IP Office

IP Office Delta Server SMDR

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Chapter 1.

Introduction

1. Introduction

The IP Office Delta Server is Windows service designed to receive from the IP Office information about call handling and call events. The Delta Server can then store and share that information with other applications.

It is important to note that only a single Delta Server is supported for each IP Office. That Delta Server will then share information with multiple other applications.
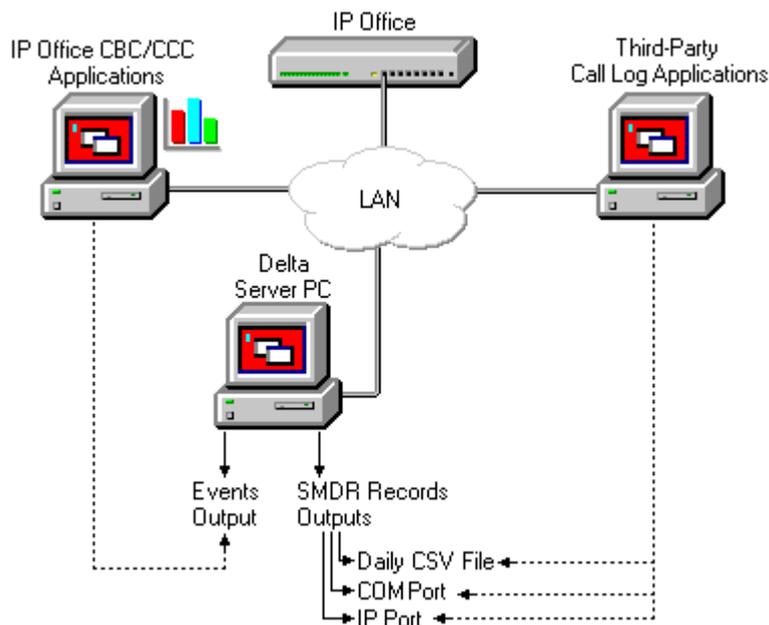
This documentation looks at just the use of Delta Server for SMDR support. However the fact that the Delta Server may be being used by other applications must always be borne in mind at any customer site.

Example of applications that use Delta Server:

- **Third-Party Call Log/Account Applications**
  These applications collect and process SMDR records (Station Messaging Detail Reporting). SMDR records are detailed call records output by the IP Office to the Delta Server each time a call is finished, transferred, etc. The Delta Server can send these records to a log file, to one of its serial (COM) ports or to an IP address.

- **IP Office CBC (Compact Business Center)**
  An Avaya IP Office application that can display simple call reporting statistics and graphs.

- **IP Office CCC (Compact Contact Center)**
  An Avaya IP Office application that consists of many components for real time call reporting and historical record keeping. Much more sophisticated and flexible than CBC.

- **Delta Server and CCC**
  When using Delta Server are part of an IP Office Compact Contact Center (CCC) installation, ensure that the version of Delta Server used matches that indicated by the technical bulletin for the CCC release.

1.1 SMDR Overview

Each SMDR record collected by the Delta Server contains a number of pieces of information about a call. If the call is transferred, takes part in a conference, etc, then a separate record is produced for each stage of the calls history. A unique call ID for each call allows the different records for each stage a single call to be identified. For a full list and description see SMDR Output Fields .

SMDR Diagnostics

Time Of Call Arrival	Call Duration	Ring Time	CLI	Dir.	DDI	DDI	Account Code	Internal	Call ID	More	P1 ID	P1 Name	P2 ID	P2 Name	Hold Time	Park Time	User Charged	Call Charge	Currency	Amount at Last User Change	Call Units	Units at Last User Change	Cost per Unit	MarkUp
2006/11/30 10:06:24	00:00:03	0	201	O	203	203		1	13	0	E201	Extn201	E203	Extn203	0	0								
2006/11/30 10:06:16	00:00:02	2	01707364416	I	200	200		0	12	0	E201	Extn201	T9161	Line 5.1	0	0								

The Delta Server can be configured to send the SMDR records it receives to a number of destinations. The required destination depends on which methods of data transfer are supported by the third-party call logging applications being used.

- **SMDR Log File**
  The SMDR records can be added to an SMDR log file. Each record is written in CSV text format. Each day, the date is appended to the previous days log file and a new log file started for the current day. Whilst Delta Server is running, the current days log file can be accessed by other applications but on a read only basis.

- **IP Polling**
  An IP port number can be specified on which the Delta Server PC will then listen. Third-party applications can poll that IP port to request the send of the most recent SMDR records.

- **Send to a specified IP address and port**
  The Delta Server can collect and send sets of SMDR records to a specified IP address and port number.

- **Send to a serial (COM) port**
  The Delta Server can output SMDR records to one of the serial (COM) ports of the Delta Server PC.

1.2 System Requirements

The following are the system requirements for the IP Office Delta Server when being used for SMDR operation only. If being used to support other applications such as CBC or CCC the requirements may differ. In those cases you should refer to the appropriate CBC or CCC installation documentation.

Details	
CD	IP Office 4.0 User and Admin CD Set (700428576)
DVD	IP Office 4.0 Applications DVD (700428584)
IP500	✔ IP Office Express Edition, ✔ IP Office Professional Edition.
License	✘ No license required.
Languages	Brazilian Portuguese, English (UK), English (US), Dutch, French, French Canadian, Italian, Latin Spanish, Spanish.
Additional	Microsoft Explorer 6.0 or higher is required for viewing Delta Server

Minimum PC Requirements						XP Pro	2003 Server	2008 Server
Variant	**RAM**	**HD***	**Pentium**	**Celeron**	**AMD**			
Delta Server	256MB	10GB	PIII 800MHz	Celeron 3 800MHz	Athlon B 650Mhz	✔	✔	✔

Network Requirements

- The Delta Server PC should be on the same network segment as the IP Office system, ie. not connected to the IP Office via any intermediate router or remote connection.

- The PC should have an IP address on the same subnet as the IP Office system. A fixed IP address is recommended.

- Connection via LAN2 is not supported. The Delta Server should be connected via LAN1 of the IP Office.

- **Delta Server and CCC**
  When using Delta Server are part of an IP Office Compact Contact Center (CCC) installation, ensure that the version of Delta Server used matches that indicated by the technical bulletin for the CCC release.

Chapter 2.
Installing Delta Server

2. Installing Delta Server

These instructions cover installation of the IP Office Delta Server onto a networked PC from the IP Office Administrator Applications CD.

1. Insert the IP Office Administrator Applications CD into the CD Drive.

2. The CD should auto-start and display an Chose Setup Language dialog. Click Cancel to close the automatic installation.

