



Dialogic® 3000 Media Gateway Series
Configuration Note for Siemens Hipath 4000 with Dialogic® 3000
Media Gateway Series using BRI Q.SIG (ECMAV2)

Reference Guide

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CHAPTER 1

About This Online Guide

This document is intended to detail a typical installation and configuration of the Dialogic® 3000 Media Gateway Series when used to interface between a PBX and a unified messaging type application.

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 is structured as follows:

Section	Contents
Configuration Details	Configuration details of the PBX and the Dialogic® 3000 Media Gateway Series
Prerequisites	Prerequisites for the PBX and the Dialogic 3000 Media Gateway Series
Configuration of Dialogic® Diva® Software	Configuration of Dialogic® Diva® software and Dialogic® Diva® SIPcontrol™ software
PBX Setup Notes	PBX settings for the use with the Dialogic 3000 Media Gateway Series
Troubleshooting	List of debugging tools and trace masks

CHAPTER 2

Configuration Details

Listed below are the configuration details of the PBX and the gateway used for integration.

PBX

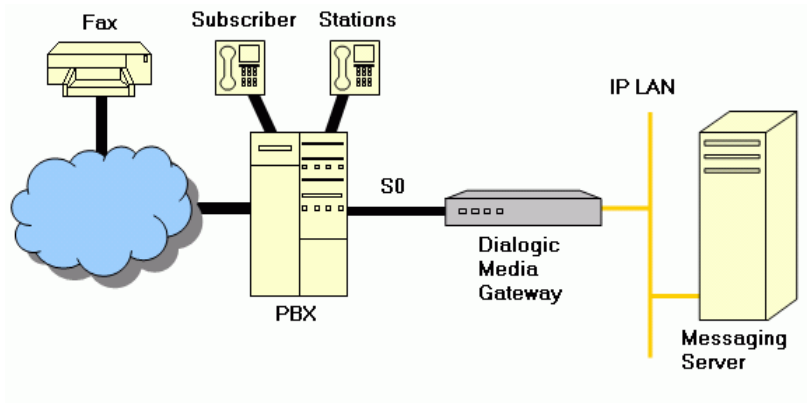
PBX Vendor	Siemens
Model(s)	Hipath 4000
Software Version(s)	2.0 B4400
Protocol	BRI Q.SIG (ECMAV2)
Additional Notes	N/A

Gateway

Gateway Model	Dialogic® 3000 Media Gateway Series
Software Version(s)	Dialogic® Diva® for Windows 8.3 software, Dialogic® Diva® SIPcontrol™ 1.5 software
VoIP Protocol	SIP

Configuration diagram

The diagram below details the setup used in the testing.



CHAPTER 3

Prerequisites

This chapter lists the prerequisites for the PBX.

PBX prerequisites

The PBX must have all supplemental service packages installed for the Q.SIG (ECMAV2) protocol to operate properly and to provide all advanced supplemental services.

To connect to the PBX using S0 Q.SIG, a Dialogic® Diva® ISDN BRI Media Board is installed in the Dialogic® 3000 Media Gateway Series.

PBX equipment required

To connect to the PBX using S0 Q.SIG, you must use an ISDN S0 - STMD2 - Q2163 line card.

PBX cabling requirements

Cabling for Q.SIG connections must be CAT5e or better. Standard voice quality cable will not provide optimum signal quality, and the gateway will have problems establishing connection on the D-channel.

CHAPTER 4

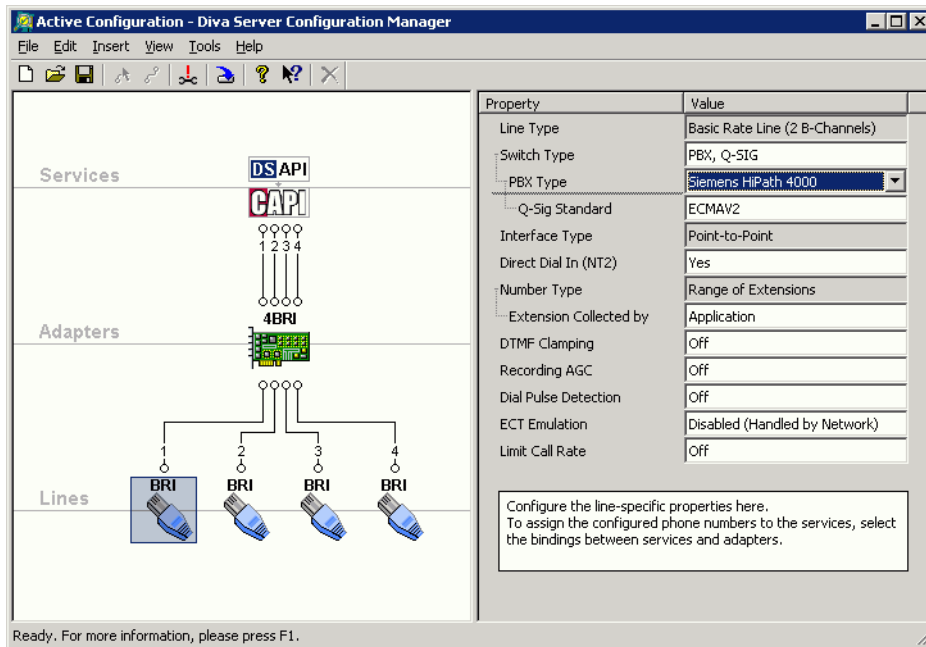
Configuration of Dialogic® Diva® Software

