



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

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# **Application Notes for Configuring Eggenet Telemanager*Pro* with Avaya Customer Interaction Express and Avaya Communication Manager – Issue 1.1**

### **Abstract**

These Application Notes describe the steps to configure Eggenet Telemanager*Pro*, Avaya Communication Manager, and Avaya Customer Interaction Express.

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.

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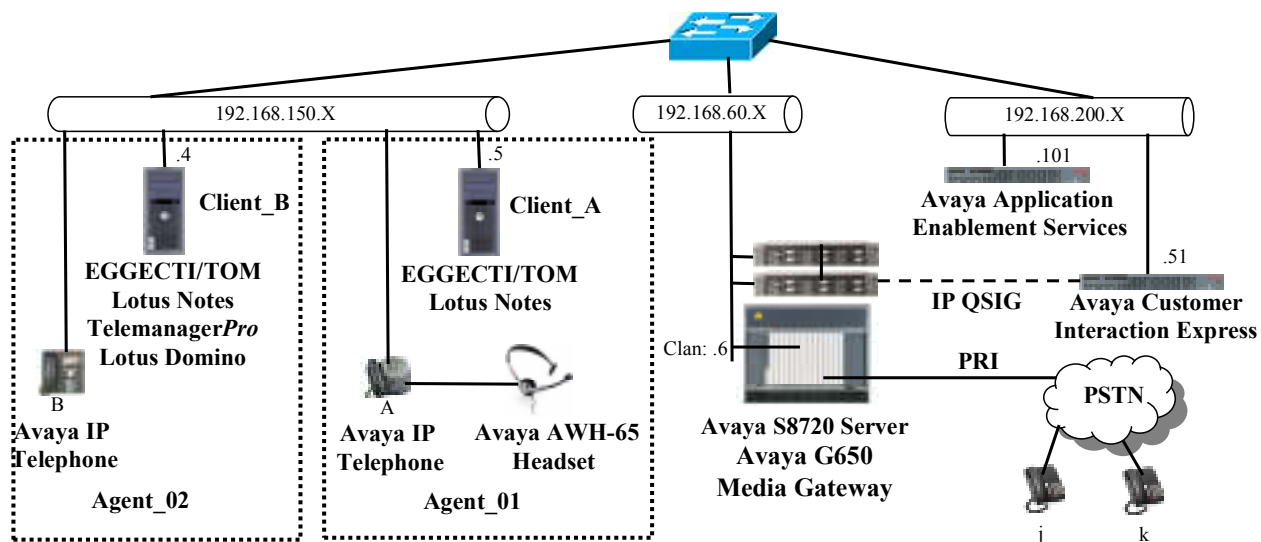
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# 1. Introduction

The Telemanager*PRO* is a Customer-Contact-Suite with CTI-Connection called EGGETI. Call center agents can control their phone and call-distribution with the Telemanager*PRO* user interface. The CTI-Connection enables the identification of customers in Lotus Notes, Oracle, or using web services. The customer data presentation opens automatically in Lotus Notes when the phone rings. The complete working time is managed by the connection. Phone calls can be started directly in the Lotus Notes client. The EGGETI can also be used to control voice recorder and identification verification systems.



**Figure 1: System Configuration**

In the above diagram, incoming calls from the PSTN PRI interface which arrive at the Avaya S8720/G650 gateway are passed by Avaya Communication Manager (CM) to Avaya Customer Interaction Express (CIE) via a QSIG IP link, along with call status information which is provided by Avaya Application Enablement Services (AES). These calls are routed by CIE to individual agents via its QSIG IP link to the S8720 Server, for final delivery to agent telephones by CM. The EGGETI applications running on agent workstations receive call information from CIE via the Telephony Object Model (TOM) interface, and provide caller information to agents via the Lotus Notes application.

Note that Telemanager*Pro* and Lotus Domino applications running on the Client B workstation would typically be run on a separate server.

The following table contains additional information about each of the telephones contained in the above diagram. Note that the telephone numbers have been changed for security reasons.

Phone	Agent	Agent Group	Extn.	Topic	PSTN Number
A	Agent_01	AG_01	60113	4001	069 907 xxxxx 4001
B	Agent_02	AG_02	60081	4002	069 907 xxxxx 4002
j					069 yyyy 6176
k					069 yyyy 6630

**Table 1: Extensions Used for Testing**

## 2. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Software Component	Version
Avaya Communication Manager	R015x.00.0.825.4
Avaya TN2312BP IP Server Interface	HW15 / FW043
Avaya TN799DP Control LAN Interface	HW01 / FW026
Avaya TN2302AP Media Processor Interface	HW20 / FW118
Avaya Application Enablement Services	R4-1-0-31-2-0
Avaya 4610SW IP Telephone	2.887
Avaya 9640G Telephone	1.5
Avaya 9650 Telephone	1.5
Avaya AWH-65 Headset	N.A.
Avaya Customer Interaction Express Server	1.0.5.1/11402
Avaya TOM Client Interface	1.0.3
EGGENET Telemanager <i>Pro</i>	3.50.001
EGGENET.cti	3.74.05
IBM Lotus Notes Client	7.0.3
IBM Lotus Domino Server	7.0.3
Microsoft Windows XP	XP Pro SP3
Microsoft Windows 2003	SP 2

**Table 2: Equipment and Software Validated**

## 3. Configuration

### 3.1. Avaya Communication Manager

Avaya Communication Manager configuration was performed using the System Access Terminal (SAT).

#### 3.1.1. Verify system-parameters customer-options

Use the **display system-parameters customer-options** command to verify that Avaya Communication Manager is licensed to meet the minimum requirements to interoperate with the Customer Interaction Express and Telemanager*Pro*. Those items shown in bold indicate required values or minimum capacity requirements. If these are not met in the configuration, please contact an Avaya representative for further assistance.

Verify that the parameters are set as shown in the following table:

Parameter	Usage
Maximum Concurrently Registered IP Stations (p.2)	This parameter must be large enough to support the number of IP stations to be attached.
ARS/AAR Dialing without FAC? (p.3)	This parameter must be set to “y”.
Enhanced EC500? (p.4)	This parameter must be set to “y”.
Extended Cvg/Fwd Admin? (p.4)	This parameter must be set to “y”.
IP Trunks? (p.4)	This parameter must be set to “y”.
ISDN-PRI? (p.4)	This parameter must be set to “y”.
Private Networking? (p.5)	This parameter must be set to “y”.
Tenant Partitioning? (p.5)	This parameter must be set to “y”.

**Table 3: System-Parameters Customer-Options Parameters**

display system-parameters customer-options		Page 2 of 10
OPTIONAL FEATURES		
IP PORT CAPACITIES		USED
Maximum Administered H.323 Trunks: 0		0
<b>Maximum Concurrently Registered IP Stations: 12</b>		0
Maximum Administered Remote Office Trunks: 0		0
Maximum Concurrently Registered Remote Office Stations: 0		0
Maximum Concurrently Registered IP eCons: 0		0
Max Concur Registered Unauthenticated H.323 Stations: 0		0
Maximum Video Capable H.323 Stations: 0		0
Maximum Video Capable IP Softphones: 0		0
Maximum Administered SIP Trunks: 10		0
Maximum Administered Ad-hoc Video Conferencing Ports: 0		0
Maximum Number of DS1 Boards with Echo Cancellation: 0		0
Maximum TN2501 VAL Boards: 10		0
Maximum Media Gateway VAL Sources: 0		0
Maximum TN2602 Boards with 80 VoIP Channels: 0		0
Maximum TN2602 Boards with 320 VoIP Channels: 0		0
Maximum Number of Expanded Meet-me Conference Ports: 0		0

**Figure 2: CM System-Parameters Customer-Options Form, Page 2**

display system-parameters customer-options	Page 3 of 11
OPTIONAL FEATURES	
Abbreviated Dialing Enhanced List? n	Audible Message Waiting? n
Access Security Gateway (ASG)? n	Authorization Codes? y
Analog Trunk Incoming Call ID? n	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	Cvg Of Calls Redirected Off-net? n
<b>ARS/AAR Dialing without FAC? y</b>	DCS (Basic)? n
ASAI Link Core Capabilities? y	DCS Call Coverage? n
ASAI Link Plus Capabilities? y	DCS with Rerouting? n
Async. Transfer Mode (ATM) PNC? n	
Async. Transfer Mode (ATM) Trunking? n	Digital Loss Plan Modification? n
ATM WAN Spare Processor? n	DS1 MSP? n
ATMS? n	DS1 Echo Cancellation? y
Attendant Vectoring? n	

**Figure 3: CM System-Parameters Customer-Options Form, Page 3**

display system-parameters customer-options	Page 4 of 10
OPTIONAL FEATURES	
Emergency Access to Attendant? y	IP Stations? y
Enable 'dadmin' Login? y	
Enhanced Conferencing? n	ISDN Feature Plus? n
<b>Enhanced EC500? y</b>	ISDN/SIP Network Call Redirection? n
Enterprise Survivable Server? n	ISDN-BRI Trunks? n
Enterprise Wide Licensing? n	<b>ISDN-PRI? y</b>
ESS Administration? n	Local Survivable Processor? n
<b>Extended Cvg/Fwd Admin? y</b>	Malicious Call Trace? n
External Device Alarm Admin? n	Media Encryption Over IP? n
Five Port Networks Max Per MCC? n	Mode Code for Centralized Voice Mail? n
Flexible Billing? n	
Forced Entry of Account Codes? n	Multifrequency Signaling? y
Global Call Classification? n	Multimedia Call Handling (Basic)? n
Hospitality (Basic)? y	Multimedia Call Handling (Enhanced)? n
Hospitality (G3V3 Enhancements)? n	Multimedia IP SIP Trunking? n
<b>IP Trunks? y</b>	
IP Attendant Consoles? n	

**Figure 4: CM System-Parameters Customer-Options Form, Page 4**

display system-parameters customer-options		Page 5 of 11
OPTIONAL FEATURES		
Multinational Locations? n	Station and Trunk MSP? n	
Multiple Level Precedence & Preemption? n	Station as Virtual Extension? n	
Multiple Locations? n		
Personal Station Access (PSA)? n	System Management Data Transfer? n	
PNC Duplication? n	<b>Tenant Partitioning? y</b>	
Port Network Support? y	Terminal Trans. Init. (TTI)? n	
Posted Messages? n	Time of Day Routing? n	
	TN2501 VAL Maximum Capacity? y	
	Uniform Dialing Plan? y	
<b>Private Networking? y</b>	Usage Allocation Enhancements? y	
Processor and System MSP? n		
Processor Ethernet? y	Wideband Switching? n	
	Wireless? n	
Remote Office? n		
Restrict Call Forward Off Net? y		
Secondary Data Module? Y		

**Figure 5: CM System-Parameters Customer-Options Form, Page 5**

### 3.1.2. Set system-parameters features

Use the **change system-parameters features** command to set the parameters as shown in the following table:

Parameter	Usage
Trunk-to-Trunk Transfer (p.1)	Set this value to “all”.
QSIG Path Replacement Extension (p.8)	Choose an extension which is contained within the dial plan, as shown in <b>Figure 9</b> .

**Table 4: System-Parameters Features Parameters**

change system-parameters features		Page 1 of 17
FEATURE-RELATED SYSTEM PARAMETERS		
Self Station Display Enabled? n		
<b>Trunk-to-Trunk Transfer: all</b>		
Automatic Callback - No Answer Timeout Interval (rings): 3		
Call Park Timeout Interval (minutes): 10		
Off-Premises Tone Detect Timeout Interval (seconds): 20		
AAR/ARS Dial Tone Required? y		
Music/Tone on Hold: none		
Music (or Silence) on Transferred Trunk Calls? no		
DID/Tie/ISDN/SIP Intercept Treatment: attd		
Internal Auto-Answer of Attdd-Extended/Transferred Calls: transferred		
Automatic Circuit Assurance (ACA) Enabled? n		
Abbreviated Dial Programming by Assigned Lists? n		
Auto Abbreviated/Delayed Transition Interval (rings): 2		
Protocol for Caller ID Analog Terminals: Bellcore		
Display Calling Number for Room to Room Caller ID Calls? n		

**Figure 6: CM System-Parameters Features Form, Page 1**

change system-parameters features	Page 8 of 17
FEATURE-RELATED SYSTEM PARAMETERS	
ISDN PARAMETERS	
Send Non-ISDN Trunk Group Name as Connected Name? n	PARAMETERS FOR CREATING
Display Connected Name/Number for ISDN DCS Calls? n	QSIG SELECTION NUMBERS
Send ISDN Trunk Group Name on Tandem Calls? n	Network Level: 0
	Level 2 Code:
	Level 1 Code:
QSIG/ETSI TSC Extension:	
MWI - Number of Digits Per Voice Mail Subscriber: 7	
National CPN Prefix: 0	
International CPN Prefix: 00	
Pass Prefixed CPN to ASAI? y	
Unknown Numbers Considered Internal for AUDIX? n	
USNI Calling Name for Outgoing Calls? n	
Path Replacement with Measurements? y	
<b>QSIG Path Replacement Extension: 30000</b>	
Path Replace While in Queue/Vectoring? N	

**Figure 7: CM System-Parameters Features Form, Page 8**

### 3.1.3. Configure IP Node Names

Use the **change node-names ip** command to assign meaningful names to IP addresses, as shown in the following table.

Parameter	Usage
cie	Enter the IP address of the CIE server.

**Table 5: Node-Names Ip Parameters**

change node-names ip	Page 1 of 2
IP NODE NAMES	
Name	IP Address
default	0.0.0.0
procr	192.168.31.29
<b>cie</b>	<b>192.168.200.51</b>
<b>clan</b>	<b>192.168.60.6</b>

**Figure 8: CM Node-Names Ip Form**

### 3.1.4. Configure Dial Plan

Use the **change dialplan analysis** command to configure the dial plan as shown in the following table.

Parameter	Usage
Dialed string: “0”	Use a “0” as Facilities Access Code (FAC) to access external telephone numbers, as configured in <b>Figure 45</b> .
Dialed string: “3”	The number “30000” is used for path replacement as used in <b>Figure 7</b> .
Dialed string: “40”	Five digit numbers starting with “40” are allocated to CIE “topics”, as shown in <b>Figure 10</b> and <b>Figure 50</b> .
Dialed string: “6”	Five digits numbers starting with “6” are allocated to local extensions as shown in <b>Sections 3.1.7</b> and <b>3.1.8</b> , well as <b>Figure 92</b> .
Dialed string: “*9”	The dialed string “*9” is the Trunk Access Code (TAC) shown in <b>Figure 39</b> .
Dialed string: “*4”	The dialed strings “*40” and “*41” are used as Trunk Access Codes (TAC) for the Topics ( <b>Figure 23</b> ) and Queue ( <b>Figure 28</b> ) trunks.

**Table 6: Dial Plan Analysis Parameters**

change dialplan analysis						Page 1 of 12			
DIAL PLAN ANALYSIS TABLE									
Location: all						Percent Full: 0			
	Dialed	Total	Call	Dialed	Total	Call	Dialed	Total	Call
	String	Length	Type	String	Length	Type	String	Length	Type
0		1	fac						
3		5	ext						
40		5	udp						
6		5	ext						
*9		2	dac						
*4		3	dac						

**Figure 9: CM Dialplan Analysis Form**

Use the **change uniform-dialplan** command to add the “topics” extension to the uniform dialplan. This extension is configured in CIE in **Figure 84**.

change uniform-dialplan 0						Page 1 of 2	
UNIFORM DIAL PLAN TABLE							
						Percent Full: 0	
Matching			Insert			Node	
Pattern	Len	Del	Digits	Net	Conv	Num	
40	5	0		aar	n		

**Figure 10: CM Uniform-Dialplan Form**

### 3.1.5. Configure Codec Sets

Use the **change ip-codec-set** command to designate a codec set to be used for communication with local telephones using the G.711A codec.

Parameter	Usage
Audio Codec (p. 1)	Enter “G.711A” as the codec to be used to communication with the local telephones.

**Table 7: IP-Codec-Set Parameters**

change change ip-codec-set 1				Page	1 of	2
IP Codec Set						
Codec Set: 1						
Audio	Silence	Frames	Packet			
Codec	Suppression	Per Pkt	Size (ms)			
1: G.711A	n	2	20			

**Figure 11: CM Ip-Codec-Set 1 Form**

Use the **change ip-codec-set** command to designate a codec set to be used for communication between Avaya Communication Manager and CIE using the G.711MU codec.

Parameter	Usage
Audio Codec (p. 1)	Enter “G.711MU” as the codec to be used to communication with CIE.

**Table 8: IP-Codec-Set Parameters**

change ip-codec-set 2				Page	1 of	2
IP Codec Set						
Codec Set: 2						
Audio	Silence	Frames	Packet			
Codec	Suppression	Per Pkt	Size (ms)			
1: G.711MU	n	2	20			
2:						
3:						
4:						
5:						
6:						
7:						

**Figure 12: CM Ip-Codec-Set 2 Form**

### 3.1.6. Configure IP Network Region

Use the **change ip-network-region 1** command to designate a network region to be used by local telephones using the parameters shown in the following table.

Parameter	Usage
Location	Enter “1”.
Name	Enter a name to identify the region.
Codec Set	Enter the number of the codec set defined in <b>Figure 11</b> .

**Table 9: CM IP-Network-Region 1 Parameters**

change ip-network-region 1		Page 1 of 19
IP NETWORK REGION		
Region: 1		
Location: 1	Authoritative Domain: ffm.com	
Name: FFM		
MEDIA PARAMETERS	Intra-region IP-IP Direct Audio: yes	
Codec Set: 1	Inter-region IP-IP Direct Audio: yes	
UDP Port Min: 2048	IP Audio Hairpinning? n	
UDP Port Max: 3329		
DIFFSERV/TOS PARAMETERS	RTCP Reporting Enabled? y	
Call Control PHB Value: 46	RTCP MONITOR SERVER PARAMETERS	
Audio PHB Value: 46	Use Default Server Parameters? y	
Video PHB Value: 26		
802.1P/Q PARAMETERS		
Call Control 802.1p Priority: 6	AUDIO RESOURCE RESERVATION PARAMETERS	
Audio 802.1p Priority: 6	RSVP Enabled? n	
Video 802.1p Priority: 5		
H.323 IP ENDPOINTS		
H.323 Link Bounce Recovery? y		
Idle Traffic Interval (sec): 20		
Keep-Alive Interval (sec): 5		
Keep-Alive Count: 5		

**Figure 13: CM Ip-Network-Region 1 Form**

Use the **change ip-network-region 2** command to designate a network region to be used by local telephones using the parameters shown in the following table.

Parameter	Usage
Location	Enter “2”.
Name	Enter a name to identify the region.
Codec Set	Enter the number of the codec set defined in <b>Figure 12</b> .
Intra-region IP-IP Direct Audio	Enter “no”
Inter-region IP-IP Direct Audio	Enter “no”

**Table 10: IP-Network-Region 2 Parameters**

change ip-network-region 2

Page 1 of 19

IP NETWORK REGION

Region: 2

Location: 1

Name: CIE

Authoritative Domain:

MEDIA PARAMETERS

Codec Set: 2

UDP Port Min: 2048

UDP Port Max: 3329

DIFFSERV/TOS PARAMETERS

Call Control PHB Value: 46

Audio PHB Value: 46

Video PHB Value: 26

802.1P/Q PARAMETERS

Call Control 802.1p Priority: 6

Audio 802.1p Priority: 6

Video 802.1p Priority: 5

H.323 IP ENDPOINTS

H.323 Link Bounce Recovery? y

Idle Traffic Interval (sec): 20

Keep-Alive Interval (sec): 5

Keep-Alive Count: 5

Intra-region IP-IP Direct Audio: no

Inter-region IP-IP Direct Audio: no

IP Audio Hairpinning? n

RTCP Reporting Enabled? y

RTCP MONITOR SERVER PARAMETERS

Use Default Server Parameters? y

AUDIO RESOURCE RESERVATION PARAMETERS

RSVP Enabled? n

**Figure 14: CM Ip-Network-Region 2 Form**

### 3.1.7. Configure Telephone with Headset

Use the **add station** command to allocate the telephones with headsets shown in **Figure 1**. Use the parameters shown in the following table.

Parameter	Usage
Type (p.1)	Enter the type identifier of local telephone.
Security Code (p.1)	Enter the security code to be assigned to the station for security purposes.
Name (p.1)	Enter a name to identify the station or its user.
Headset (p.4)	Enter “y” to indicate that a headset is attached to this station.

**Table 11: Station Parameters for Telephone with Headset**

MRR; Reviewed:  
SPOC 7/29/2009

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TelemanagrProCM

change station 60113		Page 1 of 5
STATION		
Extension: 60113	Lock Messages? n	BCC: 0
<b>Type: 4610</b>	<b>Security Code: 31106</b>	TN: 1
Port: S00101	Coverage Path 1: 1	COR: 1
<b>Name: extn 60113</b>	Coverage Path 2:	COS: 1
	Hunt-to Station:	
STATION OPTIONS		
Loss Group: 19	Time of Day Lock Table:	
Speakerphone: 2-way	Personalized Ringing Pattern: 1	
Display Language: english	Message Lamp Ext: 60113	
Survivable GK Node Name:	Mute Button Enabled? y	
Survivable COR: internal	Media Complex Ext:	
Survivable Trunk Dest? y	IP SoftPhone? n	
Customizable Labels? y		

**Figure 15: CM Station Form for Telephone with Headset, Page 1**

change station 60113		Page 4 of 5
STATION		
SITE DATA		
Room:	Headset?	y
Jack:	Speaker?	n
Cable:	Mounting:	d
Floor:	Cord Length:	0
Building:	Set Color:	
ABBREVIATED DIALING		
List1:	List2:	List3:
BUTTON ASSIGNMENTS		
1: call-appr	5: auto-cback	
2: call-appr	6: cfwd-enh	Ext:
3: call-appr	7: brdg-appr	B:1 E:60114
4: call-fwd Ext:	8:	

**Figure 16: CM Station Form for Telephone with Headset, Page 4**

### 3.1.8. Configure Telephone without Headset

Use the **add station** command to allocate the telephones without headsets shown in **Figure 1**. Use the parameters shown in the following table.

Parameter	Usage
Type (p.1)	Enter the type identifier of local telephone.
Security Code (p.1)	Enter the security code to be assigned to the station for security purposes.
Name (p.1)	Enter a name to identify the station or its user.
Headset (p.4)	Enter “n” to indicate that a headset is not attached to this station.

**Table 12: Station Parameters for Telephones without Headset**

```

change station 60113                                     Page 1 of 5

                                STATION

Extension: 60113                                Lock Messages? n                BCC: 0
  Type: 4610                                Security Code: 31106            TN: 1
  Port: S00101                            Coverage Path 1: 1            COR: 1
  Name: extn 60113                        Coverage Path 2:              COS: 1
                                          Hunt-to Station:

STATION OPTIONS

                                Time of Day Lock Table:
                                Personalized Ringing Pattern: 1
                                Message Lamp Ext: 60113
                                Mute Button Enabled? y
                                Loss Group: 19
                                Speakerphone: 2-way
                                Display Language: english
Survivable GK Node Name:
Survivable COR: internal
Survivable Trunk Dest? y
                                Media Complex Ext:
                                IP SoftPhone? n

                                Customizable Labels? y

```

**Figure 17: CM Station Form for Telephone without Headset, Page 1**

```

change station 60113                                     Page 4 of 5

                                STATION

SITE DATA
Room:                                Headset? n
Jack:                                Speaker? n
Cable:                                Mounting: d
Floor:                                Cord Length: 0
Building:                            Set Color:

ABBREVIATED DIALING
List1:                                List2:                                List3:

BUTTON ASSIGNMENTS
1: call-appr                            5: auto-cback
2: call-appr                            6: cfwd-enh Ext:
3: call-appr                            7: brdg-appr B:1 E:60114
4: call-fwd Ext:                        8:

```

**Figure 18: CM Station Form for Telephone without Headset, Page 4**

Use the **change cor 1** command to allow local stations to make external calls by setting “calling party restriction” to “none”. This Class of Restriction is assigned to the stations which have access to the PSTN network, as shown in **Table 1**.

Parameter	Usage
Calling Party Restriction	Enter “none” to allow local stations to make external calls.

**Table 13: Station Class of Restriction Parameters**

change cor 1

Page 1 of 23

CLASS OF RESTRICTION

COR Number: 1

COR Description:

FRL: 0

APLT? y

Can Be Service Observed? n

Calling Party Restriction: none

Can Be A Service Observer? n

Called Party Restriction: none

Partitioned Group Number: 1

Forced Entry of Account Codes? n

Priority Queuing? n

Direct Agent Calling? n

Restriction Override: none

Facility Access Trunk Test? n

Restricted Call List? n

Can Change Coverage? n

Access to MCT? y

Fully Restricted Service? n

Group II Category For MFC: 7

Send ANI for MFE? n

MF ANI Prefix:

Automatic Charge Display? n

Hear System Music on Hold? y

PASTE (Display PBX Data on Phone)? n

Can Be Picked Up By Directed Call Pickup? n

Can Use Directed Call Pickup? n

Group Controlled Restriction: inactive

**Figure 19: CM Station Class of Restriction Form**

Use the **change cos** command with the parameters shown in the following table for service class “1”, which is assigned to the stations which forward calls via the PSTN trunk. This Class of Service is assigned to the stations which have access to the PSTN network, as shown in **Table 1**.

Parameter	Usage
Restrict Call Fwd-Off Net	Enter “n” to allow calls to be forwarded via the PSTN trunk.

