP_T7 20
#-----
#ISUP_PROVISIONING_END
#-----

#-----
#MTP3_PROVISIONING
#-----
MTP3_SELF_POINT_CODE_START
# PC: Self Point Code
# Type: Primary PC = 81, SECONDARY = 82 CAPABILITY CODE =83
# Point code of MTP3
# PC Nodecap Status
MTP3_SELF_POINT_CODE
#OPC      SPC_TYPE
129      81
MTP3_SELF_POINT_CODE_END
#-----
MTP3_DEST_POINT_CODE_START
# Destination Type Bitwise Usage:
#   Bit      Value      Definition
# Most Significant Bit 0Destination is DPC
#   1st Bit      1(0x01)      Adj DPC
#   2nd Bit      1(0x02)      Rem DPC
#   3rd Bit      0/1(0/0x04)  Brdcast_opt enable/disable
#   4th Bit      0/1(0/0x08)  dpc is mated_stp/non mated
# Status:  Delete = 0, Add = 1
# DPC      Type  sls      Status
#-----
MTP3_DEST_POINT_CODE
DPC      Type  sls
130      1      1
MTP3_DEST_POINT_CODE_END
#-----
MTP3_LINK_START
# LINK_TYPE : Link Type A ...F , Value 1,2 ...6
MTP3_LINK
OPC  DPC  SLC  MTP2_ID  LOG_DATA_LINK_ID  LINK_TYPE  ROUTE_PARAM_LOG_LINK_ID
129  130  0   0        1              1              1
MTP3_LINK_END
#-----
MTP3_LINK_SET_START
#Put the information in following order
# (1)OPC (2)DPC (3)Num_Links (4)Num_Normal_Links
# (5)Broadcast_Option (6)Linkset_Option
# (7){Log_Link_Id, Link_State, Link_Priority} for each link
# (8) Log_Link_Set_Id
# Priority : 1 to XX
# LinkState : Active = 0, Inactive = 1
# Status:  Delete = 0, Add = 1
# BRDCAST_OPT:  enable: 0, disable: 1
MTP3_LINK_SET
opc dpc nlks nrml_lks bd_opt lset_opt lset_id lk_id lk_state lk_prio
129 130 1 1 0 0 1 1 0 0
MTP3_LINK_SET_END
#-----

```

```

MTP3_ROUTE_START
# ROUTE_TYPE Bitwise Usage:
#   Bit          Value          Definition
# Most Significant Bit 0/1      Destination is Route/CLUSTER Route
#   Ist Bit       1/2          Direct/Indirect Route
# DPC is a cluster if the route is a cluster route

MTP3_ROUTE
OPC  DPC  ROUTE_TYPE  LOG_LINKSET_ID  PRIORITY  ROUTE_PARAM  LOG_ROUTE_ID
129 130   1           1             1         1           1
MTP3_ROUTE_END
#-----
# Overall MTP restart timer (ITU-T Q.704 T20)
# Started when first link of linkset is available.
# Time required to do the routing update.
# On expiry TRA message (traffic restart allowed) will be transmitted
# ITU-T Q.704 - Standard: 59-61 sec
# Implementation default: 59 sec
# If You require a different value, uncomment line and change value according
# MTP3_T20 59
#-----
#MTP3_PROVISIONING_END
#-----
#-----
#MTP2_PROVISIONING
#-----
# number of MTP2 signaling links
MTP2_NUM_LINKS 1
#-----
# Configuration of MTP2 links:
#
# MTP2_LOG_LINK_ID - MTP2 Link Id
# MTP2_ID          - MTP2 Id
# MTP2_CONTROLLER - identifies the controller on which the link is set up
#                  (log-controller number)
# MTP2_TIMESLOT   - defines the timeslot of the link
# MTP2_MODE        - defines the MTP2 mode
#                  0 - normal mode
#                  1 - preventive mode
#-----
#MTP2_LOG_LINK_ID  MTP2_ID  MTP2_CONTROLLER  MTP2_TIMESLOT  MTP2_MODE
MTP2_LINK_CONFIG_START
  1           0           1           16           0
MTP2_LINK_CONFIG_END
#-----
#MTP2_PROVISIONING_END
#-----

```

Back to Back test

For the back-to-back test you need two systems. Below you will find two divaSS7.cfg configuration files for a back-to-back test. It has 1 SS7 link and 30 CICs.

First divaSS7.cfg file