- First, configure the **Lines** settings in the Dialogic® Diva® Configuration Manager.
- Then, configure the **Network and Routing** and the **Local Parameter** settings in the Dialogic® Diva® SIPcontrol™ software dialog.

Configuration of the Dialogic® Diva® software using the Dialogic® Diva® Configuration Manager:

Note: You need to configure all lines of all installed adapters with the same settings.

Set the **Switch Type** to **PBX, Q-SIG** and the **PBX Type** to **Siemens HiPath4000**.

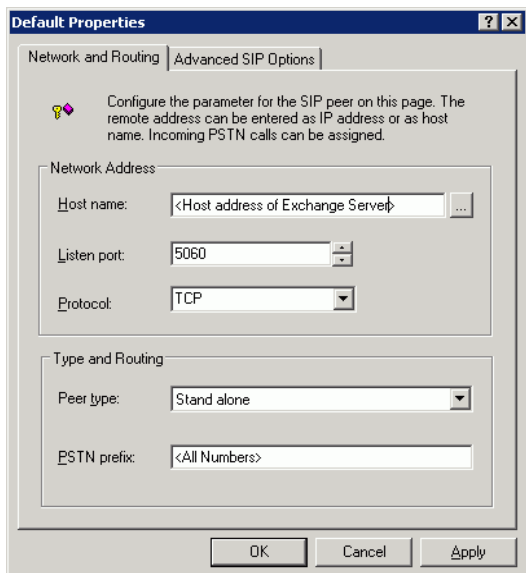


Configuration of the Dialogic® Diva® SIPcontrol™ software using the Diva SIPcontrol Configuration MMC snap-in:

The following settings are only valid when working with a Microsoft® Exchange UM server. Other environments might need different settings.

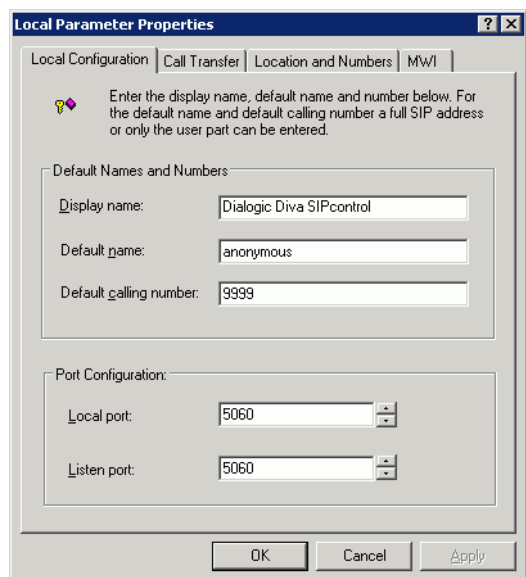
1. Configure the **Network and Routing** settings. To do so, click **SIP Peers** in the left configuration pane, then double-click the entry you want to modify.
2. The **Default Properties** box opens with the **Network and Routing** tab.

3. Configure the settings as displayed in the graphic. See the Dialogic® Diva® SIPcontrol™ software Online Help file for more information about the settings.



The screenshot shows the 'Default Properties' dialog box with the 'Advanced SIP Options' tab selected. The 'Network Address' section contains a 'Host name' field with the text '<Host address of Exchange Server>' and a browse button, a 'Listen port' field with the value '5060', and a 'Protocol' dropdown menu set to 'TCP'. The 'Type and Routing' section contains a 'Peer type' dropdown menu set to 'Stand alone' and a 'PSTN prefix' field with the text '<All Numbers>'. At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

4. Configure the **Local Configuration** settings. To do so, click **Local Parameter** in the left configuration pane, then double-click the entry you want to modify.
5. The **Local Parameter Properties** box opens with the **Local Configuration** tab.
6. Configure the settings as displayed in the graphic. See the Dialogic® Diva® SIPcontrol™ software Online Help file for more information about the settings.



