



Avaya Solution & Interoperability Test Lab

Application Notes for Exxcom eXXitel with Avaya Communication Manager - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Exxcom eXXitel to successfully interoperate with Avaya Communication Manager.

Exxcom eXXitel is a “black box” data buffer which allows for Call Detail Record (CDR) collection over the network. Data is uploaded to the Exxcom operations centre on a daily basis using either an analogue telephone line or a direct internet connection.

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

These Application Notes describe the configuration steps required for Exxcom eXXitel to successfully interoperate with Avaya Communication Manager.

The Exxcom eXXitel buffer is connected into the same VLAN as the Avaya Communication Manager CLAN board to collect Call Detail Records (CDRs) generated by the Avaya Communication Manager. CDRs are accumulated in the buffer throughout the day and then a daily file of CDRs is uploaded after midnight each night to the Exxcom operations centre using a secure FTP process via an analogue telephone line or a direct Internet connection.

If a telephone line is used, an outbound call is made by Exxcom eXXitel at a pre-determined time to an ISP, and a secure FTP process initiated. If a direct internet connection is used, then this also is accomplished using secure FTP.

For connection to an IP switch, the buffer will initiate a handshake, if required, and maintain a continual heartbeat check.

Figure 1 shows the compliance tested configuration.

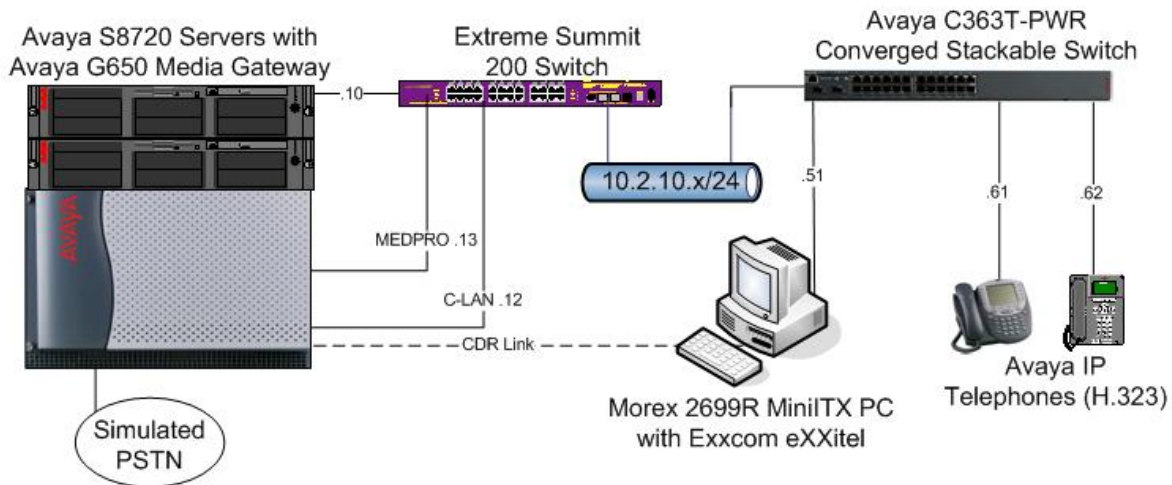


Figure 1: Network Diagram of the Compliance Tested Configuration

2. Equipment and Software Validated

The following equipment and software were used for the sample configuration.

Equipment	Software
Avaya S8720 Servers	Avaya Communication Manager 5.0 Build 5.0.00.852.7
Avaya G650 Media Gateway C-LAN TN799DP MEDPRO TN2602AP	HW01 FW024 HW08 FW031
Avaya 4600 Series IP Telephones Avaya 9600 Series IP Telephones	2.8 (H.323) 1.5 (H.323)
Morex 2699R MiniITX PC	Microsoft Windows XP Professional, Service Pack 2 Exxcom eXXitel 20.1.0

3. Configure Avaya Communication Manager

This section provides the procedures for configuring Avaya Communication Manager.

Please note that it is expected that the installer is familiar with configuring stations, agents, vectors, VDNs, etc. on Avaya Communication Manager as the focus of these Application Notes is on the configuration of the CDR interface only. For all other provisioning information, such as software installation, installation of optional components, basic configuration of Avaya Communication Manager, etc., refer to the Avaya Communication Manager product documentation in reference [1].

The System Administration Terminal (SAT) interface was used for all Avaya Communication Manager configuration.

