Avaya Solution & Interoperability Test Lab

Application Notes for Concerto Software's Unison 7.01 and the Avaya S8700 Media Server with Avaya G600 Media Gateway – Issue 1.0

Abstract

The Concerto Software predictive dialing application was compliance tested with the Avaya S8700 Media Server IP Connect running Avaya Communication Manager 1.3. The objective of the test was to evaluate interoperability of the above-mentioned products in a call center, handling predictive outbound and inbound calling campaigns, as well as agent blending. All test cases completed successfully. Information in these notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the interoperability compliance test configuration used to test Concerto Software's Unison 7.01 CTI capability with Avaya Communication Manager. This solution is supported on all Avaya Media Server / Media Gateway combinations except for the S8300 Media Server[1]. **Figure 1** provides a high level topology of the configuration used during the test.

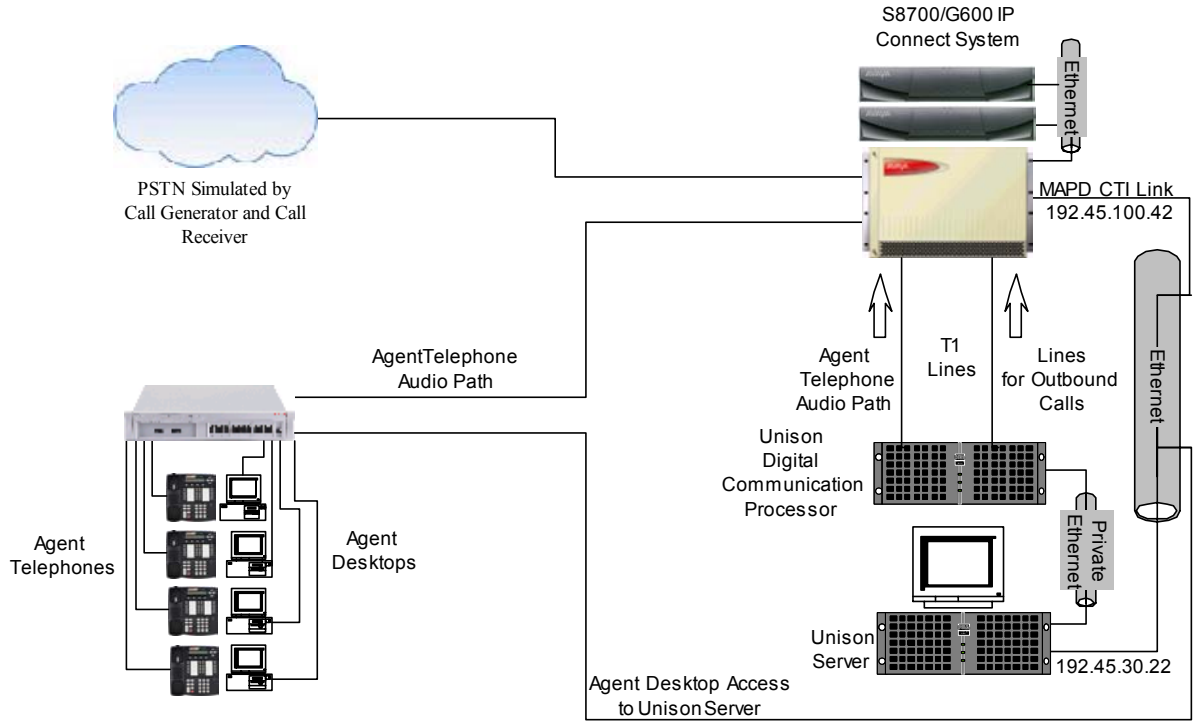


Figure 1: Avaya Developer*Connection* Compliance Test Configuration

Concerto's Unison is a hardware and software solution that consists of a Unison Server, an optional Digital Communication Processor (DCP), and agent workstations. The Unison Server is supported on the Solaris operating system. In the test configuration, Unison was configured to use the DCP. The DCP was used to launch and determine the outcome of each outbound call as well as to dial out to and establish an audio path for each agent telephone. For outbound calls from the DCP, the Avaya S8700 IP Connect system was used to tandem calls to the PSTN. In addition, agent workstations were connected to Unison via character-based Telnet connections.

For predictive outbound campaigns, if a call with positive voice was detected by the DCP, Unison instructed the DCP to internally connect the call to the agent telephone's audio path. In agent blending scenarios, Unison would also monitor the inbound queue. Call queued event reports delivered via the CTI link were used in Unison's blending algorithm. If the algorithm was satisfied, Unison instructed the DCP to drop the audio path to the agent telephone and make

[1] The S8300 Media Server does not support the CVLAN interface directly.

the agent available to receive inbound calls from the Avaya ACD. Once the number of inbound calls waiting was reduced, the blending algorithm would instruct the DCP shelf to re-establish an audio path to the agent telephone and make the agent available for outbound campaigns. Agent state work mode change requests were transmitted by Unison over the CTI link to control the agent's availability on the Avaya ACD.

In order to receive inbound call information and perform blending operations, Unison was configured to use the Avaya CVLAN client. In the configuration tested, an Avaya MAPD board with the CVLAN Server option was installed and configured to allow CTI messaging to and from the CVLAN Client. In addition to traditional ACD software features, the ASAI Core software feature is required on Avaya Communication Manager for this application.

2. Equipment and Software Validated

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

Equipment	Software
Avaya S8700 Media Server with Avaya G600 Media Gateway	Avaya Communication Manager 1.3
Avaya TN801 MAPD Interface with CVLAN Server Option	Release 2.0 Issue 2.03 V8 Mode was set but not required
Avaya CVLAN Client for Solaris (installed on the Unison Server)	6.1.7
Concerto Unison Server	7.01
Concerto Resource Performance Manager	2.5

3. Configure the Avaya S8700 Media Server

3.1. Computer Telephony Integration (CTI) Link

The Unison Server communicates with the S8700 via a Computer Telephony Integration (CTI) link. Implementation of the required CTI link type on Avaya Communication Manager can be achieved using the following series of steps. These steps are performed through the System Access Terminal (SAT) interface. The Avaya Site Administration program can be used to log into the SAT interface via a direct physical connection or using a Telnet interface.