```

#-----
# STACK_STANDARD_TYPE : Specifies the variant of the stack
# ITU= 1, ETSI=2
#-----
STACK_STANDARD_TYPE          1
#-----
# NETWORK_INDICATOR : Specifies the network indicator of ISUP and MTP3
# International 0 = 0, International 1 / SPARE = 1,
# National 0 = 2, National 1 (Reserved for national use) = 3
#-----
NETWORK_INDICATOR           2
#-----
# MTP3 and ISUP are communicating via (local) sockets with each other
# -> therefore the below paragraph is required
# MTP3_IP_ADDRESS            - IP of MTP3
# ISUP_IP_ADDRESS            - IP of ISUP
# MTP3_SERVER_PORT           - MTP3 server port to which the ISUP client is connecting
# ISUP_SERVER_PORT           - ISUP server port to which the MTP3 client is connecting
# MTP3_CLIENT_TO_ISUP_PORT   - MTP3 client port which connects to the ISUP server
# ISUP_CLIENT_TO_MTP3_PORT   - ISUP client port which connects to the MTP3 server
# all entries are required
#-----
MTP3_IP_ADDRESS              127.0.0.1
MTP3_SERVER_PORT             13000
MTP3_CLIENT_TO_ISUP_PORT     13100
ISUP_IP_ADDRESS              127.0.0.1
ISUP_SERVER_PORT             14000
ISUP_CLIENT_TO_MTP3_PORT     14100
#-----
# DEBUG MASKS
# set debug mask according to the definitions below
# debug information is written via standard log mechanism
# STATUS 0x00000001 - output STATUS (marked with 'S-')
# ERROR  0x00000002 - output ERRORS (marked with 'E-')
# WARN   0x00000004 - output WARNINGS (marked with 'W-')
# INFO   0x00000008 - output info (marked with 'I-')
# WRAPPER 0x00000010 - output details of the stack encapsulation (marked with 'A-')
# DETAIL  0x00000020 - output detail (creates a lot of output) (marked with 'V-')
# DATA   0x00000040 - output data (for data messages) (marked with 'D-')
# PERROR  0x00000080 - output pointer errors (marked with 'R-')
# NCCI_STM 0x00000100 - output Capi NCCI statemachine (marked with 'N-')
# PLCI_STM 0x00000200 - output Capi PLCI statemachine (marked with 'P-')
# CONT_STM 0x00000400 - output Capi Controller statemachine (marked with 'C-')
# MALLOC  0x00000800 - output memory allocation errors
#           (creates a lot of output, do not use if not requested)
#           (marked with 'M-')
# TIMER   0x00001000 - output timer handling
#           (creates a lot of output, do not use if not requested)
#           (marked with 'T-')
# in general a debug mask set to 0x00000007 should be sufficient
#-----
ISUP_CC_DEBUG_MASK 0x00000007 # set to STATUS|ERROR|WARN
MTP3_MTP2_DEBUG_MASK 0x00000007 # set to STATUS|ERROR|WARN
#-----
#-----
# Controller configuration
#-----
NUM_CONTROLLER 1
#LogControllerNum local law SerialN
#-----
CONTROLLER_CONFIG_START
1 local A 1300
CONTROLLER_CONFIG_END
#-----
#-----
#CC_PROVISIONING
#-----
# number of terminals configured/used
CC_NUM_TERMINALS 30
#-----

```