**Table 14: Class of Service Parameters**

change cor

Page 1 of 2

CLASS OF SERVICE

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Auto Callback	n	y	y	n	y	n	y	n	y	n	y	n	y	n	y	n
Call Fwd-All Calls	n	y	n	y	y	n	n	y	y	n	n	y	y	n	n	y
Data Privacy	n	y	n	n	n	y	y	y	y	n	n	n	n	y	y	y
Priority Calling	n	y	n	n	n	n	n	n	n	y	y	y	y	y	y	y
Console Permissions	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
Off-hook Alert	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
Client Room	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
<b>Restrict Call Fwd-Off Net</b>	y	n	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Call Forwarding Busy/DA	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
Personal Station Access (PSA)	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
Extended Forwarding All	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n
Extended Forwarding B/DA	n	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n
Trk-to-Trk Transfer Override	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
QSIG Call Offer Originations	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
Contact Closure Activation	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n

Figure 20: CM Class of Service Form

### 3.1.9. Configure Interface to Avaya CIE Topics

Use the **change cor 95** command to configure the Class of Restriction be used by the CIE Topics and Queue trunks. This Class of Restriction is assigned to the CIE Topics and Queue trunks, as shown in **Figure 23** and **Figure 28**.

Parameter	Usage
COR Description (Page 1)	Enter an appropriate name to describe this Class of Restriction.
FRL (Page 1)	Enter “7”.
Restriction Override (Page 1)	Enter “all”.
Calling Party Restriction (Page 1)	Enter “none”.
Direct Agent Calling? (Page 1)	Enter “y”.
Can be Picked Up By Directed Call Pickup? (Page 1)	Enter “y”.
Can Use Directed Call Pickup? (Page 1)	Enter “y”.
Outgoing Trunk Disconnect Timer (minutes) (Page 2)	Enter “2”.

Table 15: Trunk Class of Restriction Parameters

change cor 95	CLASS OF RESTRICTION	Page 1 of 23
<p style="text-align: center;">COR Number: 95</p> <p><b>COR Description: CIE Trunks</b></p>		
<p><b>FRL: 7</b></p> <p>Can Be Service Observed? n</p> <p>Can Be A Service Observer? n</p> <p>Partitioned Group Number: 1</p> <p>Priority Queuing? n</p> <p><b>Restriction Override: all</b></p> <p>Restricted Call List? n</p>	<p><b>Calling Party Restriction: none</b></p> <p>Called Party Restriction: none</p> <p>Forced Entry of Account Codes? n</p> <p><b>Direct Agent Calling? y</b></p> <p>Facility Access Trunk Test? n</p> <p>Can Change Coverage? n</p>	<p>APLT? y</p>
<p>Access to MCT? y</p> <p>Group II Category For MFC: 7</p> <p>Send ANI for MFE? n</p> <p>MF ANI Prefix:</p> <p>Hear System Music on Hold? y</p>	<p>Fully Restricted Service? n</p> <p>Add/Remove Agent Skills? n</p> <p>Automatic Charge Display? n</p> <p>PASTE (Display PBX Data on Phone)? n</p> <p><b>Can Be Picked Up By Directed Call Pickup? y</b></p> <p><b>Can Use Directed Call Pickup? y</b></p> <p>Group Controlled Restriction: inactive</p>	

**Figure 21: CM Trunk Class of Restriction Form, Page 1**

change cor 95	CLASS OF RESTRICTION	Page 2 of 23
<p>MF Incoming Call Trace? n</p> <p>Brazil Collect Call Blocking? n</p> <p>Block Transfer Display? n</p> <p>Block Enhanced Conference/Transfer Displays? y</p> <p>Remote Logout of Agent? n</p>		
<p style="text-align: center;">Station Lock COR: 95</p> <p><b>Outgoing Trunk Disconnect Timer (minutes): 2</b></p>		
<p>Station-Button Display of UUI IE Data? n</p> <p>Service Observing by Recording Device? n</p> <p style="text-align: center;">ERASE 24XX USER DATA UPON</p> <p>Dissociate or unmerge this phone: none</p> <p>EMU login or logoff at this phone: none</p> <p>Mask CPN/NAME for Internal Calls? n</p>		

**Figure 22: CM Trunk Class of Restriction Form, Page 2**

Use the **add trunk-group** command to allocate a trunk group for the Avaya CIE Topics. Set the parameters for this command as shown in the following table.

Parameter	Usage
Group Type (p.1)	Enter “isdn”.
Group Name (p.1)	Assign a name for identification purposes.
COR (p.1)	Assign the COR which is configured in <b>Figure 21</b> which provides unrestricted access for CIE.
TAC (p.1)	Assign the Trunk Access Code which was included in the dial plan in <b>Figure 9</b> .
Carrier Medium (p.1)	Enter “H.323”.
Dial Access (p.1)	Enter “y”.
Service Type (p.1)	Enter “tie”.
Member Assignment Method (p.1)	Enter “auto”.
Signaling Group (p.1)	Enter the number of the signaling group allocated in <b>Figure 27</b> .
Number of Members (p.1)	Enter a number large enough to support the maximum number of anticipated simultaneous calls to be accommodated to CIE “topics”.
Codeset to Send Display (p.2)	Enter “0”.
Supplementary Service Protocol (p.2)	Enter “b”.
Send Calling Number (p.3)	Enter “y”.
Format (p.3)	Enter “private”.
Send Connected Number (p.3)	Enter “y”.
Path Replacement Method (p.4)	Enter “always”.
QSIG Value-Added (p.4)	Enter “y”.

**Table 16: Trunk-Group Parameters**

```

add trunk-group 40                                     Page 1 of 21

                                TRUNK GROUP

Group Number: 40                Group Type: isdn        CDR Reports: y
  Group Name: CIE topics          COR: 95              TN: 1          TAC: *40
    Direction: two-way          Outgoing Display? n      Carrier Medium: H.323
  Dial Access? y                Busy Threshold: 255    Night Service:
Queue Length: 0
Service Type: tie                Auth Code? n
                                Member Assignment Method: auto
                                Signaling Group: 40
                                Number of Members: 20

```

**Figure 23: CM Trunk-Group 40 Form, Page 1**

add trunk-group 40		Page 2 of 21
Group Type: isdn		
TRUNK PARAMETERS		
Codeset to Send Display: 0	Codeset to Send National IEs: 6	
	Charge Advice: none	
Supplementary Service Protocol: b	Digit Handling (in/out): enbloc/enbloc	
		Digital Loss Group: 18
Incoming Calling Number - Delete:	Insert:	Format:
Disconnect Supervision - In? y Out? n		
Answer Supervision Timeout: 0		

**Figure 24: CM Trunk-Group 40 Form, Page 2**

add trunk-group 40		Page 3 of 21
TRUNK FEATURES		
ACA Assignment? n	Measured: none	
	Internal Alert? n	Maintenance Tests? y
	Data Restriction? n	NCA-TSC Trunk Member:
	Send Name: n	<b>Send Calling Number: y</b>
Used for DCS? n	Hop Dgt? n	Send EMU Visitor CPN? n
Suppress # Outpulsing? n	<b>Format: private</b>	
	UUI IE Treatment: service-provider	
	Replace Restricted Numbers? n	
	Replace Unavailable Numbers? n	
	<b>Send Connected Number: y</b>	
	Hold/Unhold Notifications? y	
	Modify Tandem Calling Number? n	
Send UUI IE? y		
Send UCID? n		
Send Codeset 6/7 LAI IE? y		

**Figure 25: CM Trunk-Group 40 Form, Page 3**

add trunk-group 40		Page 4 of 21
QSIG TRUNK GROUP OPTIONS		
TSC Method for Auto Callback: drop-if-possible		
Diversión by Reroute? y		
Path Replacement? y		
Path Replacement with Retention? n		
<b>Path Replacement Method: always</b>		
SBS? n		
Display Forwarding Party Name? y		
Character Set for QSIG Name: eurofont		
<b>QSIG Value-Added? y</b>		
QSIG-Value Coverage Encoding: proprietary		

**Figure 26: CM Trunk-Group 40 Form, Page 4**

Use the **add signaling-group** command to allocate a signaling group for interface to Avaya CIE Topics using the following parameters:

Parameter	Usage
Group Type	Enter “h.323”.
Trunk Group for Channel Selection	Enter the number of the Topics trunk which allocated in <b>Figure 23</b> .
TSC Supplementary Service Protocol	Enter “b”.
Near-end Node Name	Enter “clan” to designate the control LAN interface as the near end node name.
Far-end Node Name	Enter “cie” to assign the CIE server as the far end node name.
Near-end Listen Port	Assign this parameter to an unused port. This must be configured for the CIE “Topics” trunk which is allocated in <b>Figure 114</b> as “PBXSignalPort”.
Far-end Listen Port	Assign this parameter to the value used in for the CIE “Topics” trunk which is allocated in <b>Figure 114</b> as “LocalSignalPort”.
Far-end Network Region	Assign this parameter to the value used for the network region which is allocated in <b>Figure 14</b> .
Direct IP-IP Audio Connections	Enter “n” to prevent direct IP-IP endpoint connections (shuffling).

**Table 17: Topics Signaling-Group Parameters**

```

add signaling-group 40
                                     Page 1 of 1
                                     SIGNALING GROUP

Group Number: 40      Group Type: h.323
Remote Office? n      Max number of NCA TSC: 0
SBS? n                Max number of CA TSC: 0
IP Video? n           Trunk Group for NCA TSC:
Trunk Group for Channel Selection: 40
TSC Supplementary Service Protocol: b      Network Call Transfer? n
T303 Timer(sec): 10

Near-end Node Name: clan      Far-end Node Name: cie
Near-end Listen Port: 5105    Far-end Listen Port: 5105
Far-end Network Region: 2
LRQ Required? n              Calls Share IP Signaling Connection? y
RRQ Required? n

Bypass If IP Threshold Exceeded? n
H.235 Annex H Required? n
DTMF over IP: out-of-band    Direct IP-IP Audio Connections? n
Link Loss Delay Timer(sec): 90      IP Audio Hairpinning? n
Enable Layer 3 Test? n           Interworking Message: PROGRESS
DCP/Analog Bearer Capability: 3.1kHz

```

**Figure 27: CM Signaling-Group 40 Form**

### 3.1.10. Configure Interface to Avaya CIE Queue

Use the **add trunk-group** command to allocate a trunk group for Avaya CIE Queue. Set the parameters for this command as shown in the following table.

Parameter	Usage
Group Type (p.1)	Enter “isdn”.
Group Name (p.1)	Assign a name for identification purposes.
COR (p.1)	Enter the COR value which is configured for CIE access in <b>Figure 21</b> .
TAC (p.1)	Enter the Trunk Access Code which was included in the dial plan in <b>Figure 9</b> .
Carrier Medium (p.1)	Enter “H.323”.
Dial Access (p.1)	Enter “y”.
Service Type (p.1)	Enter “tie”.
Member Assignment Method (p.1)	Enter “auto”.
Signaling Group (p.1)	Enter the number of the signaling group allocated in Figure 32.
Number of Members (p.1)	Enter a number large enough to support the maximum number of anticipated simultaneous waiting calls.
Cpdeset to Send Display (p.2)	Enter “0”.
Supplementary Service Protocol (p.2)	Enter “b”.
Send Name (p.3)	Enter “y”.
Send Calling Number (p.3)	Enter “y”.
Format (p.3)	Enter “private”.
Send Connected Number (p.3)	Enter “y”.
Path Replacement Method (p.4)	Enter “always”.
QSIG Value-Added (p.4)	Enter “y”.

**Table 18: Queue Trunk-Group Parameters**

add trunk-group 41		Page 1 of 21
TRUNK GROUP		
Group Number: 41	Group Type: isdn	CDR Reports: y
Group Name: CIE Queue	COR: 95	TN: 1 TAC: *41
Direction: two-way	Outgoing Display? n	Carrier Medium: H.323
Dial Access? y	Busy Threshold: 255	Night Service:
Queue Length: 0	Auth Code? n	
Service Type: tie	Member Assignment Method: auto	
	Signaling Group: 41	
	Number of Members: 20	

**Figure 28: CM Queue Trunk-Group Form, Page 1**

add trunk-group 41		Page 2 of 21
Group Type: isdn		
TRUNK PARAMETERS		
<b>Codeset to Send Display: 0</b>	Codeset to Send National IEs: 6	
	Charge Advice: none	
<b>Supplementary Service Protocol: b</b>	Digit Handling (in/out): enbloc/enbloc	
		Digital Loss Group: 18
Incoming Calling Number - Delete:	Insert:	Format:
Disconnect Supervision - In? y Out? n		
Answer Supervision Timeout: 0		

**Figure 29: CM Queue Trunk-Group Form, Page 2**

add trunk-group 41		Page 3 of 21
TRUNK FEATURES		
ACA Assignment? n	Measured: none	
	Internal Alert? n	Maintenance Tests? y
	Data Restriction? n	NCA-TSC Trunk Member:
	<b>Send Name: y</b>	<b>Send Calling Number: y</b>
Used for DCS? n	Hop Dgt? n	Send EMU Visitor CPN? n
Suppress # Outpulsing? n	<b>Format: private</b>	
	UUI IE Treatment: service-provider	
	Replace Restricted Numbers? n	
	Replace Unavailable Numbers? n	
	<b>Send Connected Number: y</b>	
	Hold/Unhold Notifications? y	
	Modify Tandem Calling Number? n	
Send UUI IE? y		
Send UCID? n		
Send Codeset 6/7 LAI IE? y		

**Figure 30: CM Queue Trunk-Group Form, Page 3**

add trunk-group 41		Page 4 of 21
QSIG TRUNK GROUP OPTIONS		
TSC Method for Auto Callback: drop-if-possible		
Diversion by Reroute? y		
Path Replacement? y		
Path Replacement with Retention? n		
<b>Path Replacement Method: always</b>		
SBS? n		
Display Forwarding Party Name? y		
Character Set for QSIG Name: eurofont		
<b>QSIG Value-Added? y</b>		
QSIG-Value Coverage Encoding: proprietary		

**Figure 31: CM Queue Trunk-Group Form, Page 4**

Use the **add signaling-group** command to allocate a signaling group for interface to Avaya CIE Queue using the following parameters:

Parameter	Usage
Group Type	Enter “h.323”.
Trunk Group for Channel Selection	Enter the number of the trunk which is allocated in <b>Figure 28</b> .
TSC Supplementary Service Protocol	Enter b”.
Near-end Node Name	Enter “clan” to designate the control LAN as the near end node name.
Far-end Node Name	Enter “cie” to assign the CIE server as the far end node name.
Near-end Listen Port	Assign this parameter to an unused port. This must be configured for the CIE “Queue” trunk which is allocated in <b>Figure 116</b> as “PBXSignalPort”.
Far-end Listen Port	Assign this parameter to the value used in for the CIE “Queue” trunk which is allocated in <b>Figure 116</b> as “LocalSignalPort”.
Calls Share IP Signaling Connection?	Enter “y”.
Direct IP-IP Audio Connections	Enter “n”.

**Table 19: Queue Signaling-Group Parameters**

```

add signaling-group 41                                     Page 1 of 1
                                SIGNALING GROUP

Group Number: 41      Group Type: h.323
Remote Office? n      Max number of NCA TSC: 0
SBS? n                Max number of CA TSC: 0
IP Video? n           Trunk Group for NCA TSC:
Trunk Group for Channel Selection: 41
TSC Supplementary Service Protocol: b      Network Call Transfer? n
T303 Timer(sec): 10

Near-end Node Name: clan      Far-end Node Name: cie
Near-end Listen Port: 5106    Far-end Listen Port: 5106
Far-end Network Region: 2
LRQ Required? n              Calls Share IP Signaling Connection? y
RRQ Required? n

Bypass If IP Threshold Exceeded? n
H.235 Annex H Required? n
DTMF over IP: out-of-band    Direct IP-IP Audio Connections? n
Link Loss Delay Timer(sec): 90      IP Audio Hairpinning? n
Enable Layer 3 Test? n           Interworking Message: PROGress
DCP/Analog Bearer Capability: 3.1kHz

```

**Figure 32: CM Queue Signaling-Group Form**

3.1.11.      **Configure Interface to Avaya AES**

The Avaya Application Enablement Services TSAPI interface provides Telemanagr*Pro* with a means of communicating with Avaya Communication Manager to perform telephony operations. Avaya Communication Manager requires the configuration parameters shown in this section.

Use the **add ip-interface** command to allocate a call control interface. The slot value specified should be the C-LAN interface. The value used as “Node Name” must be one of the names from the list defined by the **change node-names ip** command. The “Subnet Mask” and “Gateway Address” should be assigned to the values used by the Ethernet network to which the C-LAN is attached.

add ip-interface 01a02

Page1 of 1

IP INTERFACES

Type: C-LAN  
Slot: 01A02  
Code/Suffix: TN799 D  
Node Name: clan  
IP Address: 192.168.60.6  
Subnet Mask: 255.255.255.0  
Gateway Address: 192.168.60.254  
Enable Ethernet Port? y  
Network Region: 1  
VLAN: n

Link:  
Allow H.323 Endpoints? y  
Allow H.248 Gateways? y  
Gatekeeper Priority: 5

Target socket load and Warning level: 400  
Receive Buffer TCP Window Size: 8320

ETHERNET OPTIONS

Auto? y

Figure 33: CM Add Ip-Interface Form

Use the **change ip-services** command to set the parameters for the AESVCS service as shown below for the C-LAN which was defined above to serve as the interface to the Avaya AES server.

change ip-services

Page1 of 3

IP SERVICES

Service Type	Enabled	Local Node	Local Port	Remote Node	Remote Port
AESVCS	y	clan	8765		

Figure 34: CM Change Ip-Services Form, Page 1

An entry for the Avaya AES server must be made in the list in the screen shown below. The name assigned to the Avaya AES server when it was installed must be entered in the “AE Services Server” field for that entry. The “Password” entry must be the same as was assigned to the switch connection, as shown in **Figure 56** of this document.

```
change ip-services
```

Page 3 of 3

AE Services Administration

Server ID	AE Services Server	Password	Enabled	Status
1:	aes-server1	xxxxxxxx	y	idle

**Figure 35: CM Change Ip-Services Form, Page 3**

Use the **add cti-link** command to add a CTI link for use by TSAPI. The link number can be any value between 1 and 64 which is not currently assigned to another link. The link number specified must be the same value that is used in the “Add / Edit TSAPI Links” configuration screen shown in **Figure 59**. Use an unused extension as the value for the “Extension” parameter. The value chosen for the “Name” parameter is a matter of personal preference. Specify a “Type” of “ADJ-IP”, as required for a TSAPI link.

```
add cti-link 4
```

Page 1 of 3

CTI LINK

```

CTI Link: 4
Extension: 69996
Type: ADJ-IP
Name: AES-devcon223-tsapi
COR: 1

```

**Figure 36: CM Add Cti-Link Form**

Use the **add data-module <x>** command, where <x> is an unassigned extension, to allocate an extension to be used as the data interface for the C-LAN module. The value used as “extension” can be any free extension. The “Name” value is only used for identification purposes. The “Type” field must be “ethernet”. The “Port” should be assigned to port 17 of the C-LAN interface. The “Link” number should be assigned a value between 1 and 99.

```
add data-module 60000
```

Page 1 of 1

DATA MODULE

```

Data Extension: 60000      Name: clan
Type: ethernet
Port: 01A0217
Link: 1

```

Network uses 1's for Broadcast Addresses? Y

**Figure 37: CM Add Data-Module Form**

### 3.1.12. Configure Interface to PSTN

Use the **add ds1** command to configure a DS1 circuit pack for connection to the PSTN. Set the parameters for this command as shown in **Table 20**.

Parameter	Usage
Name	Choose a name to identify this interface.
Line Coding	Enter “hdb3” for Alternate Mark Inversion with high density bipolar 3-bit substitution.
Signaling Mode	Enter “isdn-pri” Integrated Services Digital Network Primary Rate.
Connect	Enter “network”.
Country Protocol	Enter “etsi” to specify the European Telecommunications Standards Institute standard ISDN protocol.
Interworking Message	Enter “PROGress” to have the public network cut through the B-channel and let the caller hear tones such as ringback or busy tone.
Protocol Version	Enter “b”.
Interface Companding	Enter “alaw” for use in Europe.
CRC?	Enter “y” to enable Cyclical Redundancy Check.
Idle Code	Specify an idle code bit pattern of “01010101”.

**Table 20: Configuration Values for DS1 Circuit Pack**

```
add ds1 01a06                                     Page 1 of 1
DS1 CIRCUIT PACK
Location: 01A06                                     Name: PSTN
Bit Rate: 2.048                                     Line Coding: hdb3
Signaling Mode: isdn-pri
Connect: network
TN-C7 Long Timers? n                               Country Protocol: etsi
Interworking Message: PROGress                     Protocol Version: b
Interface Companding: alaw                          CRC? y
Idle Code: 01010101
DCP/Analog Bearer Capability: 3.1kHz
T303 Timer(sec): 4
Slip Detection? n                                  Near-end CSU Type: other
```

**Figure 38: CM DS1 Circuit Pack Form**

Use the **add trunk-group** command to allocate a trunk group for the PSTN. Set the parameters for this command as shown in **Table 21**.

Parameter	Usage
Group Type (p.1)	Enter “isdn” for Integrated Services Digital Network.
Group Name (p.1)	Choose a name to identify this interface.
TAC (p.1)	Select “*9” as the Trunk Access Code to identify this trunk group.
Dial Access? (p.1)	Enter “y” to allow dial access to this trunk group.
Service Type (p.1)	Enter “public-ntwrk”.
Charge Advice (p.2)	Enter “automatic”.
Supplementary Service Protocol (p.2)	Enter “c” for ETSI.
Digit Handling (in/out) (p.2)	Enter “overlap/overlap” to specify overlap digit handling for both sending and receiving.
Digit Treatment (p.2)	Specify “insertion” to have Communication Manager add the digits specified by the following field at the beginning of the incoming digit string.
Digits (p.2)	Specify “0*” as the digits to be added at the beginning of the incoming digit string.
Incoming Calling Number Insert (p.2)	Specify “0” to have these digits prepended to the calling party number. This allows missed calls to be correctly dialed from the call log.
Disconnect Supervision Out? (p.2)	Enter “y” to allow trunk-to-trunk transfers of calls within this group.
Send Calling Number (p.3)	Enter “y” to have the calling party number sent.
Charge Conversion (p.3)	Enter “12” as the value to be multiplied by the number of charge units to compute the currency amount.
Decimal Point (p.3)	Enter “comma”, which is the character used for decimal point in Germany.
Charge Type (p.3)	Enter “units” to specify that calling charges are reported in units.
Send Connected Number (p.3)	Enter “y”.
Send UUI IE? (p.3)	Enter “n”.
Send Codeset 6/7 LAI IE? (p.3)	Enter “n”.
Port (p. 5,6)	Enter port numbers on the DS1 circuit pack to be used as trunks. Port 16 is reversed for signaling.
Sig Group (p. 5,6)	Enter “9” to select the PSTN signaling group as shown in <b>Figure 44</b> . Note that this value can only be entered after the signaling group has been allocated.

**Table 21: Configuration Values for PSTN Routing Pattern**

add trunk-group 9		Page 1 of 21
TRUNK GROUP		
Group Number: 9	<b>Group Type: isdn</b>	CDR Reports: y
<b>Group Name: PSTN</b>	COR: 1	TN: 1 <b>TAC: *9</b>
Direction: two-way	<b>Outgoing Display? y</b>	Carrier Medium: PRI/BRI
<b>Dial Access? y</b>	Busy Threshold: 255	Night Service:
Queue Length: 0		
<b>Service Type: public-ntwrk</b>	Auth Code? n	TestCall ITC: rest
	Far End Test Line No:	
TestCall BCC: 4		

**Figure 39: CM PSTN Trunk-Group Form, Page 1**

add trunk-group 9		Page 2 of 21
Group Type: isdn		
TRUNK PARAMETERS		
Codeset to Send Display: 6	Codeset to Send National IEs: 6	
Max Message Size to Send: 260	<b>Charge Advice: automatic</b>	
<b>Supplementary Service Protocol: c</b>	<b>Digit Handling (in/out): overlap/overlap</b>	
<b>Digit Treatment: insertion</b>	<b>Digits: 0*</b>	
Trunk Hunt: cyclical		
	Digital Loss Group: 13	
<b>Incoming Calling Number - Delete:</b>	<b>Insert: 0</b>	Format:
Bit Rate: 1200	Synchronization: async	Duplex: full
<b>Disconnect Supervision - In? y Out? y</b>		
Answer Supervision Timeout: 0		
Administer Timers? N		

**Figure 40: CM PSTN Trunk-Group Form, Page 2**

add trunk-group 9		Page 3 of 21
TRUNK FEATURES		
ACA Assignment? n	Measured: none	Wideband Support? n
		Maintenance Tests? y
	Data Restriction? n	NCA-TSC Trunk Member:
	Send Name: n	<b>Send Calling Number: y</b>
Used for DCS? n		Send EMU Visitor CPN? n
Suppress # Outpulsing? n	Format: public	
Outgoing Channel ID Encoding: preferred	UII IE Treatment: service-provider	
<b>Charge Conversion: 12</b>		
<b>Decimal Point: comma</b>	Replace Restricted Numbers? n	
<b>Currency Symbol: EUR</b>	Replace Unavailable Numbers? n	
<b>Charge Type: units</b>	<b>Send Connected Number: y</b>	
Network Call Redirection: none	Hold/Unhold Notifications? n	
<b>Send UII IE? n</b>	Modify Tandem Calling Number? n	
Send UCID? n		
<b>Send Codeset 6/7 LAI IE? n</b>	Ds1 Echo Cancellation? n	
Apply Local Ringback? n		
Show ANSWERED BY on Display? y		
	Network (Japan) Needs Connect Before Disconnect? N	

**Figure 41: CM PSTN Trunk-Group Form, Page 3**

add trunk-group 9				Page 5 of 21	
				TRUNK GROUP	
				Administered Members (min/max): 0/0	
GROUP MEMBER ASSIGNMENTS				Total Administered Members: 0	
	<b>Port</b>	<b>Code Sfx</b>	<b>Name</b>	<b>Night</b>	<b>Sig Grp</b>
1:	01a0601	TN2464	C		9
2:	01a0602	TN2464	C		9
3:	01a0603	TN2464	C		9
4:	01a0604	TN2464	C		9
5:	01a0605	TN2464	C		9
6:	01a0606	TN2464	C		9
7:	01a0607	TN2464	C		9
8:	01a0608	TN2464	C		9
9:	01a0609	TN2464	C		9
10:	01a0610	TN2464	C		9
11:	01a0611	TN2464	C		9
12:	01a0612	TN2464	C		9
13:	01a0613	TN2464	C		9
14:	01a0614	TN2464	C		9
15:	01a0615	TN2464	C		9

**Figure 42: CM PSTN Trunk-Group Form, Page 5**

add trunk-group 9				Page 6 of 21	
				TRUNK GROUP	
				Administered Members (min/max): 0/0	
GROUP MEMBER ASSIGNMENTS				Total Administered Members: 0	
	<b>Port</b>	<b>Code Sfx</b>	<b>Name</b>	<b>Night</b>	<b>Sig Grp</b>
16:	01a0617	TN2464	C		9
17:	01a0618	TN2464	C		9
18:	01a0619	TN2464	C		9
19:	01a0620	TN2464	C		9
20:	01a0621	TN2464	C		9
21:	01a0622	TN2464	C		9
22:	01a0623	TN2464	C		9
23:	01a0624	TN2464	C		9
24:	01a0625	TN2464	C		9
25:	01a0626	TN2464	C		9
26:	01a0627	TN2464	C		9
27:	01a0628	TN2464	C		9
28:	01a0629	TN2464	C		9
29:	01a0630	TN2464	C		9
30:	01a0631	TN2464	C		9

**Figure 43: CM PSTN Trunk-Group Form, Page 6**

Use the **add signaling-group** command to allocate a signaling group to be used by calls to the PSTN.