Step	Description
1.	Verify that **ASAI Link Core Capabilities** is set to "y" on the "display system-parameters customer-options" form. A system license file controls the settings on the customer-options form.

```
display system-parameters customer-options                      Page   2 of  10
                                OPTIONAL FEATURES

    Abbreviated Dialing Enhanced List? n          Audible Message Waiting? n
        Access Security Gateway (ASG)? n              Authorization Codes? n
        Analog Trunk Incoming Call ID? y                      CAS Branch? n
 A/D Grp/Sys List Dialing Start at 01? n                        CAS Main? n
Answer Supervision by Call Classifier? n                Change COR by FAC? n
                                ARS? y Computer Telephony Adjunct Links? y
                ARS/AAR Partitioning? y      Co-Res DEFINITY LAN Gateway? n
          ARS/AAR Dialing without FAC? n  Cvg Of Calls Redirected Off-net? n
          ASAI Link Core Capabilities? y                      DCS (Basic)? n
          ASAI Link Plus Capabilities? y                DCS Call Coverage? n
       Async. Transfer Mode (ATM) PNC? n               DCS with Rerouting? n
  Async. Transfer Mode (ATM) Trunking? n
             ATM WAN Spare Processor? n   Digital Loss Plan Modification? n
                                ATMS? n                           DS1 MSP? n
                  Attendant Vectoring? n            DS1 Echo Cancellation? n



        (NOTE: You must logoff & login to effect the permission changes.)
```

2.	Add a CTI link and set the values as shown. The cti-link number, extension number, and port assignment may vary. Note: "3A0702" refers to the port location of the MAPD card.

```
add cti-link 2                                                  Page   1 of   2
                                    CTI LINK
 CTI Link: 2
Extension: 24962
     Type: ASAI
     Port: 3A0702                                                  COR: 1
     Name: to Unison Server

BRI OPTIONS
               XID? n      Fixed TEI? y    TEI: 1
       MIM Support? n
                          CRV Length: 2
```

3.2. Tie Lines from the G600 Media Gateway to the DCP

The Digital Communications Processor (DCP) is a telecommunications digital switching system that functions as the telephony interface for Unison. The primary job of the DCP is to place outbound calls, detect call results (call progress detection) and to establish the agent's audio link when the agent is active on outbound campaigns. The DCP capabilities include, but are not limited to, launching calls, connecting the call to an agent, conferencing, call monitoring and coaching, playing a message, and dropping the call. For outbound predictive campaigns, the

DCP can report the outcome of an outbound dial, including the detection of the following conditions: live connect, answer without voice detection, answering machine, fax/modem, busy signal, reorder, and SIT tones.

The Digital Communication Processor launches outbound calls to the PSTN via one or more tie lines. In addition, the tie lines are also used to establish agent audio paths when the agents are logged into an outbound campaign. Implementation of the required tie lines on Avaya Communication Manager can be achieved using the following series of steps. These steps are performed through the System Access Terminal (SAT) interface.

Step	Description
1.	Add a DS1 circuit pack to the system and set the **Line Coding**, **Framing Mode**, and **Signaling Mode** fields as shown. These values must correspond to the values programmed on Concerto's DCP.

```
add ds1 1a01
                                DS1 CIRCUIT PACK

            Location: 01A01                          Name: line 1
            Bit Rate: 1.544                    Line Coding: ami-zcs
   Line Compensation: 1                        Framing Mode: d4
      Signaling Mode: robbed-bit



Interface Companding: mulaw
           Idle Code: 11111111


      Slip Detection? y                Near-end CSU Type: other


Command:
```

2. Add a trunk group and set the **Group Type** field to "tie", the **Direction** field to "incoming" and the **Trunk Type** field to "wink/wink". Concerto's DCP supports the "wink" trunk type. The rest of the values on pages 2, 3 and 4 of the trunk group form can be set at their defaults.

```
add trunk-group 20                                          Page   1 of  20
                                TRUNK GROUP

Group Number: 20                    Group Type: tie           CDR Reports: y
  Group Name: TIE TRUNK                  COR: 1        TN: 1        TAC: 120
   Direction: incoming       Outgoing Display? n Trunk Signaling Type:
 Dial Access? n                Busy Threshold: 255       Night Service:
                                                     Incoming Destination:
   Comm Type: voice                 Auth Code? n
                                  Trunk Flash? n

TRUNK PARAMETERS
   Trunk Type (in/out): wink/wink        Incoming Rotary Timeout(sec): 5
    Outgoing Dial Type: tone                      Incoming Dial Type: tone
      Wink Timer(msec): 300                Disconnect Timing(msec): 500
       Digit Treatment:                                      Digits:
                                                    Sig Bit Inversion: none
     Analog Loss Group: 9                         Digital Loss Group: 13
    Incoming Dial Tone? y

 Disconnect Supervision - In? y
 Answer Supervision Timeout: 10            Receive Answer Supervision? n
```

3. Enter the port numbers for the corresponding DS1 circuit pack that was assigned in Step 1.

```
change trunk-group 20                                          Page   4 of  20
                                  TRUNK GROUP
                                       Administered Members (min/max):   1/24
GROUP MEMBER ASSIGNMENTS                   Total Administered Members:  24

       Port    Code Sfx Name        Night           Mode      Type   Ans Delay
 1: 01A0101  TN464  G
 2: 01A0102  TN464  G
 3: 01A0103  TN464  G
 4: 01A0104  TN464  G
 5: 01A0105  TN464  G
 6: 01A0106  TN464  G
 7: 01A0107  TN464  G
 8: 01A0108  TN464  G
 9: 01A0109  TN464  G
10: 01A0110  TN464  G
11: 01A0111  TN464  G
12: 01A0112  TN464  G
13: 01A0113  TN464  G
14: 01A0114  TN464  G
15: 01A0115  TN464  G
```

```
change trunk-group 20                                          Page   5 of  20
                                  TRUNK GROUP
                                       Administered Members (min/max):   1/24
GROUP MEMBER ASSIGNMENTS                   Total Administered Members:  24

       Port    Code Sfx Name        Night           Mode      Type   Ans Delay
16: 01A0116  TN464  G
17: 01A0117  TN464  G
18: 01A0118  TN464  G
19: 01A0119  TN464  G
20: 01A0120  TN464  G
21: 01A0121  TN464  G
22: 01A0122  TN464  G
23: 01A0123  TN464  G
24: 01A0124  TN464  G
```

3.3. Expert Agent Selection and Call Vectoring

While the Expert Agent Selection (EAS) feature is not required to interoperate with Unison, EAS was used in the test configuration. The screens below demonstrate how to configure basic call center functionality with EAS enabled.