3. Select My computer or Windows Explorer.

4. Right click on the drive containing the CD and select Open or Explore.

5. Open the CBC folder. This should contain two sub-folders, one for CBC itself and one for Delta Server.

6. Open the Delta Server folder.

7. Double click setup.exe.

8. Select the language for the installation and click OK.

9. The Delta Server Installshield Wizard is then started.

10. At the Welcome screen click Next to continue.

11. At the completed installation screen, click Finish.

12. The IP Office Delta Server is now installed to run as a Windows Service on the PC. Following initial installation the service is not started until either the PC is restarted or the service is started manually, see 2. Running the Delta Server Service 13 .

2.1 Running the Delta Server Service

The IP Office Delta Server is installed to run as a Windows Service called CCC Delta Server. It can be stopped and started through the standard Services element of the Windows Control Panel.

Following normal installation, the service is installed but not started. The service is set to start automatically following a PC restart , however it can also be started manually.

To start or stop the CCC Delta Server service:

1. Click **Start**.

2. Select **Settings** and click **Control Panel**.

3. Double-click **Administrative Tools**.

4. Double-click **Services**.

Name △	Description	Status	Startup Type	Log On As
Alerter	Notifies sel...		Manual	LocalSystem
Application Manage...	Provides s...		Manual	LocalSystem
ASP.NET State Serv...	Provides s...		Manual	.\ASPNET
Automatic Updates	Enables th...	Started	Automatic	LocalSystem
AVSync Manager	McAfee AV...	Started	Automatic	LocalSystem
Background Intellig...	Transfers f...		Manual	LocalSystem
CCC Delta Server			Automatic	LocalSystem
ClipBook	Supports C...		Manual	LocalSystem
COM+ Event System	Provides a...	Started	Manual	LocalSystem
Computer Browser	Maintains a...	Started	Automatic	LocalSystem
DHCP Client	Manages n...	Started	Automatic	LocalSystem
Distributed Link Tra...	Sends notif...	Started	Automatic	LocalSystem
Distributed Transac...	Coordinate...		Manual	LocalSystem
DNS Client	Resolves a...	Started	Automatic	LocalSystem
Event Log	Logs event...	Started	Automatic	LocalSystem
Fax Service	Helps you ...		Manual	LocalSystem
IMS(Gateway)			Automatic	.\Administ...

5. Click on the **CCC Delta Server** service to select it.

6. Click on the ▶ icon to start the service. A dialog should appear reporting that Windows is attempting to start the service. If successful the service status will change to Started.

7. The Service panel can be used to start, stop and configure the CCC Delta Server service as standard for any Windows services.

8. Close the Service panel and if necessary the Windows Control Panel.

9. If this is the first time the CCC Delta Server service has been started, you now need to and configure it. You need to configure with which IP Office the Delta Server communicates and for SMDR if required to configure the SMDR output.

2.2 Accessing the Delta Server

The Delta Server runs as a Windows service which is started/stopped through the Service option of the Windows Control Panel. However to configure and manage the Delta Service it can be accessed through a web browser interface.

1. Click **Start**.

2. Select **Programs | CCC**.

3. Click **Delta Server**.

4. Internet Explorer should start and access the address ***http://localhost:8080***.
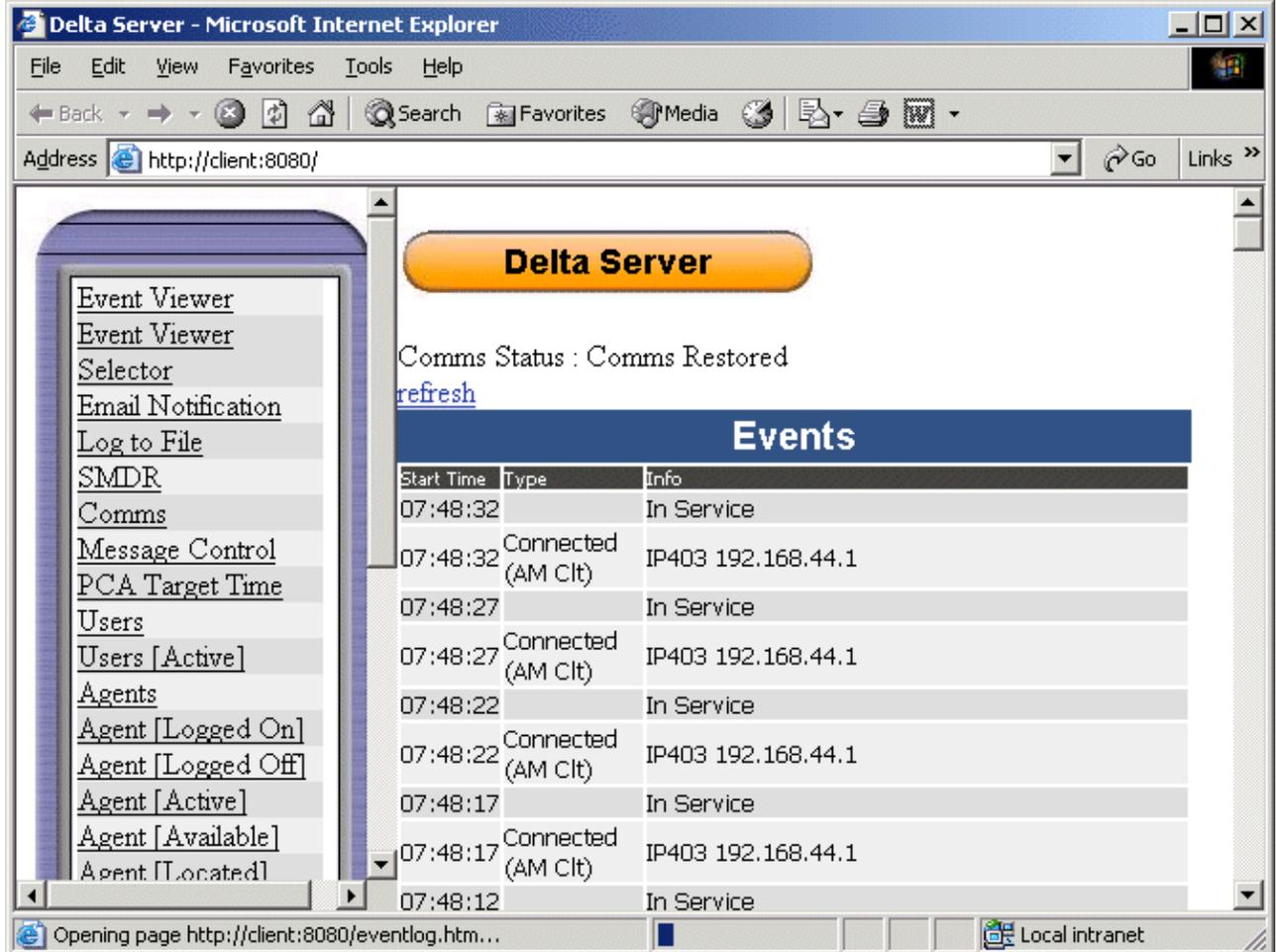
5. If the Delta Server has just been installed, click on Comms 16 to configure the IP Office with which the Delta Server should communicate.