```

# length called party number
CC_LENGTH_CALLED_PARTY_NUMBER_START
0
CC_LENGTH_CALLED_PARTY_NUMBER_END
#-----
# initial state 0-PAUSE 1-ACTIVE
CC_INITIAL_STATE 0
#-----
#CIC OPC DPC LogContrNum Timeslot   Blocked
CC_TERMINAL_CONFIG_START
  1  129 130      1      1      0
  2  129 130      1      2      0
  3  129 130      1      3      0
  4  129 130      1      4      0
  5  129 130      1      5      0
  6  129 130      1      6      0
  7  129 130      1      7      0
  8  129 130      1      8      0
  9  129 130      1      9      0
 10  129 130      1     10      0
 11  129 130      1     11      0
 12  129 130      1     12      0
 13  129 130      1     13      0
 14  129 130      1     14      0
 15  129 130      1     15      0
 17  129 130      1     17      0
 18  129 130      1     18      0
 19  129 130      1     19      0
 20  129 130      1     20      0
 21  129 130      1     21      0
 22  129 130      1     22      0
 23  129 130      1     23      0
 24  129 130      1     24      0
 25  129 130      1     25      0
 26  129 130      1     26      0
 27  129 130      1     27      0
 28  129 130      1     28      0
 29  129 130      1     29      0
 30  129 130      1     30      0
 31  129 130      1     31      0
CC_TERMINAL_CONFIG_END
#-----
#CC_PROVISIONING_END
#-----
#-----
#ISUP_PROVISIONING
#-----
ISUP_CIC_CONFIG_START
#   Status: Delete = 0, Add = 1
ISUP_CIC_CONFIG
      OPC      DPC      START_CIC      NUM_OF_CICS
      129      130         1          15
      129      130        17          15
ISUP_CIC_CONFIG_END
#-----
#ISUP_PROVISIONING_END
#-----
#-----
#MTP3_PROVISIONING
#-----
MTP3_SELF_POINT_CODE_START
# PC: Self Point Code
# Type: Primary PC = 81, SECONDARY = 82 CAPABILITY CODE =83
# Point code of MTP3
# PC Nodecap Status
MTP3_SELF_POINT_CODE
#OPC      SPC_TYPE
129      81
MTP3_SELF_POINT_CODE_END
#-----
MTP3_DEST_POINT_CODE_START
# Destination Type Bitwise Usage:
#   Bit      Value      Definition

```

```

# Most Significant Bit 0           Destination is DPC
#   1st Bit           1(0x01)      Adj DPC
#   2nd Bit           1(0x02)      Rem DPC
#   3rd Bit           0/1(0/0x04)  Brdcast_opt enable/disable
#   4th Bit           0/1(0/0x08)  dpc is mated_stp/non mated
# Status: Delete = 0, Add = 1
# DPC Type Sls Status
#-----
MTP3_DEST_POINT_CODE
DPC Type sls
130 1 1
MTP3_DEST_POINT_CODE_END
#-----

MTP3_LINK_START
# LINK_TYPE : Link Type A ...F , Value 1,2 ...6
MTP3_LINK
OPC DPC SLC MTP2_ID LOG_DATA_LINK_ID LINK_TYPE ROUTE_PARAM_LOG_LINK_ID
129 130 0 0 1 1 1
MTP3_LINK_END
#-----
MTP3_LINK_SET_START
#Put the information in following order
# (1)OPC (2)DPC (3)Num_Links (4)Num_Normal_Links
# (5)Broadcast_Option (6)Linkset_Option
# (7){Log_Link_Id, Link_State, Link_Priority} for each link
# (8) Log_Link_Set_Id
# Priority : 1 to XX
# LinkState : Active = 0, Inactive = 1
# Status: Delete = 0, Add = 1
# BRDCAST_OPT: enable: 0, disable: 1
MTP3_LINK_SET
opc dpc nlks nrml_lks bd_opt lset_opt lset_id lk_id lk_state lk_prio
129 130 1 1 0 0 1 1 0 0
MTP3_LINK_SET_END
#-----
MTP3_ROUTE_START
# ROUTE_TYPE Bitwise Usage:
# Bit Value Definition
# Most Significant Bit 0/1 Destination is Route/CLUSTER Route
# 1st Bit 1/2 Direct/Indirect Route
# DPC is a cluster if the route is a cluster route
MTP3_ROUTE
OPC DPC ROUTE_TYPE LOG_LINKSET_ID PRIORITY ROUTE_PARAM_LOG_ROUTE_ID
129 130 1 1 1 1
MTP3_ROUTE_END
#-----
#MTP3_PROVISIONING_END
#-----