The screenshot shows the 'Local Parameter Properties' dialog box with the 'Local Configuration' tab selected. The 'Default Names and Numbers' section contains a 'Display name' field with the text 'Dialogic Diva SIPcontrol', a 'Default name' field with the text 'anonymous', and a 'Default calling number' field with the text '9999'. The 'Port Configuration' section contains a 'Local port' field with the value '5060' and a 'Listen port' field with the value '5060'. At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

CHAPTER 5

PBX Setup Notes

The basic settings of the PBX S₀ trunk for use with the Dialogic® 3000 Media Gateway Series and a voice processing system are as follows:

- Activating the standard settings for ECMAV2 protocol.
- Setting SEGMENT to 8.
- Configuration that Q.SIG Path replacement (Route optimisation) works on that trunk.
- Setting of the MWI including the access number (must be used in the gateway).

Contact your Siemens representative to ensure you make these settings properly.

Activating the Q.SIG protocol

You may need to turn on the Q.SIG protocol before use. The programming steps below show how this was done on the test system. If you have any questions, contact your Siemens representative.

1. Change the switch to German command language:

```
cha-funct:slang=ger;
```

2. Activate the stored protocols:

```
reg-prode;
```

The protocol ECMAV2 is the default setting of the European switches.

Administering the trunk configuration

1. Use the `einr-buend` command to configure a trunk group.

- Enter the `add-buend` command and press RETURN.
- At the prompt `BUNUM =` enter `xxx` and press RETURN.
where `xxx` is any available trunk group number
- At the prompt `NAME =` enter `xxx` and press RETURN.
where `xxx` is any assigned name for the trunk group
- At the prompt `ANZ =` enter the number of required B-channels (max. 16) and press RETURN.
- At the prompt `RESERV` press RETURN.
- At the prompt `ANZFANG` press RETURN.
- At the prompt `ANZACD` press RETURN.
- At the prompt `PRIONUM` press RETURN.
- At the prompt `TDDRFLAG` press RETURN.
- At the prompt `GDTRRGL` press RETURN.
- At the prompt `ACDPMGRP` press RETURN.
- At the prompt `ZEICHUM` press RETURN.

2. Display and validate the changes with the following command:

Enter `AB-BUEND:2;` and press RETURN. The following screen should be displayed:

```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|          BUENDELNUMMER :      2   BUENDELNAME: ECMAV2 TEST           MAX-ANZAHL:      2   |
|          ZEICHUM       : NEUTRAL                                     |
|          UNTERGR.NUMMER:     20   GERAETETYP : -                     ANZFANG       :    0   |
|          SUCHART       : ZYKLISCH                                     ANZACD        :    *   |
|          ANZAHL DER ZUGEORDNETEN RICHTUNGEN : 0                     PRIORITAET    :    0   |
|          TDDRFLAG      :      ON   TDDRTHRESHOLD: 0                 |
|          GDTRRGL       :      0   ACDCMGRP   : 0                 |
+-----+-----+-----+-----+-----+-----+-----+-----+
AMO-BUEND-25          BUENDEL
ABFRAGEN DURCHGEFUEHRT;

```

3. Use the `einr-cot` command to adjust the class of trunk setting (COTNO) that you use during the trunk configuration:

`xxx` is a free class of trunk (COTNO) that needs to be used later in the trunk configuration using the `einr-tdcsu` command:

```

EINR-COT:xxx, PRIO&AERF&MVLT&AMGL&UELM&RRBN&RRFN&AULN&RWSN&AWTE&SAAO&BLOC&NA
TR&TRCA&ROPT&TSCS&LTMB&AUAT&PRZL&PINR&GBUE&GLTA&KTON, , ;