Parameter	Usage
Group Type	Specify “isdn-pri” for ISDN Primary Rate.
Max number of NCA TSC	Enter “8”.
Primary D-Channel	Enter the address of port 16 of the DS1 Circuit Pack which is used to connect to the PSTN.
Trunk Group for NCA TSC	Enter “9”.
Trunk Group for Channel Selection	Enter “9”.
TSC Supplementary Service Protocol	Enter “a”.

**Table 22: PSTN Signaling-Group Parameters**

```

add signaling-group 9                                     Page 1 of 5
                                SIGNALING GROUP

Group Number: 9          Group Type: isdn-pri
Associated Signaling? y          Max number of NCA TSC: 8
Primary D-Channel: 01A0616          Max number of CA TSC: 0
                                Trunk Group for NCA TSC: 9
Trunk Group for Channel Selection: 9
TSC Supplementary Service Protocol: a

```

**Figure 44: CM PSTN Signaling-Group Form**

### 3.1.13. Configure Call Routing

Use the **change feature-access-codes** command to specify that “0” is to be used as the Auto Route Selection (ARS) access code.

change feature-access-codes		Page 1 of 6
FEATURE ACCESS CODE (FAC)		
Abbreviated Dialing List1 Access Code:		
Abbreviated Dialing List2 Access Code:		
Abbreviated Dialing List3 Access Code:		
Abbreviated Dial - Prgm Group List Access Code:		
Announcement Access Code:		
Answer Back Access Code:		
Attendant Access Code:		
Auto Alternate Routing (AAR) Access Code:		
<b>Auto Route Selection (ARS) - Access Code 1: 0</b>		Access Code 2:
Automatic Callback Activation:		Deactivation:
Call Forwarding Activation Busy/DA: All:		Deactivation:
Call Forwarding Enhanced Status: Act:		Deactivation:
Call Park Access Code:		
Call Pickup Access Code:		
CAS Remote Hold/Answer Hold-Unhold Access Code:		
CDR Account Code Access Code:		
Change COR Access Code:		
Change Coverage Access Code:		
Contact Closure Open Code:		Close Code:

Figure 45: CM Feature-Access-Codes Form

Use the **change ars analysis** command to specify that an ARS dialed string of an indeterminate value (“x”) of at least “7” digits, but not exceeding “15” digits is a public (“pubu”) number which should be routed via routing pattern “9”.

change ars analysis 0		Page 1 of 2	
ARS DIGIT ANALYSIS TABLE			
		Location: all	Percent Full: 0
Dialed String	Total Min Max	Route Pattern	Call Type
x	7 15	9	pubu
			Node Num ANI Reqdn

Figure 46: CM ARS Analysis Form

Use the **change route-pattern** command to specify parameter values to be used for route pattern “9”, which is used for access to the PSTN. Set the parameter values as shown in the following table.

Parameter	Usage
Pattern Name	Choose an appropriate name to be used for descriptive purposes.
Grp No	Specify the Trunk Group number which is used to access the PSTN, which is shown in <b>Figure 39</b> .
FRL	Enter “0”

**Table 23: Configuration Values for PSTN Route Pattern**

```

change route-pattern 9                                     Page 1 of 3
      Pattern Number: 9      Pattern Name: PSTN
      SCCAN? n      Secure SIP? n
Grp FRL NPA Pfx Hop Toll No. Inserted DCS/ IXC
No      Mrk Lmt List Del Digits      QSIG
      Dgts      Intw
1: 9      0
2:
3:
4:
5:
6:
      DCS/ IXC
      n user
      n user
      n user
      n user
      n user
      n user
      BCC VALUE TSC CA-TSC ITC BCIE Service/Feature PARM No. Numbering LAR
      0 1 2 M 4 W      Request      Dgts Format
      Subaddress
1: y y y y y n n      rest      none
2: y y y y y n n      rest      none
3: y y y y y n n      rest      none
4: y y y y y n n      rest      none
5: y y y y y n n      rest      none
6: y y y y y n n      rest      none

```

**Figure 47: CM PSTN Route-Pattern Form**

Use the **change route-pattern** command to specify parameter values to be used for route pattern “40”, which is used for access to the CIE “Topics” trunk. Set the parameter values as shown in the following table.

Parameter	Usage
Pattern Name	Choose an appropriate name to be used for descriptive purposes.
Grp No	Specify the Trunk Group number which is used to access the CIE “Topics” trunk which is shown in <b>Figure 23</b> .
FRL	Enter “0”

**Table 24: Configuration Values for CIE Topics Route Pattern**

```

change route-pattern 40
Pattern Number: 40  Pattern Name: CIE Topics
SCCAN? n  Secure SIP? n
Grp FRL NPA Pfx Hop Toll No.  Inserted  DCS/ IXC
No      Mrk Lmt List Del  Digits  QSIG
                                Intw
1: 40  0
2:
3:
4:
5:
6:
                                n  user
                                n  user
                                n  user
                                n  user
                                n  user
                                n  user

BCC VALUE  TSC CA-TSC  ITC BCIE Service/Feature PARM No. Numbering LAR
0 1 2 M 4 W      Request      Dgts Format
Subaddress
1: y y y y y n n      rest      lev0-pvt  none
2: y y y y y n n      rest      none
3: y y y y y n n      rest      none
4: y y y y y n n      rest      none
5: y y y y y n n      rest      none
6: y y y y y n n      rest      none

```

**Figure 48: CM CIE Topics Route-Pattern Form**

Use the **change route-pattern** command to specify parameter values to be used for route pattern “41”, which is used for access to the CIE “Queue” trunk. Set the parameter values as shown in **Table 20**.

Parameter	Usage
Pattern Name	Choose an appropriate name to be used for descriptive purposes.
Grp No	Specify the Trunk Group number which is used to access the CIE “Queue” trunk which is shown in <b>Figure 28</b> .
FRL	Enter “0”

**Table 25: Configuration Values for CIE Queue Route Pattern**

```

change route-pattern 41                                     Page 1 of 3
      Pattern Number: 41  Pattern Name: CIE Queue
      SCCAN? n      Secure SIP? n
  Grp FRL NPA Pfx Hop Toll No.  Inserted          DCS/ IXC
  No      Mrk Lmt List Del  Digits          QSIG
                                     Intw
1: 41    0
2:
3:
4:
5:
6:
                                     n  user
                                     n  user
                                     n  user
                                     n  user
                                     n  user
                                     n  user

      BCC VALUE  TSC CA-TSC      ITC BCIE Service/Feature PARM No.  Numbering LAR
      0 1 2 M 4 W      Request          Dgts  Format
                                     Subaddress
1: y y y y y n  n          rest          lev0-pvt  none
2: y y y y y n  n          rest          none
3: y y y y y n  n          rest          none
4: y y y y y n  n          rest          none
5: y y y y y n  n          rest          none
6: y y y y y n  n          rest          none

```

**Figure 49: CM CIE Queue Route-Pattern Form**

Use the **change public-unknown-numbering** command to specify parameter values to be used to transform the Calling Party Number for outgoing calls via Trunk Group 9 from local extension numbers to PSTN numbers. Set the parameter values as shown in **Table 26**.

Parameter	Usage
Ext Len	Enter “5” for the length of local extension shown in <b>Figure 9</b> .
Ext Code	Enter “6” which is the leading digit of local extensions.
Trk Grp	Enter “9” to select the trunk group which connects to the PSTN as shown in <b>Figure 39</b> .
CPN Prefix	Enter “69907xxxxx” which is the prefix assigned to trunk 9.
CPN Len	Enter “15” as the Calling Party Number Length.

**Table 26: Configuration Values Public-Unknown-Numbering**

change public-unknown-numbering 5					Page 1 of 2
NUMBERING - PUBLIC/UNKNOWN FORMAT					
Total					
Ext Len	Ext Code	Trk Grp(s)	CPN Prefix	CPN Len	
5	6	9	69907xxxxx	15	Total Administered: 1 Maximum Entries: 9999

**Figure 50: CM Public-Unknown-Numbering Form**

Use the **change ars digit-conversion** command to specify how the Called Party Number of an incoming call is converted to a local extension. Set the parameter values as shown in **Table 27**.

Parameter	Usage
Matching Pattern	Enter “*90739887”, by either a “4” or a “6”, where the “*” matches the character which was inserted by the Trunk Group, as shown in <b>Figure 40</b> . The “4” entry if for calls to CIE Topics, and the “6” for calls to local extensions.
Min	Enter “10” as the minimum Called Party Number length for an incoming call.
Max	Enter “14” as the maximum Called Party Number length for an incoming call.
Del	Enter “9” to delete all but the local extension or the Topic.
Net	Enter “aar” for calls to CIE Topics and “ext” for local extensions.

**Table 27: Configuration Values for ARS Digit-Conversion**

change ars digit-conversion *					Page 1 of 2			
ARS DIGIT CONVERSION TABLE								
Location: all					Percent Full: 0			
Matching Pattern	Min	Max	Del	Replacement String	Net	Conv	ANI	Req
*907398874	10	14	9		aar	n		n
*907398876	10	14	9		ext	n		n

**Figure 51: CM ARS Digit-Conversion Form**

Use the **change aar analysis** command to specify how the calls are routed by AAR to the CIE Topics and Queue trunks. Set the parameter values as shown in the following table.

Dialed String	Parameter	Usage
400	Total Min	Enter “5” to match 5-digit CIE Topic extensions.
	Total Max	Enter “5” to match 5-digit CIE Topic extensions.
	Route Pattern	Enter “40” to specify the Topics Routing pattern specified in <b>Figure 48</b> .
	Call Type	Enter “aar”.
401	Total Min	Enter “5” to match 5-digit CIE Queue extensions.
	Total Max	Enter “5” to match 5-digit CIE Queue extensions.
	Route Pattern	Enter “40” to specify the Queue Routing pattern specified in <b>Figure 49</b> .
	Call Type	Enter “aar”.

**Table 28: Configuration Values for Aar Analysis**

change aar analysis 0							Page 1 of 2
AAR DIGIT ANALYSIS TABLE							
Location: all							Percent Full: 0
	Dialed String	Total Min	Total Max	Route Pattern	Call Type	Node Num	ANI Req'd
1		7	7	1	aar		n
2		7	7	2	aar		n
<b>400</b>		<b>5</b>	<b>5</b>	<b>40</b>	<b>aar</b>		n
<b>401</b>		<b>5</b>	<b>5</b>	<b>41</b>	<b>aar</b>		n
5		7	7	5	aar		n
7		7	7	7	aar		n
81		6	6	81	aar		n
82		7	7	82	aar		n

**Figure 52: CM Aar Analysis Form**

### 3.2. Avaya AES

The AES server is configured via a web browser by accessing the following URL:

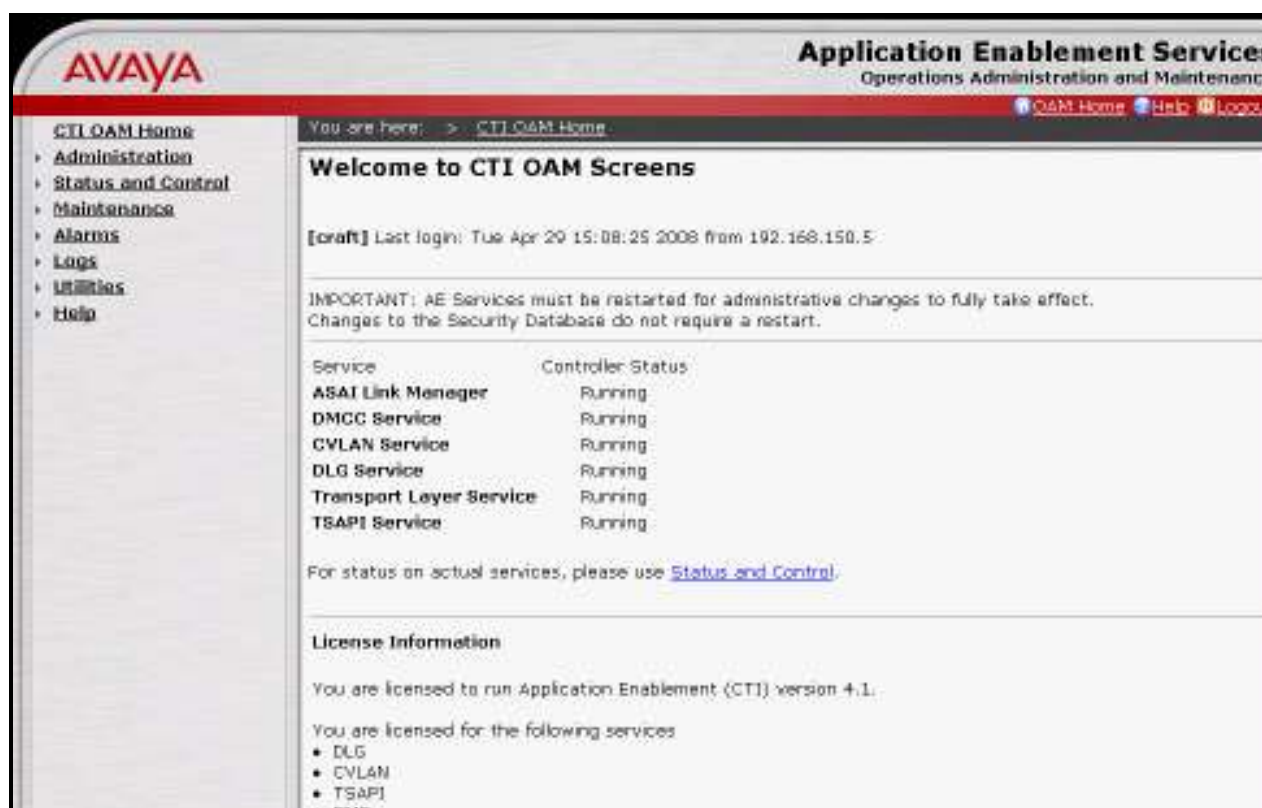
`https://<AES server address>:8443/MVAP/`

Once the login screen appears, enter the OAM Admin login ID/password for performing administrative activities on the AE Server, and click the “CTI OCM Administration” menu item.



**Figure 53: AES OAM Welcome Screen**

After logging in with the OAM Admin user ID/password, select “CTI OAM Admin” which displays the following screen. Verify that the AES server installation has a TSAPI service license. If this is not the case, please contact an Avaya representative regarding licensing.



**Figure 54: AES CTI OAM Welcome Screen**

Navigate to **Administration->Switch Connections**. Enter the name of the Switch Connection to be added, and click on the “Add Connection” button. This name is subsequently used when the CIE ACM PBX driver is installed, as shown in **Figure 72**



**Figure 55: AES Switch Connections Screen**

This causes the following screen to be presented. At this point, enter the screen fields as described in the following table, and click the “Apply” button.

Parameter	Usage
Switch Connection Type	Specify a type of CTI/Call Information.
Switch Password	The Switch Password must be the same as was entered into the Avaya Communication Manager AE Services Administration form via the “change ip-services” command, described in <b>Figure 35</b> . Passwords must consist of 12 to 16 alphanumeric characters
SSL	SSL (Secure Socket Layer) is enabled by default. Keep the default setting unless you are adding a Switch Connection for a DEFINITY Server CSI

**Table 16: Configuration of Switch Password**

**AVAYA** Application Engine Operations Administration

You are here: > Administration > Switch Connections

### Set Password - S8720

Please note the following:  
 \* A password is not required for a H323 Gatekeeper Connection.  
 \* Changing the password affects only new connections, not open connections.

Switch Connection Type: CTI/Call Information

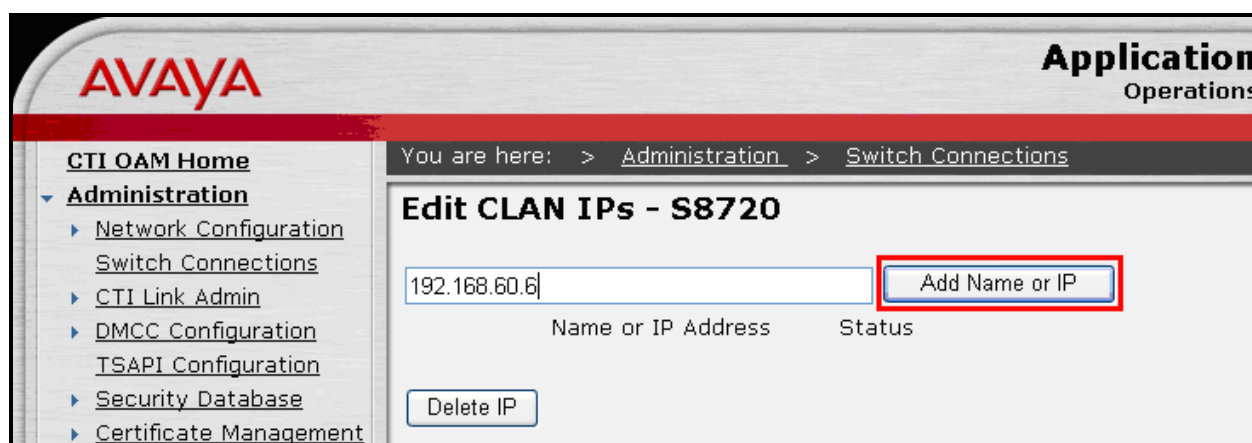
Switch Password: [Redacted]

Confirm Switch Password: [Redacted]

SSL: ☒

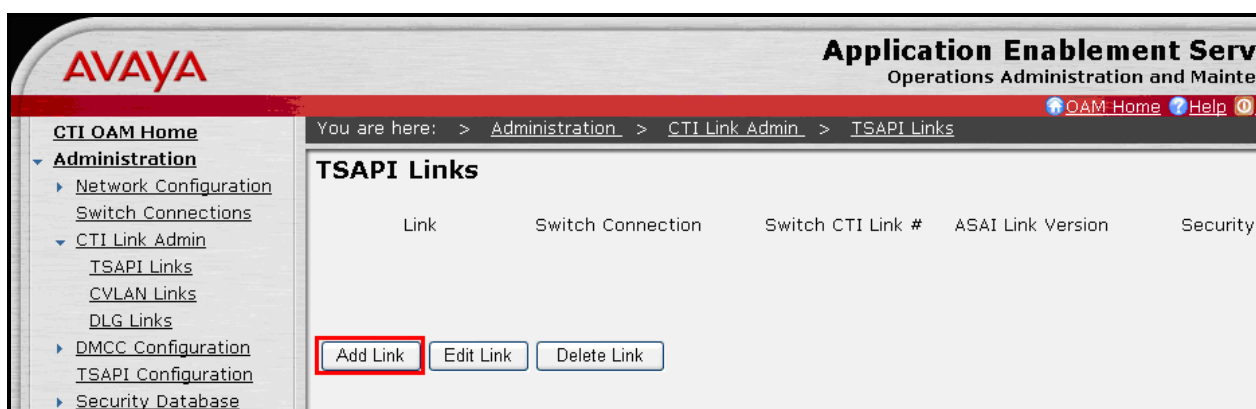
**Figure 56: AES Set Switch Password Screen**

From the **Administration->Switch Connections** screen, click the “Edit CLAN IPs” button to display the screen show below. Enter the IP address of the C-LAN used by AES for communication with the switch, and click the “Add Name or IP” button.



**Figure 57: AES Configure PBX IP Interface Screen**

On the left margin of the screen, navigate to **Administration->CTI Link Admin->TSAPI Links**. The following screen is displayed. Click the “Add Link” button.



**Figure 58: AES TSAPI Links Screen**

Fill in the parameters for the link to be added. The “Link” parameter must be a value between 1 and 16 which is not assigned to another link. The “Switch Connection” parameter should be the name of the Avaya Media Server which is to be controlled by this link. The value for the TSAPI “Switch CTI Link Number” must be a value between 1 and 64, and must be the same as was used in the Avaya Communication Manager “add cti-link” configuration command in **Figure 36**. Click the “Apply Changes” button.

The screenshot shows the Avaya Application Operations interface. The top header includes the Avaya logo and the text 'Application Operations'. A breadcrumb trail indicates the current location: 'You are here: > Administration > CTI Link Admin > TSAPI Links'. The left sidebar contains a navigation menu with 'CTI OAM Home' and 'Administration' expanded, showing sub-items like 'Network Configuration', 'Switch Connections', 'CTI Link Admin', 'TSAPI Links', 'CVLAN Links', 'DLG Links', 'DMCC Configuration', 'TSAPI Configuration', 'Security Database', and 'Certificate Management'. The main content area is titled 'Add / Edit TSAPI Links' and contains the following fields:

- Link: 1
- Switch Connection: S8720
- Switch CTI Link Number: 4
- ASAI Link Version: 4
- Security: Unencrypted

At the bottom of the form are two buttons: 'Apply Changes' (highlighted with a red box) and 'Cancel Changes'.

**Figure 59: AES Configure TSAPI Link Screen**

Log out and log in again with the user administration ID/password, which will cause the “OAM Welcome” screen to be displayed just as after the previous login.

Navigate to “**User Management->Add User**”.

The “CT User” field for this user must be set to “Yes”. In this case, the AES user is the Customer Interaction Express application, which uses AES to monitor stations and initiate switching operations. The values chosen for the “User Id” and “User Password” fields must be the same as those described in **Figure 123**. Upon completion, scroll down and select the “Apply” button (not shown).

**Figure 60: AES Add User Screen**

### 3.3. Avaya Customer Interaction Express Server (CIE)

The CIE Server install procedure installs the file “Csta32.dll” in the Windows\System32 directory. This file is different from the file with the same name which is included on the AES Client software distribution media. If this file is present, it should be removed prior to installing the CIE Server.

For the test configuration, the file “c:\Windows\System32\Drivers\etc\hosts” on the CIE server was configured as shown below to contain the IP address of the two workstations shown in **Figure 1** used to run the agent client applications.

```
# Copyright (c) 1993-1999 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#       102.54.94.97       rhino.acme.com           # source server
#       38.25.63.10       x.acme.com               # x client host

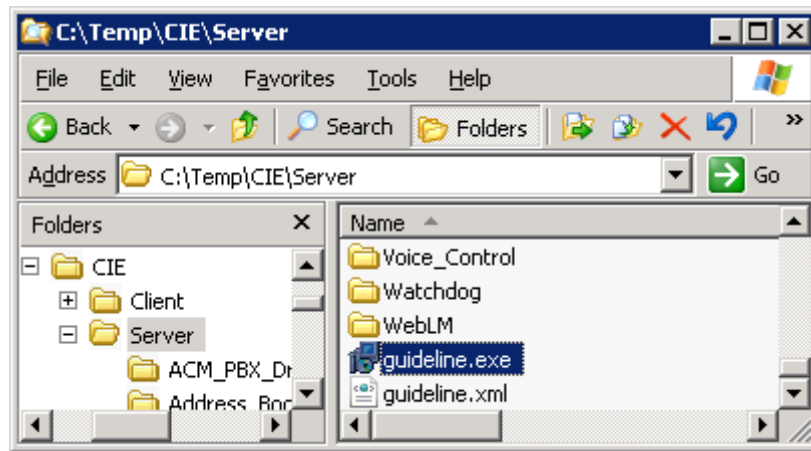
127.0.0.1       localhost
192.168.150.5   Client_A
192.168.150.9   Client_B
```

**Figure 61: CIE Server Names for Clients**

#### 3.3.1. Install CIE Server

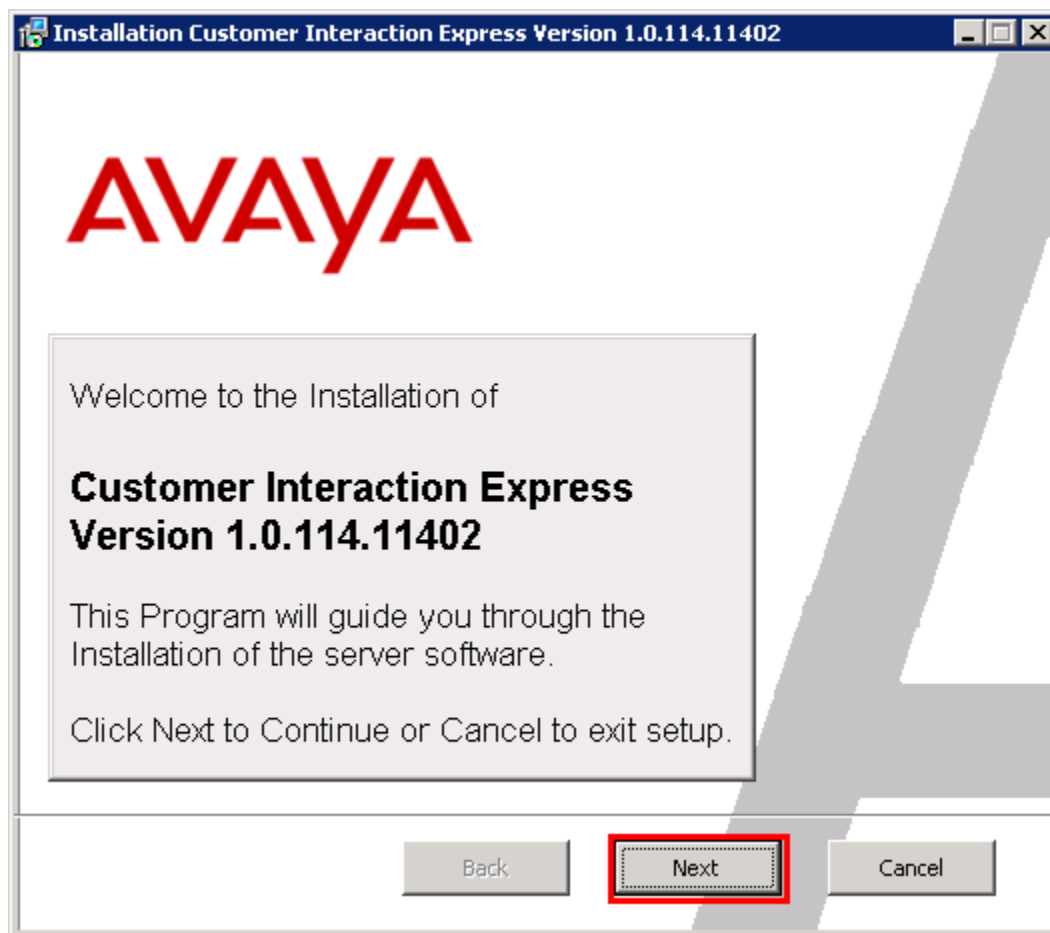
The Avaya Customer Interaction Express Server can be obtained from Avaya Support using FTP. The distribution is packaged as a self-expanding executable file with the name “cie\_server\_1.0.5.1\_11402.exe”. The file has a size of about 1GB.