Problems Accessing the Delta Server

If you encounter problems connecting to the IP Office SMDR (Delta Server) using Internet Explorer. You may need to enable Bypass proxy for local addresses. To enable this option:

1. In Internet Explorer Select Tools | Internet Options...

2. Select the Connections Tab

3. Click LAN Settings

4. In the Proxy server part of the window check Bypass proxy for local addresses.

Remote Access

The steps above are for access from the same PC on which the Delta Server service is running. Access from other PC's on the LAN can be arranged but will require configuration by the Network Administrator (assigning the PC a browseable name, ensuring that traffic to port 8080 is not blocked by firewalls, etc.).

The tool, **DeltaServerHTTPPasswordAssistant.exe**, is found in the Delta Server application folder (by default *c:\Program Files\Avaya\IP Office\CCC\DeltaServer*). This application allows you to create a remote access name and password, and if required a restricted list of IP addresses allowed remote access.

Once configured, users attempting http browser access to the server PC on port 8080 will prompted to enter the name and password.

2.3 Comms (IP Office) Configuration)

The Delta Server Comms screen is used to set with IP Office the Delta Server communicates.

1. Access the Delta Server using **Start | Programs | CCC | Delta Server**.

2. In the left-hand panel click **Comms**.

3. Select the required IP Office system from the Connection drop-down.

4. If the require system is not listed, enter its IP address in the Search box and click **Search**. The Multimedia options relate to IP Office CCC installation and are not covered here.

5. Once the correct system is selected, click Apply. Ensure that the Comms Status changes to Comms Restored. This may take a few minutes.

6. If this is the first time setup of Delta Sever, proceed to <u>SMDR Configuration</u> 17 to enable SMDR output.

Note: If the IP Office name or IP address is changed, it is essential to reconnect the IP Office SMDR (Delta Server).

2.4 SMDR Configuration

SMDR call logging by the Delta Server is not enabled by default. This screen is used to enable and configure SMDR call logging.

1. Access the Delta Server using **Start | Programs | CCC | Delta Server**.

2. In the left-hand panel click **SMDR**.

3. Configure the SMDR logging options as required:

- **SMDR Log File Enabled**
Selecting this option enables the logging of SMDR records to a CSV format text file.

- **SMDR File Name**
Set the file name and location. At midnight, the log file is automatically renamed by appending the date and a new log file started. The current days log file can be accessed by other applications but only as a read-only file.

- **SMDR Port Enabled**
Selecting this option enables an listening IP port on the Delta Server PC which can be polled by third-party applications to access SMDR records.

    - Note: Use of this feature also requires the Delta Server to have **SMDR Log File Enabled** selected also.

- **SMDR Port**
Sets the port number used for **SMDR Port Enabled** above or **SMDR Port will act as a client** below.

- **SMDR Port will act as a client**
Selecting this option enables the Delta Server as a client that can be polled on the port specified.

- **Remote host IP Address for SMDR client**
Enter the IP Address of the remote host for the SMDR Client.

- **Send Data every**
This option applies to SMDR Port Enabled and SMDR Port will act as a client if selected. The Delta Server will then send records at the selected frequency. The options are to send every individual SMDR record or record sets every 10, 25, 50 or 100 records.

- **Send Data at**
This option applies to SMDR Port Enabled and SMDR Port will act as a client if selected. The Delta Server will send all SMDR records collected as a set at the time selected.

- **SMDR Com Port Enabled**
Selecting this option enables the Delta Server to send SMDR records as they occur to a specified PC serial (COM) port.

- **SMDR COM Port**
Specifies the PC serial (COM) port to use.

- **SMDR COM Port Bits per Second**
Specifies the port speed for the select serial (COM) port.

- **Translate to Secure Logix**
  If selected, changes the fields of the SMDR record output to the SMDR port, see [SMDR Output Fields](#) 21.

4. After making any change to the settings click **Apply**.

Chapter 3.
Viewing SMDR Records

3. Viewing SMDR Records

Within the Delta Server, the Event Viewer Selector page can be used to select SMDR records and then display them as they occur on the Event Viewer page (they are shown with the Type listed as SMDR). However that page can display a range of other Delta Server messages which obscure the SMDR records.

The Recent SMDR page within Delta Server displays just SMDR records and so is much easier to monitor and interpret.

Note that authorization code fields, if enabled , are not shown in the SMDR records viewed within the browser.

1. Access the Delta Server using **Start | Programs | CCC | Delta Server**.
2. In the left-hand panel click **Recent SMDR**.

Delta Server

Comms Status : Comms Restored
refresh

SMDR Diagnostics

Time Of Call Arrival	Call Duration	Ring Time	CLI	Dir.	DDI	DDI	Account Code	Internal	Call ID	More	P1 ID	P1 Name	P2 ID	P2 Name	Hold Time	Park Time
2004/10/19 07:47:07	00:00:00	0	211	O	215	215		1	6	0	E215	Extn215	E215	Extn215	0	0
2004/10/19 07:47:07	00:00:00	0		O				1	100	0	E-1	No Name			0	0
2004/10/19 07:46:56	00:00:10	0	215	I	215	215		0	6	0	V9551	CO Channel 1	E215	Extn215	0	0
2004/10/19 07:46:54	00:00:09	1	211	I	369	369		0	7	0	V9551	CO Channel 1	E211	Extn211	0	0
2004/10/19 07:46:56	00:00:07	0	211	I	9551	9551		0	7	0	V9551	CO Channel 1	E369	Extn369	0	0

Left-hand panel links:
Event Viewer
Event Viewer Selector
Email Notification
Log to File
SMDR
Comms
Message Control
PCA Target Time
Users
Users [Active]
Agents
Agent [Logged On]
Agent [Logged Off]
Agent [Active]
Agent [Available]

3. The page should update automatically every 30 seconds. It can be forced to update by clicking refresh.

3.1 SMDR Output Fields

Each SMDR record contains call information in a comma-separated format (CSV), that is variable-width fields with each field separated by commas.

- The first line in the CSV file contains the field names, ie. headers.

- Depending on the activities during a call, some calls can be represented by several SMDR records. However for each call, a single call ID is included in all associated SMDR records for that call.

