



## **Avaya Solution & Interoperability Test Lab**

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# **Application Notes for Configuring Avaya Communication Server 1000E R7.5 and Avaya Aura<sup>®</sup> Session Manager R6.1, with Visionutveckling Vision 80/20 Call Server V9 using SIP Trunks - Issue 1.0**

### **Abstract**

These Application Notes describe the configuration steps for provisioning Avaya Communication Server 1000E R7.5 and Avaya Aura<sup>®</sup> Session Manager R6.1 to successfully interoperate with Visionutveckling Vision 80/20 Call Server V9 using SIP Trunks. The Visionutveckling Vision 80/20 Call Server is a software application installed on a Windows Server that includes functions for voice call forwarding, interactive voice response and spoken presence with additional voice mail and queue management for attendant calls.

Information in these Application Notes has been obtained through DevConnect Compliance Testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

## 1. Introduction

Visionutveckling Vision 80/20 Call Server includes a voice application with capability to give Spoken Presence or absence information integrated with the employee recorded greetings. The system is accessible for the employee either from a phone or a web based interface.

Visionutveckling Vision 80/20 Call Server has possibilities to transfer calls to mobile phones, operators, etc., depending on the settings made by the employee. These settings can be a combination of presence and absence or personal choice of IVR menu selections. If

Visionutveckling Vision 80/20 Call Server transfers calls it can modify call information such as originally searched extension and diversion reason. All information given to the calling party by the system is a combination of the employees recorded greetings and the information in the Visionutveckling Vision 80/20 Call Server presence database.

## 2. General Test Approach and Test Results

The interoperability compliance test included both feature and functionality testing. The feature and functionality testing focused on verifying that the presence and absence or personal choice of IVR is activated in various scenarios. Basic dialing plans were configured to route call to various extensions on the Vision 80/20 Call Server. A variety of Avaya telephones were installed and configured on the Communication Server 1000E (CS1000E). A full list can be found in **Section 4**. A Vision 80/20 Call Server is usually installed in conjunction with the Vision 80/20 Call Server and was installed during compliance testing. See **Figure 1** for a network diagram.

### 2.1. Interoperability Compliance Testing

The testing included:

- Verification of connectivity between the Vision 80/20 Call Server and CS1000E using SIP Trunks
- Verification that calls were routed correctly based on employee input
- Verification that interactive voice response occurs in various telephony operations.
- Verification that spoken presence answers in various telephony operations
- Verify Route Optimization

Link Failure\Recovery was also tested to ensure successful reconnection on link failure.

### 2.2. Test Results

Tests were performed to insure full interoperability between the Vision 80/20 Call Server and the CS1000E. The tests were all functional in nature and performance testing was not included. All the test cases passed successfully.

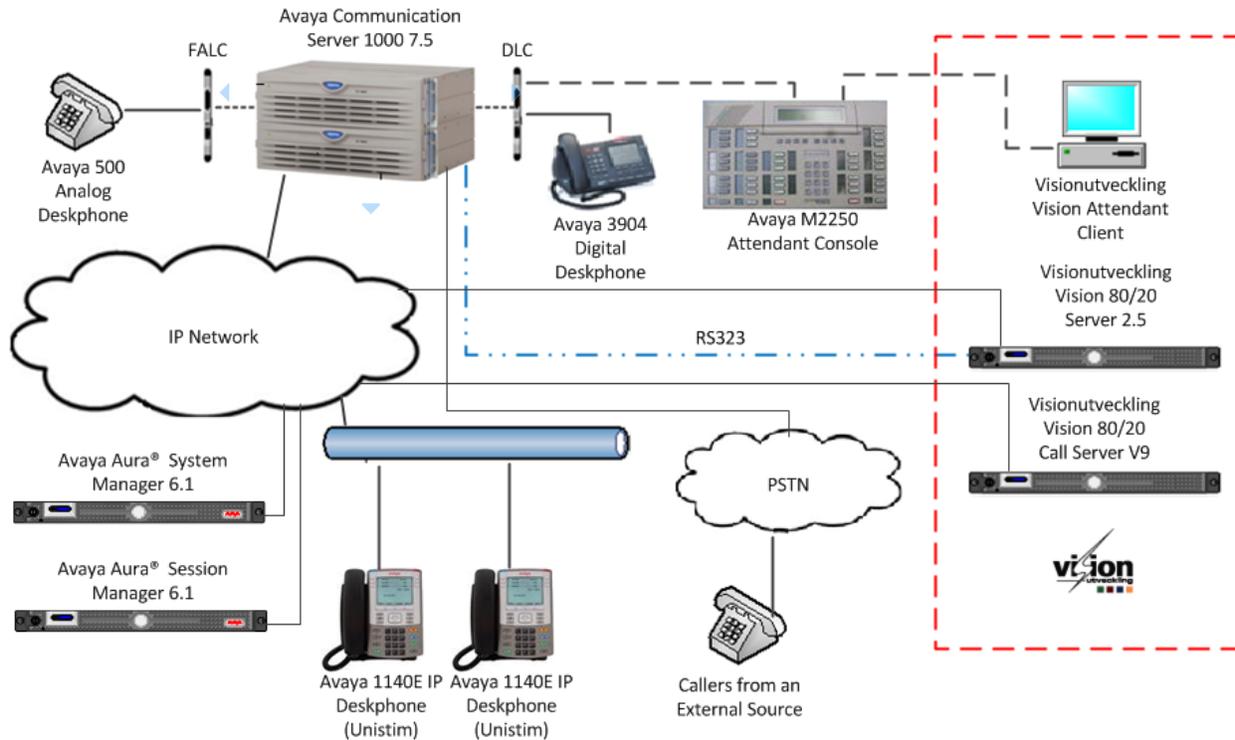
### 2.3. Support

Technical support can be obtained for Visionutveckling products as follows:

Website: [support@visionutveckling.se](mailto:support@visionutveckling.se) (General)  
<http://partner.visionutveckling.se> (Partners and customers)  
Phone: +46 (0) 770 770070

### 3. Reference Configuration

The Vision 80/20 Call Server connects to the CS1000E using a SIP Trunk via the Session Manager. A System Manager is used to configure the Session Manager. For completeness during testing the following were also configured and are shown in the diagram below: A variety of Avaya telephone sets including a M2250 Attendant Console, from Visionutveckling a Vision 80/20 Call Server V2.5 and a Vision Attendant Client were configured.