This file should be executed to “expand” to a location which is accessible from the server where CIE is to be installed. The actual installation can be initiated by double-clicking the file “guideline.exe” at the top level of the CIE Server directory tree.



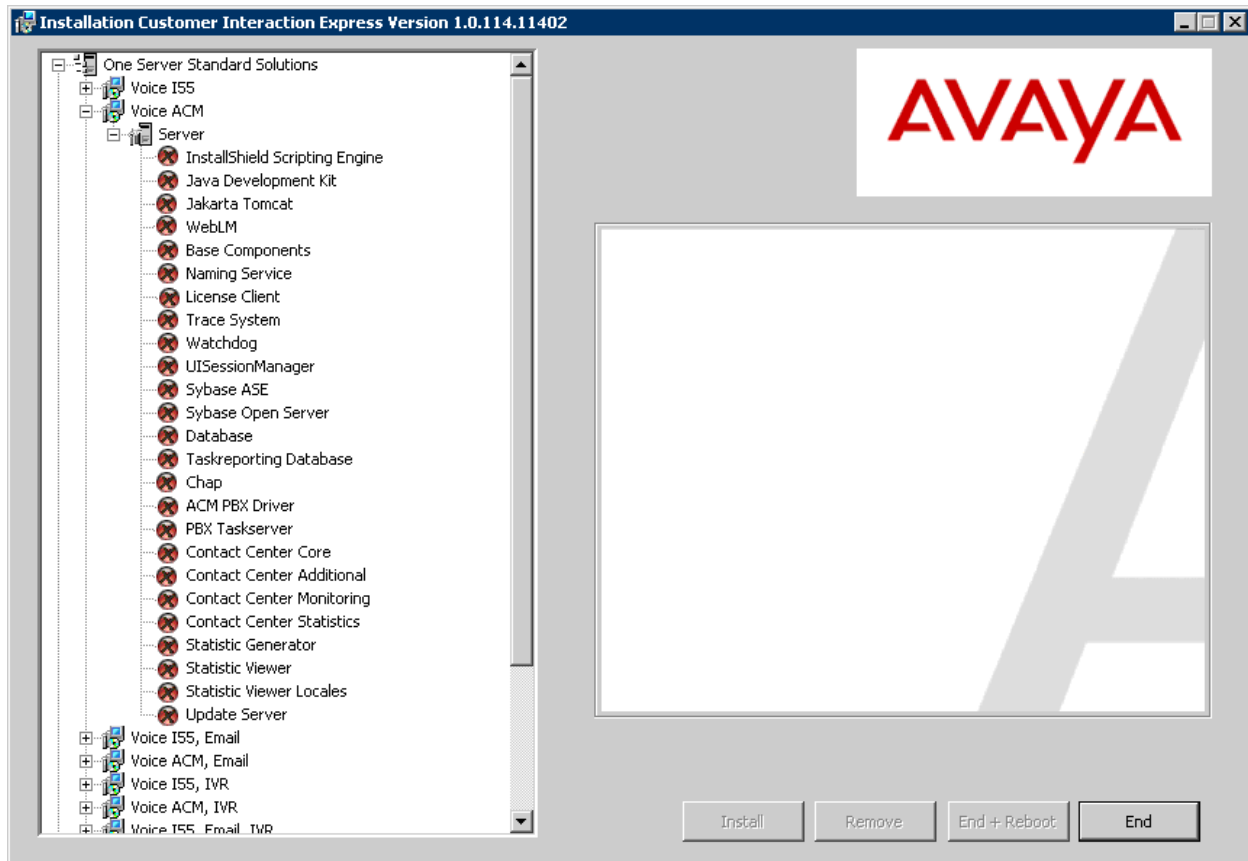
**Figure 62: CIE Install Top-Level Directory Screen**

Click “Next” when the welcome screen is displayed. Read the end-user license agreement, and click “I Agree” if the license terms are suitable.



**Figure 63: CIE Install Welcome Screen**

The installation state of the various CIE Server components can be seen by expanding the “One Server Standard Solutions” -> “Voice ACM” -> “Server” menu item. The color of the icon located to the left of each of the menu items serves as an indication of whether that item is installed or not: red indicates that it is not installed, green indicates that it is installed. The individual server components can be installed by selecting each icon and clicking the “Install” button. For each of the components, the IP address “localhost” was used, except for the address of the AES server. The following screens in this section show the settings for those components which require configuration values other than default values or the IP address of the server.



**Figure 64: CIE Install Initial Installation Screen**

### 3.3.1.1 Install Jakarta Tomcat

For the Jakarta Tomcat component, enter an appropriate user name and password and click “Next”.

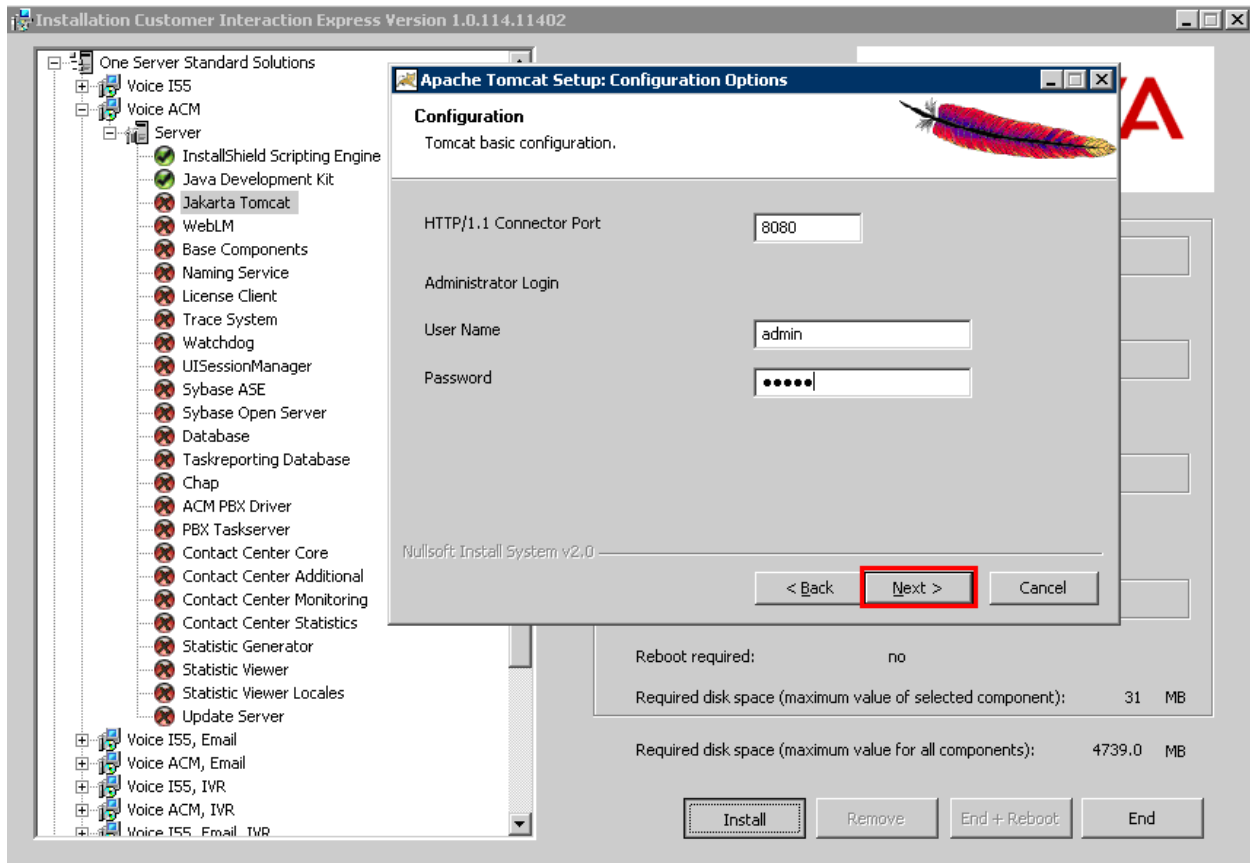


Figure 65: CIE Install Jakarta Tomcat Screen

### 3.3.1.2 Install Naming Service

Install the Naming Service component using the IP address of the CIE Server and click “Next”. Enter the IP address of the system on which CIE is installed for the parameter “Select IP to use”.

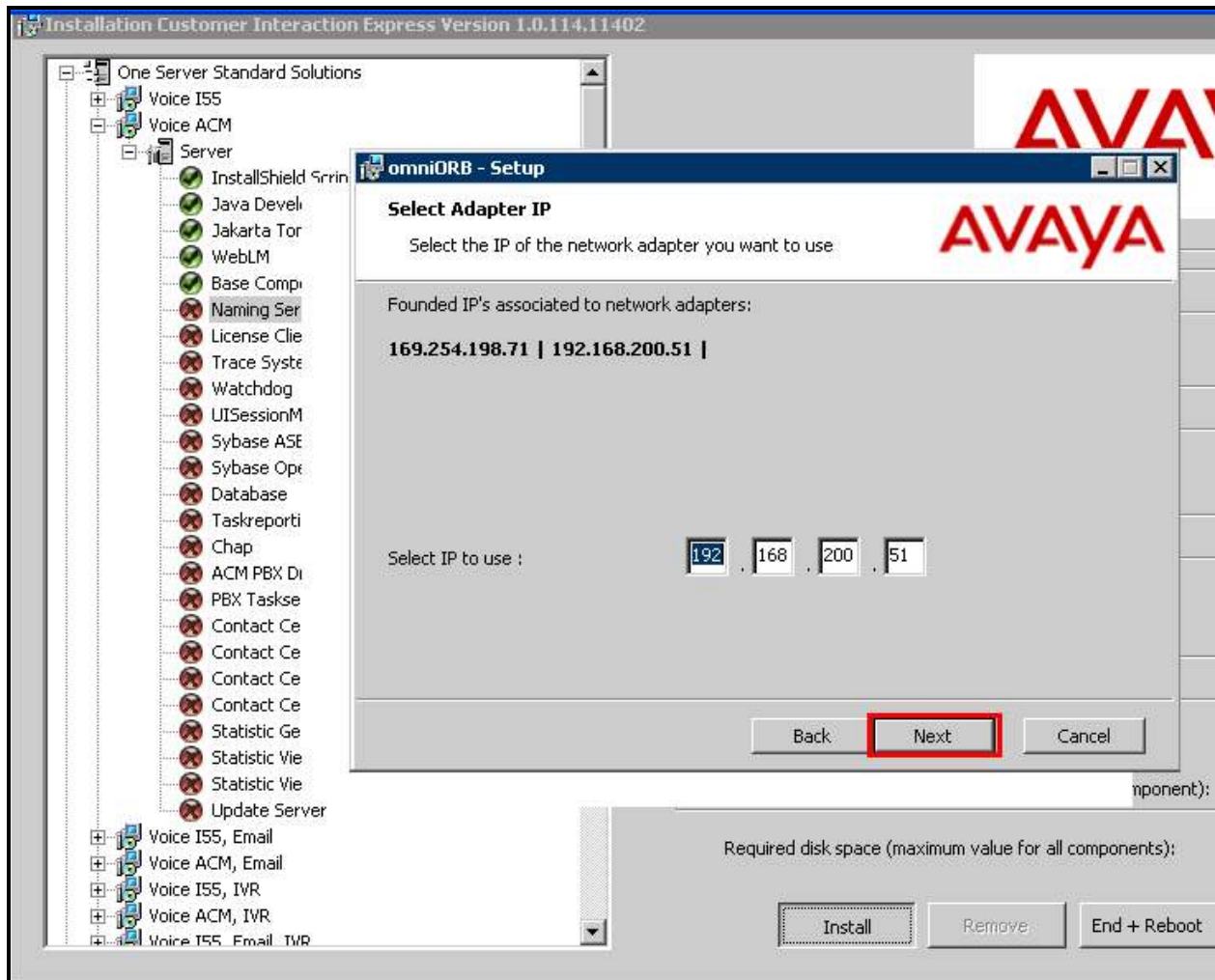
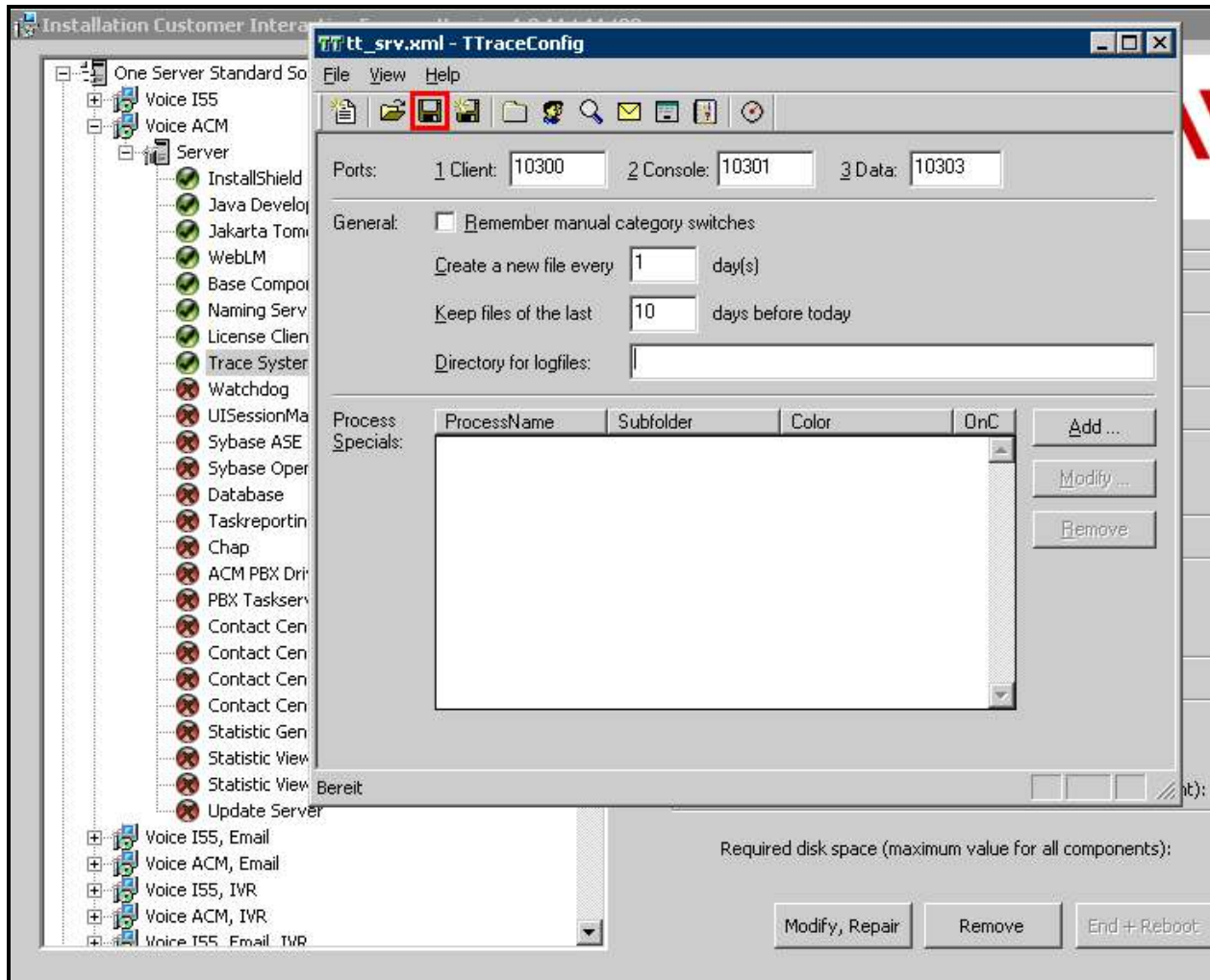


Figure 66: CIE Install Naming Service Screen

### 3.3.1.3 Install Trace System

Install the Trace System using the ports shown in **Figure 65**, and click the “save” icon. Accept the default ports for “Client”, “Console”, and “Data”, if these ports are available. The “Create a new file every X days” and “Keep files of the last X days” parameters can be used to control the creation of trace files. Accept the default parameters and click the “Save” icon.



**Figure 67: CIE Install Trace System Screen**

### 3.3.1.4 Install Sybase ASE Component

Install the Sybase ASE Component using the SQL server name “SYBASEASE” and an appropriate password. Click “Install” to continue.

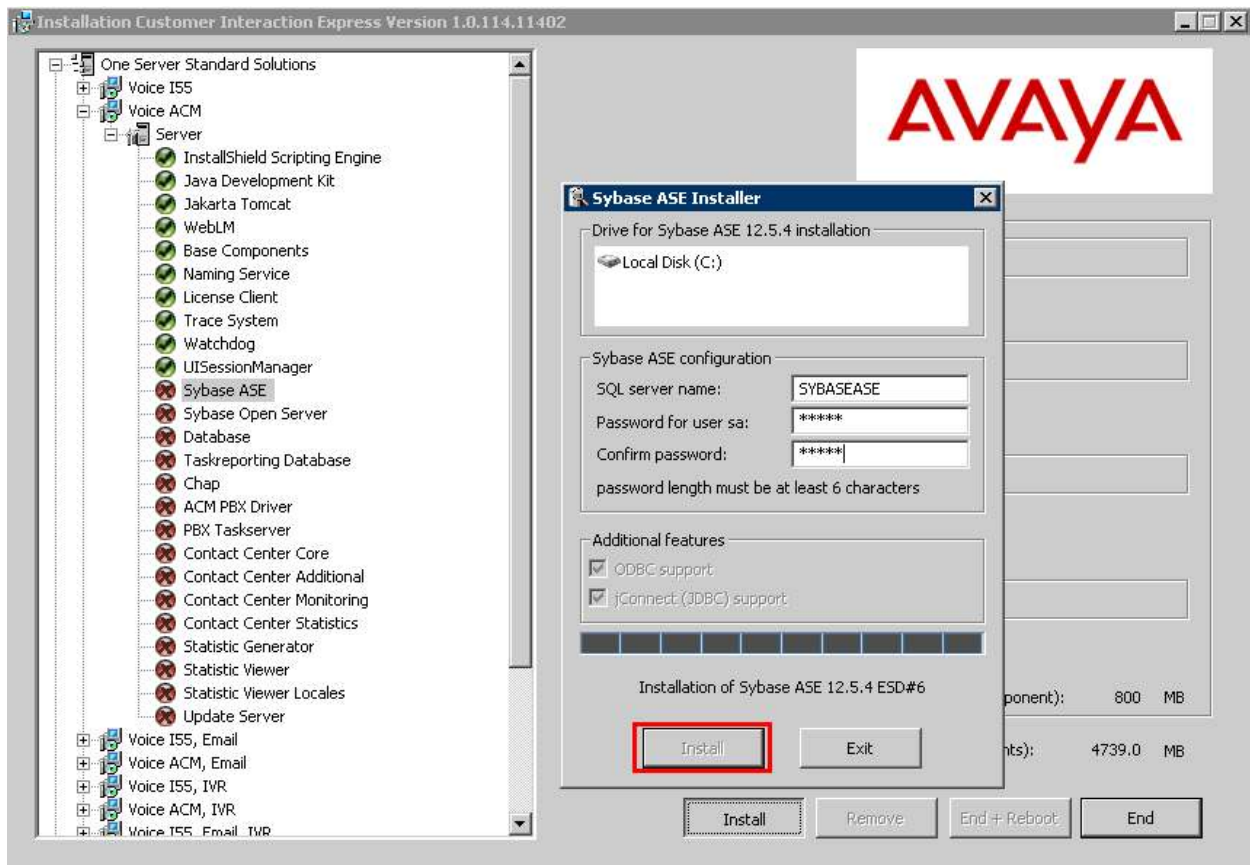


Figure 68: CIE Install Sybase ASE Screen

### 3.3.1.5 Install Database Server

Install the Database Server, using the user name “sa”, and an appropriate password, and click “Ok”.

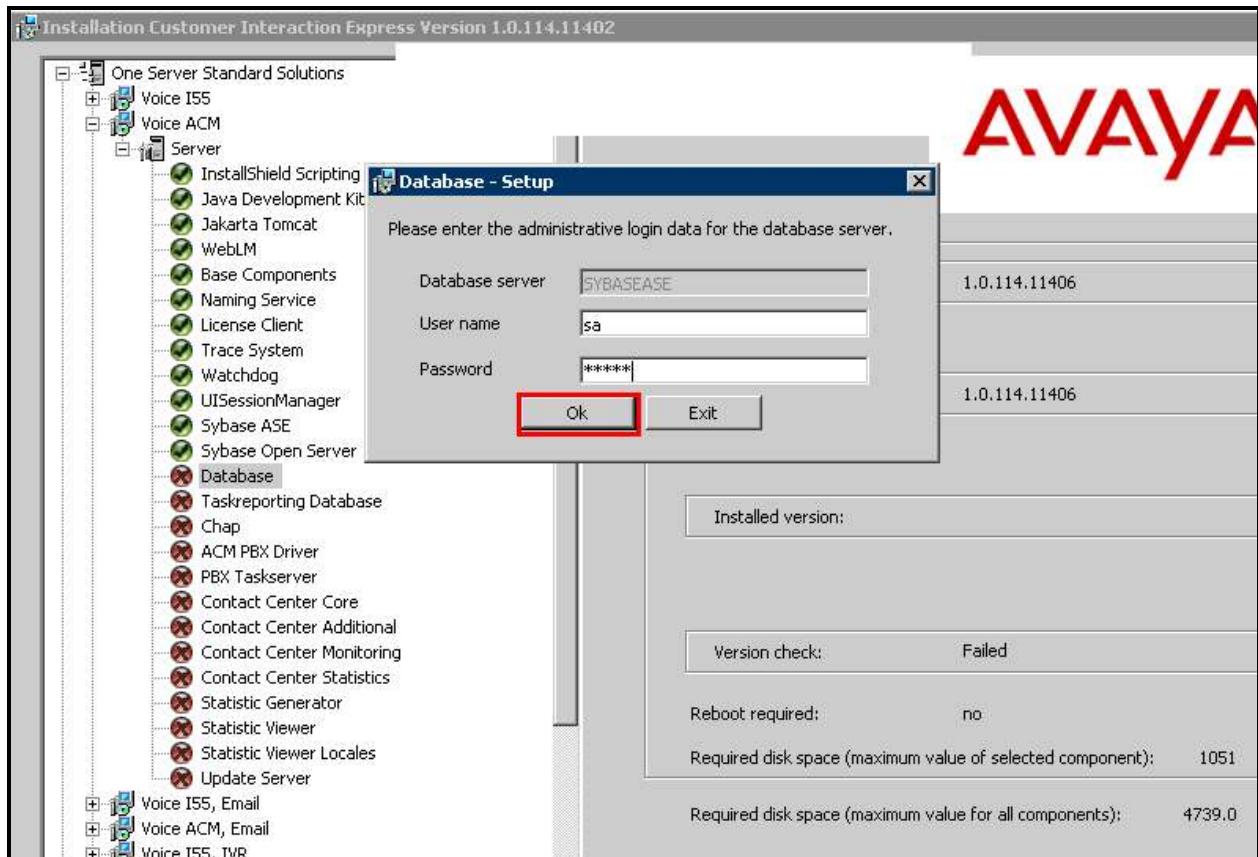
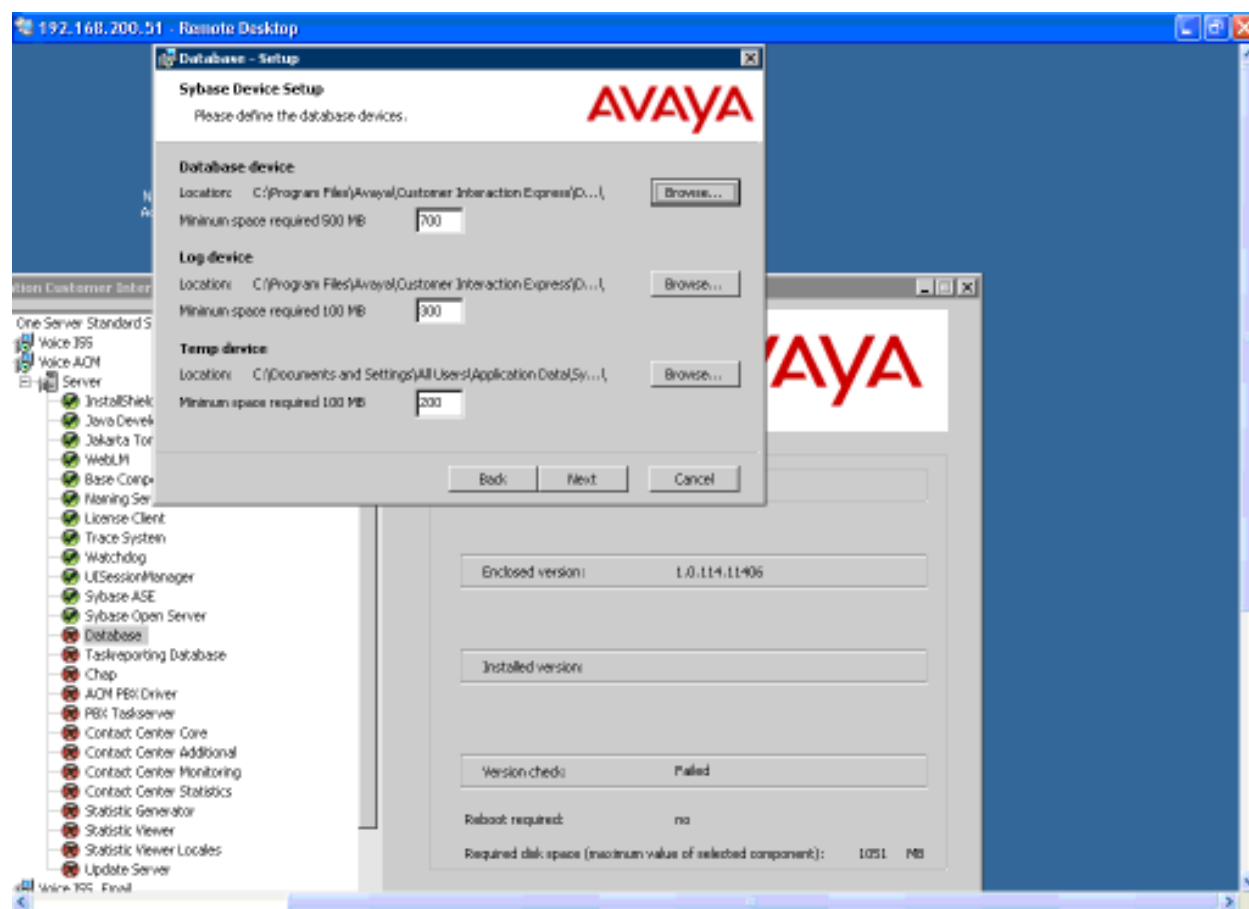


Figure 69: CIE Install Database Screen 1

Accept the default values for this screen by clicking “Next”.