3.3.1. Sample Call Vectoring for Inbound Campaigns

Step	Description
1.	Add a hunt-group and set the **ACD** and **Vector** fields to "y". Enter a descriptive group name in the **Group Name** field and a valid extension in the **Group Extension** field. Other field values can be set based on customer requirements.

```
add hunt-group 100                                          Page   1 of   3
                                  HUNT GROUP

            Group Number: 100                              ACD? y
              Group Name: skill 100                      Queue? y
         Group Extension: 23100                        Vector? y
              Group Type: ucd-mia
                      TN: 1
                     COR: 1                    MM Early Answer? n
           Security Code:
     ISDN Caller Display:

            Queue Length: 50
 Calls Warning Threshold:      Port:
  Time Warning Threshold:      Port:
```

2.	Page down to page 2. Set the **Skill** field to "y". The **Timed ACW Interval** field can be set per customer requirements. In addition, Unison is compatible with the Redirect on No Answer feature.

```
add hunt-group 100                                          Page   2 of   3
                                  HUNT GROUP

                    Skill? y      Expected Call Handling Time (sec): 180
                      AAS? n         Acceptable Service Level (sec): 20
                 Measured: both
     Supervisor Extension:


      Controlling Adjunct: none


        VuStats Objective:
 Timed ACW Interval (sec): 4


                                     Redirect on No Answer (rings): 4
                                                 Redirect to VDN: 24100
                  Forced Entry of Stroke Counts or Call Work Codes? n
```

3. Add an Agent Login-ID and set the **Skill Number** (SN) field to the hunt group number assigned in Step 1 above. The **Skill Level** (SL) field can be set to 1 or other values based on customer requirements.

```
add agent-loginID 26111                                        Page   1 of   1
                                  AGENT LOGINID

               Login ID: 26111                                    AAS? n
                   Name: Unison Agent 26111                     AUDIX? n
                     TN: 1                                LWC Reception: spe
                    COR: 1                      LWC Log External Calls? n
          Coverage Path:                       AUDIX Name for Messaging:
          Security Code:
      Direct Agent Skill:                      LoginID for ISDN Display? n
Call Handling Preference: skill-level                        Password:
                                               Password (enter again):
                                                          Auto Answer: all
    SN     SL           SN     SL           SN     SL           SN     SL
 1: 100    1          6:                  11:                 16:
 2:                   7:                  12:                 17:
 3:                   8:                  13:                 18:
 4:                   9:                  14:                 19:
 5:                  10:                  15:                 20:

     WARNING:  Agent must log in again before skill changes take effect
```

4. Modify a call vector to deliver calls to the skill number defined in Step 1.

```
change vector 1                                                Page   1 of   3
                                  CALL VECTOR

    Number: 1               Name: vector 1
                                              Meet-me Conf? n           Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? n  G3V4 Adv Route? y   CINFO? n   BSR? y   Holidays? y

01 wait-time    2   secs hearing ringback
02 queue-to     skill 100 pri m
03
04
05
06
07
08
09
10
11
```

5. Add a Vector Directory Number and set the **Vector Number** field to the call vector number assigned in Step 4 above.

```
add vdn 24100                                                Page   1 of   2
                          VECTOR DIRECTORY NUMBER

                            Extension: 24100
                                 Name: VDN 24100
                        Vector Number: 1

                  Meet-me Conferencing? n
                    Allow VDN Override? n
                                  COR: 1
                                   TN: 1
                             Measured: internal
        Acceptable Service Level (sec): 20

         VDN of Origin Annc. Extension:
                             1st Skill:
                             2nd Skill:
                             3rd Skill:
```

6. Modify a call vector for call prompting and digit collection. Note that in this example, a *collect* step is used to play an announcement[2] and prompt the caller for 16 digits of account number information. In the example below, the *route-to* vector step will deliver the call to Vector Directory Number 24100, which must be monitored by Unison Server. The 16 collected digits from Step 2 are passed over the CTI link to Unison for processing. This is a sample and can be modified as necessary based on customer requirements.

```
change vector 9                                              Page   1 of   3
                                 CALL VECTOR

    Number: 9                Name:
                                          Meet-me Conf? n           Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? n  G3V4 Adv Route? y   CINFO? n   BSR? y   Holidays? y

01 wait-time    2   secs hearing ringback
02 collect      16   digits after announcement 24280
03 route-to     number 24100            with cov n if unconditionally
04
05
06
07
08
09
10
11
```

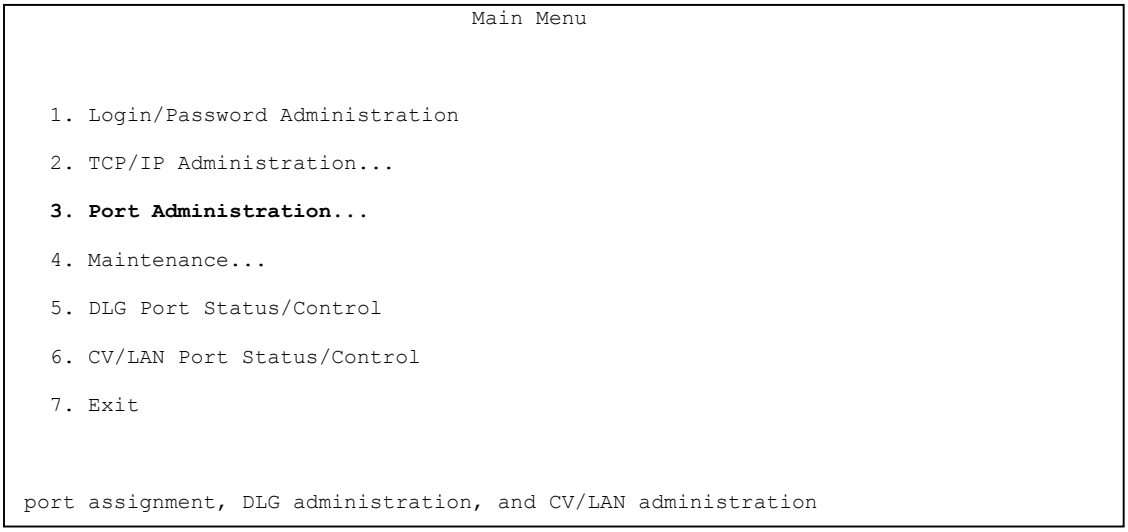
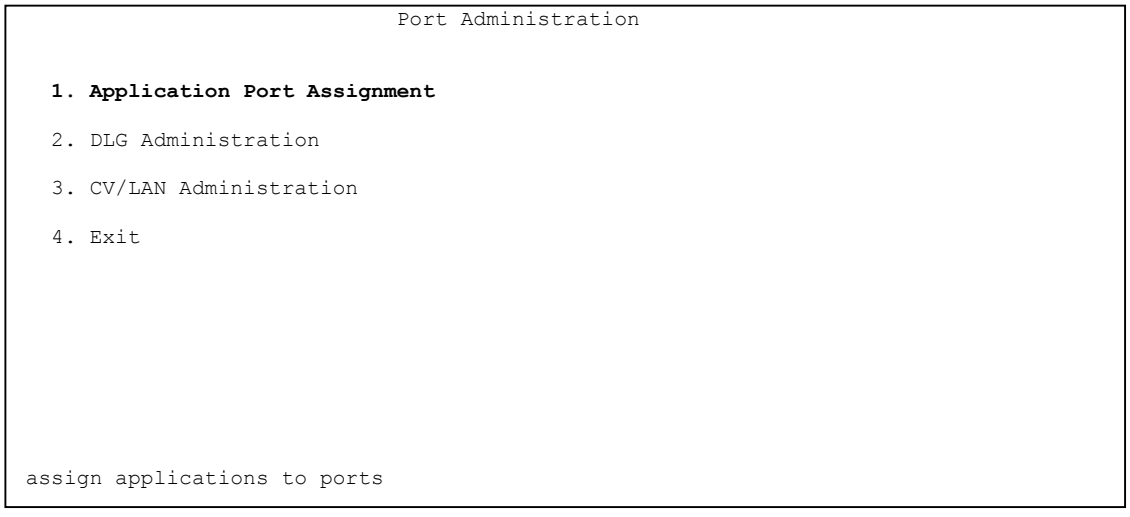
[2] In this example, integrated announcements programmed and recorded on a TN2501 VAL announcement board were used.

