AVAYA

Avaya Solution & Interoperability Test Lab

Application Notes for Configuring ISDN-PRI Links Between DCC Communicator and Avaya Communication Manager - Issue 1.0

Abstract

The DCC Communicator provides notification alert services to government and enterprise communities. The DCC Communicator has successfully completed interoperability and compliance testing as part of the Avaya Developer*Connection* program. These Application Notes describe the configuration steps necessary to integrate the DCC Communicator with an Avaya Communication Manager server via an ISDN trunk. Information in these notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the DeveloperConnection Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the configuration of ISDN-PRI for integration of Avaya DEFINITY® Server R with the notification system alerts service using the DCC Communicator server. The Communicator sends alerts such as incident-specific information and/ or potential life-saving instruction messages to individuals or groups by phone, pager, fax and email. DCC Communicator has successfully passed the Avaya interoperability compliance test process, which includes feature functionality and performance testing. **Figure 1** illustrates the configuration that was used to verify interoperability. The DCC Communicator server has a T1 interface board that can configured with ISDN-PRI to connect to the Avaya DEFINITY Server R.
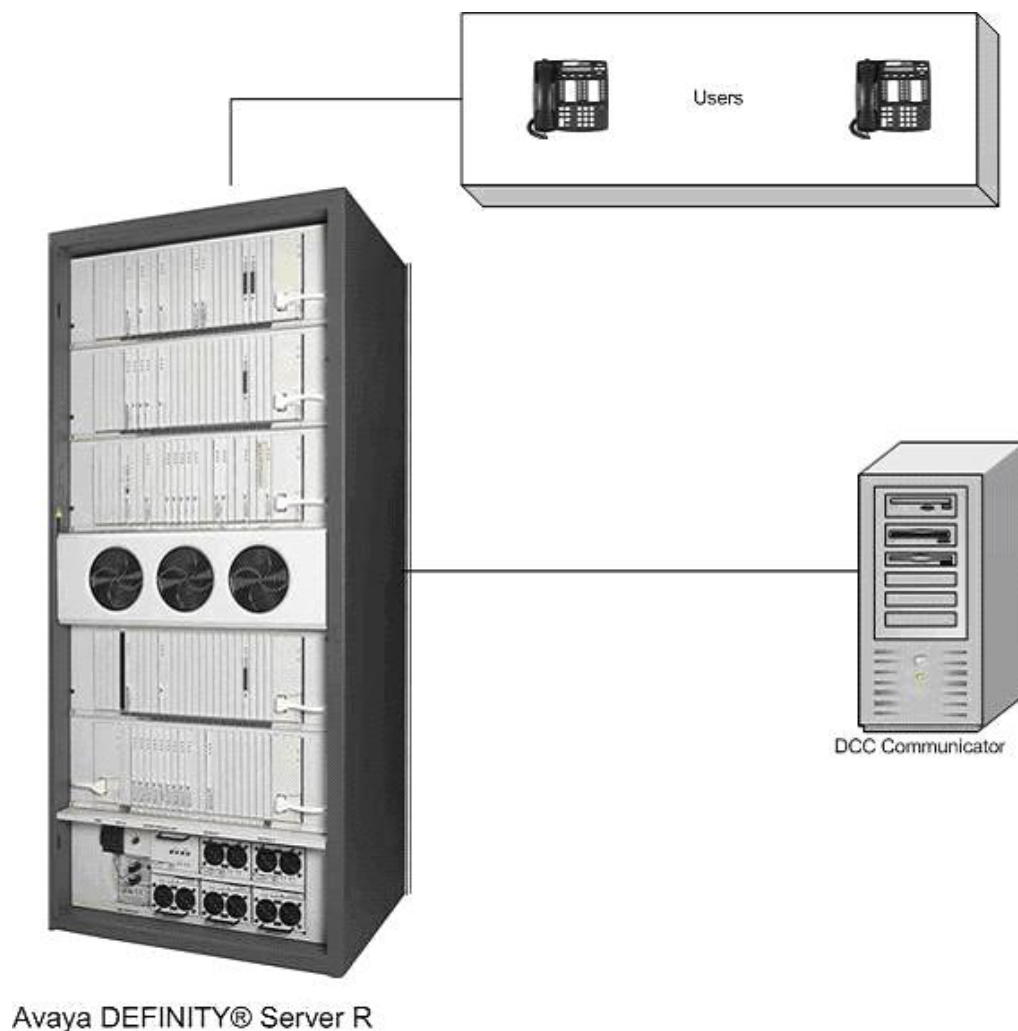

Figure 1: Avaya Developer*Connection* Compliance Test Configuration

2. Equipment and Software Validated

The following equipment and software were used for the compliance test configuration:

Equipment	Software
Avaya DEFINITY® Server R	Communication Manager 1.2
Avaya™ TN464C Interface	
Microsoft Windows 2000 Professional	Service Pack 3
DCC Communicator Server	9.0.1
Dialogic T-1 Interface (D/240JCT)	

3. Configure the Communicator with line-side station

This section will explain how to configure the Communicator with ISDN PRI integration. Section 3.1 explains how to configure the T1 interface with ISDN PRI and Section 3.2 explains how to configure the Avaya ISDN PRI trunk.