**Figure 70: CIE Install Database Screen 2**

### 3.3.1.6 Install ACM PBX Driver

Add the address of the AES Server to the list and click “Next”.

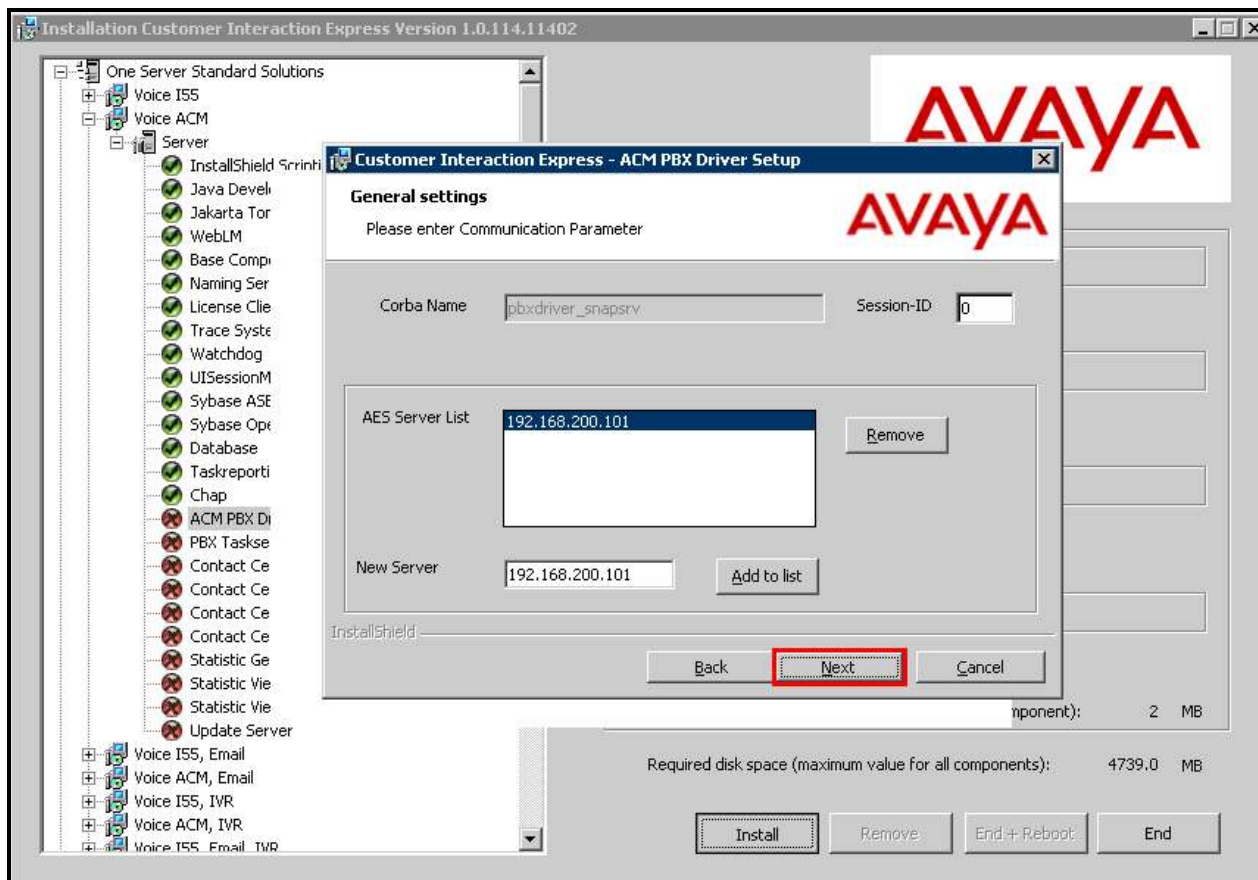
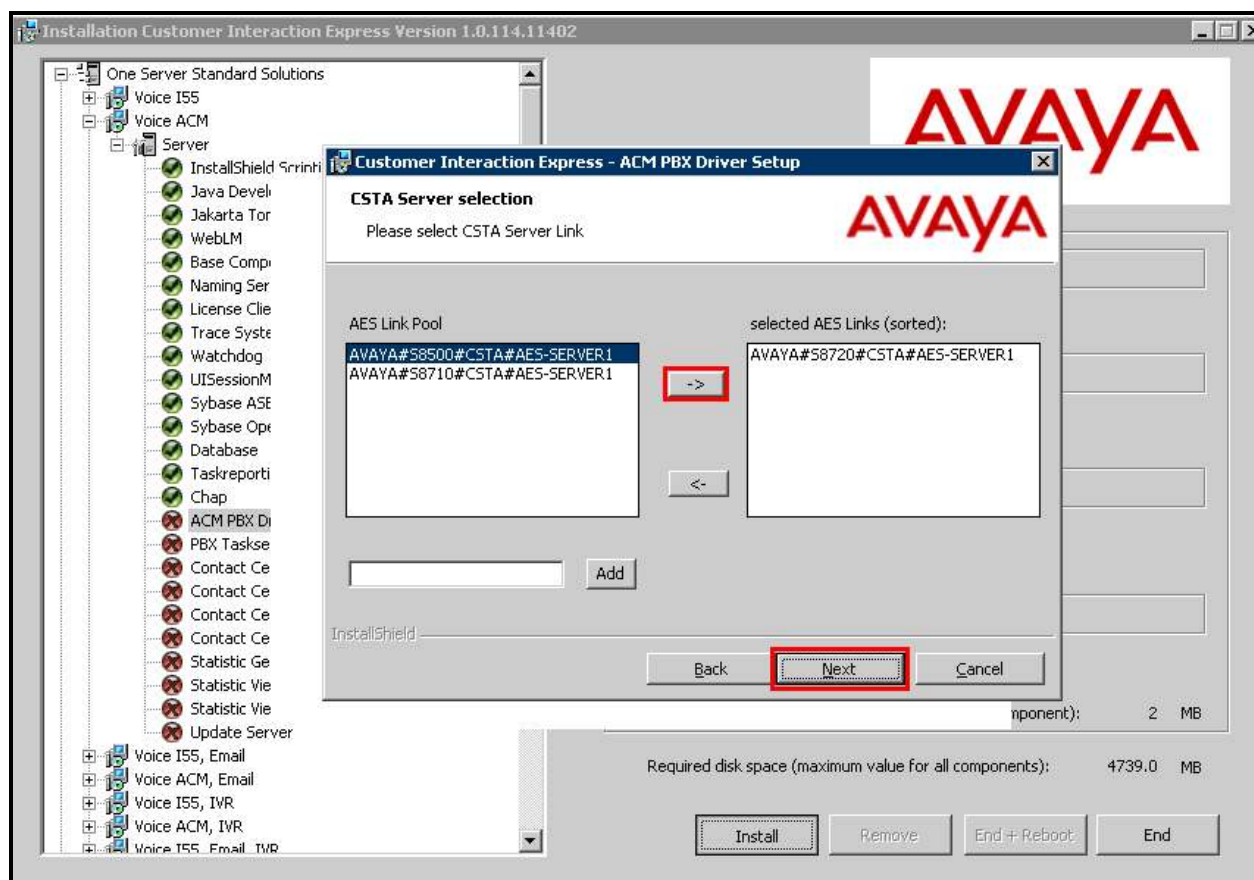


Figure 71: CIE Install ACM PBX Driver Screen 1

Select the entry for the Avaya Communication Manager system to be used with CIE, which was configured in **Figure 55**, and add it to the list of “selected AES Links” with the “->” button followed by the “Next” button.



**Figure 72: CIE Install ACM PBX Driver Screen 2**

### 3.3.1.7 Install Statistic Viewer

Click “Next” to proceed.

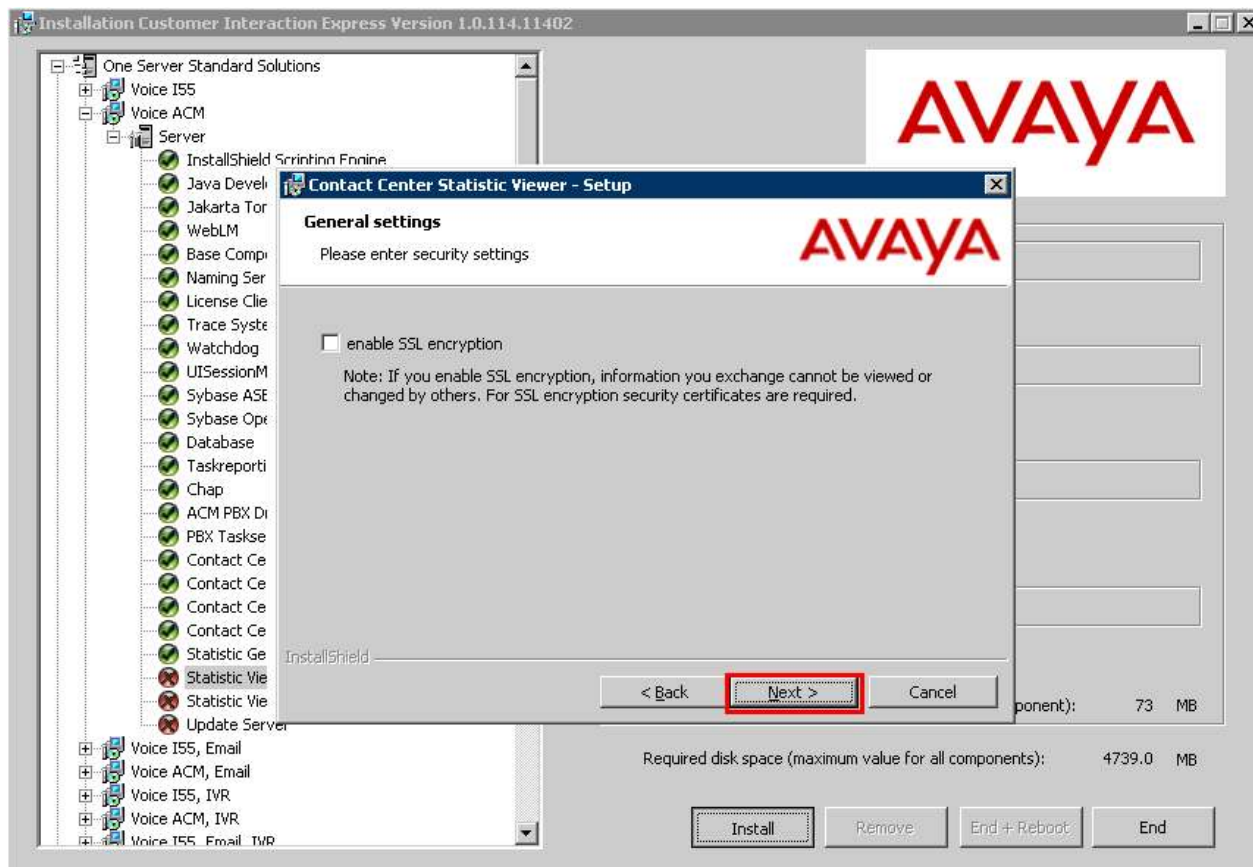


Figure 73: CIE Install Statistic Viewer Screen 1

Enter “localhost” as the address of the “CORBA Naming Service”, “Trace System Server”, and “Taskreporting DB”. Specify the URL of the Tomcat server as “http://<server IP>/”, where <server IP> is the IP address of the CIE server. Click “Next” to continue.

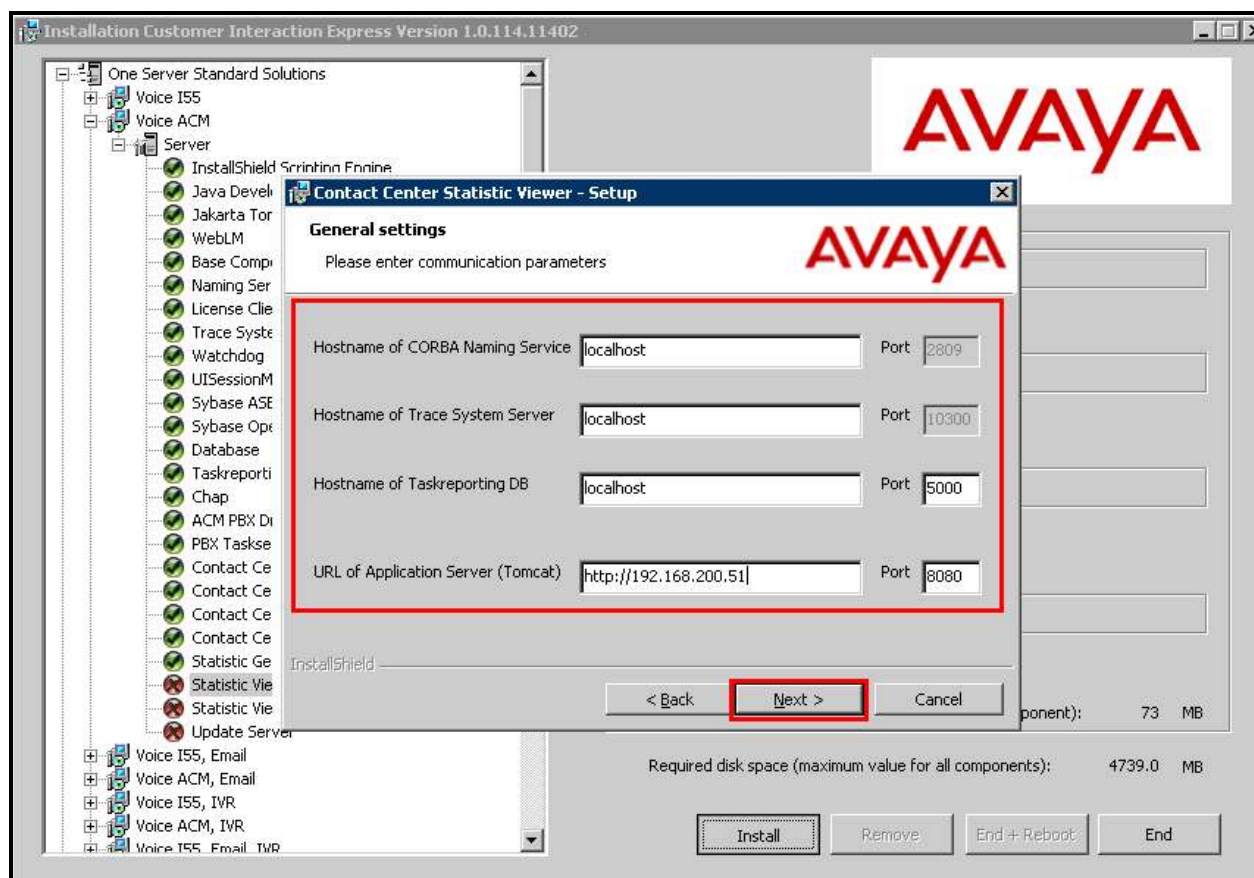
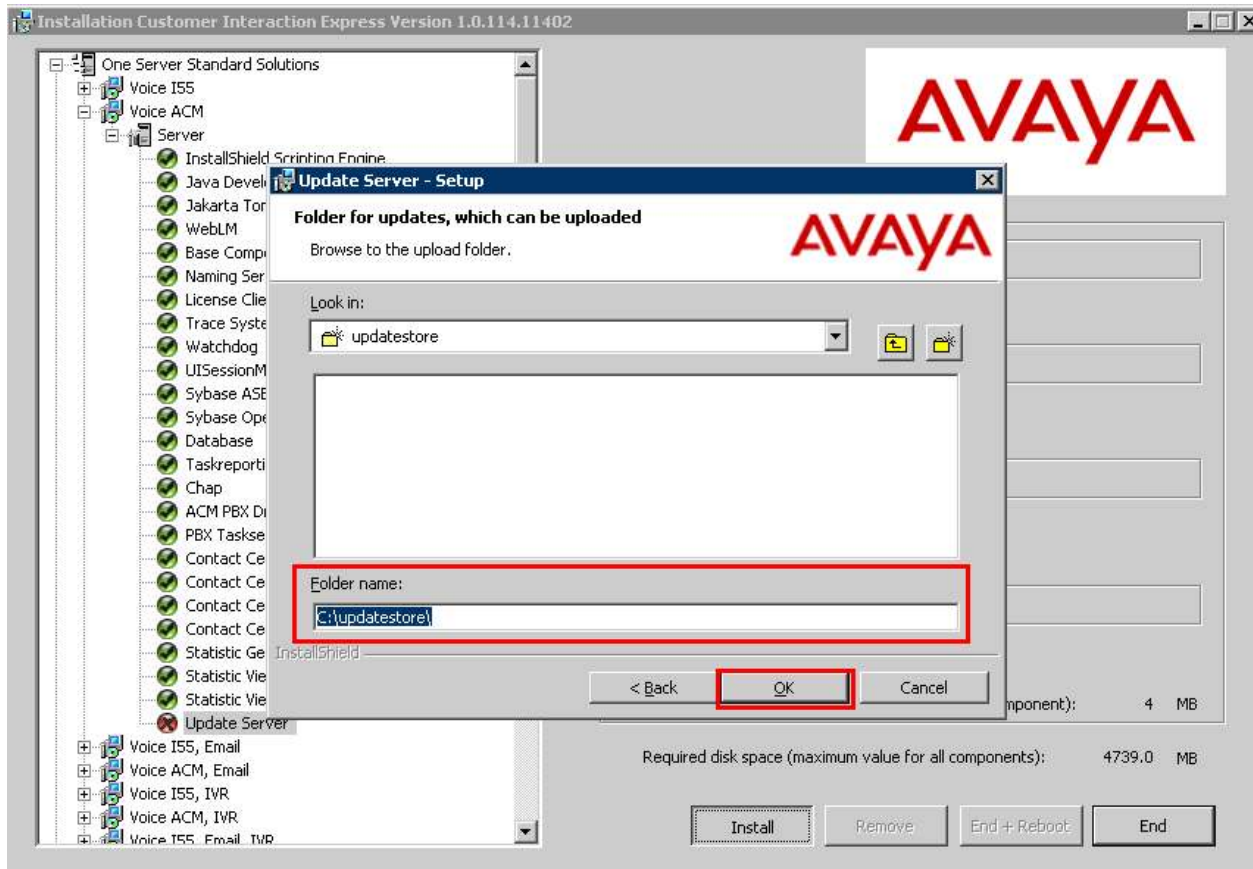


Figure 74: CIE Install Statistic Viewer Screen 2

### 3.3.1.8 Install Update Server

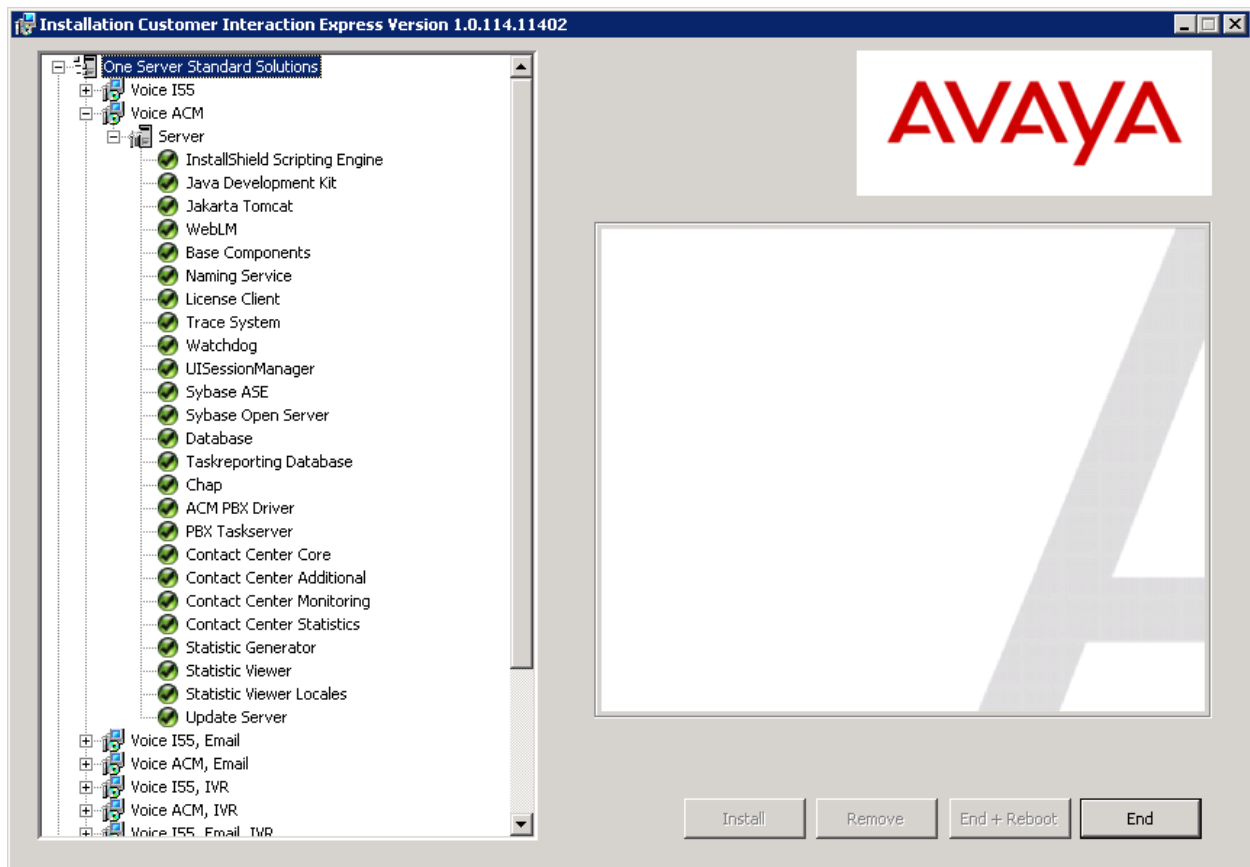
Specify the directory on the server which is used to hold updates. Accept the default directory by clicking “OK”.



**Figure 75: CIE Install Update Service Screen**














### 3.3.1.9 Installation Completion

After completion of the installation, all of the component icons should be green.



**Figure 76: CIE Install Server Final Screen**

Set the servers to start manually or automatically using the Windows “Server” configuration tool, as shown. Those servers which are set to “manual” are started by the Watchdog task. Watchdog default configuration parameters can be changed using the WDConfig.exe program.