7.	Add a Vector Directory Number (VDN) and set the **Vector Number** field to the call vector assigned in Step 6 above. This VDN represents the main number for inbound calls.

```
add vdn 24109                                                Page   1 of   2
                            VECTOR DIRECTORY NUMBER

                              Extension: 24109
                                   Name: Unison Pilot VDN 24109
                          Vector Number: 9

                    Meet-me Conferencing? n
                      Allow VDN Override? n
                                    COR: 1
                                     TN: 1
                               Measured: internal
           Acceptable Service Level (sec): 20

            VDN of Origin Annc. Extension:
                               1st Skill:
                               2nd Skill:
                               3rd Skill:
```

3.4. Avaya MAPD Administration

Unison communicates with the S8700 via a Computer Telephony Integration (CTI) link. In the test configuration, this CTI link was implemented using a MAPD circuit board in the G600 Media Gateway. Implementation of the required CTI link type on the MAPD can be achieved using the following series of steps. These steps are performed through the MAPD administration interface. The Avaya Site Administration program can be used to log into the MAPD administration interface via a direct physical connection or using a Telnet interface. Note that screens may vary slightly depending on the options available on the MAPD.

Step	Description
1.	Press *3* to select Port Administration from the Main Menu. 
2.	Press *1* to select Application Port Assignment from the Port Administration Menu. 

3. Assign the CVLAN application to the port to be used for Unison. In this example, the port number should match the last two digits of the port number assigned in Step 2 of Section 3.1. Press the tab key until the cursor is highlighting the correct port. Cycle thru application choices until CVLAN is displayed beside the correct port number. In this example, port 02 has been assigned to the CVLAN application.

```
                          Port Administration
                    Application Port Assignment


                                01 DLG
                                02 CVLAN
                                03 CVLAN
                                04 DLG
                                05 DLG
                                06 DLG
                                07 DLG
                                08 DLG
                                09 DLG
                                10 DLG
                                11 DLG
                                12 DLG


Press APPL to cycle thru application choices.
```

4. Press 3 to select CV/LAN Administration from the Port Administration menu.

```
                          Port Administration


  1. Application Port Assignment

  2. DLG Administration

  3. CV/LAN Administration

  4. Exit









administer CV/LAN node IDs, heartbeats, and clients
```

5. Assign the port number from Step 3 above to an available Node ID. In this case signal01 is used. Set the Hearbeat State to on. Note that the Node ID and port number will vary. In this example, the port number should match the last two digits of the port number assigned in Step 2 of Section 3.1 minus any leading zero.

```
                          CV/LAN Administration


        Node ID       Port      Heartbeat State      Number of Clients

        signal01        2             on                      1
        signal02        3             on                      1
        signal03
        signal04
        signal05
        signal06
        signal07
        signal08




Press STATE, CLIENT, or PORT to effect this entry
```

6. Add a CV/LAN client to the Node ID assigned in Step 5. Enter the IP address of the Unison Server in the IP address field. In this example, the Unison Server's IP address is 192.45.30.22. Note that the IP address will vary.

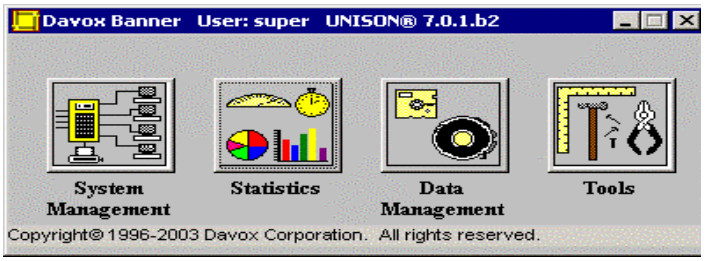
```
                          CV/LAN Administration
                       Clients For Node ID signal01
                                Add Client


                        Client Name or IP Address

                          192.45.30.22









Name or IP address of the client
```

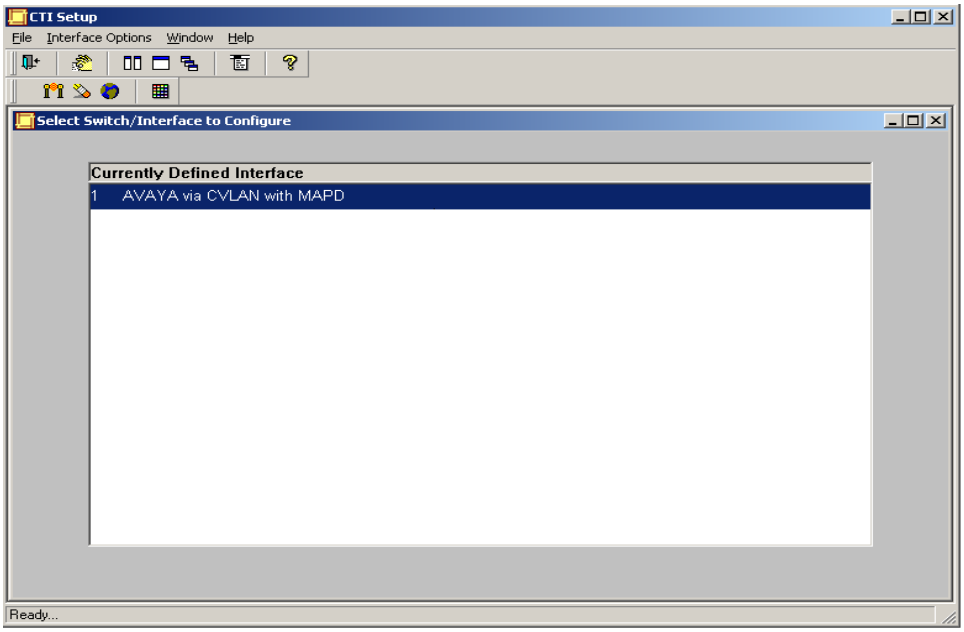
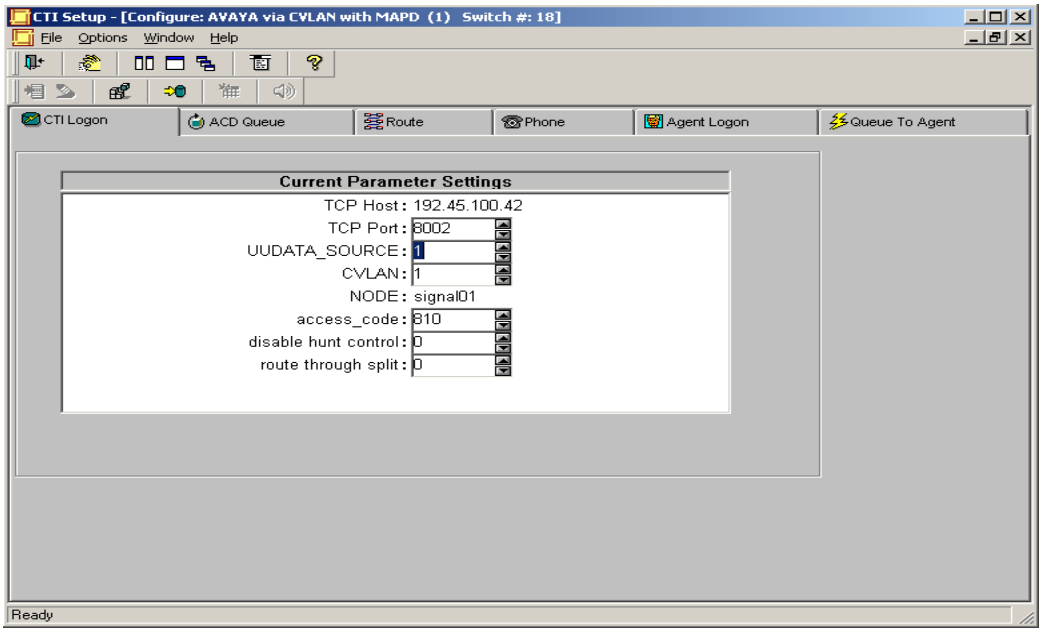
4. Configure the Unison System