3.1. Configure the Communicator with Line-Side Station

Before beginning the configuration steps, make sure to stop the Voice Server, Line Manager and Communicator applications displayed in the bottom right corner in Windows 2000.

1. Run the Intel Dialogic Configuration Manager
2. Select the T1 dialogic card and click on the red **STOP** button
3. Double click on the T1 card
4. Select the **Interface** tab
5. Select the **ISDNProtocol** field
6. Select **NI2** in the Value field as shown in **Figure 2**.
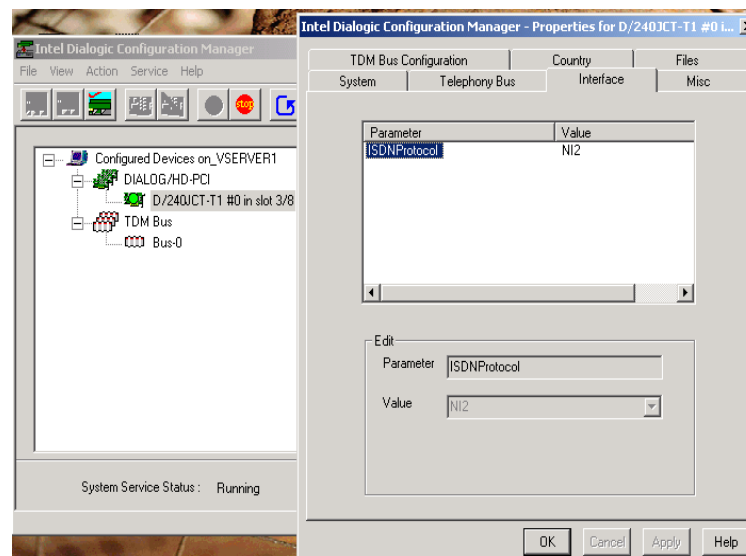

Figure 2: Intel Dialogic Configuration Manager

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isdndcc.doc

7. Click on the **Misc** tab
8. Verify the value for FirmwareFile parameter is default
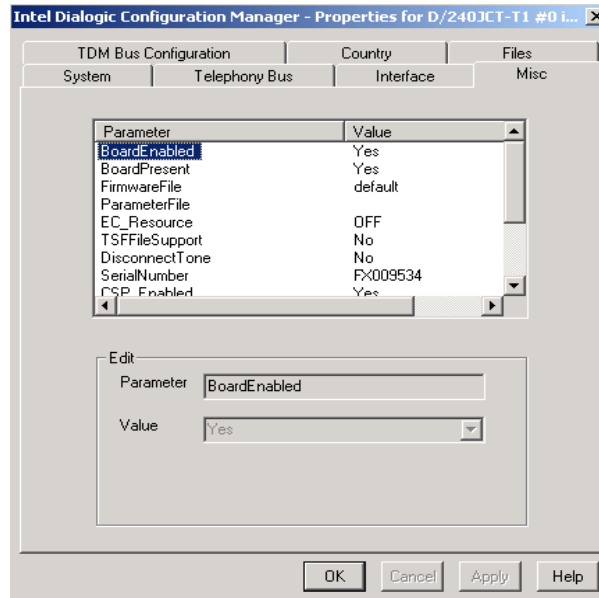9. Verify the value for ParameterFile parameter is blank, as shown in **Figure 3**