Enter the **change node-names ip** command. Create a new node name and IP address for Exxcom eXXitel. Make a note of the node-name of the C-LAN to be used for the CDR connection.

```
change node-names ip                                     Page 1 of 2
```

IP NODE NAMES	
Name	IP Address
AEServer	10.2.10.20
CLAN_1A02	10.2.10.12
Exxcom	10.2.10.51
MPRO_1A03	10.2.10.13
SEServer	10.1.10.22

Enter the **change ip-services** command. On Page 1 of the **ip-services** form, define a primary CDR link by setting the **Service Type** to “CDR1”. Set **Local Node** to the node-name of the CLAN board and **Remote Node** to the node-name of eXXitel as configured in the previous paragraph. The **Local Port** is fixed at “0” and it is recommended that **Remote Port** be set “5001”.

```
change ip-services                                     Page 1 of 4
```

IP SERVICES					
Service Type	Enabled	Local Node	Local Port	Remote Node	Remote Port
SAT	y	CLAN_1A02	5023	any	0
AESVCS	y	CLAN_1A02	8765		
CDR1		CLAN_1A02	0	Exxcom	5001

Enter the **change system-parameters cdr** command. Configure the fields on Page 1 as follows.

- **CDR Date Format:** “day/month”
- **Primary Output Format:** “customized”
- **Primary Output Endpoint:** “CDR1”
- **Intra-switch CDR:** “y”
- **Outg Trk Call Splitting:** “y”
- **Inc Trk Call Splitting:** “y”

```
change system-parameters cdr                         Page 1 of 2
```

CDR SYSTEM PARAMETERS	
Node Number (Local PBX ID): 1	CDR Date Format: day/month
Primary Output Format: customized	Primary Output Endpoint: CDR1
Secondary Output Format:	
Use ISDN Layouts? n	Enable CDR Storage on Disk? y
Use Enhanced Formats? n	Condition Code 'T' For Redirected Calls? y
Use Legacy CDR Formats? n	Remove # From Called Number? n
Modified Circuit ID Display? n	Intra-switch CDR? y
Record Outgoing Calls Only? n	Outg Trk Call Splitting? y
Suppress CDR for Ineffective Call Attempts? n	Outg Attd Call Record? y
Disconnect Information in Place of FRL? n	Interworking Feat-flag? n
Force Entry of Acct Code for Calls Marked on Toll Analysis Form? n	Calls to Hunt Group - Record: member-ext
Record Called Vector Directory Number Instead of Group or Member? n	
Record Agent ID on Incoming? y	Record Agent ID on Outgoing? y
Inc Trk Call Splitting? y	Inc Attd Call Record? y
Record Non-Call-Assoc TSC? n	Call Record Handling Option: warning
Record Call-Assoc TSC? n	Digits to Record for Outgoing Calls: dialed
Privacy - Digits to Hide: 0	CDR Account Code Length: 15

On Page 2 of the CDR System-Parameters screen, enter the data items in the order that the information should appear in the customized call records sent over the CDR link. For each field in the CDR record, specify the data item and length as shown below.

```
change system-parameters cdr                                     Page 2 of 2
                                CDR SYSTEM PARAMETERS

Data Item - Length      Data Item - Length      Data Item - Length
1: date                 - 6      17: in-trk-code         - 4      33: return              - 1
2: space                - 1      18: space               - 1      34: line-feed          - 1
3: time                 - 4      19: in-crt-id          - 3      35:                    -
4: space                - 1      20: space              - 1      36:                    -
5: sec-dur              - 5      21: out-crt-id         - 3      37:                    -
6: space                - 1      22: space              - 1      38:                    -
7: cond-code            - 1      23: ppm                - 5      39:                    -
8: space                - 1      24: space              - 1      40:                    -
9: code-dial            - 4      25: isdn-cc            - 11     41:                    -
10: space               - 1      26: space              - 1      42:                    -
11: code-used           - 4      27: attd-console       - 2      43:                    -
12: space               - 1      28: space              - 1      44:                    -
13: dialed-num          - 23     29: vdn                - 5      45:                    -
14: space               - 1      30: space              - 1      46:                    -
15: clg-num/in-tac     - 15     31: acct-code          - 15     47:                    -
16: space               - 1      32: return             - 1      48:                    -

                                Record length = 127
```