- The last record output for a call is marked as such by setting the continuation field to zero. This indicates no further records with that call ID will be output.

- The total duration of record is calculated as **Call Duration + Ring Duration + Hold Time + Park Time**.

Standard SMDR Fields

The SMDR Delta Server output contains the following fields:

- **Call Start**
  Call start time in the format **YYYY/MM/DD HH:MM:SS**. For all transferred call segment this is the time the call was initiated, so each segment of the call has the same call start time.

- **Call Duration**
  Duration of the connected part of the call in **HH:MM:SS** format. This does not include ringing, held and parked time. A lost or failed call will have a duration of 00:00:00.

- **Ring Duration**
  Duration of the ring part of the in **SSSS** format. This represents the interval between the call arriving at the switch and it being answered, not the time it rang at an individual extension.

  - For outbound calls, this indicates the interval between the call being initiated and being answered at the remote end if call connect signalling is supported by the trunk type. Analog trunks are not able to detect remote answer and therefore cannot provide a ring duration for outbound calls.

- **Caller**
  The callers' number. If the call was originated at an extension, this will be that extension number. If the call originated externally, this will be the CLI of the caller if available, otherwise blank.

- **Direction**
  Direction of the call – **I** for Inbound, **O** for outbound. Internal calls are represented as **O** for outbound. This field can be used in conjunction with **Is_Internal** below to determine if the call is internal, external outbound or external inbound.

- **Called Number**
  This is the number called. For a call that is transferred this field shows the original called number, not the number of the party who transferred the call.

  - **Internal calls:** The extension or group called.

  - **Inbound calls:** The DDI dialed by the caller if available.

  - **Outbound calls:** The dialed digits.

  - **Voice Mail:** Calls to a users own voicemail mailbox.

- **Dialled Number**
  For internal calls and outbound calls, this is identical to the **Called_number** above. For inbound calls, this is the DDI dialed by the caller.

- **Account**
  The last account code attached to the call. Note: IP Office account codes may contain alphanumeric characters.

- **Is Internal**
  0 or **1**, denoting whether both parties on the call are internal or external (**1** being an internal call). Traffic between IP Office systems and other switch's (including other IP Office sites) are represented as external calls.

- **Call ID**
  The call id. This is a number This is generated by the IP Office upon creation of the call.

- **Continuation**
  1 if there is a further record for this call id, **0** otherwise.

- **Party1Device**
  The device number – E1234 for an extension, T1234 for a trunk or V1234 for a voicemail channel for the first party on the call. Note: If an extension is involved in the call it will have priority over a trunk, therefore the Party 1 device is not always the call maker.

- **Party1Name**
  The name of the device – for an extension or agent, this is the user name. For a trunk, this is "**Line XX.XX**".

- **Party2Device**
  The device number – E1234 for an extension, T1234 for a trunk or V1234 for a voicemail channel for the first party on the call.

- **Party2Name**
  The name of the device – for an extension or agent, this is the user name. For a trunk, this is "***Line XX.XX***".

- **Hold Time**
  The amount of time in seconds the call has been held during this call segment.

- **Park Time**
  The amount of time in seconds the call has been parked during this call segment.

The following fields are used if authorization codes have been enabled ^{25}.

- **AuthValid**
  This field shows **1** for valid authorization or **0** for invalid authorization.

- **AuthCode**
  This field shows either the authorization code used or ***n/a*** if no authorization code was used.

The following fields are used if advice of charge is enabled ^{26}. Advice of Charge (AoC) is a ISDN feature added for IP Office 4.0 and higher.

- **User Charged**
  The user to which the call charge has been assigned. This is not necessarily the user involved in the call.

- **Call Charge**
  The total call charge calculated using the line cost per unit and user markup.

- **Currency**
  The currency. This is a system wide setting set in the IP Office configuration.

- **Amount at Last User Change**

- **Call Units**
  The total call units.

- **Units at Last User Change**

- **Cost per Unit**
  This value is set in the IP Office configuration against each line on which AoC signalling is set. The values are 1/10,000th of a currency unit. For example if the call cost per unit is £1.07, a value of 10700 should be set on the line.

- **MarkUp**
  Indicates the mark up value set in the IP Office configuration for the user to which the call is being charged. The field is in units of 1/100th, for example an entry of 100 is a markup factor of 1.

Secure Logix SMDR Format Fields

This format can be selected for SMDR output to a serial (COM) port, see SMDR Configuration ^{17}. It reduces the fields included in the SMDR records as follows:

- **Call Start**
  Date and time of the call start in the format ***YYYY/MM/DD HH:MM:SS***.

- **User Station**
  The internal extension that made or received the call.

- **Caller**
  The caller's number. If the call was made by an internal extension this will match the User Station above.

- **Dialed Number**
  The number called. For internal calls this is the extension dialed. For incoming external calls this is the DID number. For outgoing external calls this is the number dialed.

- **Call Duration**
  The call duration in the format ***HH:MM:SS***. A lost call will have the duration 00:00:00.

3.2 Example SMDR Records

The following are examples of IP Office SMDR records. The numbers in [ ] brackets has been added to refer to the explanation text.

Example: Lost incoming Call

In this record, the call duration [1] shows us that it was a lost or missed call. The Ring Duration[2] shows that it rang for 9 seconds before ending (show by the Continuation[3] field being 0).

```
2002/06/28 09:28:41,00:00:00[1],9[2] ,8004206,I,4324,4324,,0,1000014155,0[3],E4324,Joe Bloggs,T9161,
LINE 5.1,0,0
```

Example: Call Answered by Voicemail

In this example, 215 [1] has made a call to 211 [2]. However the Party2Device and Party2Name [3] show that the call was answered by voicemail.

```
2004/10/20 06:43:58,00:00:10,21,215[1],O,211[2],211,,I,28,0,E215,Extn215,V9051,VM Channel 1[3],0,0
```

Example: Call Transferred to Voicemail

In this example, the Continuation field [1] in the first record tells us that it wasn't the end of the call. The matching Call ID [2] identifies the second record as part of the same call. The change in Party 1 [3] details between the two records show that the call was transferred to voicemail.

```
2002/06/28 09:30:57,00:00:13,7,01707392200,I,299999,299999,,0,1000014160[2],1[1],E4750,John Smith[3],
T9002,LINE 1.2,11,0
2002/06/28 09:30:57,00:00:21,0,01707392200,I,299999,299999,,0,1000014160[2],0,V9502,VM Channel 2[3],
T9002,LINE 1.2,0,0
```