Figure 3: Miscellaneous T1 Configuration

10. Click **OK** to close the card settings
11. Double click **Bus-0** under TDM Bus
12. Change the TDM Bus Type (User Defined) to **SCBus**
13. Change "Derive Primary Clock From (User Defined)" to **FrontEnd_1**
14. Click **OK** to exit to the Configuration Manager
15. Run the **DCCGCconfig.exe** utility from C:\DCC\prg\Utility
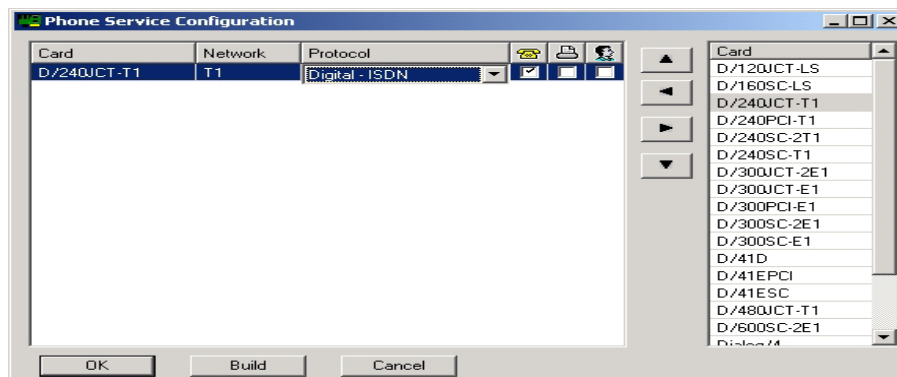16. Double click the field under Protocol and select **ISDN** as shown in **Figure 4**

Figure 4: Phone Service Configuration

17. Click **Build**
18. Save the file as vserver.cfg in c:\dcc\prg\vserver\
19. Click **OK** when the build is completed
20. Verify that the file ISDNMakeCall.NI2 in c:\dcc\prg\vserver has been renamed to ISDNMakeCall.cfg
21. Return to the Intel Dialogic Configuration Manager and start the T1 card service
22. Close the Intel Dialogic Configuration Manager

3.2. Configure the ISDN-PRI Trunk on the DEFINITY® Server R

The following steps configure the ISDN-PRI trunk on the DEFINITY Server R. The compliance test used a DS1 board TN464 circuit pack.

1. From the Communication Manager SAT terminal, type "add ds1 ######", where ###### is the location of the DS1 board in the DEFINITY Server R.
2. Enter the following values as shown in **Figure 5**
   a. Enter **DCC-ISDN** for name
   b. Enter **b8zs** for Line Coding
   c. Enter **isdn-pri** for Signaling Mode
   d. Enter **line-side** for Connect

```
                          DS1 CIRCUIT PACK


           Location: 02C16                        Name: DCC-ISDN
           Bit Rate: 1.544              Line Coding: b8zs
    Line Compensation: 1               Framing Mode: esf
       Signaling Mode: isdn-pri
              Connect: line-side
     TN-C7 Long Timers? n             Country Protocol: 1
 Interworking Message: PROGress        Protocol Version: b
 Interface Companding: mulaw                      CRC? n
            Idle Code: 11111111
                        DCP/Analog Bearer Capability: 3.1kHz

      Slip Detection? n              Near-end CSU Type: other
                                 Alarm When PRI Endpoint Detached? y
```

Figure 5: DS1 Circuit Pack Configuration

3. Save the configuration
4. From the Communication Manager SAT terminal, type "add signaling-group ##", where ## is an unused signaling group number
5. Enter the following values as shown in **Figure 6**.
   a. Enter **isdn-pri** for Group Type
   b. Enter the primary D-Channel of the DS1 created in step 2
   c. Submit the form

```
                          SIGNALING GROUP

  Group Number: 17             Group Type: isdn-pri
                    Associated Signaling? y      Max number of NCA TSC: 0
                       Primary D-Channel: 02C1624    Max number of CA TSC: 0
                                                  Trunk Group for NCA TSC:
        Trunk Group for Channel Selection:
           Supplementary Service Protocol: a
```

Figure 6: Signaling Group Administration

6. From the SAT terminal screen, type "**add trunk 17**", where 17 is an unused trunk group number
7. Enter the following values as shown in **Figure 7 and Figure 8**
    a. Enter **isdn** for Group Type
    b. Enter TAC **1117**, where the number 1117 is the access code according to the DEFINITY Server R dialing plan
    c. Enter **two-way** for direction
    d. Enter **PRI/BRI** for carrier medium
    e. Enter **tie** for service type
    f. Go to Page 6 and assign up to 23 channels to the trunk along with the signaling group created in Step 4

```
                              TRUNK GROUP

Group Number: 17                      Group Type: isdn        CDR Reports: y
Group Name: OUTSIDE CALL                    COR: 1      TN: 1      TAC: 1117
Direction: two-way        Outgoing Display? y      Carrier Medium: PRI/BRI
Dial Access? y                   Busy Threshold: 255      Night Service:
Queue Length: 0
Service Type: tie                    Auth Code? n          TestCall ITC: rest
Far End Test Line No:
TestCall BCC: 4
TRUNK PARAMETERS
Codeset to Send Display: 6      Codeset to Send National IEs: 6
Max Message Size to Send: 260   Charge Advice: none
Supplementary Service Protocol: a     Digit Handling (in/out): enbloc/enbloc

Trunk Hunt: descend
Digital Loss Group: 13
Calling Number - Delete:     Insert:                 Numbering Format:
Bit Rate: 1200         Synchronization: async    Duplex: full
Disconnect Supervision - In? y  Out? n
Answer Supervision Timeout: 0
```