#-----
#MTP2_PROVISIONING
#-----
# number of MTP2 signaling links
MTP2_NUM_LINKS 1
#-----
# Configuration of MTP2 links:
#
# MTP2_LOG_LINK_ID - MTP2 Link Id
# MTP2_ID - MTP2 Id
# MTP2_CONTROLLER - identifies the controller on which the link is set up
# (log-controller number)
# MTP2_TIMESLOT - defines the timeslot of the link
# MTP2_MODE - defines the MTP2 mode
# 0 - normal mode
# 1 - preventive mode
#-----
#MTP2_LOG_LINK_ID MTP2_ID MTP2_CONTROLLER MTP2_TIMESLOT MTP2_MODE
MTP2_LINK_CONFIG_START
1 0 1 16 0
MTP2_LINK_CONFIG_END
#-----
#MTP2_PROVISIONING_END
#-----

```

Second divaSS7.cfg file

```

#-----
# STACK_STANDARD_TYPE : Specifies the variant of the stack
# ITU= 1, ETSI=2
#-----
STACK_STANDARD_TYPE          1
#-----
# NETWORK_INDICATOR : Specifies the network indicator of ISUP and MTP3
# International 0 = 0, International 1 / SPARE = 1,
# National 0 = 2, National 1 (Reserved for national use) = 3
#-----
NETWORK_INDICATOR           2
#-----
# MTP3 and ISUP are communicating via (local) sockets with each other
# -> therefore the below paragraph is required
# MTP3_IP_ADDRESS            - IP of MTP3
# ISUP_IP_ADDRESS            - IP of ISUP
# MTP3_SERVER_PORT           - MTP3 server port to which the ISUP client is connecting
# ISUP_SERVER_PORT           - ISUP server port to which the MTP3 client is connecting
# MTP3_CLIENT_TO_ISUP_PORT   - MTP3 client port which connects to the ISUP server
# ISUP_CLIENT_TO_MTP3_PORT   - ISUP client port which connects to the MTP3 server
# all entries are required
#-----
MTP3_IP_ADDRESS              127.0.0.1
MTP3_SERVER_PORT             13000
MTP3_CLIENT_TO_ISUP_PORT     13100
ISUP_IP_ADDRESS              127.0.0.1
ISUP_SERVER_PORT             14000
ISUP_CLIENT_TO_MTP3_PORT     14100
#-----
# DEBUG MASKs
# set debug mask according to the definitions below
# debug information is written via standard log mechanism
# STATUS 0x00000001 - output STATUS (marked with 'S-')
# ERROR  0x00000002 - output ERRORS (marked with 'E-')
# WARN   0x00000004 - output WARNINGS (marked with 'W-')
# INFO   0x00000008 - output info (marked with 'I-')
# WRAPPER 0x00000010 - output details of the stack encapsulation (marked with 'A-')
# DETAIL  0x00000020 - output detail (creates a lot of output) (marked with 'V-')
# DATA   0x00000040 - output data (for data messages) (marked with 'D-')
# PERROR  0x00000080 - output pointer errors (marked with 'R-')
# NCCI_STM 0x00000100 - output Capi NCCI statemachine (marked with 'N-')
# PLCI_STM 0x00000200 - output Capi PLCI statemachine (marked with 'P-')
# CONT_STM 0x00000400 - output Capi Controller statemachine (marked with 'C-')
# MALLOC  0x00000800 - output memory allocation errors
#           (creates a lot of output, do not use if not requested)
#           (marked with 'M-')
# TIMER   0x00001000 - output timer handling
#           (creates a lot of output, do not use if not requested)
#           (marked with 'T-')
# in general a debug mask set to 0x00000007 should be sufficient
#-----
ISUP_CC_DEBUG_MASK 0x000003FF # set to STATUS|ERROR|WARN|INFO
MTP3_MTP2_DEBUG_MASK 0x000003FF # set to STATUS|ERROR|WARN
#-----
#-----
# Controller configuration
#-----
NUM_CONTROLLER 1
#-----
#LogControllerNum local law SerialN
CONTROLLER_CONFIG_START
1 local A 1455
CONTROLLER_CONFIG_END
#-----
#-----
#CC_PROVISIONING
#-----
# number of terminals configured/used
CC_NUM_TERMINALS 30
#-----

```