Example: Internal call

The Is Internal [1] field being 1 shows this to be a internal call. The Ring Duration [2] was 4 seconds and the total Call Duration [3] was 44 seconds.

```
2002/06/26 10:27:44,00:00:44[3],4[1],4688,O,4207,4207,,1[1],1000013898,0,E4688,Joe Bloggs,E4207,John
Smith,0,0
```

Example: Outgoing Call

The combination of the Direction [1] field being outbound and the Is Internal [2] field be 0 show that this was a outgoing external call. The line (and in this case channel) used are indicated by the Party2 Name [3] and being a digital channel the Ring Duration [4] before the call was answered is also shown.

```
2002/06/28 08:55:02,00:08:51,9[4],4797,O[1],08000123456,08000 123456,,0[2],1000014129,0,E4797,Joe
Bloggs,T9001,LINE 1.1[3],0,0
```

Example: Voicemail call

The two records below show calls to voicemail. The first shows the Dialed Number [1] as*17, the default short code for voicemail access. The second shows the Dialed Number [2] as VoiceMail, indicating some other method such as the Message key on a phone was used to initiate the call.

```
2002/06/28 09:06:03,00:00:19,0,4966,O,*17,*17[1],,1,1000014131,0,E4966,John Smith,V9501,VM Channel
1,0,0
2002/06/28 09:06:03,00:00:19,0,4966,O,VoiceMail,VoiceMail[2],,1,1000014134,0,E4966,John Smith,V9501,VM
Channel 1,0,0
```

Example: Parked Call

In this example the first record has a Park Time [1] showing that the call was parked. The Continuation [2] field indicates that the call did not end this way and there are further records. The second record has the same Call ID [3] and shows a change in the Party2Name [4], indicating that party unparked the call.

```
2004/10/20 07:18:31,0:00:12,3,215,O,210,210,,1,38[3],1[2],E215,Extn215,E210,Extn210[4],0,7[1]
2004/10/20 07:18:31,0:00:10,0,215,O,210,210,,1,38[3],0,E215,Extn215,E211,Extn211[4],0,0
2002/06/26 11:33:06,00:02:11,10,8004200,I,4688,4688,,0,1000013937,0,E4688,John Smith,T9162,LINE
5.2,0,94
```

Example: Incoming call with Account Code

In this example, at some stage as the call was made or during the call, an Account Code [1] has been entered. In this specific case it is a text account code which can be selected and entered by the user using IP Office Phone Manager.

```
2002/06/28 11:29:12,00:00:02,2,5002,I,1924,1924,Support[1],0,1000014169,0,E1924,Extn1924,T9620,LINE
8.20,0,0
```

Example 9 Conference
The records below show extension 211 calling 215 and then using a Conference button to bring in 210 and start a conference. The Party 1 Device and Party 1 Name indicate a virtual device, in this case a conference channel.

```
2004/10/20 07:42:26,00:00:00,2,211,O,215,215,,1,45,1,E211,Extn211,E215,Extn215,1,0
2004/10/20 07:42:26,00:00:06,0,211,O,215,215,,1,45,0,V9551,CO Channel1,E211,Extn211,0,0
2004/10/20 07:42:28,00:00:10,0,210,O,215,215,,1,44,0,V9551,CO Channel1,E210,Extn210,0,0
2004/10/20 07:42:28,00:00:11,0,211,I,215,215,,0,45,0,V9551,CO Channel1,E215,Extn215,0,0
2004/10/20 07:42:40,00:00:00,0,211,I,,,,0,100,0,V9551,CO Channel1,E210,Extn210,0,0
2004/10/20 07:42:40,00:00:00,1,211,I,,,,0,45,0,V9551,CO Channel1,E215,Extn215,0,0
```

3.3 Authorizations Codes

The Delta Server SMDR output can include details of the use of authorization codes on the IP Office system.

Activation of authorization codes requires registry changes on the PC running Delta Server and on the PC running IP Office Manager to edit the IP Office configuration. For full details refer to the IP Office Manager documentation.

Enabling Authorization Codes in Delta Server
The use of authorization codes can be included in the SMDR output logged by the IP Office Delta Server application. Again this requires changes to the registry of the PC running the Delta Server application.

1. Open the registry and locate the ***HKEY_LOCAL_MACHINE\Software\Avaya\CCCServer\Setup registry keys*** .

2. Add two new ***DWORD*** registry keys and set their values to ***1***. They are:

   - **AllowAuthorization**.

   - **ShowAllowAuthorization**.

3. Open the browser to the Delta Server configuration screens.

4. Select SMDR. An **Add Authorization Fields to SMDR** option should now be available. Select this to enable logging of authorization codes to the SMDR log file.

Authorization codes are only logged to the SMDR log file. Two new fields are added to the end of each call log record in the SMDR log file. The first new field is the authorization code used or n/a if no authorization code was used. The second field is 1 for valid authorization or 0 for invalid authorization.

3.4 Advice of Charge Operation

IP Office 4.0 supports advice of charge (AOC) on outgoing calls to ISDN exchanges that provide AOC information. It supports AOC during a call (AOC-D) and at the end of a call (AOC-E). This information is included in the IP Office Delta Server output.

AOC is only supported on outgoing ISDN exchange calls. It is not supported on incoming calls, reverse charge calls, QSIG and non-ISDN calls. Provision of AOC signalling will need to be requested from the ISDN service provider and a charge may be made for this service.

For users, display of AOC information is only supported on T3 phones, T3 IP phones and Phone Manager.

- The user who makes an outgoing call is assigned its charges whilst they are connected to the call, have the call on hold or have the call parked.

- If AOC-D is not available, then all indicated by AOC-E are assigned to the user who dialed the call.

- If AOC-D is available:

  - If the call is transferred (using transfer, unpark or any other method) to another user, any call charges from the time of transfer are assigned to the new user.

  - If the call is manually transferred off-switch, the call charges remain assigned to the user who transferred the call.

  - If the call is automatically forwarded off switch, subsequent call charges are assigned to the forwarding user.

  - AOC-D information will only be shown whilst the call is connected. It will not be shown when a call is parked or held.

- Call charges are updated every 5 seconds.

- For conference calls all call charges for any outgoing calls that are included in the conference are assigned to the user who setup the conference, even if that user has subsequently left the conference.

Enabling AOC Operation

1. **Set the System Currency**
   The **Default Currency** setting on the **System | Telephony** tab is by default set to match the system locale. Note that changing the currency clears all call costs stored by the IP Office except those already logged through Delta Server.

2. **Set the Call Cost per Charge Unit for the Line**
   AOC is indicated by the ISDN exchange in charge units rather than actual cost. The cost per unit is determined by the IP Office using the Call Cost per Charge Unit setting which needs to be set for each line. The values are 1/10,000th of a currency unit. For example if the call cost per unit is £1.07, a value of 10700 should be set on the line.