**Figure 1: Network Topology and Connectivity for Visionutveckling Vision 80/20 Call Server and Avaya Communication Server 1000E**

## 4. Equipment and Software Validated

The hardware and associated software used in compliance testing is listed in the table below.

Equipment	Software Version
Avaya Communication Server 1000E CPPM	Avaya Communication Server 1000E R7.5 SP1
CP-PM CoRes	HW NTDW61
Avaya Communication Server 1000E Media Gateway	HW NTDW60
Avaya S8800 Media Server	Avaya Aura <sup>®</sup> System Manager R6.1 Build 6.1.0023
Avaya S8800 Media Server	Avaya Aura <sup>®</sup> Session Manager R6.1 Build 6.1.0012
Avaya Flexible Analog Line Card	NT5K02QC
Avaya Digital Line Card	NT8D02
Avaya 3904 Digital set	F/W 2.4
Avaya 1140E IP set	UNISim 4.3
Avaya Analog set	NT2N73AA
Avaya M2250 Attendant Console	NT6G48AC
Visionutveckling Vision 80/20 Call Server	Visionutveckling Vision 80/20 Call Server Version 9
Visionutveckling Vision 80/20 Server	Visionutveckling Vision 80/20 Server Version 2.5
Visionutveckling Vision 80/20 Attendant Client	Visionutveckling Vision 80/20 Attendant Client Version 2.5

**Table 1: Hardware and Software Version Numbers**

**Note:** For a complete list of the patches installed on the CS1000E see **Appendix A**.

## 5. Configure Avaya Communication Server 1000E

Configuration and verification operations on the CS1000E illustrated in this section were all performed using terminal access over a serial link to a TTY port on the CS1000E using Telnet. The information provided in this section describes the configuration of the CS1000E for this solution. It is implied a working system is already in place including a SIP Route to the Session Manager. During Compliance testing Route 20 was configured, the D-Channel for this route was 66.

**Note:** Appendix B shows a print out of both SIP Route 20 and D-Channel 66.

For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 10**.

The configuration operations described in this section can be summarized as follows:

- Create a Coordinated Dialing Plan to access the Visionutveckling Vision 80/20 Call Server
- Create Distance Steering Codes (DSC)

**Note:** In the Telnet screenshots below only the unique prompt inputs are shown. Carriage Return all other prompts to set default values.

### 5.1. Create a Coordinated Dialing Plan to access the Visionutveckling Vision 80/20 Call Server

There are a number of ways to setup a dialing plan to call the ports on the Vision 80/20 Call Server. For compliance testing a Coordinated Dialing Plan (CDP) was used. In order to create a CDP a Route List Index (RLI) in overlay 86 (**LD86**) is required. Use the **NEW** command in overlay 86 to create a **RLI**. Subsets of these commands are illustrated below.

**Note:** Enter the SIP route (**ROUT**) that is used to route to the Session Manager (i.e. **20**).

#### LD 86

Prompt	Response	Description
> <b>LD</b>	<b>86</b>	Enter Overlay 86
REQ	<b>NEW</b>	Create New
CUST	<b>0</b>	Customer Number
FEAT	<b>RLB</b>	Route list Block
TYPE	RLI	Route list Index
RLI	<b>36</b>	Route list Index number
ENTR	<b>0</b>	First entry for the RLI
ROUT	<b>20</b>	Enter the SIP route number

## 5.2. Create Distance Steering Codes (DSC)

Use the **NEW** command in overlay 87 (**LD 87**) to create a DSC entry for the extensions on the Vision 80/20 Call Server. For each extension a DSC entry needs to be created. During compliance testing 6 extensions were used. The example below shows only the DSC for extension 6199. A DSC for other extensions are configured in the same way. Subsets of these commands are illustrated below.

**Note:** The RLI number used is the one created in **Section 5.1**.

### LD 87

Prompt	Response	Description
> <b>LD 87</b>		Enter Overlay 87
REQ	<b>NEW</b>	Create new
CUST	0	Customer Number as defined in LD15
FEAT	<b>CDP</b>	Coordinated dialing plan
TYPE	<b>DSC</b>	Distance Steering code
DSC	<b>6199</b>	Distant Steering code
FLEN	<b>4</b>	Flexible Length number of digits
RLI	<b>36</b>	Route list index Number

## 6. Creating Visionutveckling Vision 80/20 Call Server as a SIP Endpoint on the Avaya Aura® Session Manager

Configuration of the Session Manager were performed using a web GUI provided by the System Manager. The information provided in this section describes the configuration of the CS1000E for this solution. It is implied a working system is already in place. During Compliance testing a SIP Entity (Called **Cores3**) and an Entity Link for the CS1000E were created. Also a Routing Policy and a Dial Pattern to route calls to the CS100E were created. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 10**. The configuration operations described in this section can be summarized as follows:

- Create Vision 80/20 Call Server in Session Manager as a SIP Entity
- Create an Session Manager to Vision 80/20 Call Server Entity Link.
- Create a routing Pattern in Session Manager for the Vision 80/20 Call Server
- Create a Routing Policy for the Vision 80/20 Call Server
- Create a Dial Pattern for the Vision 80/20 Call Server
- Create a Routing Policy for the CS100E
- Create a Dial Pattern for the CS100E

## 6.1. Creating the Visionutveckling Vision 80/20 Call Server as a SIP Endpoint on the Avaya Aura® Session Manager

To create the Vision 80/20 Call Server as a SIP Entity on the Session Manager, the System Manager is used for administration. The following steps are required.

- SIP Entity
- SIP Entity Details
- Create an Entity Link

**Note:** To get more information for any input field you can press the **Help** link at anytime.

Configuration is accomplished by accessing the browser-based GUI of System Manager, using the URL <http://<fqdn>/SMGR> or <http://<ip-address>/SMGR>, where: <fqdn> is the fully qualified domain name of the System Manager <ipaddress> is the IP address of System Manager. Log in with the appropriate credentials. Once logged in select the **Routing** Link under the **Elements** column.

The screenshot displays the Avaya Aura System Manager 6.1 web interface. At the top left is the AVAYA logo, and at the top center is the text "Avaya Aura™ System Manager 6.1". On the top right, there are links for "Help | About | Change Password | Log off admin". Below the header, there is a navigation bar with "Session Manager" and "Home" tabs. The main content area is divided into three columns: "Users", "Elements", and "Services". The "Elements" column contains a list of menu items: "Application Management", "Communication Manager", "Conferencing", "Inventory", "Messaging", "Presence", "Routing", "SIP AS 8.1", and "Session Manager". The "Routing" item is circled in red. The "Services" column contains items like "Backup and Restore", "Configurations", "Events", "Licenses", "Replication", "Scheduler", "Security", "Templates", and "UCM Services".