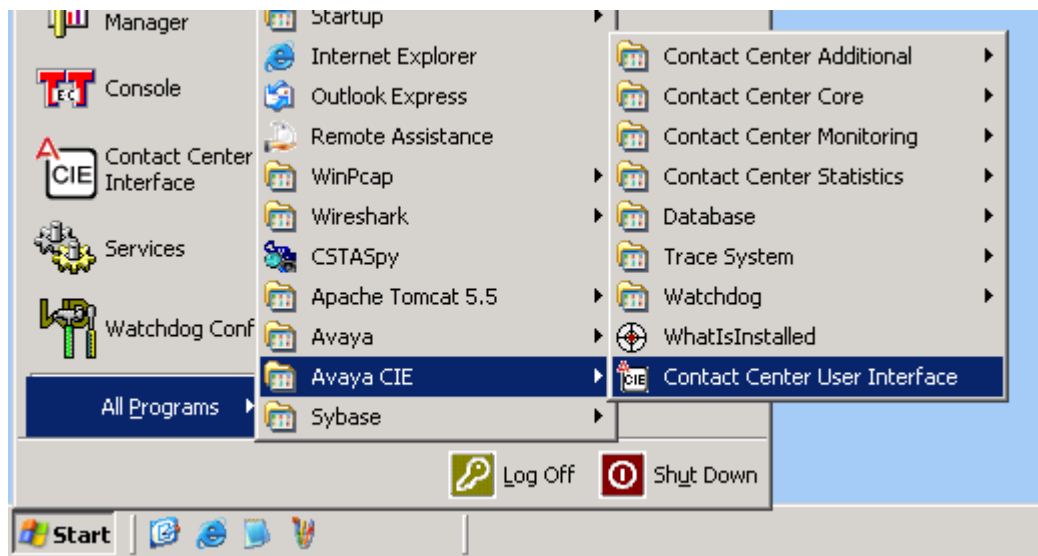
 Avaya ACM PBXDriver	Manual
 Avaya CHAP Server	Manual
 Avaya Chap Sync	Manual
 Avaya omniORB Naming Service	Automatic
 Avaya PBXTaskserver	Manual
 Avaya Statistic Generator Server	Manual
 Avaya Trace Server	Automatic
 Avaya UISessionManager	Automatic
 Avaya Update Service	Automatic
 Avaya VEA	Manual
 Avaya Watchdog	Automatic
 Sybase BCKServer _SYBASEASE_B5	Automatic
 Sybase SQLServer _SYBASEASE	Automatic

**Figure 77: CIE Install Server Start Parameters**

### 3.3.2. Configure CIE Server

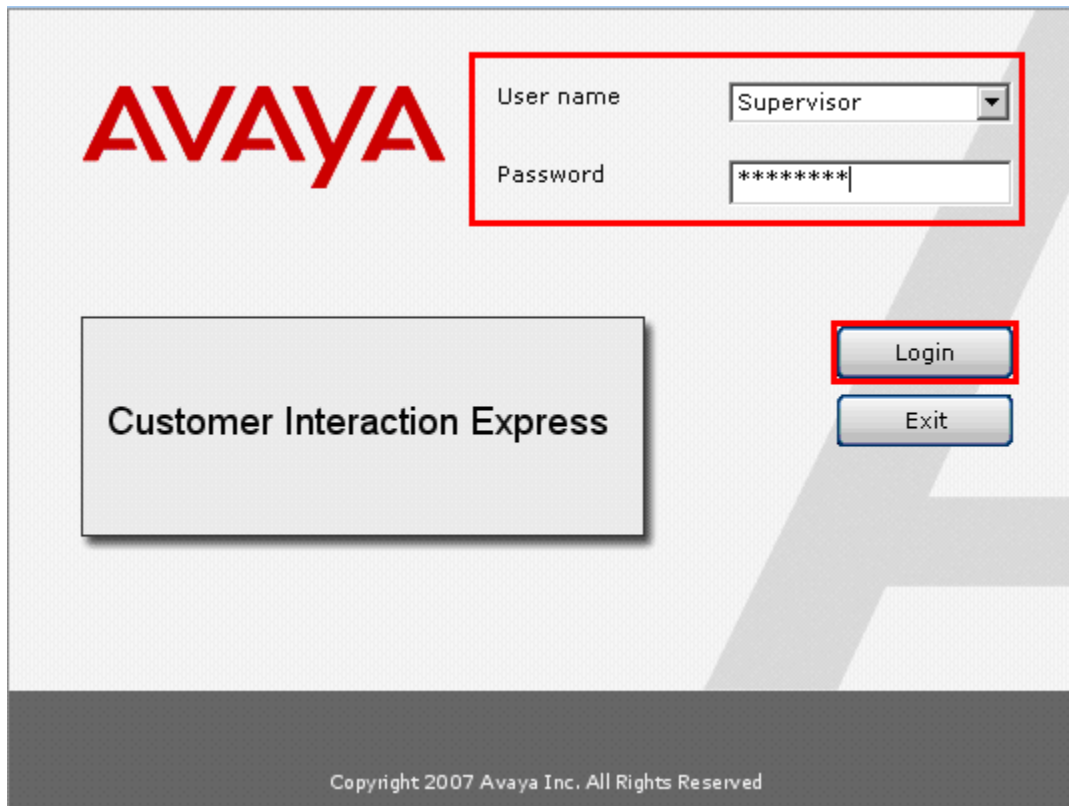
The program used to configure the CIE Server is contained in the CIE Client package “cie\_client\_1.0.5.1\_11402.exe”. To perform CIE administration from the CIE Server, the client package must be installed there as well.

After the CIE Client package has been installed, start the CIE configuration program on the server from the Windows “Start” menu, as shown below.



**Figure 78: CIE Program Start**

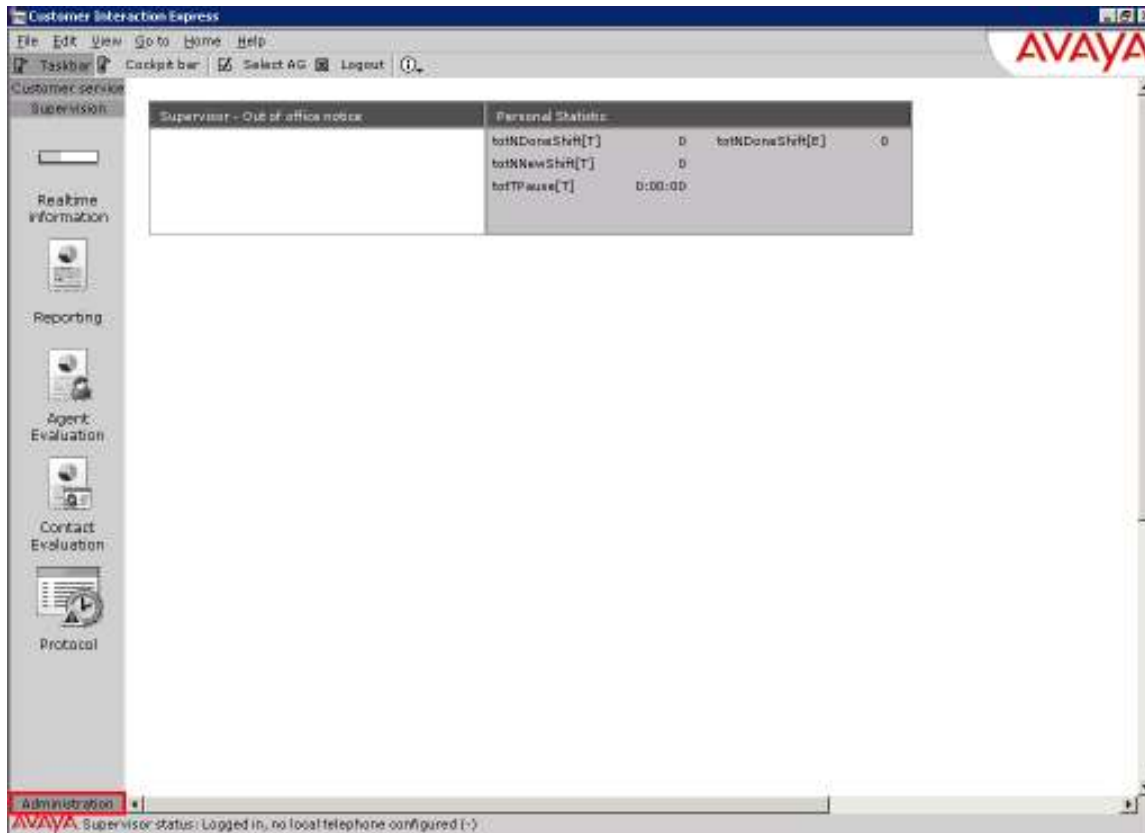
Enter the username and password which were assigned in **Figure 68**, and click “Login”:



The image shows the Avaya Customer Interaction Express (CIE) login interface. In the top left corner is the red Avaya logo. To its right is a login form enclosed in a red rectangular box. This form contains two fields: 'User name' with a dropdown menu currently showing 'Supervisor', and 'Password' with a text box containing '\*\*\*\*\*'. Below the login form, on the left, is a large grey rectangular box with the text 'Customer Interaction Express'. To the right of this box are two buttons: a 'Login' button and an 'Exit' button, both highlighted with red rectangular boxes. At the bottom of the screen is a dark grey footer bar containing the text 'Copyright 2007 Avaya Inc. All Rights Reserved'.

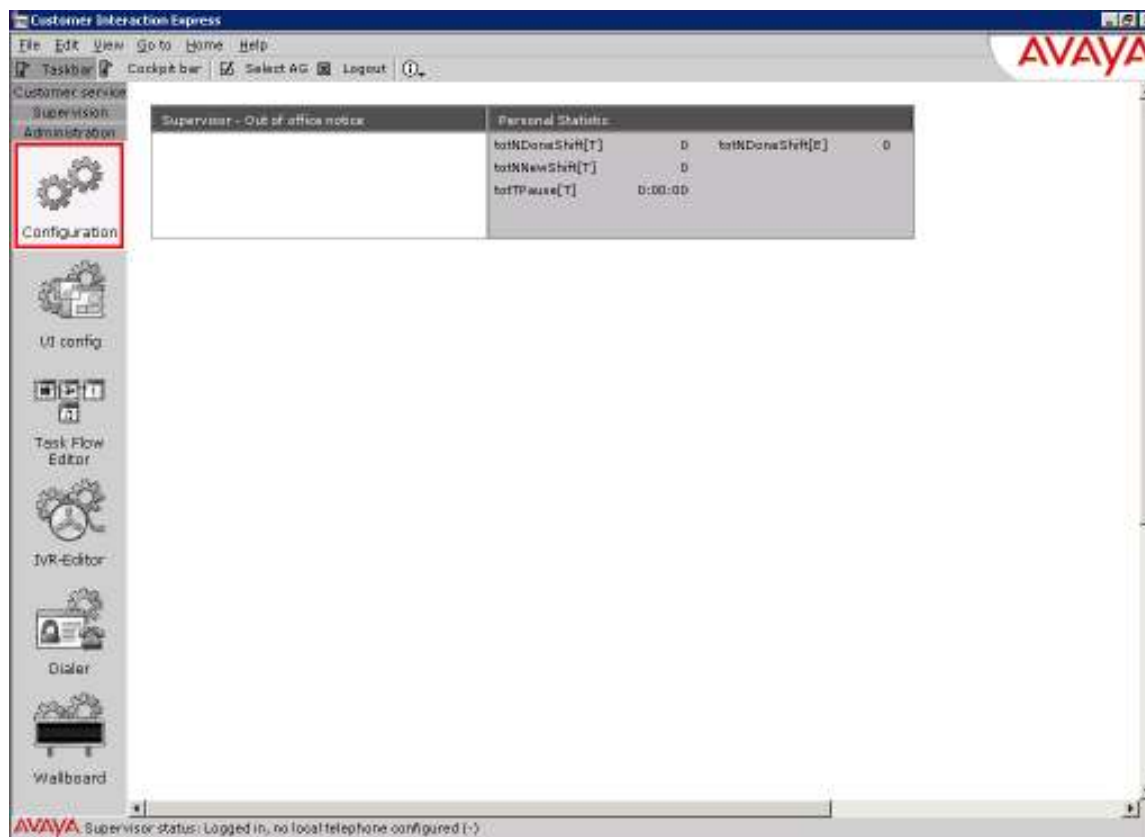
**Figure 79: CIE Program Login**

Click on “Administration” at the bottom of the left frame:



**Figure 80: CIE Start Administration**

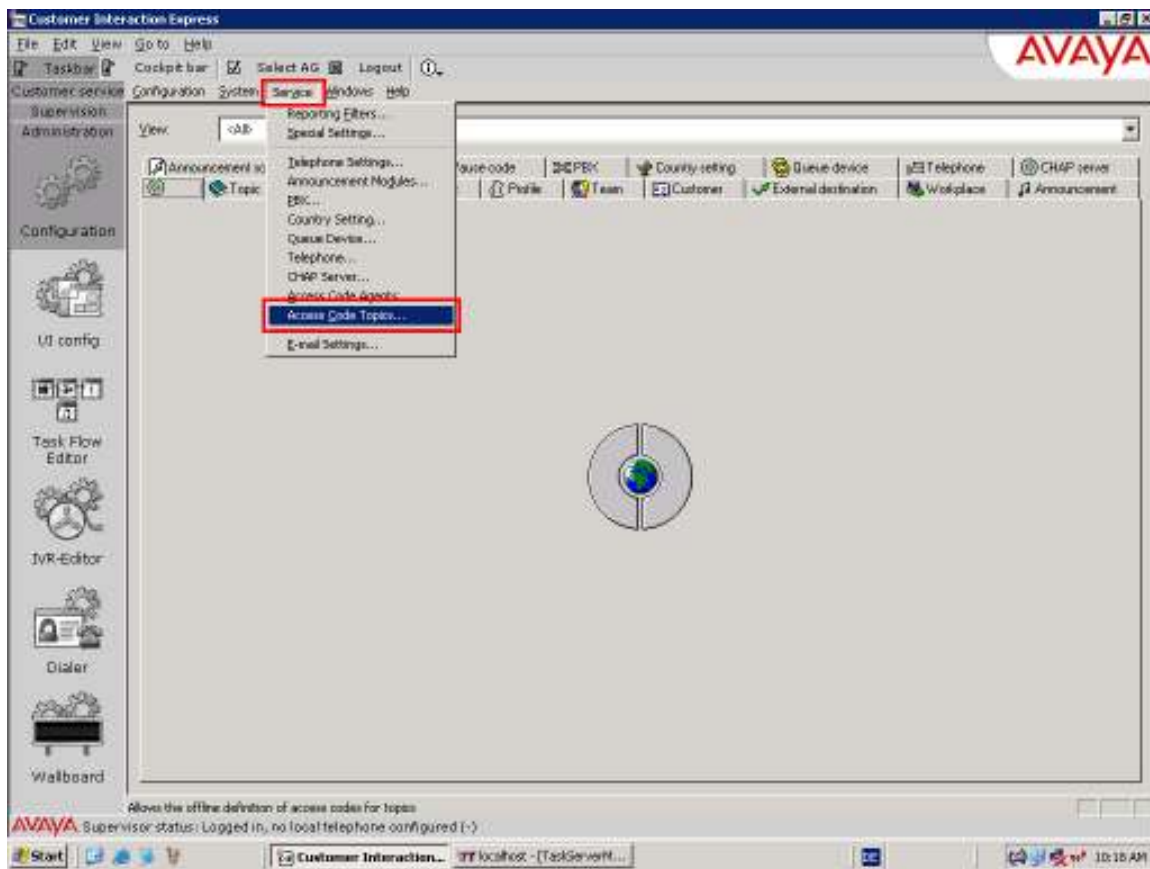
Click on the “Configuration” button:



**Figure 81: CIE Start Configuration Mode**

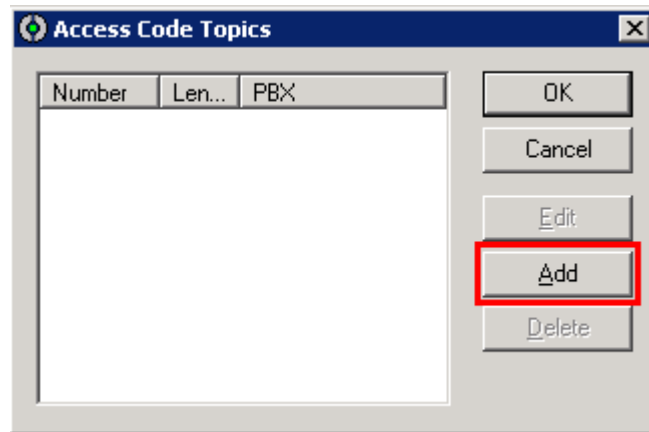
### 3.3.2.1 Assign Topics Access Codes

Select the “Access Code Topics” menu item from the “Service” drop-down menu.



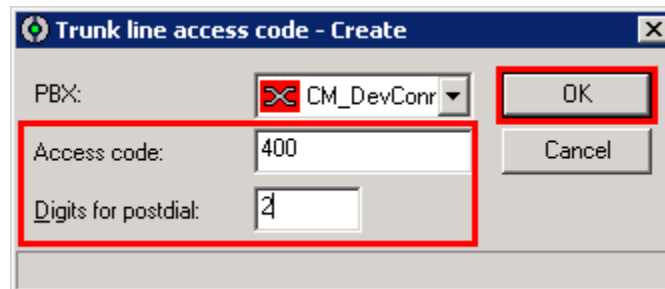
**Figure 82: CIE Assign Topics Access Code**

Click the “Add” button.



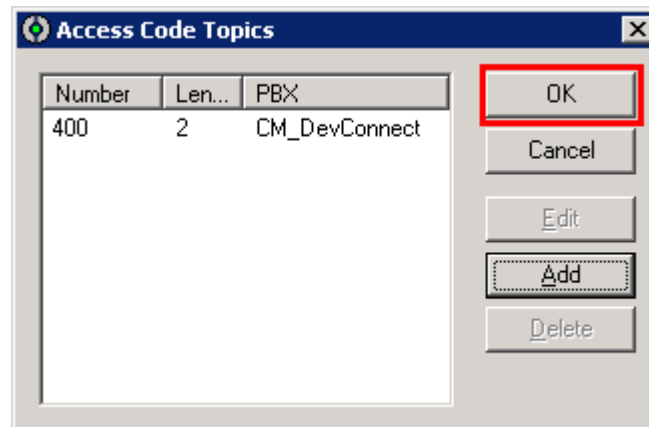
**Figure 83: CIE Add Access Code**

Enter the “Access code”, which has the same leading digits as the extension assigned to the CIE “Topics” trunk in **Figure 9**, **Figure 10**, **Figure 51**, and **Figure 52**, as well as a value for “Digits for postdial” such that the length of the Access code and the number of postdial digits is equal to the length of the extension allocated to the CIE “Topics” trunk in **Figure 10**.



**Figure 84: CIE Enter Access Code**

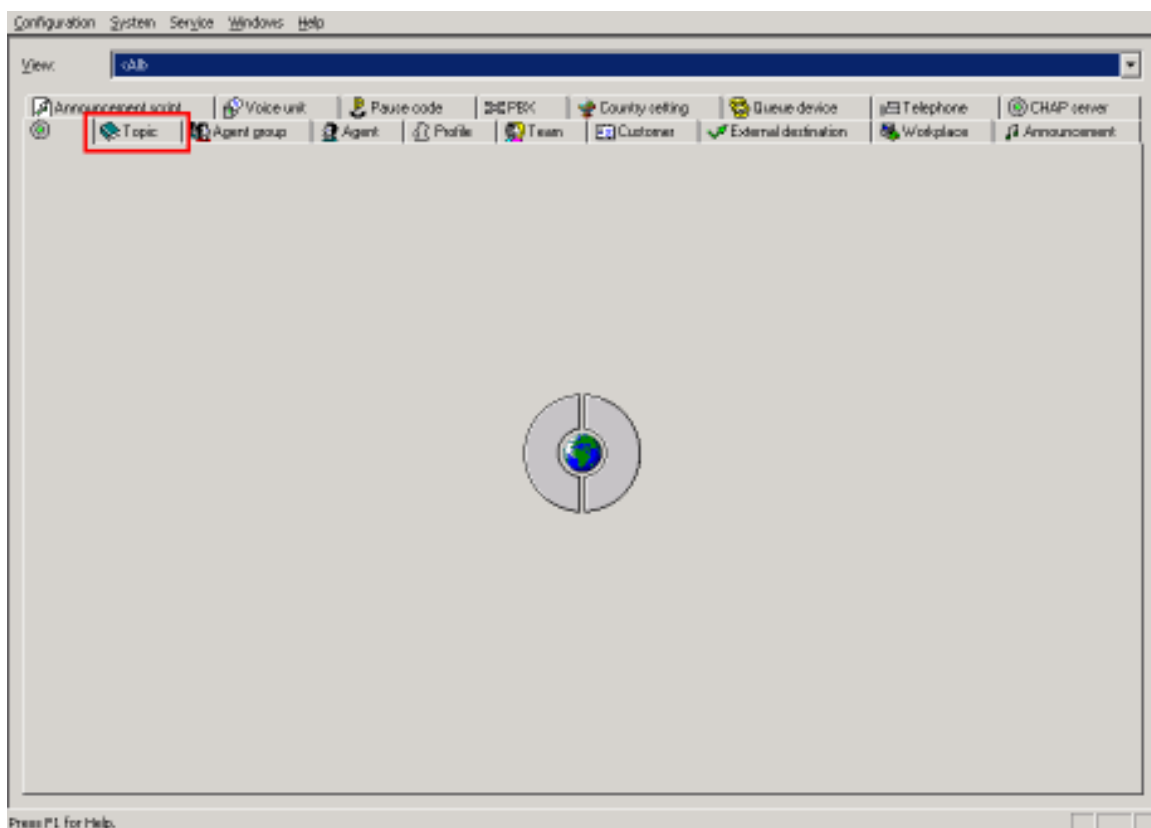
Click the “OK” button.



**Figure 85: CIE Accept Access Code**

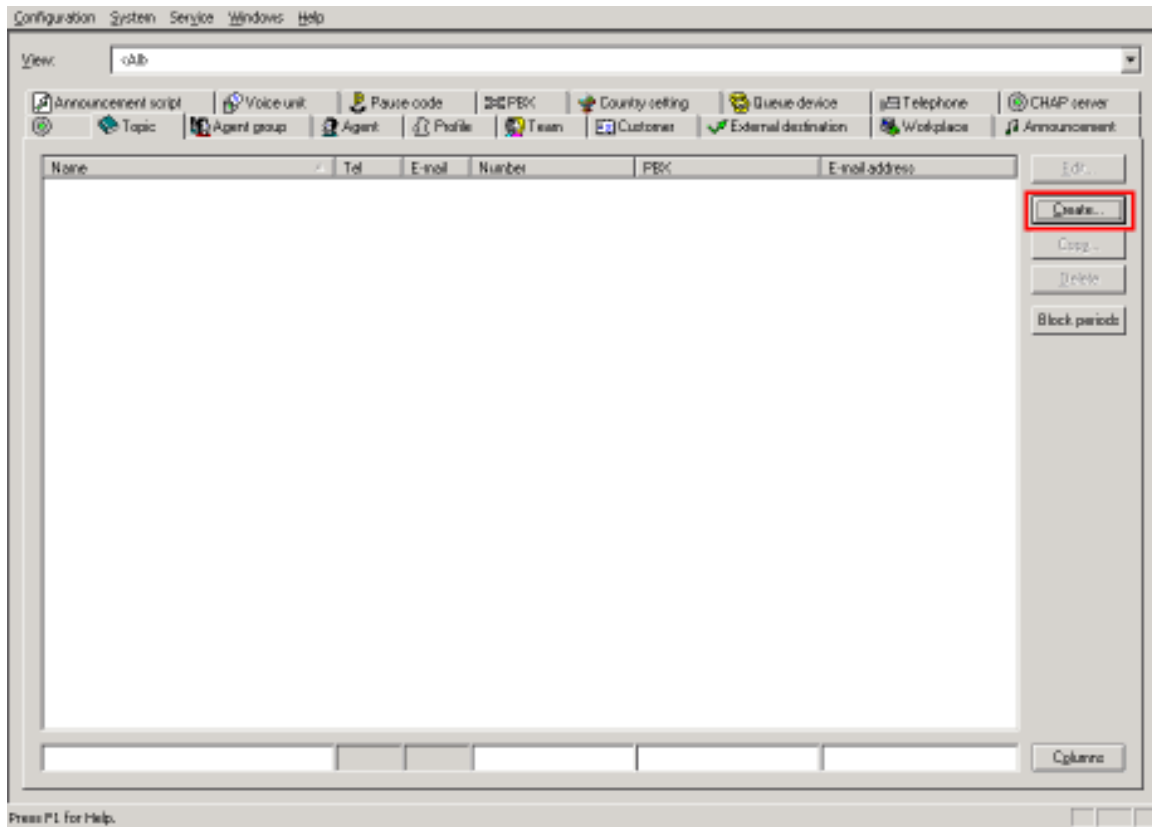
### 3.3.2.2 Configure Topics

Select the “Topic” tab:



**Figure 86: CIE Select Topic**

Click on the “Create” button.



**Figure 87: CIE Create New Topic**

Enter a topic “Name”, check the “Telephony” box, and select the “Telephony” tab.

The screenshot shows a dialog box titled "[Topic] - Create". It has two tabs: "General" and "Telephony". The "General" tab is currently selected. Inside the "General" tab, there is a "Name:" label followed by a text box containing "Topic\_1". Below this is a "Task types" section with two checkboxes: "Telephony" (which is checked) and "E-mail" (which is unchecked). At the bottom of the "General" tab, there is a "Priority:" label followed by a numeric spinner box set to "0". To the right of the "Name" field, there are two buttons: "0 block.period..." and "Variables...". On the far right of the dialog, there are "OK" and "Cancel" buttons.