3. **Enable User AOC Display**
   By default users do not see call charges. The setting Display Charges on the User | T3 Options tab is used to switch this option on or off. Note that the display of AOC information is only supported on T3 phones and through Phone Manager.

4. **Applying a Call Cost Markup**
   It may be a requirement that the call cost per unit applied to a user calls has a mark-up (multiplier) applied to it. This can be done using the **Call Cost Markup** setting on the **User | Telephony** tab. The field is in units of 1/100th, for example an entry of 100 is a markup factor of 1.

Chapter 4.
Delta Server Screens

4. Delta Server Screens

4.1 Event Viewer

This screen shows event messages from the IP Office being received by the Delta Server. The types of messages to display are selected on the **Event Viewer Selector** ⌐31⌐ screen.

4.2 Event Viewer Selector

This screen is used to select which event messages from the IP Office should be displayed on the Event Viewer screen. The selection do not affect the receipt and logging of those event types by the Delta Server.

Following any changes click on **apply**.

Delta Server

Comms Status : Comms Restored

Event Viewer Selector

☑ Error
☐ Delta Info
☐ Server
☐ Timer
☐ Initialise
☐ Network
☐ CTI Msg
☐ R17 Msg
☐ Client Msg
☐ Delta 2 Message
☐ Multimedia Module Message
☐ SMDR Message

[apply]

4.3 Email Notification

This screen is used to enable the sending of email warnings when the Delta Server detects a problem with either its connection to the IP Office or to the database archiver component of CCC.

The email can use either MAPI through a MAPI client running on the same PC or SMTP. Use of MAPI requires the Delta Server service to run under Windows user account that is configured for MAPI client access on the PC.

Delta Server

Comms Status : Comms Restored

Email Notification

Enable Email Notification	☐
SMTP	☐
	unavailable
SMTP Exchange	localhost
SMTP Exchange Port	25
SMTP Email	event@avaya.deltaserver.app
Recipients	
Additional Text	☐
Attach current switch configuration file	☐
Attach Voice Mail Configuration file	☐
	\\YOUR-E1D107C97E\C$\Program Files\Avaya\IP Office\
Attach current Delta Server log file	☐

apply

Test Email

- **Enable Email Notification**
  Enables the sending of an email notification message when the Delta Server detects a problem with either its connection to the IP Office or to the database archiver component of CCC.

- **SMTP**
  If select SMTP is used for the email sending. If not selected, the SMTP fields are ignored and MAPI is used for email sending.

- **SMTP Exchange**
  The address of the SMTP server through which emails should be sent. If the SMTP server is being run on the same PC then 127.0.0.1 can be used.

- **SMTP Exchange Port**
  The port on which the SMTP server listens for emails. The default is 25.

- **SMTP Email**
  The email address that the Delta Server uses as the from field in its emails. The SMTP server must be configured to accept and send emails from this address.

- **Recipients**
  The destination address for the emails. Multiple addresses should be separated by a ; symbol.

- **Additional Text**
  If selected, the email will include a text attachment from the Delta Server that may indicate the type of error that caused the email to be sent.

- **Attach current switch configuration file**
  If selected, the email will include a an attached copy of the IP Office switch configuration if possible.

- **Attach Voice Mail Configuration file**
  If selected, the path to the Voicemail Pro database file (*.mdb*) can be specified and that file attached to the email when sent.

- **Attach current Delta Server log file**
  If Log to File ⌐34⌐ has been enabled. the current log file can be attached to the email.

4.4 Log to File

Delta Server

Comms Status : Comms Restored

Log To File	
Log File Enabled	☐
Log File Name	

apply

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4.5 SMDR

This screen is used to configure the SMDR aspect of Delta Sever operation. See "**5. SMDR Configuration** 34⤷" in the Installation section.

Delta Server

SMDR	
SMDR Log File Enabled	☑
SMDR File name	C:\Program Files\AVAYA\IP Office\SMDR.CSV
SMDR Port Enabled	☐
SMDR Port	8082
SMDR Port will act as a client	☐
Remote host IP Address for SMDR Client	
⦿ Send Data every	SMDR ▼
○ Send Data at	00:00 ▼
SMDR COM Port enabled	☐
SMDR COM PORT	1
SMDR COM PORT Bits per second	9600
Translate to Secure Logix	☑

Left navigation menu:
Event Viewer
Event Viewer Selector
Email Notification
Log to File
SMDR
Comms
Message Control
PCA Target Time
Extension
Extension [Active]
Agents
Agent [Logged On]
Agent [Logged Off]
Agent [Active]
Agent [Available]
Agent [Located]

Apply

4.6 Comms

This screen is used to select the IP Office system with which the Delta Server communicates. See "**4. Comms (IP Office) Configuration)** [35]" in the Installation section.

4.7 Message Control

These settings are used by the IP Office CCC application and are detailed in the IP Office CCC Administration manual.

Delta Server

Comms Status : Comms Restored

Message Control

refresh	☑
Auto Reset Time	00:00
Lost Email Threshold (Days)	0.5 ▾
Enable Closing Time	☐
Company Closing Time	00:00
Display Agent Details	☐
Agent Group TIA's Enabled	☐
Trunk Group TIA's Enabled	☑
Voicemail Group TIA's Enabled	☑
Selective ISMDR Suppression On	☐
Display Agents	☐
All Agents	☐
Login by Code	☐

TIA's are Time in Activity messages generated by the Delta server and sent to the CCC archiver. Deselecting any of these will reduce the amount of data the archiver database has to contain by also disables TIA statistics in CCC reports.

ISMDR refers internal SMDR records. Selecting this means that those records are no longer archived by the CCC archiver., reducign the amount of archive data but also disabling internal call reports.

4.8 PCA Target Time

Percentage Call Answered (PCA) targets are used by the IP Office CCC application. Fir full detail refer to the IP Office CCC Administration manual.

Delta Server

Comms Status : Comms Restored

PCA Target Time

System Group	45
Test	45
MainA	45
Extn201	45
Extn203	45
Remoter	45

apply

4.9 Extension

This screen shows details of the current user extensions on the IP Office system. Those underlined are call center agent that can be clicked to show the agent's current status 47⤏.