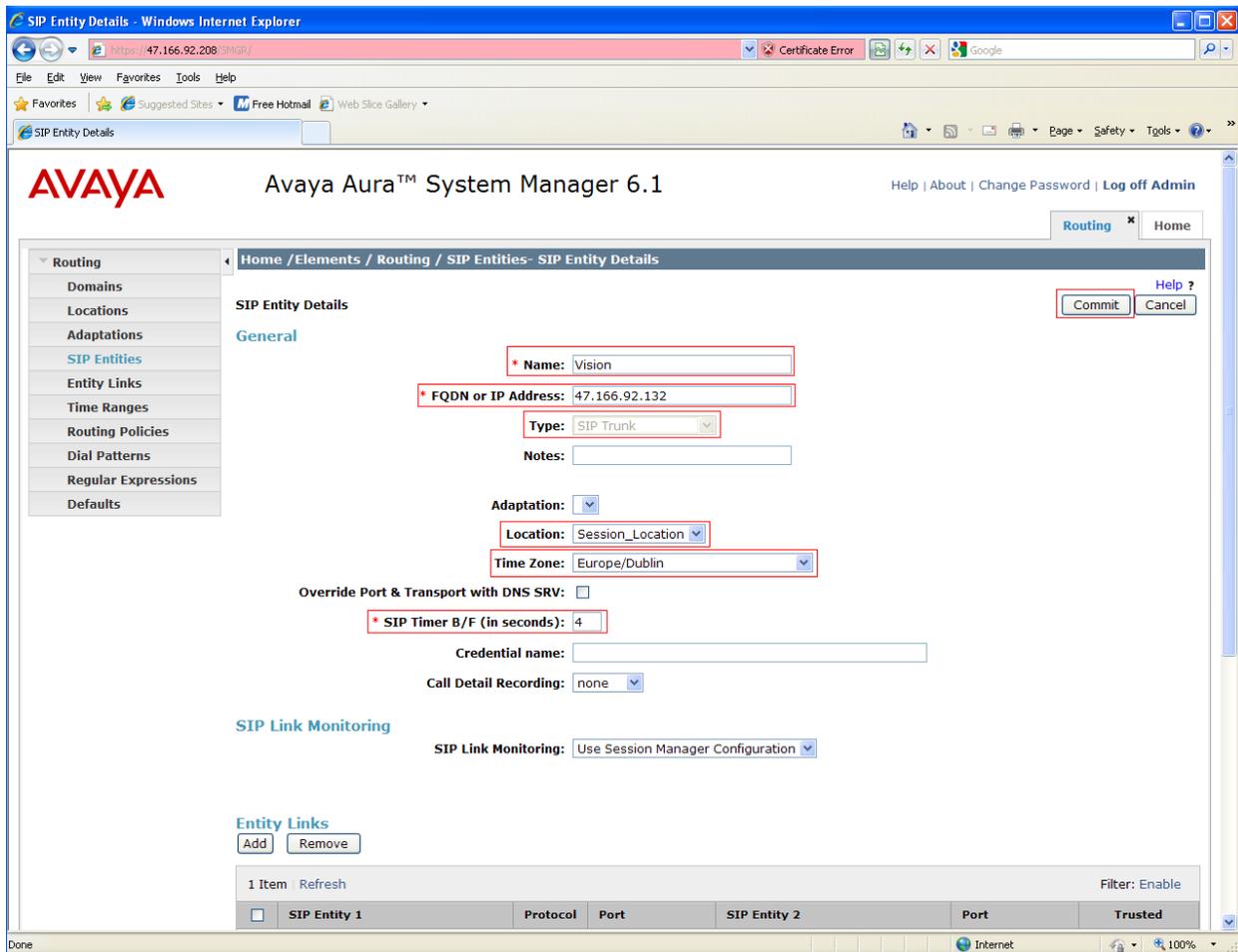
A SIP Entity must be added for Vision 80/20 Call Server Endpoint. To add a SIP Entity, select **SIP Entities** on the left panel menu and then click on the **New** button (not shown).

Enter the following for the Vision 80/20 Call Server SIP Entity:

Under **General**:

- **Name** An informative name (e.g., **Vision**)
- **FQDN or IP Address** IP address of the signaling interface on the Trio Enterprise
- **Type** **SIP Trunk** for Vision
- **Location** **Session\_Location**
- **Time Zone** Time zone for this location **Europe/Dublin**
- **SIP Timer** **4**

After the correct information is entered, click the **Commit** button.



## 6.2. Create Avaya Aura® Session Manager to Visionutveckling Vision 80/20 Call Server Entity Link

The SIP trunk between the Session Manager and the Vision 80/20 Call Server requires an Entity Link.

To add an Entity Link, select **Entity Links** on the left panel menu and click on the **New** button (not shown). Fill in the following fields in the new row that is displayed.

- **Name** An informative name, (e.g. **To Vision**)
- **SIP Entity 1** Select **Session\_Manager** from the **SIP Entity 1** dropdown box
- **Protocol** Select **UDP** from the Protocol
- **Port** Enter **5060** as the Port
- **SIP Entity 2** Select **Vision** from the **SIP Entity 2** dropdown box
- **Port** Enter **5060** as the Port
- **Trusted** Check the **Trusted** check box

Click **Commit** to save changes. The following screen shows the Entity Links used.

The screenshot shows the Avaya Aura System Manager 6.1 interface. The left navigation pane is expanded to 'Entity Links'. The main content area displays a table with one row of configuration data. The table columns are Name, SIP Entity 1, Protocol, Port, SIP Entity 2, Port, Trusted, and Notes. The row contains: Name: \*ToVision, SIP Entity 1: \*Session\_Manager, Protocol: UDP, Port: \*5060, SIP Entity 2: \*Vision, Port: \*5060, Trusted: checked, Notes: empty. The Commit button is highlighted with a red box.