```

4. Change the name of the COT:

```

AE-COT:xxx,COTZU,UNAB,"36: S0/2 QUER ECMA2 AB V3.0";

```

5. Once completed, you can display your class of trunk configuration using the `AB-COT:32;` command. A screen similar to the following should be displayed:

```

COT: 32 INFO: 36: S0/2 QUER ECMA2 AB V3.0
GERAET: UNAB          QUELLE: DB
PARAMETER:
  PRIORITAET FUER VF WIRD AUS MELDUNG ERMITTELT           PRIO
  ANRUF BEI EINHAENGEN IN RUECKFRAGE                     AERF
  LEITUNG MIT MELDEKRITERIUM                             MVLT
  AUFSCHALTEN BZW. ANKLOPFEN MOEGLICH                    AMGL
  UEBERGABE IM BESETZT-, RUF- ODER GESPRAECHSZUSTAND    UELM
  NETZWEITER RUECKRUF IM BESETZTFALL                     RRBN
  NETZWEITER RUECKRUF IM FREIFALL                        RRFN
  ANRUFUMLEITUNG NETZWEIT ERLAUBT                       AULN
  RUFWEITERSCHALTUNG NETZWEIT ERLAUBT                   RWSN
  AMTSWAEHLTONEINSPEISUNG BEI GEHENDEN AMTSBELEGUNGEN  AWTE
  ANRUFU ZU EINEM BESETZTEN SA WERDEN NICHT AUSGEOEST   SAAO
  "SENDING COMPLETE" WIRD GESETZT                        BLOC
  NOTAUFSCHALTEN/TRENNEN UEBER S0/S2 LEITUNG            NATR
  KEINE KNOTENNUMMER ZUM PARTNER SENDEN                  LOKN
  TRANSIT-COUNTER-VERWALTUNG FUER S0/S2-LEITUNG AKTIVIEREN  TRCA
  LEITUNG FUEHRT ZU KNOTEN MIT ROUTE OPTIMIERUNG         ROPT
  KOMMENDE LEITUNG VON ANLAGE OHNE LCR                   OLCR
  TSC-SIGNAL. F. UEBERGR. LM BEI DIGITALEN NETZ (ERFORDERLICH) TSCS
  LEITUNG SENDET BETRAEGE AN URSPRUNGSKNOTEN            LTMB
  VOREINGESTELLE KNOTENNUMMER DER LEITUNG VERWENDEN     VKNN
  PROGRAMMIERUNG ANRUFUMLEITUNG FUER ANDERE TLN MGL.    AUAT
  ERREICHBARKEITSPRUEFUNG DES UMLEITUNGSZIELES MOEGLICH PRZL
  KOMMENDE LEITUNG VON ANLAGE OHNE LCR (DATEN)          OLDR
  PIN REMOTE MOEGLICH (GEHENDER UND KOMMENDER VERKEHR)  PINR
  GEBUEHRENUEBERTRAGUNG PRO VERBINDUNG (ERFORDERL. CORNET-NQ) GBUE
  GEZIELTE LEITUNGS- UND TEILNEHMERANWAHL              GLTA
  NO SIMPLE DIALOG AVAILABLE                            NOSD
  KEIN SENDEN CINT LEG2, BEI ZVF EXT IM HETEROGENEN NETZ NIN2
  KEIN TON                                               KTON
AMO-COT -25          CLASS OF TRUNK
ABFRAGEN DURCHGEFUEHRT;

```

6. Use the `add-cop` command to configure the class of parameter setting (COPNO) that you are using in the trunk configuration.

`xxx` is the class of parameter (COPNO) that you have used in the trunk configuration using the `add-tdcsu` command:

```
EINRICHTEN-COP:xxx,,FBKW,FBKW,,;
```

```
AEENDERN-COP:xxx,COPZU,,,,UNAB,"36: S0/2 QUER ECMA2 AB V3.0";
```

7. Once completed, you can display your class of parameter configuration using the `AB-COP:32;` command. A screen similar to the following should be displayed:

```
AB-COP:32;
H500: AMO COP   GESTARTET

      COP: 32  INFO: 36: S0/2 QUER ECMA2 AB V3.0
      GERAET: UNAB          QUELLE: DB
      PARAMETER:

      AMTSBERECHTIGUNG:
      FERNBERECHTIGUNG                                FBKW

      FERNBERECHTIGUNG:
      FERNBERECHTIGUNG                                FBKW
AMO-COP  -25          CLASS OF PARAMETER
ABFRAGEN DURCHGEFUEHRT;
```

8. Use the `einr-tdcsu` command to configure a trunk.

- Enter the `einr-tdcsu` and press RETURN.
- At the prompt `ART` = enter `neu` and press RETURN.
- At the prompt `LAGE` = enter `x-xx-xxx-x` or nothing (next free port is used) and press RETURN.
where `x-xx-xxx-x` is the location of the installed S₀ Port Equipment Number
- At the prompt `COTNO` = enter `xxx` and press RETURN.
where `xxx` is your selected class of trunk
- At the prompt `COPNO` = enter `xxx` and press RETURN.
Where `xxx` is your selected class of parameter
- At the prompt `WABE` = enter `0` and press RETURN.
- At the prompt `VBZ` = enter `0` and press RETURN.
- At the prompt `COS` = enter `31` and press RETURN.
- At the prompt `LCOSV` = enter `1` and press RETURN.
- At the prompt `LCOSD` = enter `1` and press RETURN.
- At the prompt `SATZNR` = enter `ecmav2 test` and press RETURN.
- At the prompt `PROTVAR` = enter `ECMAV2` and press RETURN.