Enter the command **change intra-switch-cdr** and enter all the extensions for CDR data required for intra-switch calls.

```
change intra-switch-cdr                                     Page 1 of 3
                                INTRA-SWITCH CDR

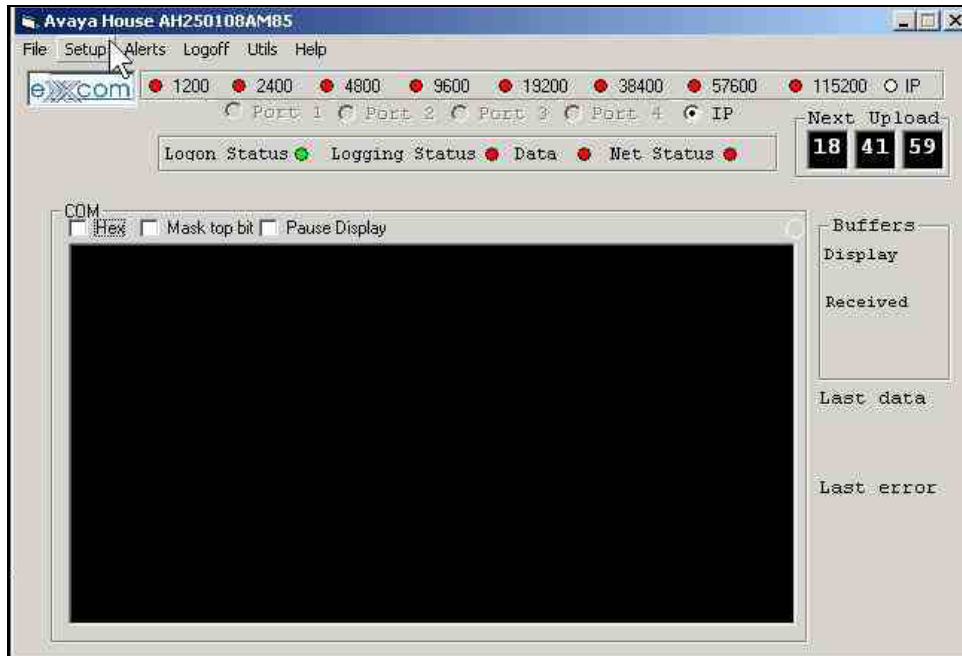
Assigned Members: 4 of 5000 administered
Extension      Extension      Extension      Extension
10001
10016
10018
10023
```

4. Configure Member Server

This section provides the procedures for configuring Exxcom eXXitel.

Please note that it is expected that the installer is familiar with the basic configuration of Exxcom eXXitel as the focus of these Application Notes is on the configuration of the CDR interface only. For all other provisioning information, such as software installation, installation of optional components, basic configuration of Exxcom eXXitel, etc., refer to the Exxcom eXXitel product documentation in reference [2].

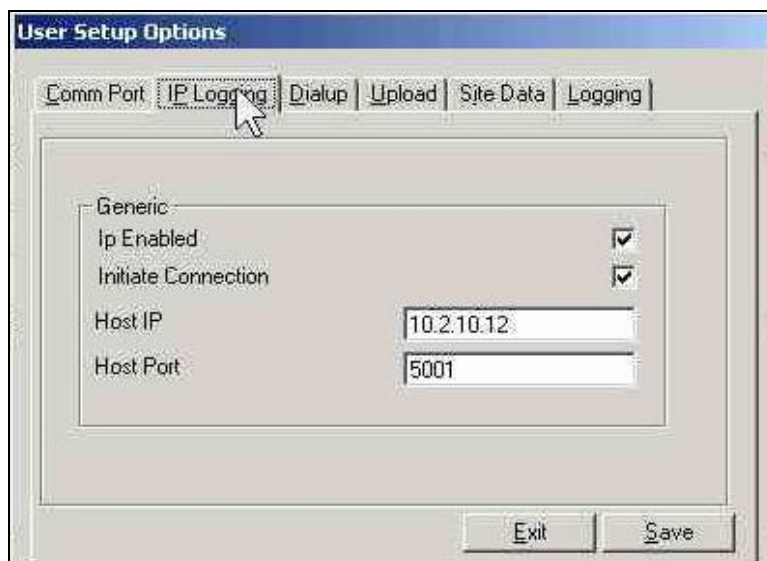
On the PC running Exxcom eXXitel, select **Start > Programs > Exxcom PC Call Logger > Exxcom PC Call Logger**. Select **Login** from the menu bar and enter the password when prompted (not shown). Select **Setup** from the menu bar.



On the User Setup Options screen, select the **IP Logging** tab. Check the **IP Enabled** and the **Initiate Connection** checkboxes and configure the fields as follows.