Name	SIP Entity 1	Protocol	Port	SIP Entity 2	Port	Trusted	Notes
*ToVision	*Session_Manager	UDP	*5060	*Vision	*5060	<input checked="" type="checkbox"/>	

### 6.3. Create a Routing Policy for Visionutveckling Vision 80/20 Call Server

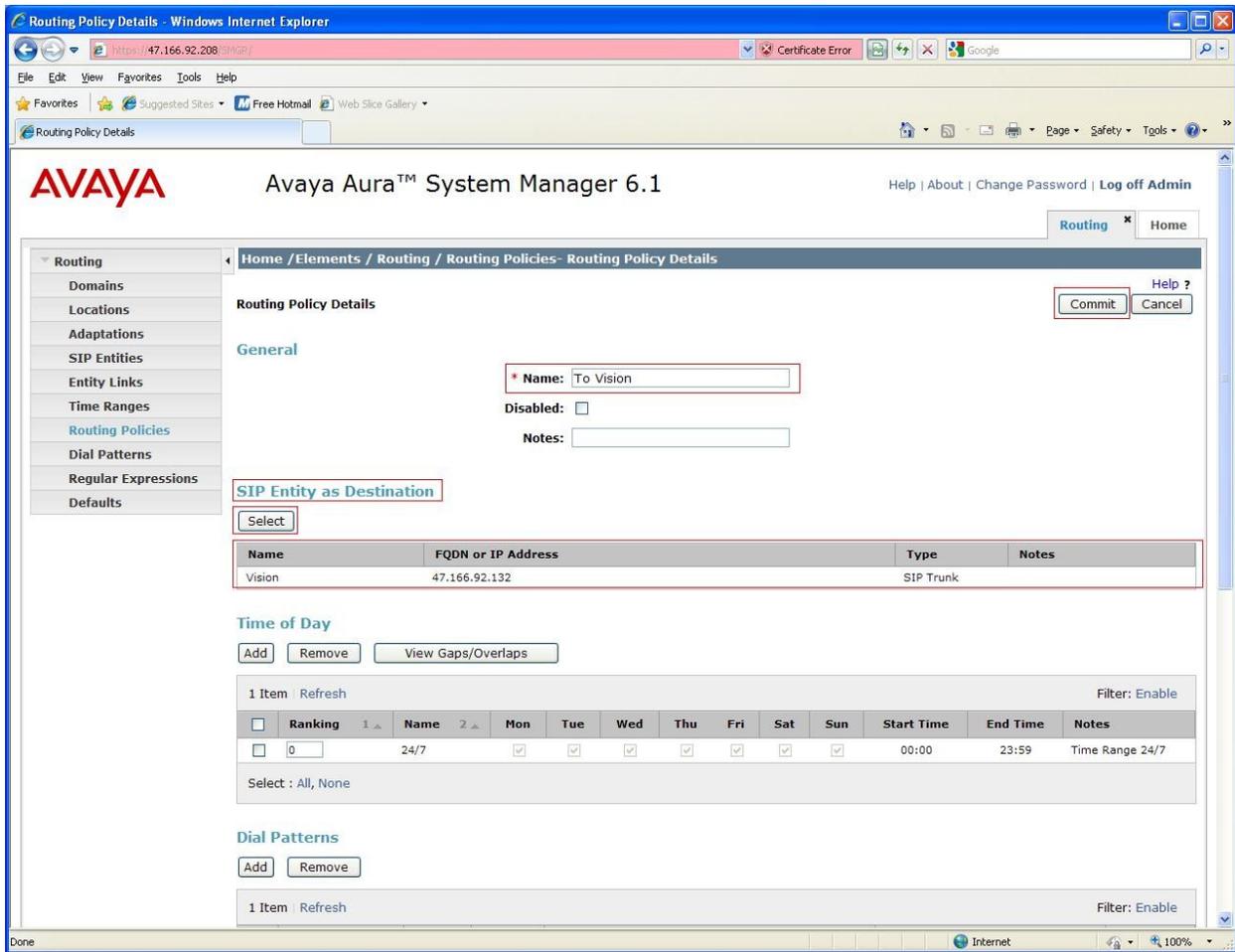
Create routing policies to direct calls to the Vision 80/20 Call Server. To add a routing policy, select **Routing Policies** on the left panel menu and then click on the **New** button (not shown). Under **General** enter the following:

- **Name** Enter an informative name, (example, **To Vision**)

Under **SIP Entity as Destination**, click **Select**

- **Vision** Check the radio button.

Click on the **Select** button to confirm the chosen options and return to the **Routing Policies Details** screen, select **Commit** button to save. The following screen shows the **Routing Policy Details** for calls to Vision 80/20 Call Server.



## 6.4. Create Dial Pattern Visionutveckling Vision 80/20 Call Server

A dial pattern must be created on the Session Manager to route calls to and from the Vision 80/20 Call Server. During testing 4 numbers were used 6211, 6212, 6213, and 6214. The example below only shows 6211, the other numbers are created the same way. The SIP Domain used was **dpp.nortel**. To configure the Vision 80/20 Call Server Dial Pattern select **Dial Patterns** on the left panel menu and then click on the **New** button (not shown).

Under **General** carry out the following for each number

- **Pattern** Dialed number or prefix **6211**
- **Min** Minimum length of dialed number **4**
- **Max** Maximum length of dialed number **4**
- **SIP Domain** Select **dpp.nortel**

Continue to **Originating Locations and Routing Policy List**.

The screenshot displays the Avaya Aura System Manager 6.1 web interface. The browser window title is "Dial Pattern Details - Windows Internet Explorer". The URL is "https://47.166.92.208:8080/MGR/". The page shows the "Dial Pattern Details" configuration page for a dial pattern named "6211". The "General" section is active, and the following fields are highlighted with red boxes: "Pattern" (6211), "Min" (4), "Max" (4), "Emergency Call" (unchecked), and "SIP Domain" (dpp.nortel). Below the "General" section, the "Originating Locations and Routing Policies" section is visible, showing a table with one item: "Session\_Location" with a routing policy of "to Cores3". The "Denied Originating Locations" section is also visible, showing zero items.