This is the setting that specifies that you are using ISO Q.SIG.

- At the prompt SEGMENT = enter 8 and press RETURN.
 - At the prompt KNNR = enter 1-1-500 and press RETURN.
 - At the prompt AULX = enter 1 and press RETURN.
 - At the prompt SRCGRP = enter 1 and press RETURN.
 - At the prompt BUNR = enter 2 and press RETURN.
 - At the prompt INBETR = enter j and press RETURN.
 - At the prompt GER = enter s0verb and press RETURN.
 - At the prompt MASTER = enter j and press RETURN.
 - At the prompt SMD = enter j and press RETURN.
 - At the prompt BKVER = enter j and press RETURN.
 - All other prompts press RETURN.
9. Once completed, you can validate the settings by using the ABF-TDCSU:<pen> command where the pen is the Peripheral Equipment Number of your trunk card. Press enter and the following screen should be displayed:

```

AB-TDCSU:1-1-97-7;
H500: AMO TDCSU GESTARTET
+----- DIGITALER SATZ (FORMAT=L) -----+
| GER      = S0VERB          LAGE      = 1-01-097-7  BUNR      = 2          |
+-----+-----+-----+
| PROTVAR  = ECMAV2          INBETR   = J           SUCHART   = ZYK        |
| COTNR    = 32              COPNR    = 32          WABE      = 0         |
| VBZ      = 0               COS       = 31          LCOSS     = 1         |
| LCOSD    = 1              SATZNR   = ECMAV2 TEST  ZLNR      = 0         |
| SEGMENT  = 8              DEDSCC  =           DEDSVC    = KEINE     |
| FACILITY =                 DITIDX   =           SRTIDX    =           |
| TRTBL    = GDTR           SIDANI   = N           TREFTYP   = QUER     |
| CBMATTR  = KEINE         NWMUXTIM = 10          TCHARG    = N         |
| ANZUNT   = 0             ZIVO     =           CHIMAP   = N         |
| ISDNIP   =               ISDNNP  =           PNPAC    =           |
| PNPL2P   =               PNPL1P  =           KNNR     = 1 -1 -500  |
| TRACOUNT = 31            SATCOUNT = VIELE        CARRIER  = 1         |
| ALARMNR  = 0             FIDX     = 1           AULX     = 5         |
| ZONE     = LEER          COTX    = 32          TPROFN   =           |
| DOMTYP   =               DOMAINNR =           CCHDL    =           |
| ENACHT   =               UUSCCY   = 8           FNIDX    = 1         |
| UUSCCX   = 16            & G711   & G729OPT      SRCGRP   = 1         |
| CLASSMRK = EC            TCCID    =           |
+-----+-----+-----+
| MASTER   = J             SMD      = J           CNTRNR   = 0         |
| BKVER    = J           |
+-----+-----+-----+
ANZAHL DER B-KANAELE IN DIESER AUSGABE: 2

AMO-TDCSU-25          DIGITALE LEITUNGSSAETZE
ABFRAGEN DURCHGEFUEHRT;
    
```

The screen below shows an example of the trunk routing set-up on a switch using a S₀ Q.SIG trunk. This is to be used as an illustrative example only, as many parameters will be site-specific and should be configured by a vendor technician.

```
AB-RICT:LRTG,2;
H500: AMO RICHT GESTARTET
+-----+
| LRTG = 2      NAME = ECMAV2 TEST      (NEUTRAL)  LDienst = ALLE  |
| ZKNNR=1 -1  -500 PZKNNR=10-1  -500  |
| ROUTOPT = JA   REROUT = NEIN  VLVER = NEIN   UMLVER = NEIN  |
| MFVUMS  = FIX   MFVANZ = OHNE   MFVTEXT =    |
| MFVPULS = PP300 BUGS  = LIN  ROUTATT = NEIN   MAINGRP = 12  |
| EMCYRTT = NEIN  CONFTON = NEIN RERINGRP = NEIN RTGnr = 12  |
| INFO =    |
| KPRCAUL = NEIN |
| KATG = NEIN  |
+-----+
| BUNUM = 2      ECMAV2 TEST      (NEUTRAL)  SUBGROUP = 20  |
+-----+
AMO-RICT-25      RICHTUNG
ABFRAGEN DURCHGEFUEHRT;
```