**Figure 88: CIE Assign General Parameters to Topic**

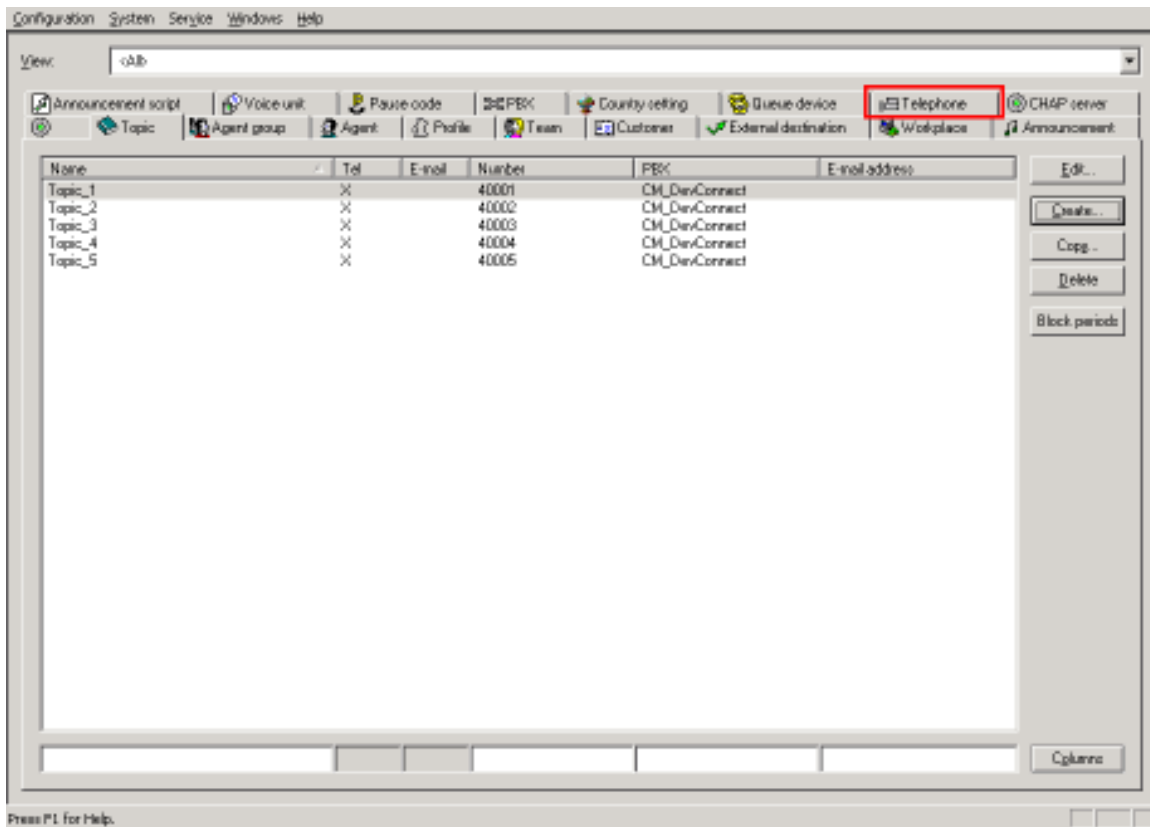
Select the 3 digit Access Code from the drop down box, enter a two-digit extension suffix, and click “OK”. Repeat this for the remaining agent telephone extensions. The Access code should match the extension used to route calls to the Topics trunk which was assigned **Figure 84**. Repeat the above operation for the remainder of the Topics. Enter an appropriate value or the After Call Work (ACW) time for this topic to allow agents sufficient time after a call is terminated.

The screenshot shows the "[Topic] - Create" dialog box with the "Telephony" tab selected. The "Topic Number" is 400. The "Access code" dropdown is set to "400" and the "Postdial (2-digit)" field is "01". The "Agent group" is "<None>". The "ACW" field is set to "5 seconds". The "Max. reservation time" is "30 seconds". The "Distribute call after release by agent - max." is "0 times". The "Script for playing voice mails" is "<None>". The "OK" button is highlighted with a red box.

**Figure 89: CIE Assign Telephony Parameters to Topic**

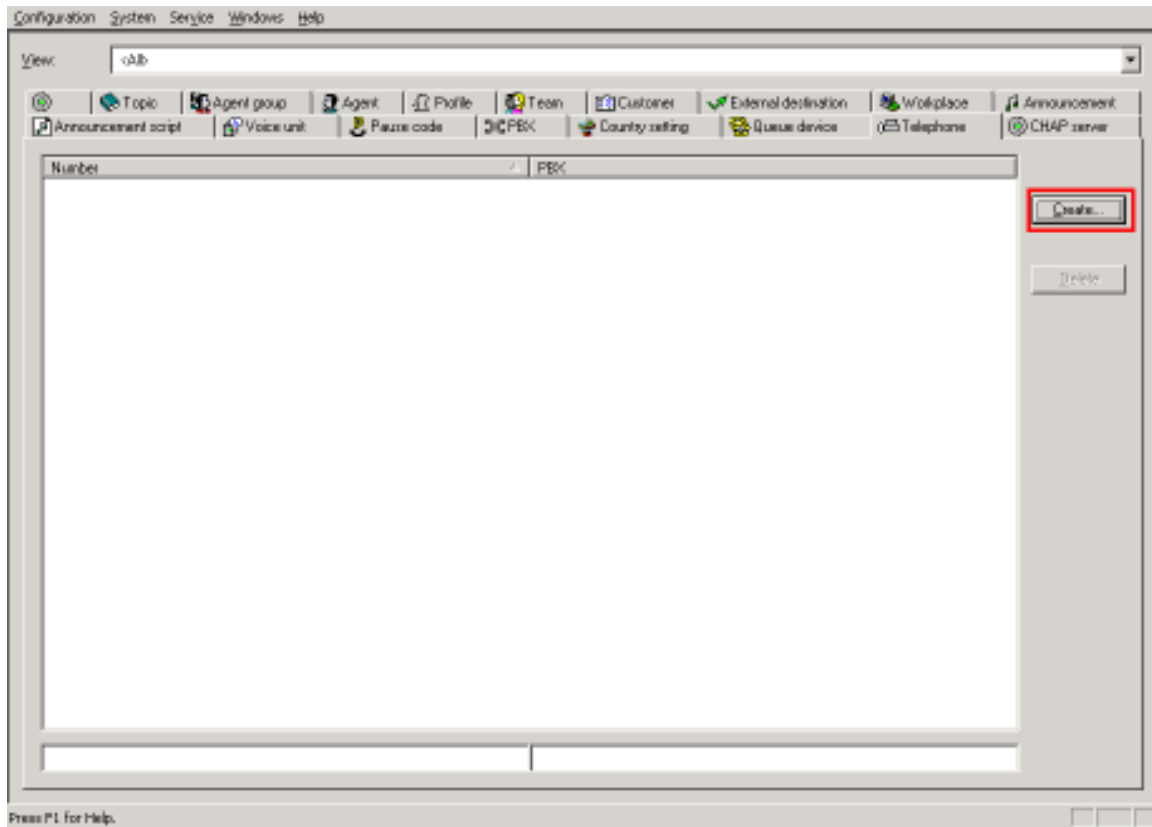
### 3.3.2.3 Configure Telephones

When all of the topics have been created, select the “Telephone” tab.



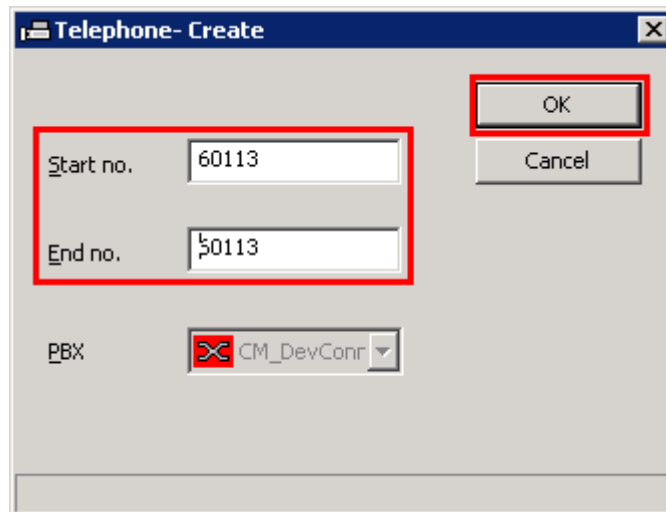
**Figure 90: CIE Select Telephony**

Click the “Create” button.



**Figure 91: CIE Create Telephony Parameters for Agents**

Enter starting and ending extensions to allocate a range of numbers for telephones to be used by agents, as shown in **Table 1**. Repeat this until all agent telephones have been specified, and click “OK”. These numbers must be consistent with the extensions assigned in **Figure 9** and sections **3.1.7** and **3.1.8**.

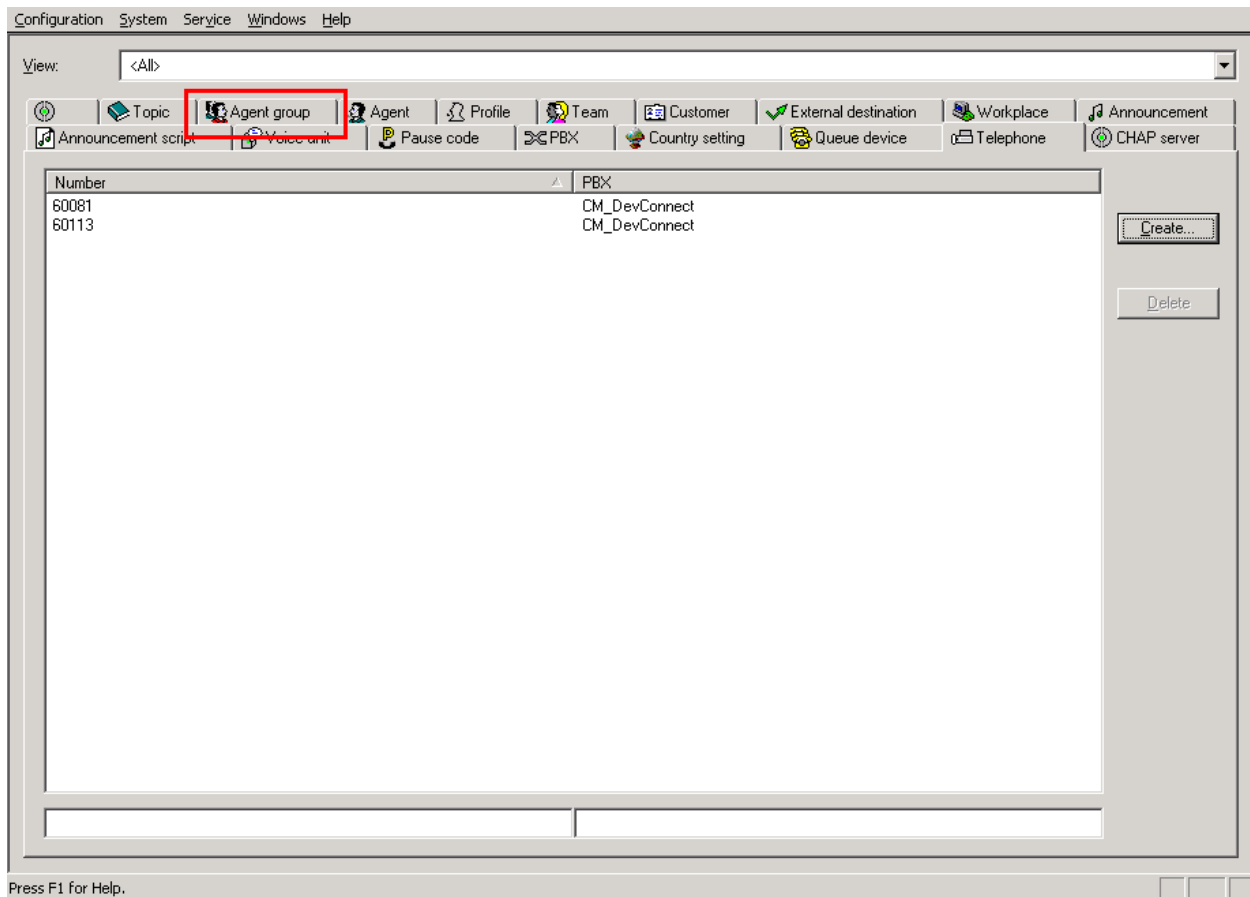


The image shows a 'Telephone- Create' dialog box. It has a title bar with a close button. Inside, there are two text input fields: 'Start no.' and 'End no.', both containing the value '60113'. These two fields are enclosed in a red rectangular box. To the right of these fields are two buttons: 'OK' and 'Cancel'. The 'OK' button is also enclosed in a red rectangular box. Below the input fields is a 'PBX' label and a dropdown menu currently showing 'CM\_DevConn'.

**Figure 92: CIE Allocate Agent Telephone Extensions**

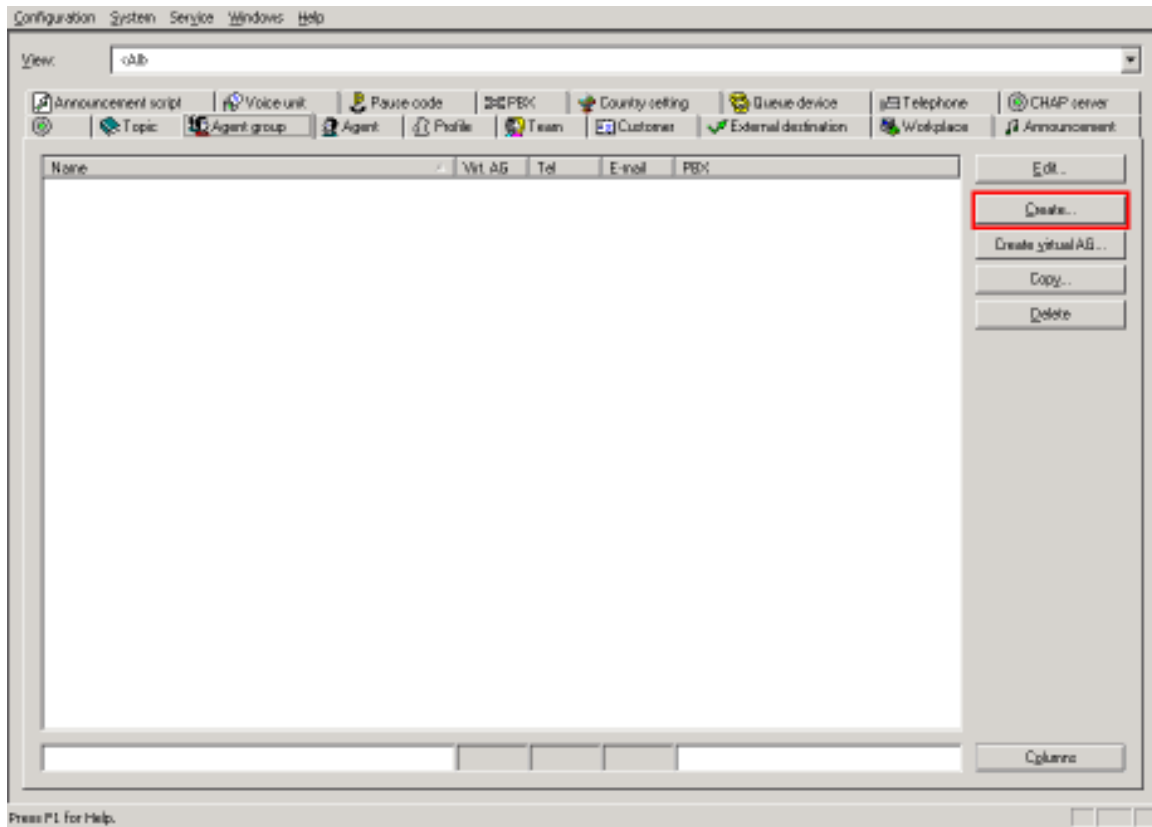
### 3.3.2.4 Configure Agent Groups

Select the “Agent group” tab.



**Figure 93: CIE Configure Agent Groups**

Click the “Create” button.



**Figure 94: CIE Create a New Agent Group**

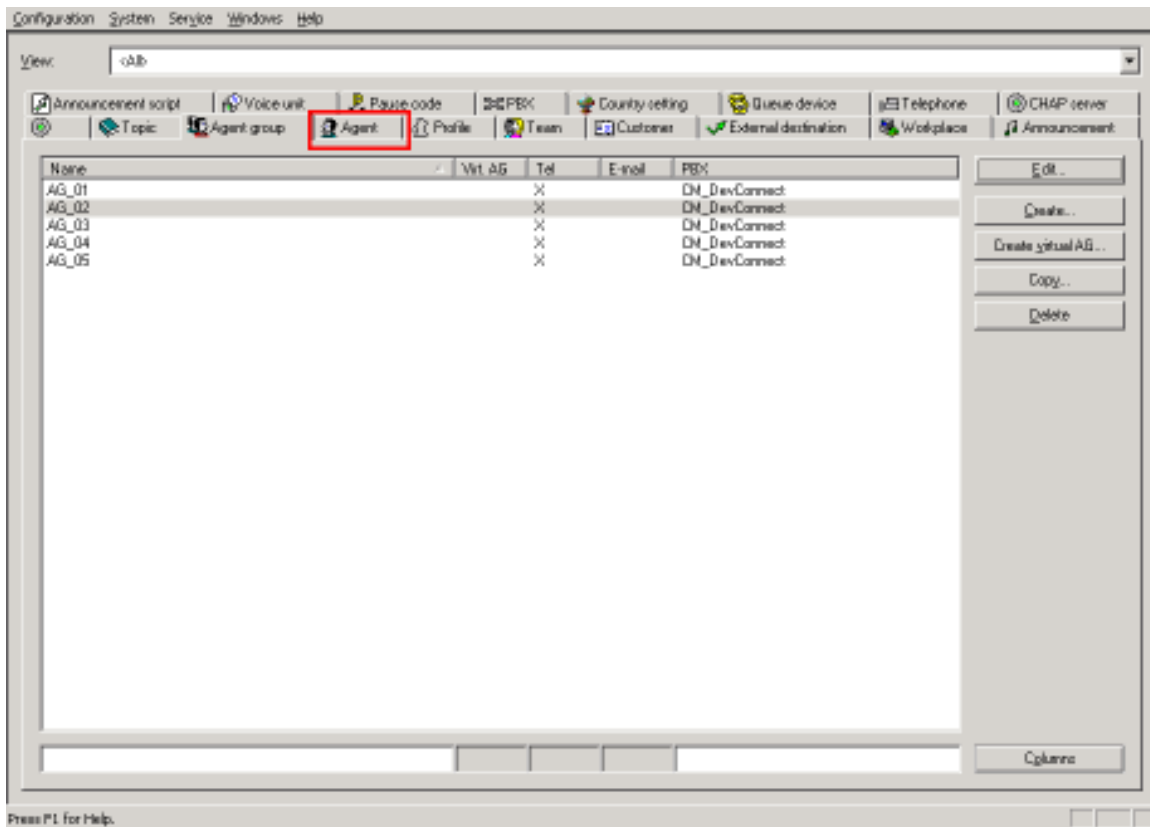
Enter one name of one of the agent groups listed in **Table 1**, check the “Telephony” box, and click the “OK” button. Repeat this for the remaining agent groups listed in **Table 1**.

The screenshot shows a Windows-style dialog box titled "[Agent group] - Create". It has two tabs: "General" and "Telephony". The "General" tab is active. Inside the dialog, there is a "Name:" label followed by a text box containing "AG\_01". To the right of this text box is a "Variables..." button. Below the name field is a "Task types" section with a list box containing "Telephony" (which is selected with a checkmark) and "E-mail" (which is not selected). Below the task types is a "Virtual AG:" label followed by a dropdown menu showing "<None>". On the right side of the dialog, there are two buttons: "OK" and "Cancel". The "OK" button is highlighted with a red rectangular box.

**Figure 95: CIE Assign Agent Group General Parameters**

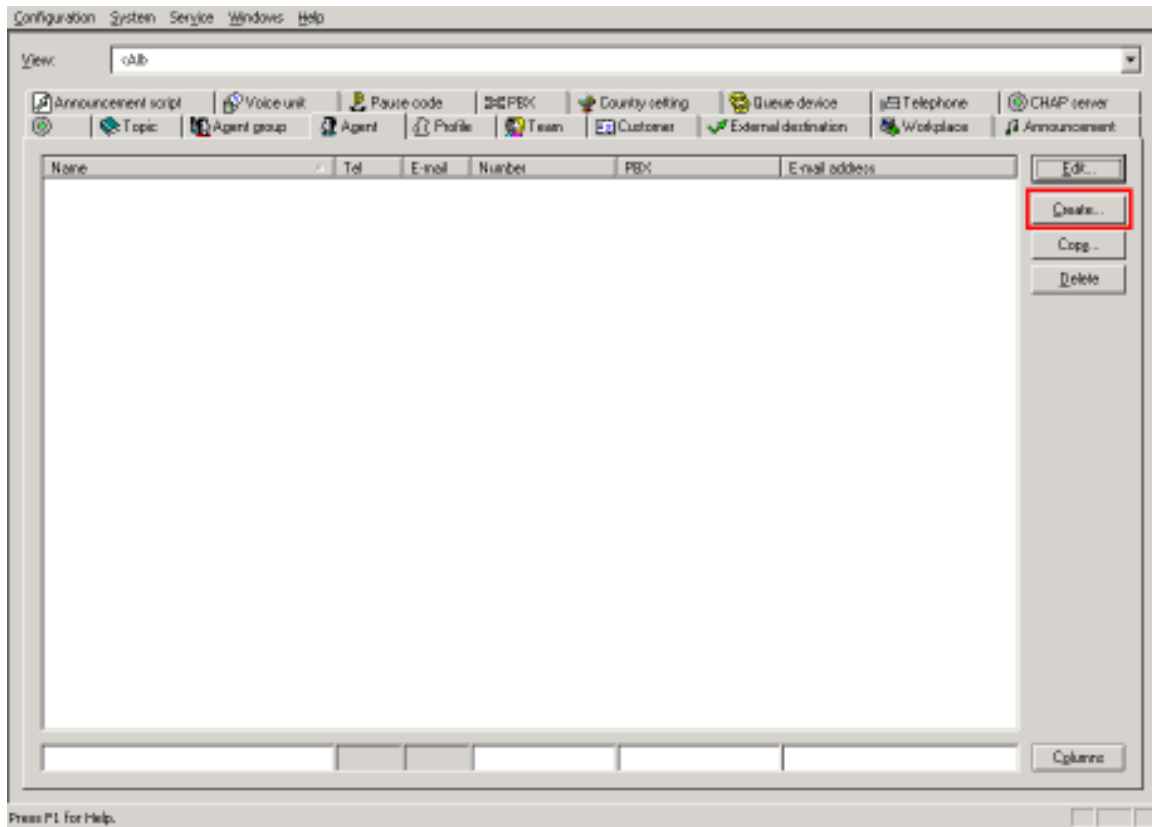
### 3.3.2.5 Configure Agents

Select the “Agent” tab.



**Figure 96: CIE Configure Agents**

Click the “Create” button.



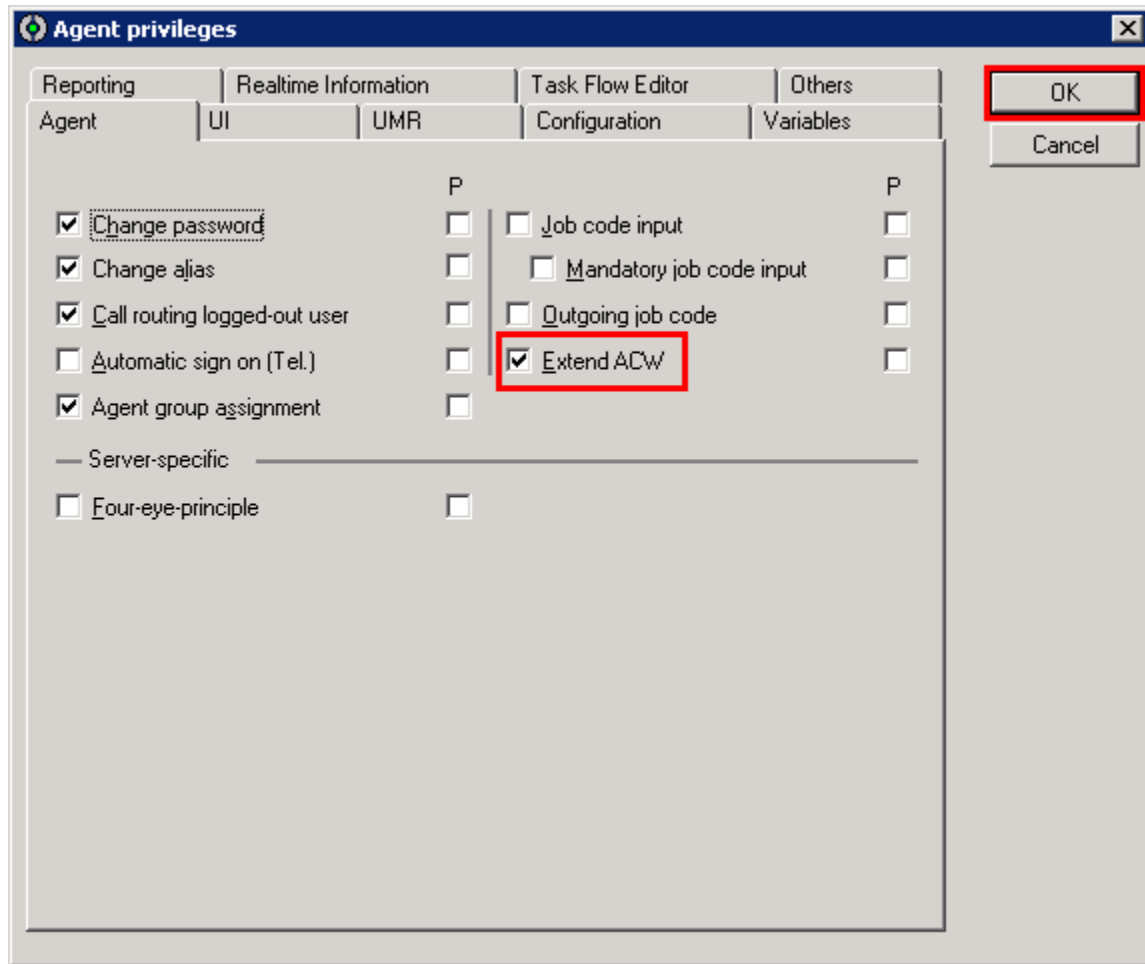
**Figure 97: CIE Create Agent**

Enter a “System name” and “Login name” for the agent, check the “Telephony” box. Click the “Password” button and assign a password which the agent uses to login, as shown in **Figure 152**, and then click on the **Privileges...** button.