Avaya Aura™ System Manager 6.1

Help | About | Change Password | Log off Admin

Routing x Home

Home / Elements / Routing / Dial Patterns- Dial Pattern Details

Dial Pattern Details

Commit Help ? Cancel

General

\* Pattern: 6211

\* Min: 4

\* Max: 4

Emergency Call:

SIP Domain: dpp.nortel

Notes:

Originating Locations and Routing Policies

Add Remove

1 Item Refresh Filter: Enable

<input type="checkbox"/>	Originating Location Name 1 ▲	Originating Location Notes	Routing Policy Name	Rank 2 ▲	Routing Policy Disabled	Routing Policy Destination	Routing Policy Notes
<input type="checkbox"/>	Session_Location		to Cores3	0	<input type="checkbox"/>	Cores3	

Select : All, None

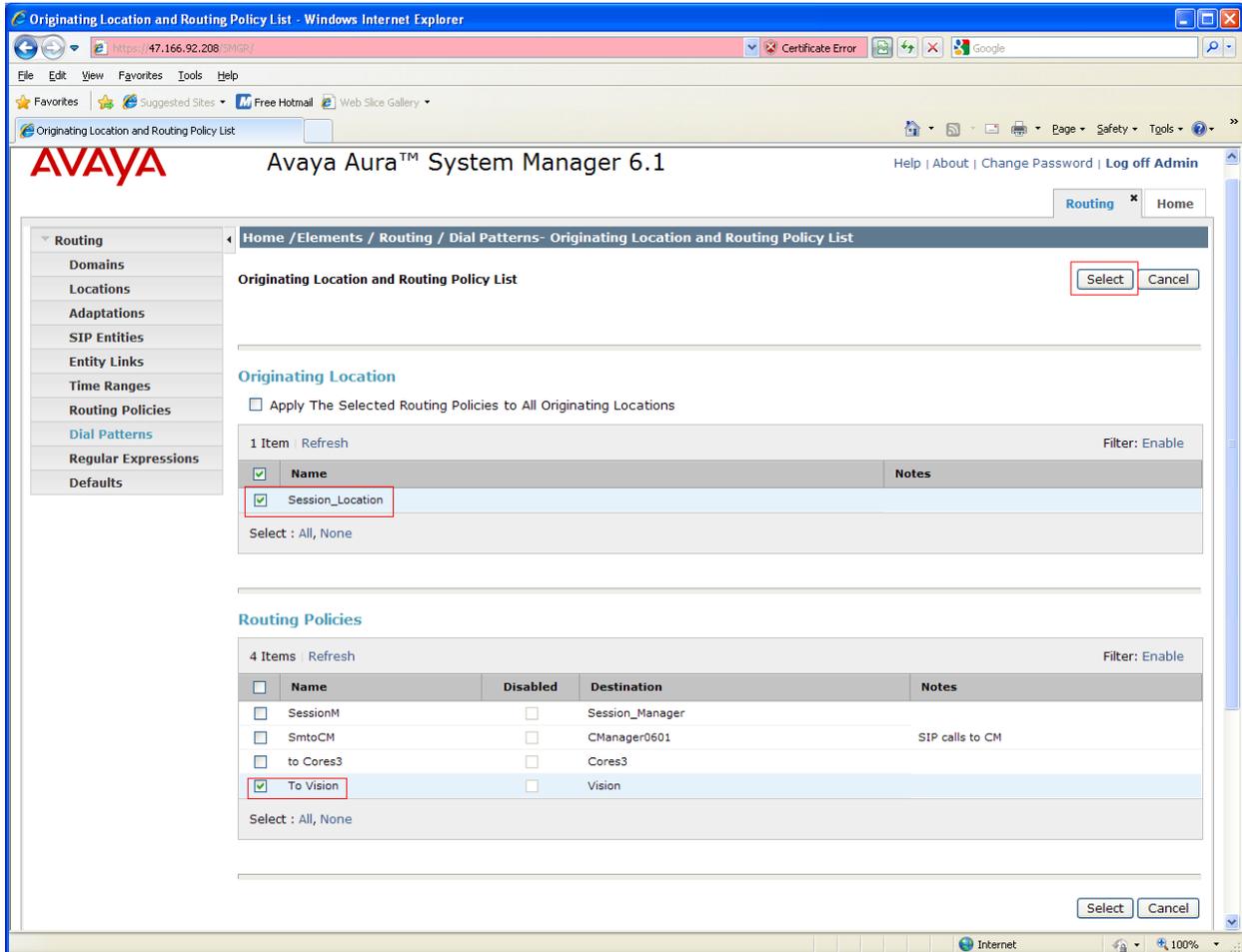
Denied Originating Locations

Add Remove

0 Items Refresh Filter: Enable

<input type="checkbox"/>	Originating Location	Notes
--------------------------	----------------------	-------

Select **Add** (not shown). Under **Originating Location** check the **Session\_Location** check box. Under **Routing Policies** check the **To Vision** check box. Click on the **Select** button to confirm the chosen options and return to the Dial Pattern screen (shown previously), select **Commit** button to save.



## 7. Configure Visionutveckling Vision 80/20 Call Server

After the Vision 80/20 Call Server software is installed a number of steps are required. Most of the steps relate to editing config files. Information of the initial software is installation is available on the Visionutveckling partner portal. The following steps are required to configure the Vision 80/20 Call Server configuration:

- Linking the SIP Configuration File
- Edit the **wtlp\_config** file
- Enter the Session Manager IP address and CS1000E Domain
- Edit the **sip.config** file
- Edit the **sip.conf\_nortel** file
- Edit the **Switchtable** file

### 7.1. Linking the SIP Configuration File

As part of the configuration of the Vision 80/20 Call Server a specific Config file needs to be linked to the correct template so to connect to the Session Manager of the CS1000E. Perform the following steps to link the Config file:

- Login to the system
- Go to the **root@vip2000** prompt
- Link the **config.sip\_nortel** to the **wtlp\_config** file

#### 7.1.1. Login to the System root

To login to the system root enter

```
user = root and password = Enter the correct password
```

#### 7.1.2. Go to the root@vip2000 prompt

To link the required config file to the Vision 80/20 Call Server template first go to the **root@vip2000** prompt. To get to the **root@vip2000** prompt type the following:

```
vzctl enter 1001
```

#### 7.1.3. Link the Config File

The files that are required to be linked can be found in the following directory. **/etc/asterisk**. The template file is called **wtlp\_config**. The Config file that needs to be linked to the **wtlp\_config** file is called **wtlp\_config.sip\_nortel**. To link the files type the following:

```
ln -sf wtlp_config.sip_nortel wtlp_config
```

## 7.2. Edit the wtlp\_config File

Use **vi** to edit the **wtlp\_config** file found in the **/etc/asterisk** directory In this file locate **LP\_BTRANSFORMS=** and insert the following **!^(999999999.\*)\$!1@local\_start!,!^([0-9]{1,})\$!sip\_nortel1\1!**, if it is not already entered. Then quit and save.