Accessing code assigned to the trunk

The following screen shows how an access code is assigned to the trunk routing and it indicates that the access code 32xxx has been assigned to route calls to the gateway:

```

AB-LODR:2;
H500: AMO LODR GESTARTET
+-----+
| LWR      LWRELPOS  LWREL      PARAMETER |
+-----+
| 2 *      | 1      ECHOFELD  2      |
|           | 2      ENDE      |
+-----+
|           | * = VORGELEISTET FUER AMO-LDAT |
+-----+
| INFO:ECMAV2 TEST |
+-----+

H03: DIE NAECHSTE FREIE LWR IST 3
AMO-LODR -25      ADMINISTRATION VON LCR-WAHLREGELN
ABFRAGEN DURCHGEFUEHRT;

AB-LDAT:LCR,2;
H500: AMO LDAT GESTARTET
+-----+
| LRTG = 2      NAME = ECMAV2 TEST      DIENST = ALLE |
| TYP = LCR      ZKNNR-RICHTUNG = 1 -1 -500 |
| SERVICE INFO = |
+-----+
| LRTGEL|LWERT|BUNUM| LWR|LBER | ZEITBAND | CARRIER |   |   |   |   |
| LRTGEL|LWERT|BUNUM| LWR|LBER | ABCDEFGH | ZONE |   |   |   |   |
+-----+
| 1 | 1 | 2 | 2 | 1 | ***** | 1 | LEER | KEINE |   | 0 |
+-----+

AMO-LDAT -25      LCR-RICHTUNGEN
ABFRAGEN DURCHGEFUEHRT;

AB-WABE:ALLG,32;
H500: AMO WABE GESTARTET
+-----+
| WAHLBEWERTUNG      GUELTIG FUER ALLE WABE-GRUPPEN |
+-----+
| RUFNUMMER      VERKEHRSSITUATION      KENNZAHL | VORLEIST/RUFUM | |
| RUFNUMMER      VERKEHRSSITUATION      KENNZAHL | DNI/ZUSATZINFO |
| 0 12345 67890 12345 67890 12 | PUNKT | *=EIGENER KNOTEN |
+-----+
| 32      | . . **** * . . . . . * | QUER | V |
+-----+

AMO-WABE -25      WAHLBEWERTUNG
ABFRAGEN DURCHGEFUEHRT;

AB-LDPLN:RNR,32;
H500: AMO LDPLN GESTARTET
+-----+
| RNR 32      ----> |
+-----+
| LWMNR | LWM      | WAPLNUM |
+-----+
| 10 | 32-X      | 0 |
+-----+

AMO-LDPLN-25      EINRICHTEN WAEHLMUSTERPLAN FUER LCR
ABFRAGEN DURCHGEFUEHRT;
    
```