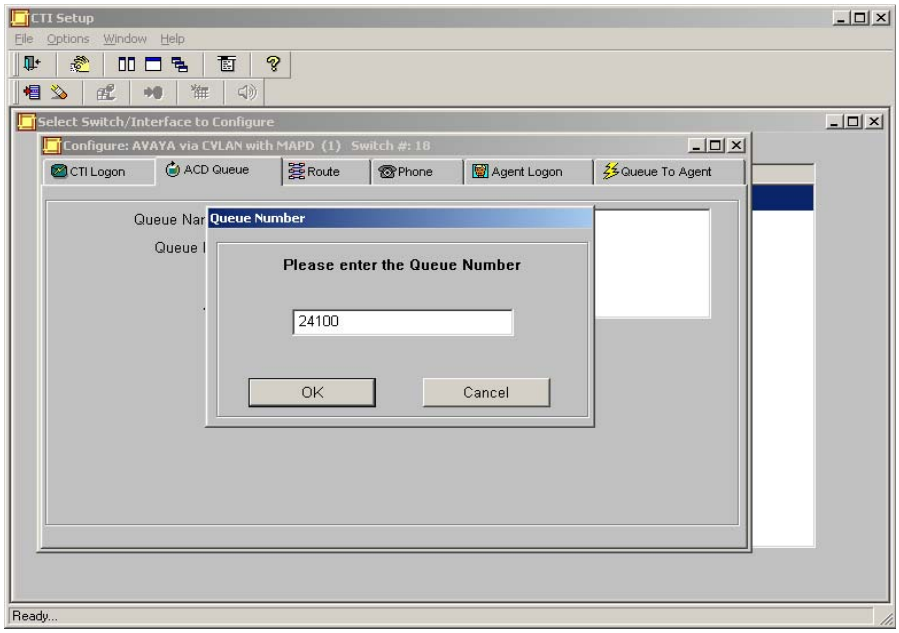
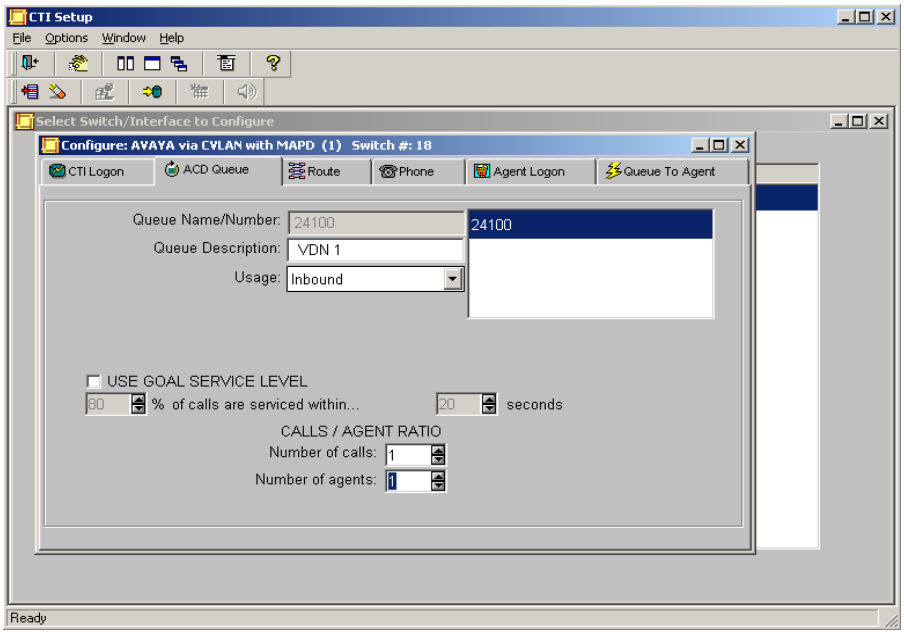
Concerto Software prepares the Unison Server on behalf of its customers. The following guide provides an overview of the configuration steps necessary for the CTI link, ACD queues, and agent IDs for Concerto Unison 7.01 software with Avaya CVLAN.