### 7.3. Enter the Avaya Aura® Session Manager IP address and CS1000E Domain

To enter the Session Manager IP address and CS1000E Domain use **vi** to edit the host file found in the **/etc** directory. During compliance testing the Session Manager IP address was **47.166.92.217** and the domain was **dpp.nortel**. The following steps are required:

- Insert **47.166.92.217 dpp.nortel**

Then quit and save.

### 7.4. Edit the sip.config File

The **sip.config** file can be found in directory **/etc/asterisk**. Use **vi** to locate and comment out the following two lines:

- **Bindaddr**
- **Rtpaddr**

At the end of the file insert the line **#include "sip.conf\_nortel"**, if it is not already present. Then quit and save.

### 7.5. Edit the sip.conf\_nortel File

The **sip.conf\_nortel** file can be found in directory **/etc/asterisk**. The **host** is the Session Manager IP address added in the hosts file in **Section 7.3**. Use **vi** to insert or edit the following lines. Then quit and save.

```
[sip_nortel1]
type=peer
context=sip_nortel
host=47.166.92.217
disallow=all
allow=ulaw
allow=alaw
nat=no
canreinvite=yes
qualify=no
alwaysauthreject=no
dtmfmode=rfc2833
```

## 7.6. Edit the swithtable file

The swithtable is used to configure numbers/extensions which are routed to the Vision 80/20 Call Server. To edit the **swithtable** change to a User which has Super User permissions, as example **vip2000**. To change to Super User **vip2000** type **su – vip2000**. The swithtable file can be found in directory **/u/vip2000/Config**. Use **vi** to insert or edit the following lines as illustrated in the table below. During compliance testing numbers **6198**, **5198**, **5197** and **5196** were used. Then quit and save.

*	*	[.] * [.] * [.] * * *	vmail "-c I <ANR> <BNR> <CNR> <TYPE> <ORIGIN>"
*	*	[.] * [.] * ^6198\$ * *	vmail "-c I <ANR> <CNR> <BNR> <TYPE> external"
*	*	[.] * [.] * ^5198\$ * *	vmail "-c I <ANR> <CNR> <BNR> <TYPE> <ORIGIN>"
*	*	[.] * [.] * ^5197\$ * *	vmail "-c I <ANR> <CNR> <BNR> <TYPE> external"
*	*	[.] * [.] * ^5196\$ * *	vmail "-c I <ANR> <CNR> <BNR> <TYPE> external"

## 8. Verification Steps

This section provides the tests that can be performed to verify correct configuration of the CS1000E and the Vision 80/20 Call Server.

### 8.1. Status of D-Channel on Avaya Communication Server 1000E

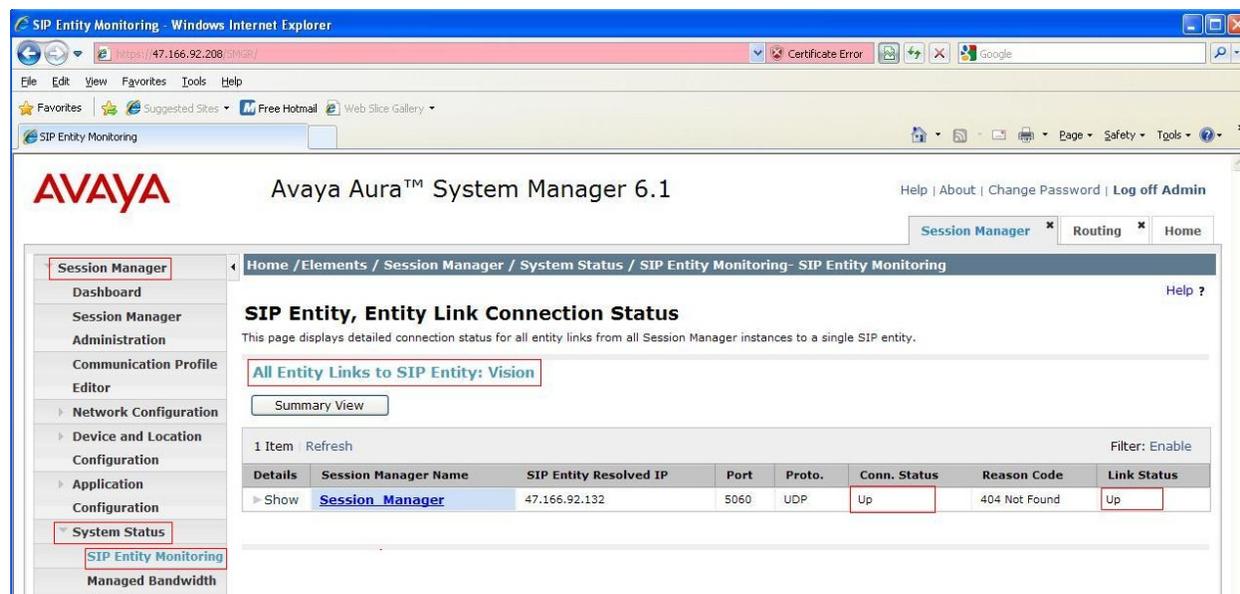
Check the status of the D-channel used between the Session Manager and the CS1000E by running the command **STAT DCH** in overlay 96 (**LD 96**) as shown below. The example below shows that D-Channel 66 is operational and established.

#### LD 96

Prompt	Response	Description
> <b>LD 96</b>		Enter Overlay 96
<b>STAT DCH 66</b>	Check status of D-Channels	
<b>DCH 66</b>	<b>OPER EST</b>	<b>DES :VTRK_DCH</b>

## 8.2. SIP Entity Link Connection Status between Avaya Aura® Session Manager and Visionutveckling Vision 80/20 Call Server

To check the connection Status between the Session Manager and Vision 80/20 Call Server log in to the System Manager as per **Section 6.1**. Go to the following link, **Elements/Session Manager/System Status/ SIP Entity Monitoring**. Click on SIP Entity, example **Vision**.