CHAPTER 6

Troubleshooting

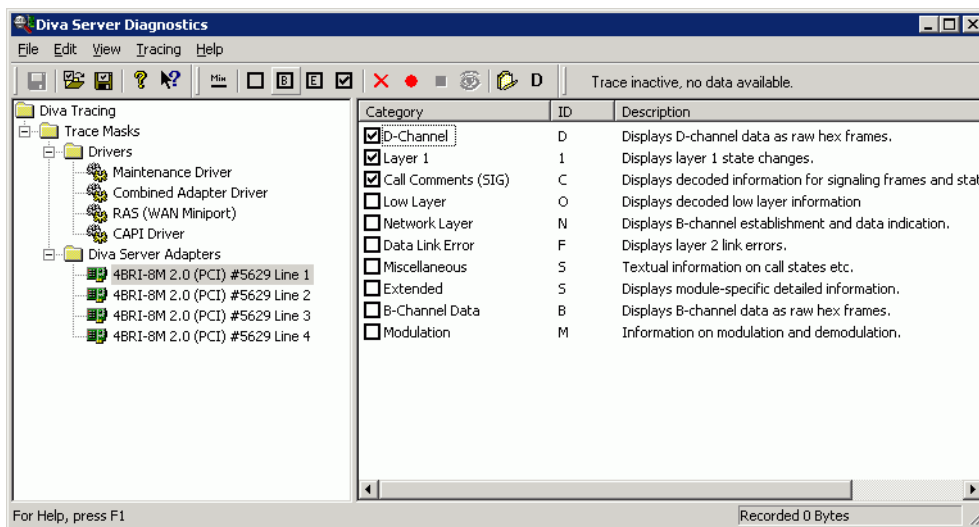
Debugging tools

- Ethernet/Wireshark
- Dialogic® Diva® Diagnostics tool

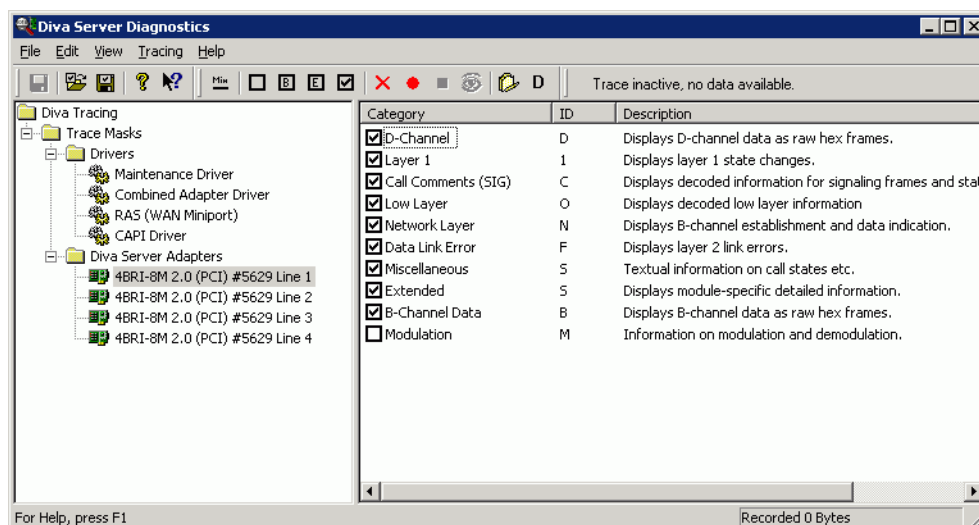
Dialogic® 3000 Media Gateway Series trace masks

Note: You need to configure all lines of all installed adapters with the same settings.

- For call control and integration problems, configure the Dialogic® Diva® Diagnostics tool without B-channel data as displayed in the graphic:



- For voice quality or fax problems, configure the Diva Diagnostics tool with B-channel data as displayed in the graphic:



Test validation matrix

The tables below show various test scenarios that are run as typical validation scenarios when the Dialogic® 3000 Media Gateway Series is used in a voice messaging situation with Microsoft® Exchange Server 2007.

Inbound call scenarios

No.	Call scenario	Comments
1	Dial the pilot number from a phone that is NOT enabled for Unified Messaging (UM) and logon to a user's mailbox.	<ol style="list-style-type: none"> 1. Dial the pilot number for the UM server from an extension that is NOT enabled for UM. If you have this user extension enabled for UM, disable this UM user for the purposes of this test. 2. Confirm that you hear the prompt: "Welcome, you are connected to Microsoft® Exchange. To access your mailbox, enter your extension." 3. Enter the extension of a UM-enabled user and press the "#" key. 4. Confirm a successful logon to the user's mailbox.
2	Navigate the mailbox using speech.	<p>This test confirms that the normal RTP is flowing in both directions and that the Speech Recognition is working as expected.</p> <ol style="list-style-type: none"> 1. Logon to a user's UM mailbox. 2. If the default is set to DTMF tones, select Personal Options in the menu and then activate the Voice User Interface (VUI; phone key 6) 3. Navigate through the user's mailbox long enough to confirm the VUI is working properly.
3	Navigate the mailbox using DTMF.	<p>This test confirms that both, the normal RTP and the DTMF RTP (RFC 2833), are flowing in both directions.</p> <ol style="list-style-type: none"> 1. Logon to a user's UM mailbox. 2. If the default is set to Voice, press "#0" to activate the Telephony User Interface (TUI). 3. Navigate through the user's mailbox long enough to confirm the TUI is working properly.
4	Dial a user's extension and leave a voicemail message from an internal extension on an internal extension.	<p>If you have difficulties reaching a user's UM voicemail, verify that the coverage path for the UM-enabled user's phone is set to the pilot number for the UM server.</p> <ol style="list-style-type: none"> 1. Dial the extension for a UM-enabled user and leave a voicemail message. 2. Confirm that the voicemail message arrived in the called user's inbox. 3. Confirm that this message displayed a valid Active Directory name as sender of this voicemail.
5	Dial a user's extension and leave a voicemail message from an external phone on an internal extension.	<ol style="list-style-type: none"> 1. Dial the number for a UM-enabled user and leave a voicemail message. 2. Confirm that the voicemail message arrived in the called user's Outlook inbox. 3. Confirm that this message displayed the phone number as the sender of this voicemail.

No.	Call scenario	Comments
6	Direct dial the Auto Attendant (AA).	<ol style="list-style-type: none"> 1. To configure an AA from the Exchange Management Console, expand Organizational Configuration and then click Unified Messaging. 2. Go to the Auto Attendant tab and then click New Auto Attendant... 3. Associate the AA with the appropriate dial plan and configure an extension for the AA. <ul style="list-style-type: none"> • Create PBX dialing rules to always forward calls from the AA's extension number to the UM Server. • The AA extension is displayed in the diversion information of the SIP Invite. 4. Dial the extension number for the AA. 5. Confirm that the AA answered the call.
7	Send a test FAX to a UM user.	<ol style="list-style-type: none"> 1. Dial the extension for this fax-enabled UM user from a fax machine. 2. Confirm that the fax message is received in the user's inbox.