Figure 7: Trunk Group Administration

```
                                          TRUNK GROUP
                              Administered Members (min/max):
                              1/23
      GROUP MEMBER ASSIGNMENTS              Total Administered Members:  23

                Port    Code Sfx Name        Night        Sig Grp
            1: 02C1601  TN464  G                             17
            2: 02C1602  TN464  G                             17
            3: 02C1603  TN464  G                             17
            4: 02C1604  TN464  G                             17
            5: 02C1605  TN464  G                             17
            6: 02C1606  TN464  G                             17
            7: 02C1607  TN464  G                             17
            8: 02C1608  TN464  G                             17
            9: 02C1609  TN464  G                             17
           10: 02C1610  TN464  G                             17
           11: 02C1611  TN464  G                             17
           12: 02C1612  TN464  G                             17
           13: 02C1613  TN464  G                             17
           14: 02C1614  TN464  G                             17
           15: 02C1615  TN464  G                             17
           16: 02C1616  TN464  G                             17
           17: 02C1617  TN464  G                             17
           18: 02C1618  TN464  G                             17
           19: 02C1619  TN464  G                             17
           20: 02C1620  TN464  G                             17
           21: 02C1621  TN464  G                             17
           22: 02C1622  TN464  G                             17
           23: 02C1623  TN464  G                             17
```

Figure 8: Trunk Group Administration

8. Submit the trunk group form
9. From the SAT terminal, type "change signal-group ##", where ## is the signaling group created in Step 4.
10. Enter the trunk group number created in Step 6 for Trunk Group for Channel Selection
11. Submit the change.

3.3. Start the Voice Server Services

The DCC Communicator server comes with one batch file that automates the process of starting the server and applications. Run the StartVS.bat file. This file can be found in the Startup group or the DCC folder.

4. Interoperability Compliance Testing

4.1. General Test Approach

The compliance test encompassed both feature and performance tests. In addition, the compliance test also included DTMF testing with Avaya IP, digital and analog telephones. A call generator test tool was used to generate calls to the DCC Communicator.

4.2. Test Results

The DCC Communicator server successfully passed all test cases.

5. Support

Technical support is provided by Dialogic Communication Corportation. For Professional Service Support call 615.794.2307 or email support@dccusa.com.

6. Verification Steps

Run the StartVS.bat file. Click on the **Voice Server Version 2** window and verify that all channels indicate "Waiting for call" in the status column as shown in **Figure 14**.
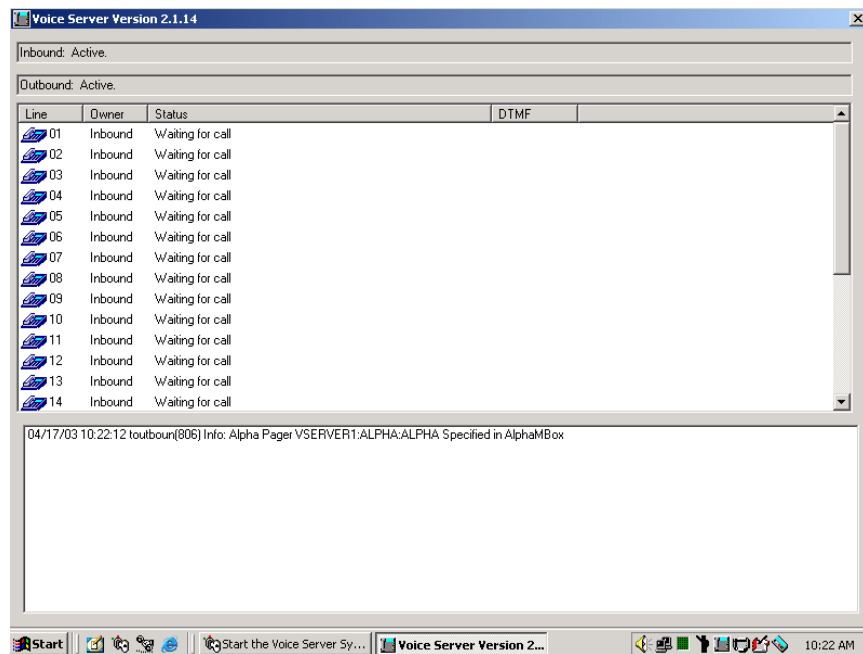

Figure 14: Voice Server Status

7. Conclusion

This interoperability compliance test verified that the DCC Communicator server successfully integrates with Avaya Communication Manager platforms using the ISDN-PRI protocol.

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