```

# length called party number
CC_LENGTH_CALLED_PARTY_NUMBER_START
0
CC_LENGTH_CALLED_PARTY_NUMBER_END
#-----
# initial state 0-PAUSE 1-ACTIVE
CC_INITIAL_STATE 0
#-----
# Note: the order of the CIC definition is changed to avoid collisions
#CIC OPC DPC LogContrNum Timeslot Blocked
CC_TERMINAL_CONFIG_START
31 130 129 1 31 0
30 130 129 1 30 0
29 130 129 1 29 0
28 130 129 1 28 0
27 130 129 1 27 0
26 130 129 1 26 0
25 130 129 1 25 0
24 130 129 1 24 0
23 130 129 1 23 0
22 130 129 1 22 0
21 130 129 1 21 0
20 130 129 1 20 0
19 130 129 1 19 0
18 130 129 1 18 0
17 130 129 1 17 0
15 130 129 1 15 0
14 130 129 1 14 0
13 130 129 1 13 0
12 130 129 1 12 0
11 130 129 1 11 0
10 130 129 1 10 0
9 130 129 1 9 0
8 130 129 1 8 0
7 130 129 1 7 0
6 130 129 1 6 0
5 130 129 1 5 0
4 130 129 1 4 0
3 130 129 1 3 0
2 130 129 1 2 0
1 130 129 1 1 0
CC_TERMINAL_CONFIG_END
#-----
#CC_PROVISIONING_END
#-----
#-----
#ISUP_PROVISIONING
#-----
ISUP_CIC_CONFIG_START
# Status: Delete = 0, Add = 1
ISUP_CIC_CONFIG
      OPC      DPC      START_CIC      NUM_OF_CICS
      130      129      1      15
      130      129      17      15
ISUP_CIC_CONFIG_END
#-----
#ISUP_PROVISIONING_END
#-----
#-----
#MTP3_PROVISIONING
#-----
MTP3_SELF_POINT_CODE_START
# PC: Self Point Code
# Type: Primary PC = 81, SECONDARY = 82 CAPABILITY CODE =83
# Point code of MTP3
# PC Nodecap Status
MTP3_SELF_POINT_CODE
PC      SPC_TYPE
130      81
MTP3_SELF_POINT_CODE_END
#-----
MTP3_DEST_POINT_CODE_START

```

```

# Destination Type Bitwise Usage:
#   Bit          Value          Definition
# Most Significant Bit  0          Destination is DPC
#   1st Bit          1(0x01)      Adj DPC
#   2nd Bit          1(0x02)      Rem DPC
#   3rd Bit          0/1(0/0x04) Brdcast_opt enable/disable
#   4th Bit          0/1(0/0x08) dpc is mated_stp/non mated

# Status: Delete = 0, Add = 1
# DPC      Type  Sls      Status
#-----
MTP3_DEST_POINT_CODE
DPC      Type  Sls
129      1      1
MTP3_DEST_POINT_CODE_END
#-----

MTP3_LINK_START
# LINK_TYPE : Link Type A ...F , Value 1,2 ...6
MTP3_LINK
OPC DPC SLC MTP2_ID LOG_DATA_LINK_ID LINK_TYPE ROUTE_PARAM_LOG_LINK_ID
130 129 0 0 1 1 1
MTP3_LINK_END
#-----
MTP3_LINK_SET_START
#Put the information in following order
# (1)OPC (2)DPC (3)Num_Links (4)Num_Normal_Links
# (5)Broadcast_Option (6)Linkset_Option
# (7){Log_Link_Id, Link_State, Link_Priority} for each link
# (8) Log_Link_Set_Id
# Priority : 1 to XX
# LinkState : Active = 0, Inactive = 1
# Status: Delete = 0, Add = 1
# BRDCAST_OPT: enable: 0, disable: 1
MTP3_LINK_SET
opc dpc nlks nrml_lks bd_opt lset_opt lset_id lk_id lk_state lk_prio
130 129 1 1 0 0 1 1 0 0
MTP3_LINK_SET_END
#-----
MTP3_ROUTE_START
# ROUTE_TYPE Bitwise Usage:
#   Bit          Value          Definition
# Most Significant Bit  0/1      Destination is Route/CLUSTER Route
#   1st Bit          1/2        Direct/Indirect Route
# DPC is a cluster if the route is a cluster route
MTP3_ROUTE
OPC DPC ROUTE_TYPE LOG_LINKSET_ID PRIORITY ROUTE_PARAM_LOG_ROUTE_ID
130 129 1 1 1 1
MTP3_ROUTE_END
#-----
#MTP3_PROVISIONING_END
#-----