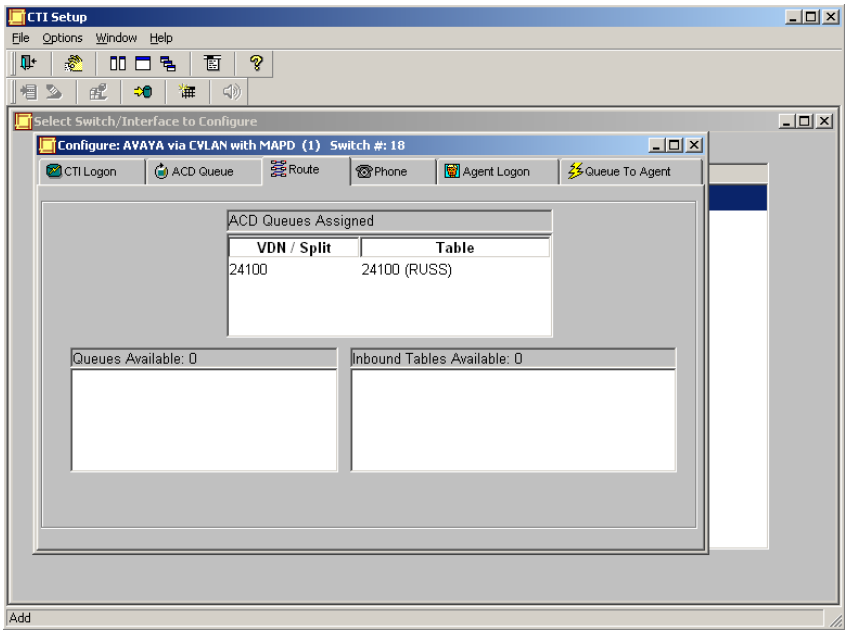
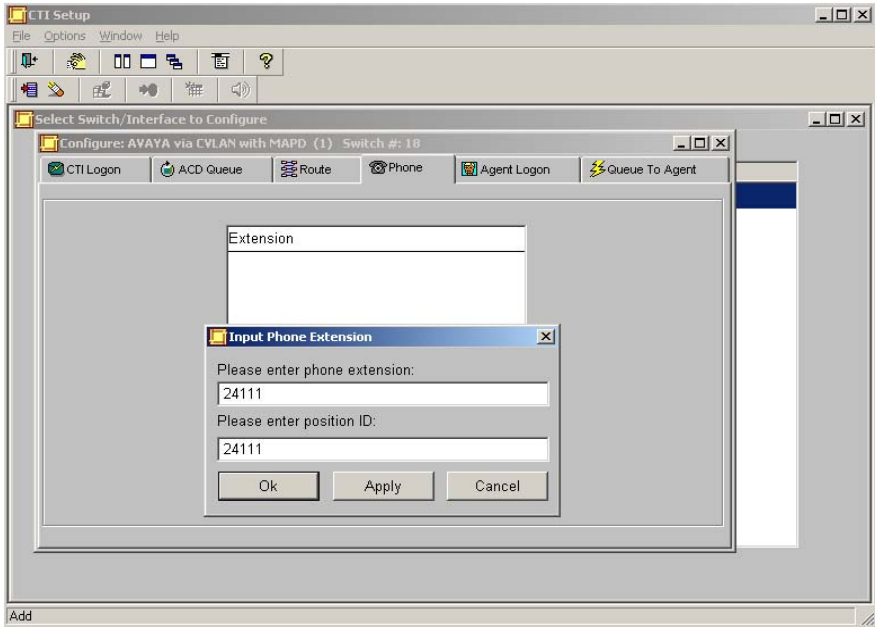
4.1. Concerto RPM

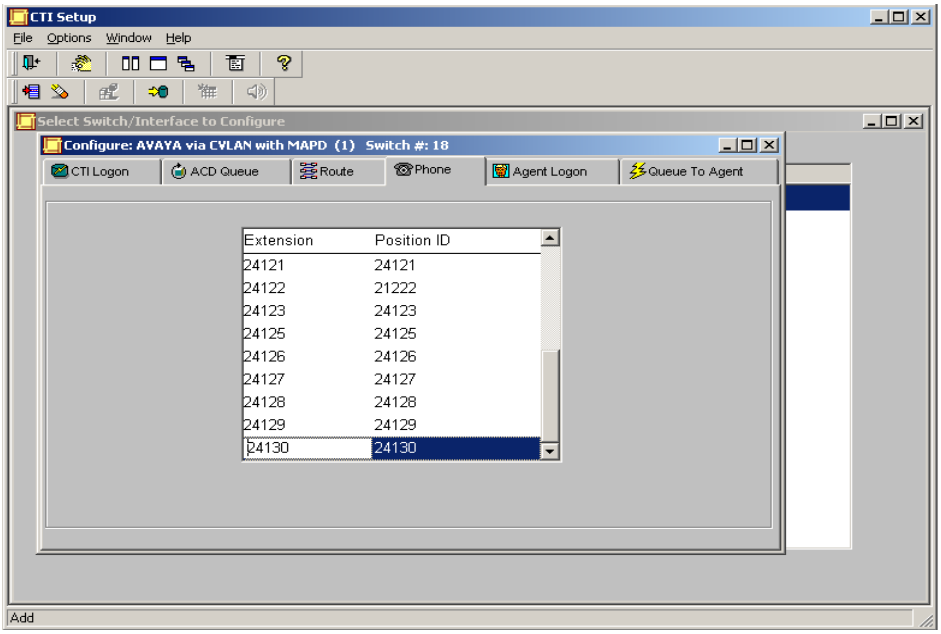
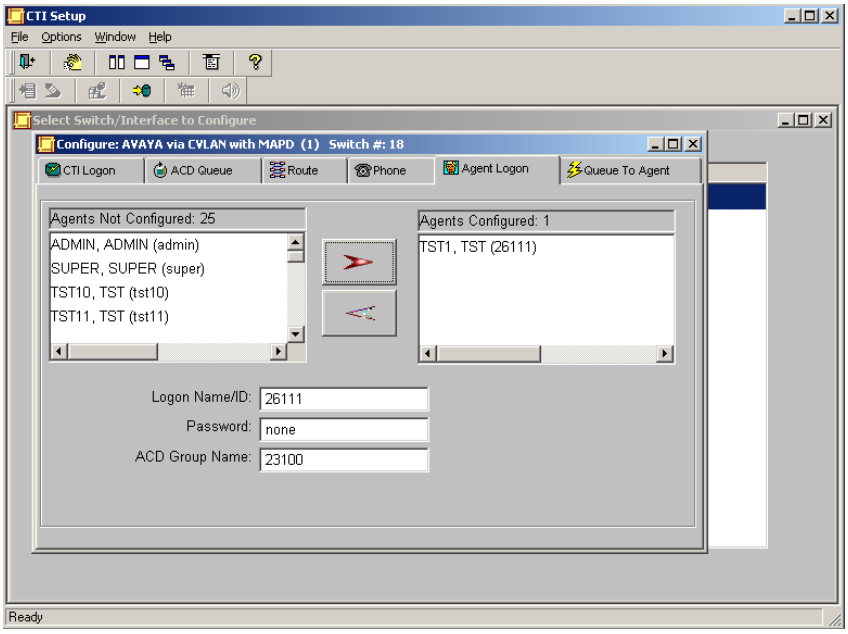
In order to begin configuration, a PC is dedicated to the installation of the Concerto Resource Performance Manager (RPM) software. The client program is installed and configured as a campaign management tool for the Unison 7.01 system. The software issues commands via a Sybase ODBC connection to the Unison Solaris server (SMC). The RPM client is used for agent management, monitoring campaigns, downloading call tables, and configuring CTI setup for the SMC.