Comms Status : Comms Restored

refresh

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
DialIn		Extension	8996				CMCSIdle	IDLE
Extn201		Agent	201	20.1[201]			CMCSConnected	INTERNAL_MADE
Extn202		Extension	202	[202]			CMCSIdle	IDLE
Extn203		Agent	203	20.3[203]			CMCSConnected	INTERNAL_RECEIVED
Extn204		Extension	204	[204]			CMCSIdle	IDLE
Extn205		Extension	205	[205]			CMCSIdle	IDLE
Extn206		Extension	206	[206]			CMCSIdle	IDLE
Extn207		Extension	207	[207]			CMCSIdle	IDLE
Extn208		Extension	208	[208]			CMCSIdle	IDLE
Extn209		Extension	209	[209]			CMCSIdle	IDLE
Extn210		Extension	210	[210]			CMCSIdle	IDLE
Extn211		Extension	211	[211]			CMCSIdle	IDLE
Extn212		Extension	212	[212]			CMCSIdle	IDLE
Extn213		Extension	213	[213]			CMCSIdle	IDLE
Extn214		Extension	214	[214]			CMCSIdle	IDLE
Extn215		Extension	215	[215]			CMCSIdle	IDLE
Extn216		Extension	216	[216]			CMCSIdle	IDLE
Extn280		Extension	280	[280]			CMCSLoggedOff	LOGGED_OFF
NoUser		Extension	8999	[213]			CMCSIdle	IDLE
RemoteManager		Extension	8998				CMCSIdle	IDLE
Remoter		Agent	301	[280]			CMCSLoggedOff	LOGGED_OFF

4.10 Extension (Active)

This screen shows those users who are current active on calls. Those underlined are call center agent that can be clicked to show the agent's current status 47 .

Delta Server

Comms Status : Comms Restored

refresh

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
Extn201		Agent	201	20.1[201]			CMCSConnected	INTERNAL_MADE
Extn203		Agent	203	20.3[203]			CMCSConnected	INTERNAL_RECEIVED

4.11 Agents

This screen shows call center agents on the IP Office system. They can be clicked to show the individual agent's current status 47 .

Delta Server

Comms Status : Comms Restored

refresh

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
Extn201		Agent	201	20.1[201]			CMCSConnected	INTERNAL_MADE
Extn203		Agent	203	20.3[203]			CMCSConnected	INTERNAL_RECEIVED
Remoter		Agent	301	[280]			CMCSLoggedOff	LOGGED_OFF

4.12 Agent (Logged On)

This screen shows the call center agents who are currently logged on. They can be clicked to show the individual agent's current status 47 .

Delta Server

Comms Status : Comms Restored

refresh

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
Extn201		Agent	201	20.1[201]			CMCSConnected	INTERNAL_MADE
Extn203		Agent	203	20.3[203]			CMCSConnected	INTERNAL_RECEIVED

4.13 Agent (Logged Off)

This screen shows the call center agents who are not currently logged on. They can be clicked to show the individual agent's current status 47 .

Delta Server

Comms Status : Comms Restored

refresh

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
Remoter		Agent	301	[280]			CMCSLoggedOff	LOGGED_OFF

4.14 Agent (Active)

This screen shows the call center agents who are currently active on calls. They can be clicked to show the individual agent's current status 47 .

Delta Server

Comms Status : Comms Restored

refresh

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
Extn201		Agent	201	20.1[201]			CMCSConnected	INTERNAL_MADE
Extn203		Agent	203	20.3[203]			CMCSConnected	INTERNAL_RECEIVED

4.15 Agent (Available)

This screen shows the currently logged on agents who are not active on a call. They can be clicked to show the individual agent's current status 47 .

Delta Server

Comms Status : Comms Restored

refresh

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
Extn201		Agent	201	[201]			CMCSIdle	IDLE
Extn203		Agent	203	20.3[203]			CMCSIdle	IDLE
Remoter		Agent	301	[280]			CMCSIdle	IDLE

4.16 Agent (Located)

This screen indicates the extensions at which call center agents have logged onto the IP Office system. The location is the Base Extension number of the extension at which they are logged on. They can be clicked to show the individual agent's current status 47ᴴ.

Delta Server

Comms Status : Comms Restored

refresh

Agents Diagnostics

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
Extn201		Agent	201	[201]			CMCSIdle	IDLE
Extn203		Agent	203	20.3[203]			CMCSIdle	IDLE
Remoter		Agent	301	[280]			CMCSIdle	IDLE

4.17 Recent SMDR Entries

This screen shows a summary of the most recent SMDR records.

Event Viewer
Event Viewer
Selector
Email Notification
Log to File
SMDR
Comms
Message Control
PCA Target Time
Users
Users [Active]
Agents
Agent [Logged On]
Agent [Logged Off]
Agent [Active]
Agent [Available]

Delta Server

Comms Status : Comms Restored
refresh

SMDR Diagnostics

Time Of Call Arrival	Call Duration	Ring Time	CLI	Dir.	DDI	DDI	Account Code	Internal	Call ID	More	P1 ID	P1 Name	P2 ID	P2 Name	Hold Time	Park Time
2004/10/19 07:47:07	00:00:00	0	211	O	215	215		1	6	0	E215	Extn215	E215	Extn215	0	0
2004/10/19 07:47:07	00:00:00	0		O				1	100	0	E-1	No Name			0	0
2004/10/19 07:46:56	00:00:10	0	215	I	215	215		0	6	0	V9551	CO Channel 1	E215	Extn215	0	0
2004/10/19 07:46:54	00:00:09	1	211	I	369	369		0	7	0	V9551	CO Channel 1	E211	Extn211	0	0
2004/10/19 07:46:56	00:00:07	0	211	I	9551	9551		0	7	0	V9551	CO Channel 1	E369	Extn369	0	0

4.18 License Info

This screen list the current status of IP Office licenses used for the IP Office CCC application.

Comms Status : Comms Restored

refresh

License Info	Total Available	Number Remaining
Agents	255	252
Call Center View	80	80
Wallboard Server	5	5
Archiver	5	5
PC Wallboard	255	255
CCC Report Viewer	80	80
CCC Report Designer	80	80
CBC	80	80
DeltaView	5	5
Workforce Management - Blue Pumpkin	5	5
Spectrums	255	255
Chat	1	1
Email	1	1
MSCRM	1	1
Proactive Reporting	1	1
CCC Report Viewer	1	1

- The number of CCC Report Viewer licenses available and remaining are always reported as 1 if CCC Report Viewer licenses are present.

4.19 Session Info

This screen shows details of the IP Office CCC applications with which the Delta Server is communicating and providing information.

Delta Server

Comms Status : Comms Restored

refresh

Session	**Start Time**	**Session Type**	**Machine Name**	**User Name**	**UE's Required**	**Nbr of Re Trans**	**Nbr Consumed Lics**	**Licenses Consumed**	**PC Wallboard Licenses**	**Spectrum Wallboard Licences**
local		ARCHIVER	local	local	Yes	0	0		0	0

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4.20 Group

This screen shows details of the groups on the IP Office system. Call center agents are underlined and can be clicked to show the individual <u>agent's current status</u> 47.