#-----
#MTP2_PROVISIONING
#-----
# number of MTP2 signaling links
MTP2_NUM_LINKS 1
#-----
# Configuration of MTP2 links:
#
# MTP2_LOG_LINK_ID - MTP2 Link Id
# MTP2_ID          - MTP2 Id
# MTP2_CONTROLLER  - identifies the controller on which the link is set up
#                   (log-controller number)
# MTP2_TIMESLOT    - defines the timeslot of the link
# MTP2_MODE        - defines the MTP2 mode
#                   0 - normal mode
#                   1 - preventive mode
#-----
#MTP2_LOG_LINK_ID MTP2_ID MTP2_CONTROLLER MTP2_TIMESLOT MTP2_MODE
MTP2_LINK_CONFIG_START
1 0 1 16 0

```

```
MTP2_LINK_CONFIG_END
#-----
#MTP2_PROVISIONING_END
#-----
```

Example: One SS7 link on one controller and 31 CICs on another controller

In this example, there are two 2MB trunks connected to the SS7 network. On the first trunk, one SS7 link is configured (controller 1) towards DPC=4119 and on the second trunk 31 CICs are configured (controller 2) towards DPC=3031:

```
#-----
# STACK_STANDARD_TYPE : Specifies the variant of the stack
# ITU= 1, ETSI=2
#-----
STACK_STANDARD_TYPE          1
#-----
# NETWORK_INDICATOR : Specifies the network indicator of ISUP and MTP3
# International 0 = 0, International 1 / SPARE = 1,
# National 0 = 2, National 1 (Reserved for national use) = 3
#-----
NETWORK_INDICATOR           2
#-----
# MTP3 and ISUP are communicating via (local) sockets with each other
# -> therefore the below paragraph is required
# MTP3_IP_ADDRESS            - IP of MTP3
# ISUP_IP_ADDRESS            - IP of ISUP
# MTP3_SERVER_PORT           - MTP3 server port to which the ISUP client is connecting
# ISUP_SERVER_PORT           - ISUP server port to which the MTP3 client is connecting
# MTP3_CLIENT_TO_ISUP_PORT   - MTP3 client port which connects to the ISUP server
# ISUP_CLIENT_TO_MTP3_PORT   - ISUP client port which connects to the MTP3 server
# all entries are required
#-----
MTP3_IP_ADDRESS              127.0.0.1
MTP3_SERVER_PORT             13000
MTP3_CLIENT_TO_ISUP_PORT     13100
ISUP_IP_ADDRESS              127.0.0.1
ISUP_SERVER_PORT             14000
ISUP_CLIENT_TO_MTP3_PORT     14100
#-----
# DEBUG MASKS
# set debug mask according to the definitions below
# debug information is written via standard log mechanism
# STATUS 0x00000001 - output STATUS (marked with 'S-')
# ERROR  0x00000002 - output ERRORS (marked with 'E-')
# WARN   0x00000004 - output WARNINGS (marked with 'W-')
# INFO   0x00000008 - output info (marked with 'I-')
# WRAPPER 0x00000010 - output details of the stack encapsulation (marked with 'A-')
# DETAIL  0x00000020 - output detail (creates a lot of output) (marked with 'V-')
# DATA   0x00000040 - output data (for data messages) (marked with 'D-')
# PERROR 0x00000080 - output pointer errors (marked with 'R-')
# NCCI_STM 0x00000100 - output Capi NCCI statemachine (marked with 'N-')
# PLCI_STM 0x00000200 - output Capi PLCI statemachine (marked with 'P-')
# CONT_STM 0x00000400 - output Capi Controller statemachine (marked with 'C-')
# MALLOC  0x00000800 - output memory allocation errors
#           (creates a lot of output, do not use if not requested)
#           (marked with 'M-')
# TIMER   0x00001000 - output timer handling
#           (creates a lot of output, do not use if not requested)
#           (marked with 'T-')
# in general a debug mask set to 0x00000007 should be sufficient
#-----
ISUP_CC_DEBUG_MASK 0x000003FF # set to STATUS|ERROR|WARN|INFO
MTP3_MTP2_DEBUG_MASK 0x000003FF # set to STATUS|ERROR|WARN
#-----
# Controller configuration
#-----
NUM_CONTROLLER 2
#-----
#LogControllerNum local law SerialN
CONTROLLER_CONFIG_START
```