Outbound call scenarios

No.	Call scenario	Comments
8	Listen to a voicemail using OWA's PlayOnPhone feature.	<ol style="list-style-type: none"> 1. Logon to Microsoft® Outlook Web Access (OWA). Go to the URL <a href="https://<server name>/owa">https://<server name>/owa . 2. After receiving a voicemail in the OWA inbox, open this voicemail message. 3. At the top of this message, look for the PlayOnPhone field. 4. Click this field to access the PlayOnPhone feature.
8a	Call a user's extension.	<ol style="list-style-type: none"> 1. Dial the extension for a UM-enabled user and leave a voicemail message. 2. Logon to the called user's mailbox in Microsoft® Outlook Web Access (OWA). 3. Once the voicemail is received in the user's inbox, use OWA's PlayOnPhone to dial an internal extension. 4. Confirm that the voicemail has been delivered to the correct internal extension.
8b	Call an external extension.	<ol style="list-style-type: none"> 1. Dial the extension for a UM-enabled user and leave a voicemail message. 2. Logon to the called user's mailbox in Microsoft® Outlook Web Access (OWA). 3. Once it is received in the user's inbox, use OWA's PlayOnPhone to dial an internal extension. 4. Confirm that the voicemail is delivered to the correct external extension. <p>Troubleshooting: Depending on the configuration, a prefix (i.e. 9) may need to be added before the number.</p>

Transfer scenarios

No.	Call scenario	Comments
9	Call Transfer by directory search.	<p>Method one: Pilot Number Access</p> <ol style="list-style-type: none"> 1. Dial the pilot number for the UM server from a phone that is NOT enabled for UM. Then either search by name or by email alias. 2. Press "#" to be transferred to the directory search by name. 3. Call Transfer by directory search by entering the name of a user in the same dial plan using the telephone keypad. Enter the last name first.* <p>Method two: Auto Attendant</p> <ol style="list-style-type: none"> 1. Follow the instructions in scenario 6 "Direct dial the Auto Attendant (AA)" to set up the AA. 2. Call Transfer by directory search by speaking the name of a user in the same Dial Plan. If the AA is not speech-enabled, type in the name using the telephone keypad.* <p>* Even though some keys are associated with three or four letters, for each letter you need to press each key only once regardless of the letter you need to enter. Ignore spaces and symbols when spelling the name or email alias.</p>
9a	Called party answers.	<ol style="list-style-type: none"> 1. Call Transfer by directory search to a user in the same dial plan and have the called party answer. 2. Confirm that the correct user answered the phone.
9b	Called party is busy.	<ol style="list-style-type: none"> 1. Call Transfer by directory search to a user in the same dial plan when the called party is busy. 2. Confirm that the calling user was routed to the correct voicemail.
9c	Called party does not answer.	<ol style="list-style-type: none"> 1. Call Transfer by directory search to a user in the same dial plan and have the called party not answer. 2. Confirm that the calling user was routed to the correct voicemail.
9d	Extension is invalid.	<ol style="list-style-type: none"> 1. Set an invalid extension for a user in the same dial plan. An invalid extension has the same number of digits as the user's dial plan and has not been mapped on the PBX to any user or device. <ul style="list-style-type: none"> • From the Management Console, double click on a user's mailbox and go to the Mailbox Features tab. • Click Unified Messaging and then click the Properties button. • Replace the mailbox extension with an invalid extension. 2. Call Transfer by directory search to this user. 3. Confirm that the call failed and the caller was prompted with appropriate messages.

MWI scenarios

As of this writing, Geomant offers a third party solution to provide MWI for Microsoft® Exchange Server 2007: MWI 2007; you can find the installation files and the product documentation on Geomant’s MWI 2007 website <http://www.mwi2007.com>.

No.	Call scenario	Comments
10	Turn a subscribers light on that is currently off.	<ol style="list-style-type: none"> 1. Logon to Geomants MWI Service and go to <a href="https://<Exchange_IP>/MWISrvAdmin/">https://<Exchange_IP>/MWISrvAdmin/ . 2. Go to Troubleshooting > PBX Gateways and choose the Dialogic® Diva® SIPcontrol™ software as gateway. 3. Enter the phone number. 4. Select Switch lamp on and click Change Lamp State. 5. Confirm that the subscribers light changed to on and Geomants MWI Service reported success.
11	Turn a subscribers light off that is currently on.	<ol style="list-style-type: none"> 1. Disable Switch lamp on and click Change Lamp State. 2. Confirm that the subscribers light changed to off and Geomants MWI Service reported success.