The System Group is a special group that does exist within the IP Office configuration, however the directory number 8997 should not be used on the IP Office system.

Delta Server

Comms Status : Comms Restored

refresh

Groups Diagnostics

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
System Group	*RemoteManager, NoUser, DialIn	Group	8997					BUSY
Test	*Extn201, Extn202, Extn209	Group	300					IDLE
MainA	*Extn201, Extn202	Group	200					IDLE

4.21 Group (Active)

This screen shows details of the groups on the IP Office system which currently have active calls. Call center agents are underlined and can be clicked to show the individual <u>agent's current status</u> 47.

Delta Server

Comms Status : Comms Restored

refresh

Groups Diagnostics

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
Test	*Extn201, Extn202, Extn209	Group	300					BUSY
MainA	*Extn201, Extn202	Group	200					BUSY

4.22 Pilot Number

Delta Server

Comms Status : Comms Restored

refresh

Pilot Number Diagnostics

4.23 Lines

This screen shows details of the IP Office system's lines. This includes virtual line used for voice compression channels, voicemail and IP lines. Note that the directory numbers shown are reserved numbers that should not be used in the IP Office configuration (extension numbers from 8997 to 9999 are reserved). They can be clicked on to view further details.

Delta Server

Comms Status : Comms Restored

refresh

Lines Diagnostics

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
BRI Line 5		LineQUADBRIV1	9160	3.0			CMCSIdle	IDLE
Line 5.1		LineQUADBRIV1	9161	3.1			CMCSIdle	IDLE
Line 5.2		LineQUADBRIV1	9162	3.2			CMCSIdle	IDLE
BRI Line 6		LineQUADBRIV1	9200	3.4			CMCSIdle	IDLE
Line 6.1		LineQUADBRIV1	9201	3.5			CMCSIdle	IDLE
Line 6.2		LineQUADBRIV1	9202	3.6			CMCSIdle	IDLE
BRI Line 7		LineQUADBRIV1	9240	3.8			CMCSIdle	IDLE
Line 7.1		LineQUADBRIV1	9241	3.9			CMCSIdle	IDLE
Line 7.2		LineQUADBRIV1	9242	3.10			CMCSIdle	IDLE
BRI Line 8		LineQUADBRIV1	9280	3.12			CMCSIdle	IDLE
Line 8.1		LineQUADBRIV1	9281	3.13			CMCSIdle	IDLE
Line 8.2		LineQUADBRIV1	9282	3.14			CMCSIdle	IDLE
ANALOG Line 9		LineAlog	9400	5.1			CMCSIdle	IDLE
ANALOG Channel 9		LineAlog	9409	5.1			CMCSIdle	IDLE
ANALOG Channel 10		LineAlog	9410	5.2			CMCSIdle	IDLE
ANALOG Channel 11		LineAlog	9411	5.3			CMCSIdle	IDLE
ANALOG Channel 12		LineAlog	9412	5.4			CMCSIdle	IDLE
Voice Mail		LineIVM	9500	0.0			CMCSIdle	IDLE
VM Channel 1		LineIVM	9501				CMCSIdle	IDLE
VM Channel 2		LineIVM	9502				CMCSIdle	IDLE
VM Channel 3		LineIVM	9503				CMCSIdle	IDLE
VM Channel 4		LineIVM	9504				CMCSIdle	IDLE
VPN Line 13		LineVPN	9600				CMCSIdle	IDLE
Line 13.1		LineVPN	9601				CMCSIdle	IDLE
Line 13.2		LineVPN	9602				CMCSIdle	IDLE
Line 13.3		LineVPN	9603				CMCSIdle	IDLE
Line 13.4		LineVPN	9604				CMCSIdle	IDLE
Line 13.5		LineVPN	9605				CMCSIdle	IDLE
Line 13.6		LineVPN	9606				CMCSIdle	IDLE
Line 13.7		LineVPN	9607				CMCSIdle	IDLE
Line 13.8		LineVPN	9608				CMCSIdle	IDLE
Line 13.9		LineVPN	9609				CMCSIdle	IDLE

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4.24 Lines (Active)

This screen shows the lines that are currently in use. They can be clicked on to view further details.

Delta Server

Comms Status : Comms Restored

refresh

Lines Diagnostics

Name	Remote	Type	Directory Number	Location	Voice Mail	Queue Details	State	State
BRI Line 5		LineQUADBRIV1	9160	3.0			CMCSIdle	IDLE
Line 5.1		LineQUADBRIV1	9161	3.1			CMCSRinging	RINGING
VPN Line 13		LineVPN	9600				CMCSIdle	IDLE
Line 13.1		LineVPN	9601				CMCSRinging	BUSY

4.25 Calls

This screen shows current calls in progress.

Delta Server

Comms Status : Comms Restored

refresh

Calls Diagnostics

	Start Time	Call Identifier	IP Address	Calling Party	Receiving Party	Original Destination	Pilot Number	DDI Details	DDI Tag	Last Known CLI	CLI Tag
♦	30/11/2006 11:29:15	15 [0.1065.0]	192.168.42.1	Extn201	Extn203	Extn203		203	Extn203	201	Extn201

4.26 Archiver

This screen is used to configure the location of the IP Office CCC Archiver application. For full details refer to the IP Office CCC Installation manual.

4.27 Delta Diagnostics

Delta Server

Comms Status : Comms Restored

refresh

	Delta Diagnostics	
0	Name	Extn203
1	External Dn	203
2	Status	10
3	Device Type	46
4	Group Act	T
7	All Calls Ans	4
11	All Calls Progress	1
16	Date Logon	30/11/2006
17	Time Logon	11:39:23
18	Date Logoff	30/11/2006
19	Time Logoff	11:39:22
20	Agent Act	T
21	T Logged On	00:10:57
22	Last Con Device	201
23	Last Rcvd CLI	201
38	Sp All Ans	4
39	Sp All Alerts	6
65	TOA LW Calls	00:00:00
94	GOS All	7500
112	Sp Ic CR	0
113	Gp Ic CR	0
114	Ic Tnk Call Rate	0
115	Og Call Rate	0
120	Aband Call Rate	0
123	Ic Other CR	0
130	Date Last State Change	30/11/2006
131	Time Last State Change	11:52:14
134	MSTT Ready	00:23:13
139	MSTT Logged Off	00:00:01
140	MSTT Ringing	00:01:04
202	MSTT Internal Rcvd	00:09:12
204	All Calls LWC Ans	00:00:04
205	Avg All Calls Ans	00:00:01

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