```

1          local      A   1001
2          local      A   1084
CONTROLLER_CONFIG_END

#-----
#CC_PROVISIONING
#-----
CC_NUM_VIRTUAL_SIG_CONTROLLER 2
#LogControllerNum local law
CC_CONTROLLER_CONFIG_START
1          local      A
2          local      A
CC_CONTROLLER_CONFIG_END
#-----
CC_NUM_TERMINALS    31
#-----
CC_LENGTH_CALLED_PARTY_NUMBER_START
0
CC_LENGTH_CALLED_PARTY_NUMBER_END
#-----
# initial state 0-PAUSE 1-ACTIVE
CC_INITIAL_STATE 0
#-----
#CIC OPC DPC LogContrNum Timeslot   Blocked
CC_TERMINAL_CONFIG_START
1   7072 3031      2           1       0
2   7072 3031      2           2       0
3   7072 3031      2           3       0
4   7072 3031      2           4       0
5   7072 3031      2           5       0
6   7072 3031      2           6       0
7   7072 3031      2           7       0
8   7072 3031      2           8       0
9   7072 3031      2           9       0
10  7072 3031      2          10       0
11  7072 3031      2          11       0
12  7072 3031      2          12       0
13  7072 3031      2          13       0
14  7072 3031      2          14       0
15  7072 3031      2          15       0
16  7072 3031      2          16       0
17  7072 3031      2          17       0
18  7072 3031      2          18       0
19  7072 3031      2          19       0
20  7072 3031      2          20       0
21  7072 3031      2          21       0
22  7072 3031      2          22       0
23  7072 3031      2          23       0
24  7072 3031      2          24       0
25  7072 3031      2          25       0
26  7072 3031      2          26       0
27  7072 3031      2          27       0
28  7072 3031      2          28       0
29  7072 3031      2          29       0
30  7072 3031      2          30       0
31  7072 3031      2          31       0
CC_TERMINAL_CONFIG_END
#-----
#CC_PROVISIONING_END
#-----

#-----
#ISUP_PROVISIONING
#-----
ISUP_CIC_CONFIG_START
#   Status: Delete = 0, Add = 1
ISUP_CIC_CONFIG
OPC      DPC      START_CIC      NUM_OF_CICS
7072    3031      1              31
ISUP_CIC_CONFIG_END
#-----
#ISUP_PROVISIONING_END
#-----

```