- **Host IP:** Enter the IP address of the Avaya Communication Manager C-LAN board.
- **Host Port:** "5001"

When completed, select **Save** then **Exit**.



5. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying Exxcom eXXitel's ability to accurately receive, interpret and store CDR records sent by Avaya Communication Manager

The serviceability testing focused on verifying Exxcom eXXitel's ability to recover from an outage condition, such as busying out the CDR link and disconnecting the Ethernet cable for the CDR link.

5.1. General Test Approach

All feature and serviceability test cases were performed manually. The verification included creating call records for different call scenarios (including internal/external calls, transfer, conference etc), and viewing the call records produced by Exxcom eXXitel.

5.2. Test Results

All feature test cases were executed and passed. All serviceability test cases were executed and passed, with two observations.

- As Exxcom eXXitel does not currently support CDR using Reliable Data Transport, it can take up to 5 minutes before an outage condition is recognized.
- As Exxcom eXXitel does not currently support Avaya's survivable CDR procedures, CDR at remote sites served by an LSP or ESS will not be logged during network outages between the main and remote sites.

6. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Communication Manager and Exxcom eXXitel.

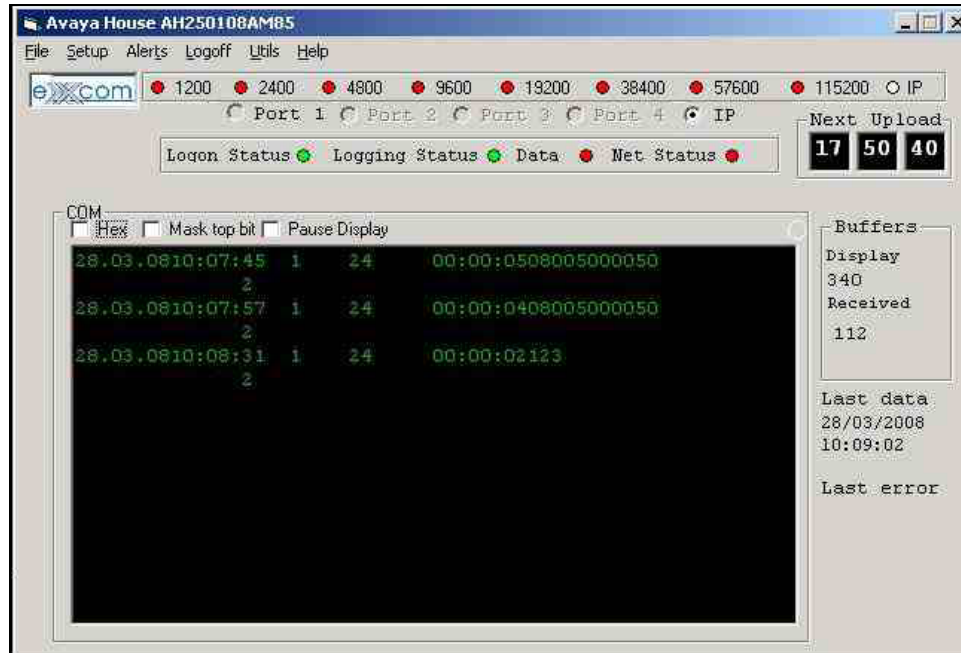
6.1. Verify Avaya Communication Manager

On the SAT, enter the **status cdr-link** command to verify that the CDR link state is up.

```
status cdr-link
                                CDR LINK STATUS
                                Primary                Secondary
                                Link State: up          CDR not administered
Number of Retries:
  Date & Time: 0 /0 /0 0 :0 :0          0 /0 /0 0 :0 :0
  Forward Seq. No: 0                      0
  Backward Seq. No: 0                     0
  CDR Buffer % Full: 0.19                  0.00
  Reason Code:
```

6.2. Verify Exxcom eXXitel

Open the Exxcom eXXitel application (see **Section 4** for details). Verify that the **Logging Status** indicator is green. Place a call to an extension for which CDR records should be produced. Verify that the raw CDR data appears in the **COM** terminal screen.



7. Conclusion

These Application Notes describe the configuration steps required for Exxcom eXXitel to successfully interoperate with Avaya Communication Manager.

8. Additional References

This section references the product documentation relevant to these Application Notes.

[1] *Administrator Guide for Avaya Communication Manager*,
Doc ID: 03-300509, Issue 4, January 2008, available at:
<http://support.avaya.com>.

[2] Exxcom eXXitel product documentation is available on request from Exxcom.
<http://www.exxcom.com>

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