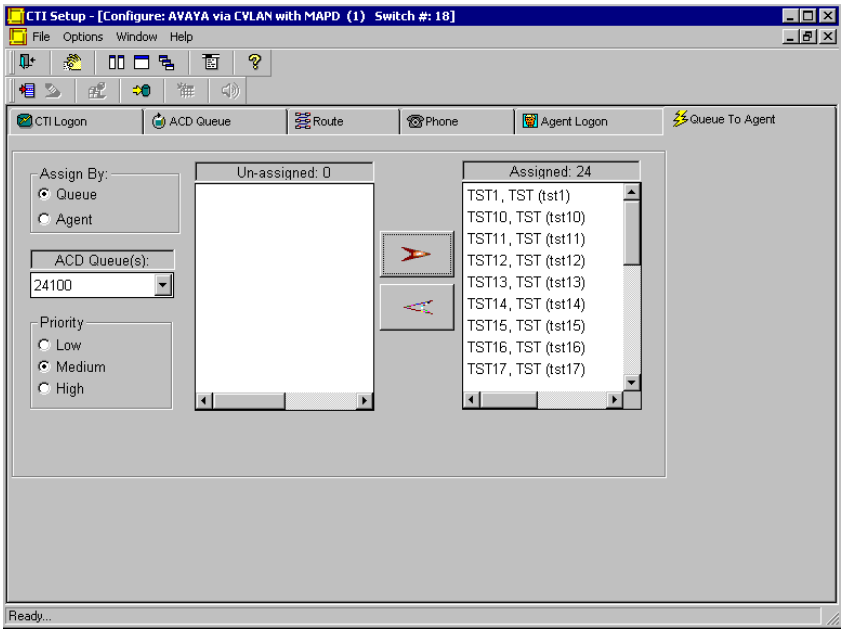
Step	Description
1.	The supervisor initiates the RPM client by selecting the Concerto Client Manager icon from the programs menu. On initialization, the Banner is displayed.
2.	To configure CTI setup, the supervisor clicks on the System Management Menu and selects CTI setup from the drop-down menu. 

3.	The CTI setup screen is displayed. A new interface must first be added from the selections available. For this certification, the "AVAYA via CVLAN with MAPD" interface was selected. 
4.	The supervisor selects **Build Interface** from the "Interface Options" menu to generate the CTI setup screen. There are six tabs displayed. When information is input on each tab, the supervisor must select apply to save changes before continuing. For the CTI logon tab, the following information was added. UUDATA_SOURCE is set to 1 to allow the CTI to display the user-to-user data coming over the CTI link. Note: "192.45.100.42" refers to the IP address of the MAPD card. Node "signal01" refers to the Node ID assigned in Step 5 of Section 3.4. 

5.	On the "ACD Queue" tab, the supervisor adds a new queue for the configuration. Note that this queue should match the Vector Directory Number assigned in Step 5 of Section 3.3.1. Unison will monitor this Vector Directory Number via the CTI link to trigger Unison's agent blending algorithm. Click "OK". 
6.	The following dialog box is presented. The ACD Queue is configured as shown. A new Queue Number was added for each VDN defined for this configuration. The goal service level was deselected and a ratio of 1 trunk to 1 agent was configured. Note that these values will vary based on customer requirements. 

7.	On the "Route" tab, a call table was created and linked to the corresponding VDN number. 
8.	The Phone tab is used to add the phone extensions provided by Avaya. This display shows the first extension being added. 

9.	Once all extensions were added, the following display resulted. 
10.	On the "Agent Logon" tab, the Avaya supplied agent id's were mapped to the configured agent id's of the Unison system. The ACD group name is also input corresponding to the grouping on the Avaya switch configuration. In this example, the Logon Name/ID field was set to 26111, which was defined in Step 3 of Section 3.3.1, and the ACD Group Name was set to 23100, which was defined in Step 1 of Section 3.3.1. 

11.	The final tab, Queue to Agent, enables the mapping of the agent to the corresponding queue. This display shows the resulting map of all agents assigned to the queue 24100. 

4.2. Concerto DCP

The setup of the DCP for outbound trunks is accomplished by running an interactive script called *dcpsetup* on the Unison Server. The first part of the script displays the spans on the DCP in their current configured state. A menu is then presented allowing the user to enter the appropriate configuration parameters for the DCP lines. Finally, the script updates the configuration database and the setup of the cards in the DCP. A sample interactive session is shown below.

```
Verify T1/E1 span configuration (dcp0) ... OK
Verify clock sourcing configuration (dcp0) ... OK
+*************************( dcp0 )*************************+
*:::::::::::::::::::::::0::::1::::2::::3::::4::::5::::6::::7::*
*          ______  ::: (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) *
*  ___    (+    +) ::: [AT} [OT} [US} [RA} [US} [US} [US} [US} 0
* (   )   (      ) ::: (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) *
* (___)   (+____+) ::: (  ) [US} [US} [RA} [US} [US} [US} [US} 1
*                  ::: (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) *
*           0 0    ::: (  ) [US} [US} [RA} [US} [US} [US} [US} 2
*          0   0   ::: (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) *
*  ___     0   0   ::: (  ) [US} [US} [RA} [US} [US} [US} [US} 3
* (   )    0   0   ::: (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) *
* (___)     0 0    ::: [EN} [US} [RA} [RA} [US} [US} [US} [US} 4
*                  ::: (  ) (  ) (  ) (  ) (  ) (  ) (  ) (  ) *
+************************************************************+
LEGEND:
  [AT}=ATM Port        [EN}=Ether-Net Port  [US}=Unconfig Span
  [OT}=Outbound Trunk  [TT}=Transfer Trunk  [IT}=Inbound Trunk
  [LA}=Local Audio     [RA}=Remote Audio

Configure T1/E1 Span(s) for:

        0) Exit/Cancel Setup
        1) Outbound Trunk [OT}
        2) Transfer Trunk [TT}
        3) Remote Audio [RA}
        4) Local Audio [LA}
        5) Inbound Trunk [IT}
        6) Unconfigure T1/E1 Span(s)
        7) Unconfigure T1/E1 Board(s)
        8) Unconfigure DCP Shelf

Choice: 1


 ### Configure T1/E1 Span for Outbound Trunk [OT} ###


Enter number of spans you want to configure (X <= 17): 1
Enter Your Span Type (E1/[T1]): T1
Enter T1 Span Framing (CAS/D4/ISDN/[ESF]): D4
Enter T1/D4 Span Line Coding (B8ZS/[AMI]): AMI
Enter T1/D4/AMI Span Cable/Line Length between 0 and 650 [50]:50
```

4.3. Prefix Dialing by the Concerto DCP

The option to prefix outbound calls from the DCP with prefix digits, such as “9” or “91”, is managed by a manual update to the configuration database on the Unison Server. The table *trm_phone_class_definition* maintains the prefix string in the field *dial string*. An example for prefixing a "1" is shown. The table is modified by Concerto personnel during install as required by the customer.

group_number	number_class	order_number	attributes	applications	dial_string	da_dial_string
1	1	0	0	1+ten_digits	1+area_code+5551212	Long Distance
1	2	0	0	1+seven_digits	15551212	Local Long Distance
1	3	0	0	seven_digits	5551212	Local

5. Interoperability Compliance Testing

This Interoperability Compliance Test included load and serviceability testing. Basic feature functionality was exercised as part of the load test scenarios. Load data were collected from the Avaya S8700 Media Server and the Unison system.