```

#-----
#MTP3_PROVISIONING
#-----
MTP3_SELF_POINT_CODE_START
# PC: Self Point Code
# Type: Primary PC = 81, SECONDARY = 82 CAPABILITY CODE =83
# Point code of MTP3
# PC Nodecap Status
MTP3_SELF_POINT_CODE
PC      SPC_TYPE
7072   81
MTP3_SELF_POINT_CODE_END
#-----
MTP3_DEST_POINT_CODE_START
# Destination Type Bitwise Usage:
# Bit      Value      Definition
# Most Significant Bit 0      Destination is DPC
# 1st Bit  1(0x01)    Adj DPC
# 2nd Bit  1(0x02)    Rem DPC
# 3rd Bit  0/1(0/0x04)Brdcst_opt enable/disable
# 4th Bit  0/1(0/0x08)dpc is mated_stp/non mated
# Status: Delete = 0, Add = 1
# DPC      Type  Sls      Status
#-----
MTP3_DEST_POINT_CODE
DPC      Type  sls
4119    1      1
3031    2      1
MTP3_DEST_POINT_CODE_END
#-----
MTP3_LINK_START
# LINK_TYPE : Link Type A ...F , Value 1,2 ...6
MTP3_LINK
OPC      DPC  SLC  MTP2_ID  LOG_DATA_LINK_ID  LINK_TYPE  ROUTE_PARAM_LOG_LINK_ID
7072    4119  0    0          1                1          1
MTP3_LINK_END
#-----
MTP3_LINK_SET_START
#Put the information in following order
# (1)OPC (2)DPC (3)Num_Links (4)Num_Normal_Links
# (5)Broadcast_Option (6)Linkset_Option
# (7){Log_Link_Id, Link_State, Link_Priority} for each link
# (8) Log_Link_Set_Id
# Priority : 1 to XX
# LinkState : Active = 0, Inactive = 1
# Status: Delete = 0, Add = 1
# BRDCAST_OPT: enable: 0, disable: 1
MTP3_LINK_SET
opc dpc nlks nrml_lks bd_opt lset_opt lset_id lk_id lk_state lk_prio
7072 4119 1 1 0 0 1 1 0 1
MTP3_LINK_SET_END
#-----
MTP3_ROUTE_START
# ROUTE_TYPE Bitwise Usage:
# Bit      Value      Definition
# Most Significant Bit 0/1  Destination is Route/CLUSTER Route
# 1st Bit  1/2        Direct/Indirect Route
# DPC is a cluster if the route is a cluster route
MTP3_ROUTE
OPC      DPC  ROUTE_TYPE  LOG_LINKSET_ID  PRIORITY  ROUTE_PARAM_LOG_ROUTE_ID
7072    4119  1          1                1          1
7072    3031  2          1                2          2
MTP3_ROUTE_END
#-----
#MTP3_PROVISIONING_END
#-----

#-----
#MTP2_PROVISIONING
#-----
# number of MTP2 signaling links
MTP2_NUM_LINKS 1
#-----
# Configuration of MTP2 links:

```

```

#
# MTP2_LOG_LINK_ID - MTP2 Link Id
# MTP2_ID           - MTP2 Id
# MTP2_CONTROLLER  - identifies the controller on which the link is set up
#                   (log-controller number)
# MTP2_TIMESLOT    - defines the timeslot of the link
# MTP2_MODE        - defines the MTP2 mode
#                   0 - normal mode
#                   1 - preventive mode
#-----
#MTP2_LOG_LINK_ID  MTP2_ID    MTP2_CONTROLLER  MTP2_TIMESLOT  MTP2_MODE
MTP2_LINK_CONFIG_START
1                  0          1                1              0
MTP2_LINK_CONFIG_END
#-----
#MTP2_PROVISIONING_END
#-----

```

ISUP: List of messages

Type	Code	ISUP: Message type
ACM	06	Address Complete
ANM	09	Answer
BLA	15	Blocking Acknowledgement
BLO	13	Blocking
CCR	11	Continuity Check Request
CFN	2F	Confusion
CGB	18	Circuit Group Blocking
CGBA	1A	Circuit Group Blocking Acknowledgement
CGU	19	Circuit Group Unblocking
CGUA	1B	Circuit Group Unblocking Acknowledgement
CMC	1D	Call Modification Completed
CMR	1C	Call Modification Request
CMRJ	1E	Call Modification Reject
CON	07	Connect
COT	05	Continuity
CPG	2C	Call Progress
CQM	2A	Circuit Group Query
CQR	2B	Circuit Group Query Response
CRG	31	Charge information
DRS	27	Delayed Release
FAA	20	Facility Accepted
FAR	21	Facility Request
FOT	08	Forward Transfer
FRJ	1F	Facility Reject
GRA	17	Circuit Group Reset Acknowledgement
GRS	29	Circuit Group Reset
IAM	01	Initial Address Message

INF	04	Information
INR	03	Information Request
LPA	24	Loop Back Acknowledgement
OLM	30	Overload
PAM	28	Pass Along
REL	0C	Release
RES	0E	Resume
RLC	10	Release Complete
RSC	12	Reset Circuit
SAM	02	Subsequent Address Message
SUS	0D	Suspend
UBA	16	Unblocking Acknowledgement
UBL	14	Unblocking
UCIC	2E	Unequipped Circuit Identification Code
USR	2D	User to User Information
	0A	Reserved
	0B	Reserved
	0F	Reserved
	22	Reserved
	23	Reserved
	25	Reserved
	26	Reserved