The screenshot shows the Avaya Aura System Manager 6.1 interface. The browser window title is "SIP Entity Monitoring - Windows Internet Explorer". The address bar shows "https://47.166.92.208:8080/". The page title is "Avaya Aura™ System Manager 6.1". The breadcrumb navigation is "Home / Elements / Session Manager / System Status / SIP Entity Monitoring - SIP Entity Monitoring". The main content area is titled "SIP Entity, Entity Link Connection Status" and includes a sub-header "All Entity Links to SIP Entity: Vision". A table displays the connection status for one item:

Details	Session Manager Name	SIP Entity Resolved IP	Port	Proto.	Conn. Status	Reason Code	Link Status
Show	Session Manager	47.166.92.132	5060	UDP	Up	404 Not Found	Up

## 8.3. SIP Entity Link Connection Status between Avaya Aura® Session Manager and Avaya Communication Server 1000E

To check the connection Status between the Session Manager and Communication Server 1000E log in to the System Manager as per **Section 6.1**. Go to the following link, **Elements/Session Manager/System Status/ SIP Entity Monitoring**. Click on SIP Entity, example **Cores3**.

The screenshot shows the Avaya Aura System Manager 6.1 web interface. The browser address bar displays 'https://47.166.92.208'. The page title is 'Avaya Aura™ System Manager 6.1'. The navigation menu on the left includes 'Session Manager', 'Dashboard', 'Administration', 'Communication Profile Editor', 'Network Configuration', 'Device and Location Configuration', 'Application Configuration', 'System Status', and 'SIP Entity Monitoring'. The main content area is titled 'SIP Entity, Entity Link Connection Status' and shows a summary of 'All Entity Links to SIP Entity: Cores3'. A table below displays the connection status for one item:

Details	Session Manager Name	SIP Entity Resolved IP	Port	Proto.	Conn. Status	Reason Code	Link Status
Show	Session Manager	47.166.92.219	5060	TCP	Up	200 OK	Up

## 9. Conclusion

These Application Notes describe the configuration steps required for Avaya Communication Server 1000E R7.5 to successfully interoperate with Visionutveckling Vision 80/20 Call Server V9 using SIP Trunks. All of the executed test cases have passed and met the objectives outlined in Section 2.2..

## 10. Additional References

This section references the Avaya and Visionutveckling documentation that is relevant to these Application Notes. Product documentation for Avaya products may be found at:

<http://support.avaya.com>

- [1] *Software Input Output Reference — Administration Avaya Communication Server 1000 7.5, NN43001-611, 05.09 September 2011*
- [2] *System Management Reference Avaya Communication Server 1000 7.5, NN43001-600, 05.07 August 2011*
- [3] *Telephones and Consoles Fundamentals Avaya Communication Server 1000 - NN43001-567, 05.01, November 2010*

Technical documentation for Visionutveckling can be found at the following location: (requires login, Swedish only).

- [1] <http://www.vision8020.se/wiki/>

## Appendix A: Avaya Communication Server 1000E Software

### Avaya Communication Server 1000E call server deplists

```

VERSION 4121
RELEASE 7
ISSUE 50 Q +
DepList 1: core Issue: 01 (created: 2011-03-15 10:26:33 (est))
IN-SERVICE PEPS
PAT# CR #          PATCH REF #      NAME          DATE          FILENAME          SPECINS
000 wi00688505      ISS1:1OF1       p30595_1      14/06/2011   p30595_1.cpl     NO
001 wi00835294      ISS1:1OF1       p30565_1      14/06/2011   p30565_1.cpl     NO
002 wi00832106      ISS1:1OF1       p30550_1      14/06/2011   p30550_1.cpl     NO
003 wi00837618      ISS1:1OF1       p30594_1      14/06/2011   p30594_1.cpl     NO
004 wi00852365      ISS1:1OF1       p30707_1      14/06/2011   p30707_1.cpl     NO
005 wi00843623      ISS1:1OF1       p30731_1      14/06/2011   p30731_1.cpl     YES
006 wi00839255      ISS1:1OF1       p30591_1      14/06/2011   p30591_1.cpl     NO
007 wi00832626      ISS2:1OF1       p30560_2      14/06/2011   p30560_2.cpl     NO
008 wi00857566      ISS1:1OF1       p30766_1      14/06/2011   p30766_1.cpl     NO
009 wi00841980      ISS1:1OF1       p30618_1      14/06/2011   p30618_1.cpl     NO
010 wi00837461      ISS1:1OF1       p30597_1      14/06/2011   p30597_1.cpl     NO
011 wi00839821      ISS1:1OF1       p30619_1      14/06/2011   p30619_1.cpl     NO
012 wi00842409      ISS1:1OF1       p30621_1      14/06/2011   p30621_1.cpl     NO
013 wi00838073      ISS1:1OF1       p30588_1      14/06/2011   p30588_1.cpl     NO
014 wi00850521      ISS1:1OF1       p30709_1      14/06/2011   p30709_1.cpl     YES
015 wi00860722      ISS1:1OF1       p30784_1      14/06/2011   p30784_1.cpl     YES
016 wi00839134      ISS1:1OF1       p30698_1      14/06/2011   p30698_1.cpl     YES
017 wi00836981      ISS1:1OF1       p30613_1      14/06/2011   p30613_1.cpl     NO

```

### Avaya Communication Server 1000E Peripheral Software Version (PSWV) data

```

PSWV          VERSION: PSWV 100
LCRI:         VERSION NUMBER: AA02
XNET:         VERSION NUMBER: AC23
XPEC:         VERSION NUMBER: AC43
FNET:         VERSION NUMBER: AA07
FPEC:         VERSION NUMBER: AA08
MSDL:         VERSION NUMBER: AJ73
SDI:          VERSION NUMBER: AH51
DCH:          VERSION NUMBER: AA72
AML:          VERSION NUMBER: AK81
BRIL:         VERSION NUMBER: AK83
BRIT:         VERSION NUMBER: AK82
MISP:         VERSION NUMBER: AJ71
MPH:          VERSION NUMBER: AH51
BRSC:         VERSION NUMBER: AJ71
BBRI:         VERSION NUMBER: AH54
PRIE:         VERSION NUMBER: AA87
BRIE:         VERSION NUMBER: AK89
ISIG:         VERSION NUMBER: AA33
SWE1:         VERSION NUMBER: BA53
UKG1:         VERSION NUMBER: BA51
AUS1:         VERSION NUMBER: BA49
DEN1:         VERSION NUMBER: BA48
FIN1:         VERSION NUMBER: BA49
GER1:         VERSION NUMBER: BA54
ITA1:         VERSION NUMBER: AA54
NOR1:         VERSION NUMBER: BA49