5.1. General Test Approach

Serviceability and basic functionality test cases were performed manually. During the manual tests, inbound calls were made to the pilot Vector Directory Number and routing of the call as well as screen pop to the agent workstation were verified. Calls were also transferred from agent to agent using the application, and screen pop with caller information was verified. Preview calls were launched via the application on behalf of agents assigned to preview dialing campaigns. Outbound predictive calls that resulted in positive voice detection were delivered to agent telephones via the DCP, and screen pop was verified.

During the load testing, a call generator was used to generate incoming calls to the system for sustained periods. In addition, outbound predictive dialing campaigns were run for an extended period. Finally, a pool of agents was assigned to receive both inbound and outbound calls and agent blending was verified for an extended period.

5.2. Test Results

All test cases passed successfully. No errors were detected.

The design of the Unison architecture with the DCP is such that an agent on an outbound call cannot transfer the call to an agent currently on an inbound campaign. In addition, an agent on an inbound call cannot transfer a call to an agent currently on an outbound campaign.
If there is a requirement for an agent on an outbound campaign to transfer a call to an agent not currently available on the DCP, the system should be provisioned with T1 channels that are administered and reserved for outbound transfers. Concerto can provision the Unison system for this capability.

6. Verification Steps

6.1. CTI Link

The CTI link status can be verified through the MAPD administration interface. The Avaya Site Administration program can be used to log into the MAPD administration interface via a direct physical connection or using a Telnet interface. Note that screens may vary slightly depending on the options available on the MAPD.

Step	Description
1.	Press 6 to select CV/LAN Port Status/Control from the Main Menu. Main Menu 1. Login/Password Administration 2. TCP/IP Administration... 3. Port Administration... 4. Maintenance... 5. DLG Port Status/Control **6. CV/LAN Port Status/Control** 7. Exit view status and/or control CV/LAN client connections
2.	Verify that port 2 reports DEFINITY Port State as CONNECTED and CV/LAN Service State as in service. Initially, the Number of Client Connections column will report 0. When the Unison server successfully establishes a client connection and is actively using the CTI link, the Number of Client Connections column will report 1. Note that the Port number and Node ID may vary. CV/LAN Port Status/Control Port / Node ID / DEFINITY Port State / Number of Client Connections / CV/LAN Service State / Messages to DEFINITY / Messages from DEFINITY / Message Period (minutes) 2 01 **CONNECTED** **1** **in service** 15 15 30 3 02 CONNECTED 0 in service 15 15 30 Press STATE, DROP, or MSGPER to effect this entry

6.2. Tie Line(s)

The tie line(s) from the S8700 to the DCP can be verified through the SAT administration interface.

Step	Description
1.	Run the test board command on the DS1 circuit pack assigned in Step 1 of Section 3.2. Verify that tests 138 through 146 and test 36 all pass. Note that aborts on tests 1227 and 136 are expected for this configuration.

```
test board 1a01                                                    Page   1

                                TEST RESULTS

Port        Maintenance Name  Alt. Name Test No. Result            Error Code

01A01       UDS1-BD                     138      PASS
01A01       UDS1-BD                     139      PASS
01A01       UDS1-BD                     140      PASS
01A01       UDS1-BD                     141      PASS
01A01       UDS1-BD                     142      PASS
01A01       UDS1-BD                     143      PASS
01A01       UDS1-BD                     144      PASS
01A01       UDS1-BD                     145      PASS
01A01       UDS1-BD                     146      PASS
01A01       UDS1-BD                     1227     ABORT           1951
01A0101     TIE-DS1           0020/001  136      ABORT           1005
01A0101     TIE-DS1           0020/001  36       PASS
01A0102     TIE-DS1           0020/002  136      ABORT           1005
01A0102     TIE-DS1           0020/002  36       PASS
01A0103     TIE-DS1           0020/003  136      ABORT           1005
```

7. Support

Customers should call the Concerto Worldwide Support Center on (800) 999-4455 when having problems related to Unison. Concerto will then determine the nature of the problem and recommend the best plan to the customer, whether it is to:

- Fix the problem though remote access.
- Dispatch, at Concerto's discretion, on-site technical support.
- Provide problem information for the customer to contact the server hardware manufacturer.
- Arrange for the repair/replacement of the part.

Technical support is also available at Concerto's web site on http://www.concerto.com or via e-mail at support@concerto.com. For sales support, call (800) 480-2299.

Product documentation, such as User Manuals, Installation Manuals, Administration Manuals and Troubleshooting Manuals can be provided on request, sent by email or downloaded from a secure ftp site to which access will be given on demand. These documents can also be found on the customer system.

8. Conclusion

Concerto Software's Unison Version 7.01 CTI capability using Concerto Software's Digital Communication Processor (DCP) call classification was compliance tested with the Avaya S8700 Media Server IP Connect running Avaya Communication Manager 1.3. All feature functionality and load test cases completed successfully.

9. Additional References

The following documents can be found at http://support.avaya.com:

Administrator's Guide for Avaya Communication Manager, Release 1.3, Issue 6, May 2003; Doc ID: 555-233-506

Avaya Communication Manager Call Vectoring and Expert Agent Selection (EAS) Guide, Release 1.3, Issue 1.0, May 2003; Doc ID: 555-233-517

Avaya Communication Manager, Contact Center, Guide to ACD Contact Centers, Release 1.3, Issue 1.0, May 2003; Doc ID: 555-233-516

DEFINITY® Enterprise Communications Server, CallVisor® ASAI Applications over MAPD, Issue 3, May 2002; Doc ID: 555-230-136

9.1. Glossary

Technical Term	Definition as it pertains to this document.
ACD	Automatic Call Distribution
ARS	Automatic Route Selection
ASAI	Adjunct Switch Application Interface
CVLAN	CallVisor Lan
CTI	Computer Telephony Integration
DCP	Digital Communication Processor
PSTN	Public Switched Telephone Network
SIT	Special Information Tone
VDN	Vector Directory Number

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya Developer*Connection* Program at devconnect@avaya.com.