```

POR1: VERSION NUMBER: BA49  
DUT1: VERSION NUMBER: BA50  
EIR1: VERSION NUMBER: BA49  
SWI1: VERSION NUMBER: BA53  
BEL1: VERSION NUMBER: BA49  
SPA1: VERSION NUMBER: BA51  
NET1: VERSION NUMBER: BA48  
FRA1: VERSION NUMBER: BA52  
CIS1: VERSION NUMBER: BA48  
ETSI: VERSION NUMBER: BA48  
E403: VERSION NUMBER: BA07  
N403: VERSION NUMBER: BA05  
JTTC: VERSION NUMBER: AC08  
TCNZ: VERSION NUMBER: AA13  
AUBR: VERSION NUMBER: AA14  
AUPR: VERSION NUMBER: AA04  
HKBR: VERSION NUMBER: AA06  
HKPR: VERSION NUMBER: AA08  
SING: VERSION NUMBER: AA15  
THAI: VERSION NUMBER: AA07  
NI02: VERSION NUMBER: AA26  
T1IS: VERSION NUMBER: AA10  
T1ES: VERSION NUMBER: AA09  
ESGF: VERSION NUMBER: AC30  
ISGF: VERSION NUMBER: AC31  
ESGF1: VERSION NUMBER: AC29  
ISGF1: VERSION NUMBER: AC31  
INDO: VERSION NUMBER: AA06  
JAPN: VERSION NUMBER: AA16  
MSIA: VERSION NUMBER: AA04  
CHNA: VERSION NUMBER: AA04  
INDI: VERSION NUMBER: AA03  
PHLP: VERSION NUMBER: AA02  
TAIW: VERSION NUMBER: AA03  
EAUS: VERSION NUMBER: AA02  
EGF4: VERSION NUMBER: AC14  
DCH3: VERSION NUMBER: AA10  
PUP3: VERSION NUMBER: AA14  
T1E1: VERSION NUMBER: AA19  
DITI: VERSION NUMBER: AA40  
CLKC: VERSION NUMBER: AA20  
3902: VERSION NUMBER: AA84  
3903: VERSION NUMBER: AA91  
3904: VERSION NUMBER: AA94  
3905: VERSION NUMBER: AA94  
MGC, MGX and MGS: CSP VERSION: MGCC CD01  
MSP VERSION: MGCM AB01  
APP VERSION: MGCA BA07  
FPGA VERSION: MGCF AA18  
BOOT VERSION: MGCB BA07  
DSP1 VERSION: DSP1 AB03  
DSP2 VERSION: DSP2 AB03  
DSP3 VERSION: DSP3 AB03  
DSP4 VERSION: DSP4 AB01  
DSP5 VERSION: DSP5 AA01  
UDT VERSION NUMBER: AA42

## **Appendix B**

### **Print out of Route 20**

Print out of Route 20

REQ: prt  
 TYPE: rdb  
 CUST 0  
 ROUT 20  
 TYPE RDB  
 CUST 00  
 ROUT 20  
 DES SIPTRK  
 TKTP TIE  
 M911P NO  
 ESN NO  
 RPA NO  
 CNVT NO  
 SAT NO  
 RCLS EXT  
 VTRK YES  
 ZONE 00001  
 PCID SIP  
 CRID YES  
 NODE 3  
 DTRK NO  
 ISDN YES  
 MODE ISLD  
 DCH 66  
 IFC SL1  
 PNI 00001  
 NCNA YES  
 NCRD YES  
 TRO YES  
 FALT NO  
 CTYP UKWN  
 INAC YES  
 ISAR NO  
 DAPC NO  
 MBXR NO  
 MBXOT NPA  
 MBXT 0  
 PTYP ATT  
 CNDP UKWN

AUTO NO  
 DNIS NO  
 DCDR NO  
 ICOG IAO  
 SRCH LIN  
 TRMB YES  
 STEP  
 ACOD 8020  
 TCPP NO  
 PII NO  
 AUXP NO  
 TARG  
 CLEN 1  
 BILN NO  
 OABS  
 INST  
 IDC NO  
 DCNO 0 \*  
 NDNO 0  
 DEXT NO  
 ANTK  
 SIGO STD  
 STYP SDAT  
 MFC NO  
 ICIS YES  
 OGIS YES  
 PTUT 0  
 TIMR ICF 1920  
 OGF 1920  
 EOD 13952  
 LCT 256  
 DSI 34944  
 NRD 10112  
 DDL 70  
 ODT 4096  
 RGV 640  
 GTO 896  
 GTI 896  
 SFB 3

PRPS 800  
 NBS 2048  
 NBL 4096  
 IENB 5  
 TFD 0  
 VSS 0  
 VGD 6  
 EESD 1024  
 SST 5 0  
 DTD NO  
 SCDT NO  
 2 DT NO  
 NEDC ORG  
 FEDC ORG  
 CPDC NO  
 DLTN NO  
 HOLD 02 02 40  
 SEIZ 02 02  
 SVFL 02 02  
 DRNG NO  
 CDR NO  
 NATL YES  
 SSL  
 CFWR NO  
 IDOP NO  
 VRAT NO  
 MUS YES  
 MRT 10  
 PANS YES  
 RACD NO  
 MANO NO  
 FRL 0 0  
 FRL 1 0  
 FRL 2 0  
 FRL 3 0  
 FRL 4 0  
 FRL 5 0  
 FRL 6 0  
 FRL 7 0

OHQ NO  
 OHQT 00  
 CBQ NO  
 AUTH NO  
 TDET NO  
 TTBL 0  
 ATAN NO  
 OHTD NO  
 PLEV 2  
 OPR NO  
 ALRM NO  
 ART 0  
 PECL NO  
 DCTI 0  
 TIDY 20 20  
 ATRR NO  
 TRRL NO  
 SGRP 0  
 CCBA NO  
 ARDN NO  
 CTBL 0

Print out of D-Channel 66

```
REQ prt
TYPE adan dch 66
ADAN      DCH 66
  CTYP DCIP
  DES  VTRK_DCH
  USR  ISLD
  ISLM 4000
  SSRC 1800
  OTBF 32
  NASA NO
  IFC  SL1
  CNEG 1
  RLS  ID  7
  RCAP ND2 MWI
  MBGA NO
  H323
    OVLN YES
    OVLS YES
  OVLT 1
```

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