The screenshot shows the 'CIE Configure Agent' dialog box for 'Agent\_01'. The 'General' tab is selected. The 'System name' and 'Login name' fields are both set to 'Agent\_01'. The 'Telephony' checkbox under 'Task types' is checked. The 'Password...' button is highlighted with a red box. Other fields like 'Alias', 'Language', 'Last name', 'First name', 'Employee ID', 'Cost center', 'Title', and 'Predefined profile' are also visible. The 'Privileges...' button is located at the bottom right of the dialog.

**Figure 98: CIE Configure Agent “General” Parameters**

Check “Extend ACW” box to allow the agent to extend the After Call Work time and click “OK”, and then select the “Telephony” tab (shown in **Figure 98**).



**Figure 99: CIE Configure Agent “Privileges” Parameters**

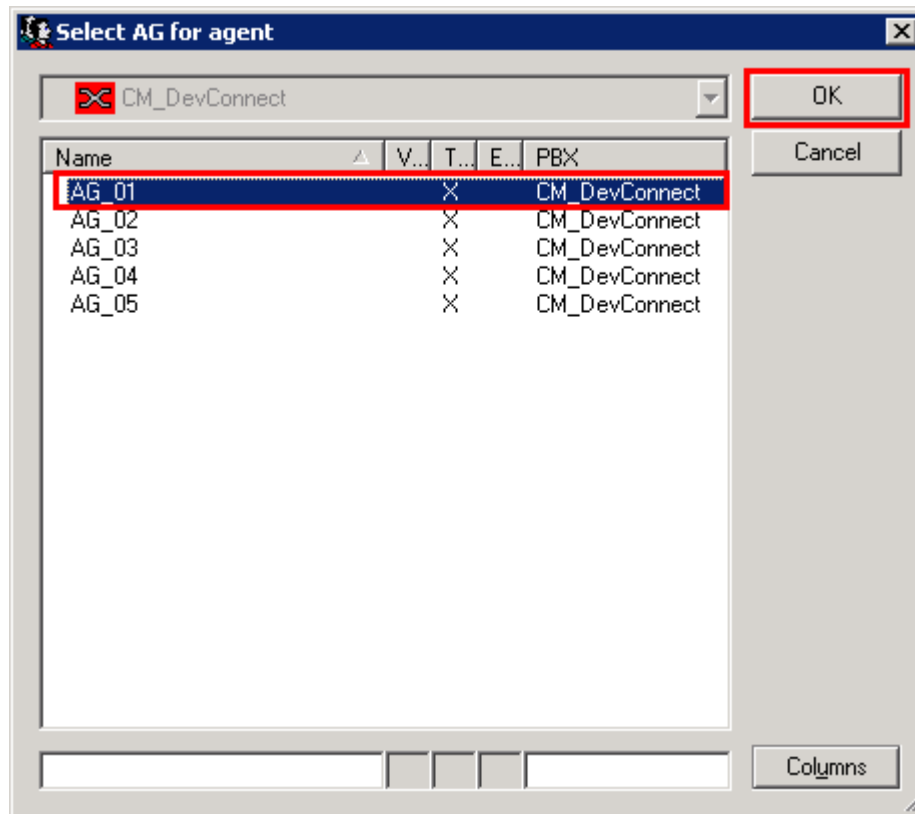
Click the “Add” button.

The screenshot shows a Windows-style dialog box titled "[Agent] Agent\_01 - Edit". It has two tabs: "General" and "Telephony", with "Telephony" currently selected. The dialog contains several input fields and buttons. In the "Group assignment" section, there is a table with two columns: "Prio" and "Name". To the right of this table are four buttons: "Add...", "Delete", "Up", and "Down". The "Add..." button is highlighted with a red rectangle. Other fields include "Telephony name" (set to "Agent\_01"), "Agent ID" (set to "0"), "No of connections" (set to "1"), and "ACW" (set to "100 %"). There are also "OK", "Cancel", "Password...", and "Settings..." buttons.

Prio	Name
------	------

**Figure 100: CIE Add Agent to Agent Group**

Select the Name of the agent group to which the agent is to be added, and click “OK.



**Figure 101: CIE Select Agent Group**

Repeat the above procedure, adding the agent to each of the agent groups to which the agent should belong, and click “OK” when complete. Create the remaining agents, as listed in **Table 1**.

**[Agent] Agent\_01 - Edit**

General **Telephony**

Telephony name:  Password...

Number:  Agent ID:

No of connections:  ACW:  %

Call routing logout:

Group assignment

Prio	Name
5	AG_01
5	AG_02
5	AG_03
5	AG_04
5	AG_05

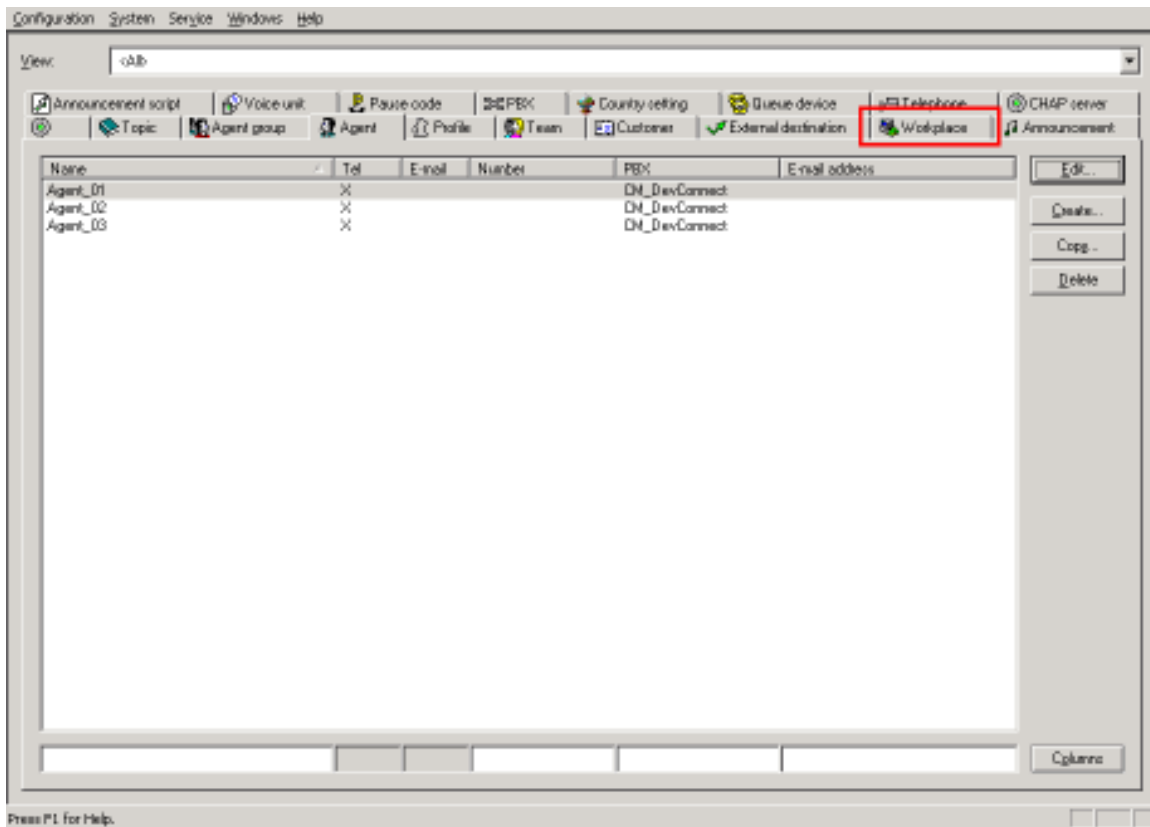
Add... Delete Up Down Settings...

OK Cancel

**Figure 102: CIE Agent Added to All Agent Groups**

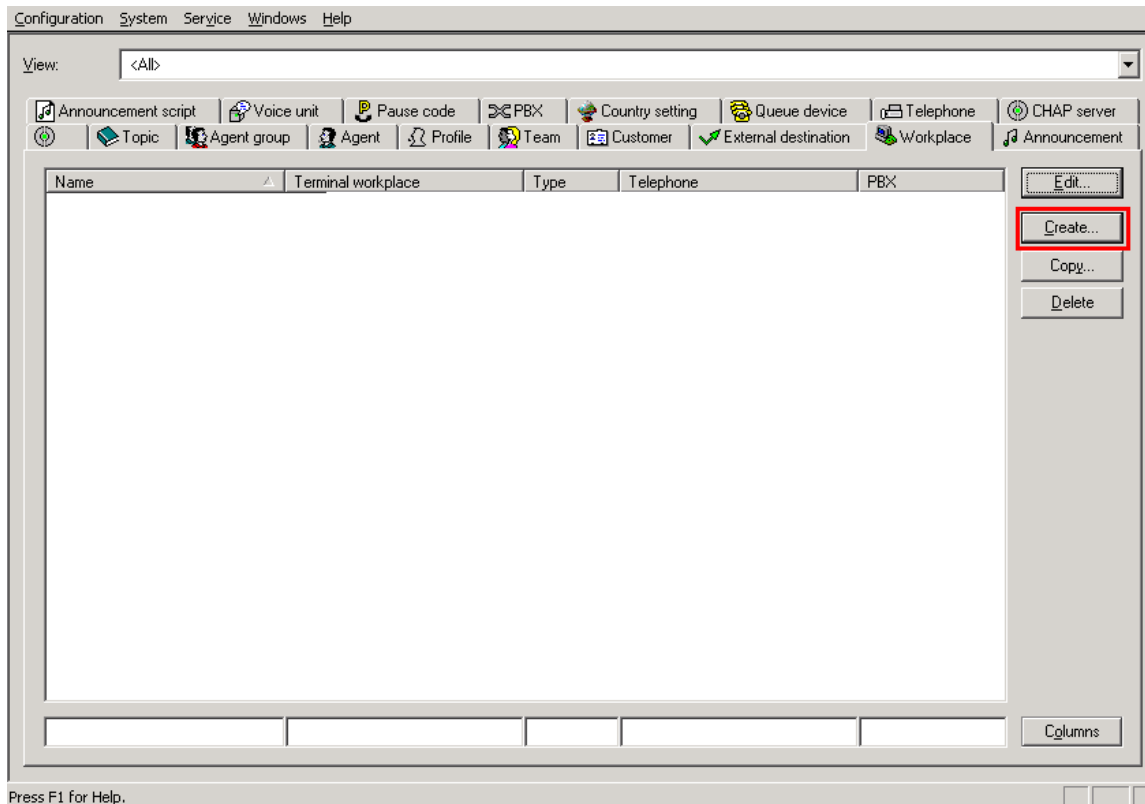
### 3.3.2.6 Configure Workplaces

Select the “Workplace” tab.



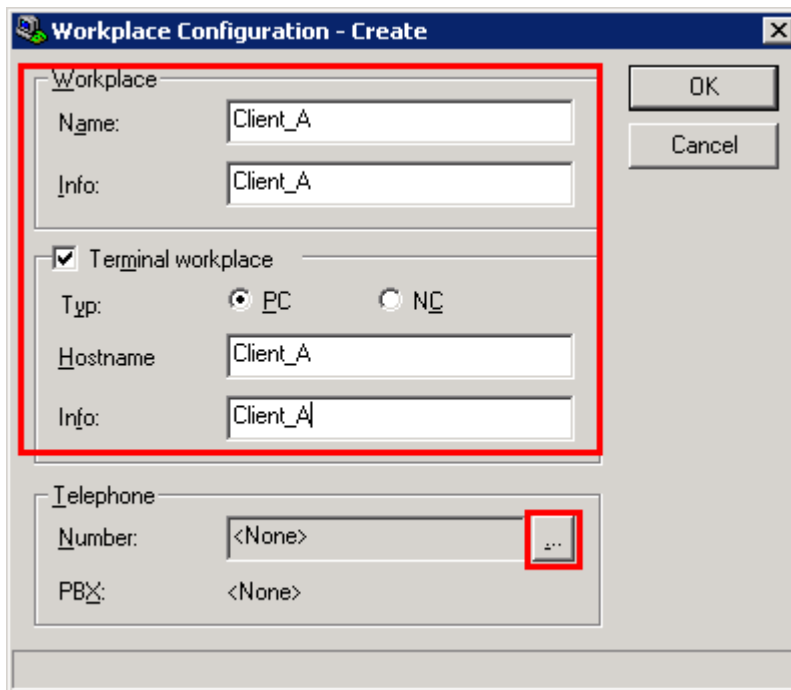
**Figure 103: CIE Configure Workplaces**

Click on the “Create” button.



**Figure 104: CIE Create Workplace**

Enter the “Name” of a client workstation which is to be used for agent login, and an “Info” text to be used as an identifier for the workstation. Check the “Terminal workplace” box, select the “PC” radio button, and click on the control to the right of the “Number” field.

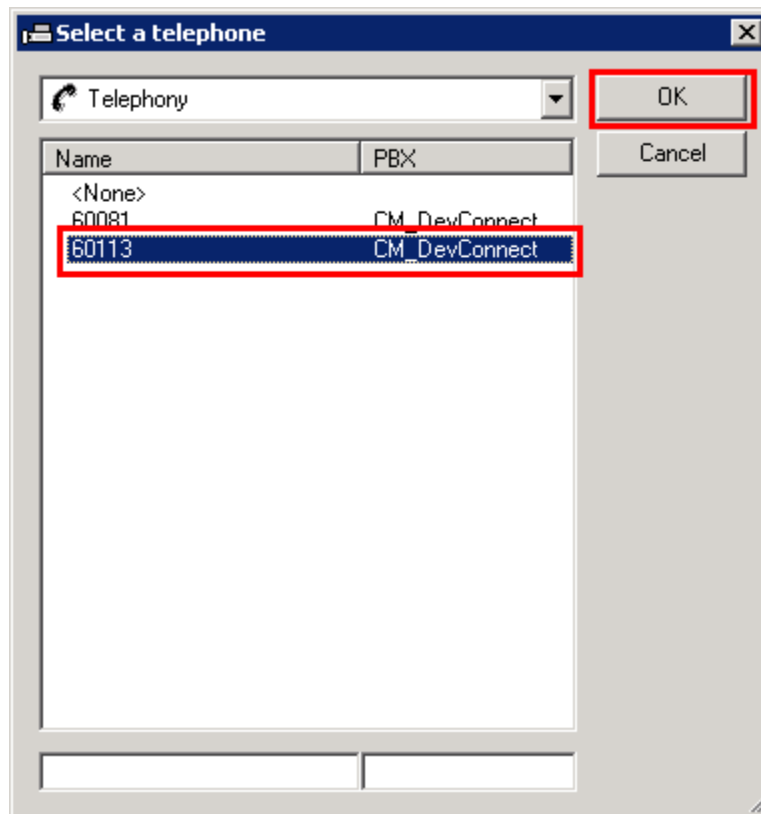


The image shows a Windows-style dialog box titled "Workplace Configuration - Create". It contains several sections for configuring a workplace. The "Workplace" section has "Name" and "Info" fields, both containing "Client\_A". The "Terminal workplace" section is checked, and the "Type" is set to "PC" (radio button selected). It also has "Hostname" and "Info" fields, both containing "Client\_A". The "Telephone" section has a "Number" field set to "<None>" and a "PBX" field set to "<None>". A small button with three dots is located to the right of the "Number" field. The "OK" and "Cancel" buttons are in the top right corner. A red rectangle highlights the "Workplace" and "Terminal workplace" sections, and another red rectangle highlights the button next to the "Number" field.

Workplace Configuration - Create	
<b>Workplace</b>	
Name:	Client_A
Info:	Client_A
<input checked="" type="checkbox"/> <b>Terminal workplace</b>	
Type:	<input checked="" type="radio"/> PC <input type="radio"/> NC
Hostname	Client_A
Info:	Client_A
<b>Telephone</b>	
Number:	<None> [...]
PBX:	<None>
OK Cancel	

**Figure 105: CIE Assign Client to Workplace**

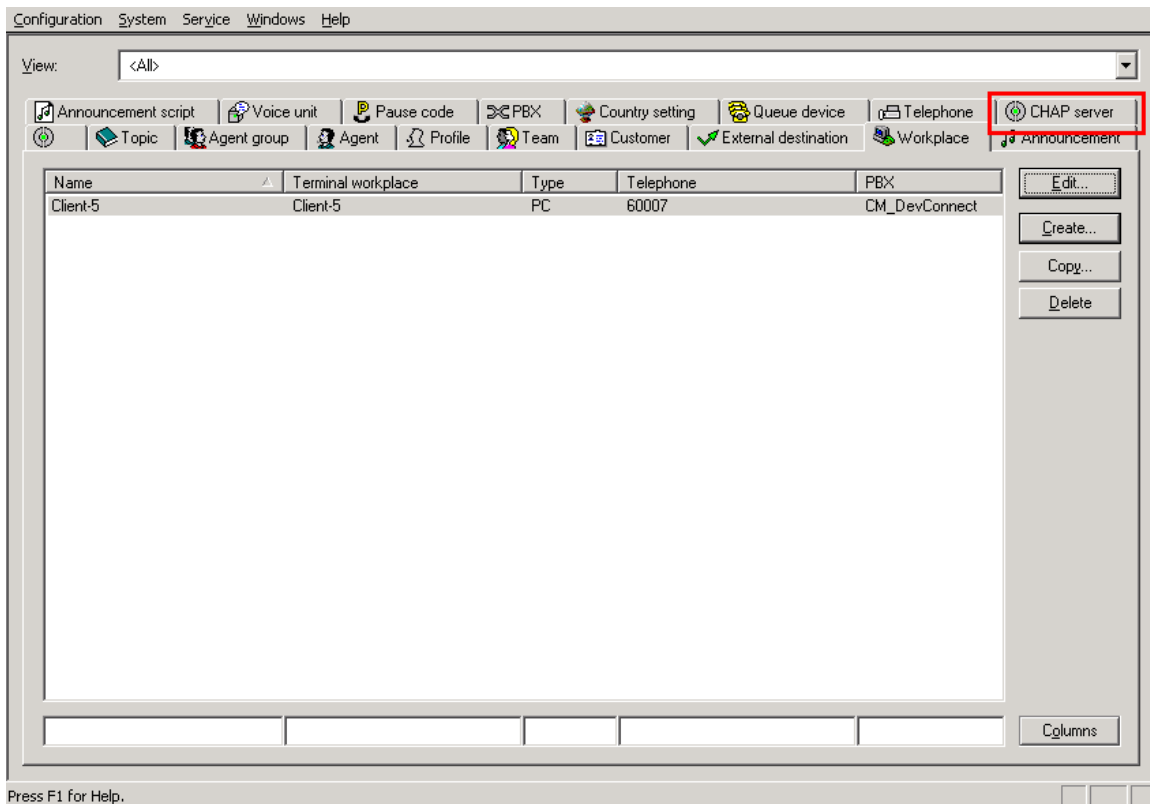
Select the extension of the telephone which is to be assigned to the client workstation and click “OK”. Repeat these operations for the other client workstations shown in **Figure 1**.



**Figure 106: CIE Assign Telephone to Workplace**

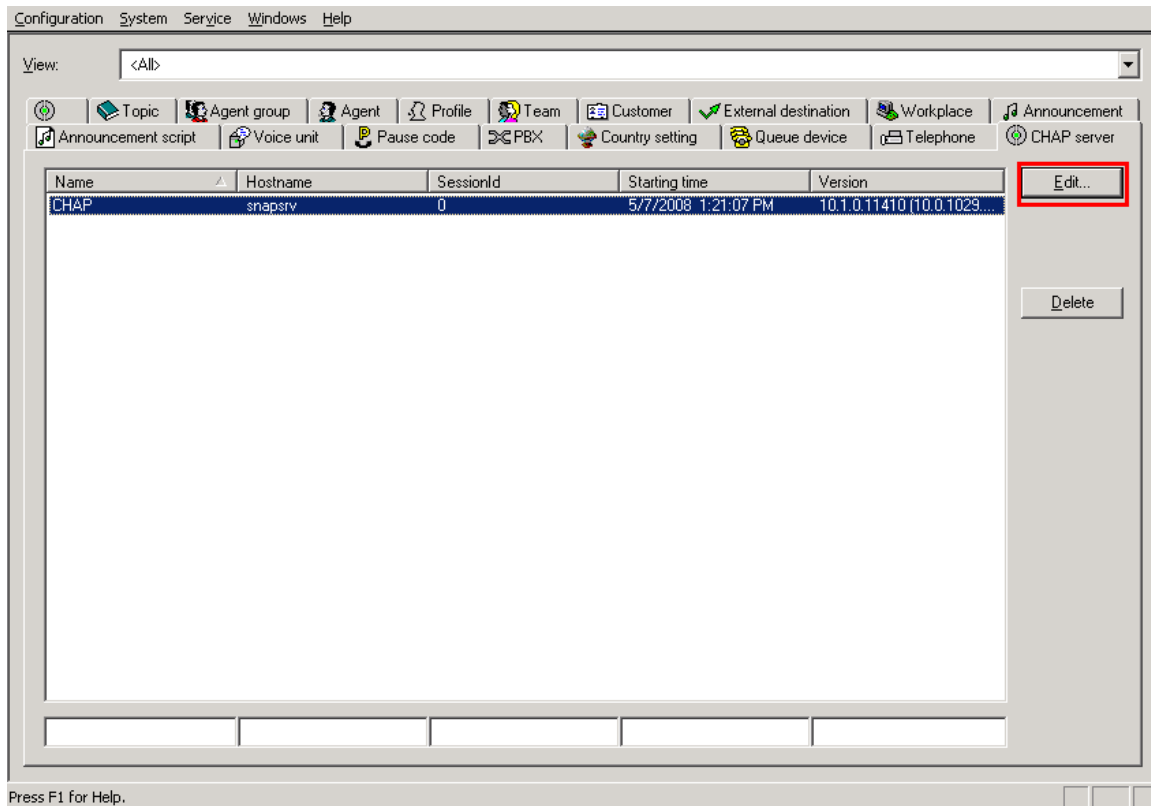
### 3.3.2.7 Configure CHAP Server

Click the “CHAP server” tab.



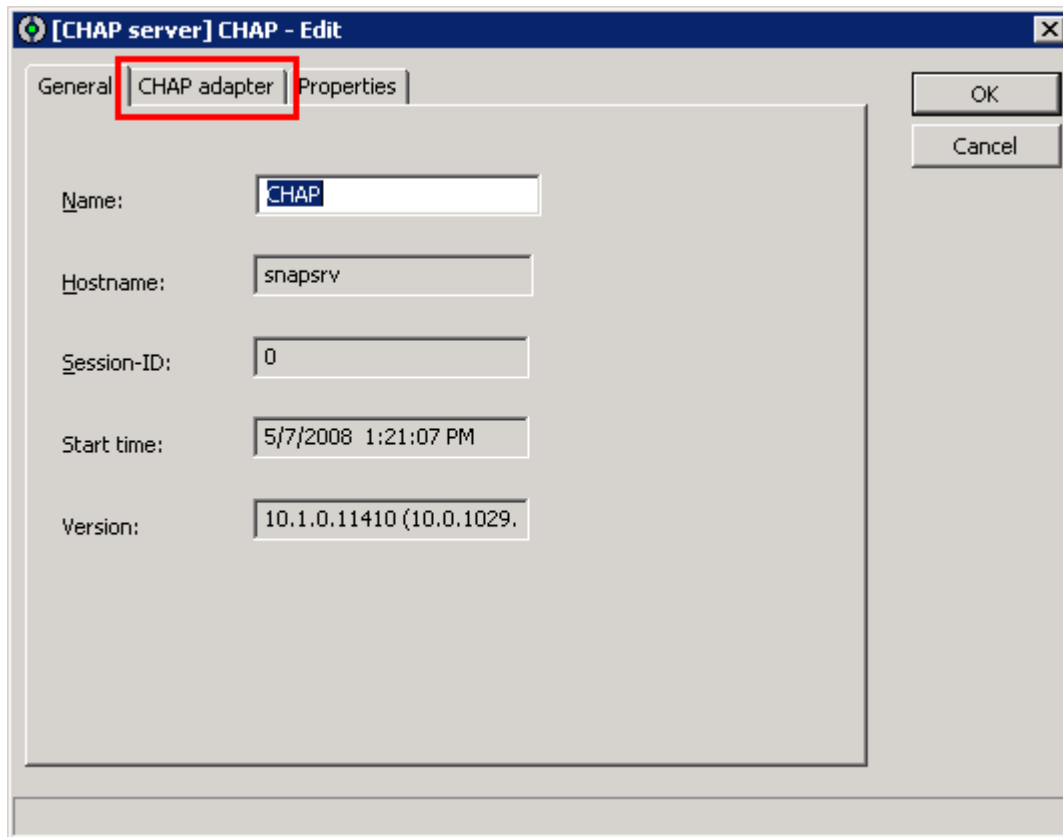
**Figure 107: CIE Configure CHAP Servers**

Click the “Edit” button.



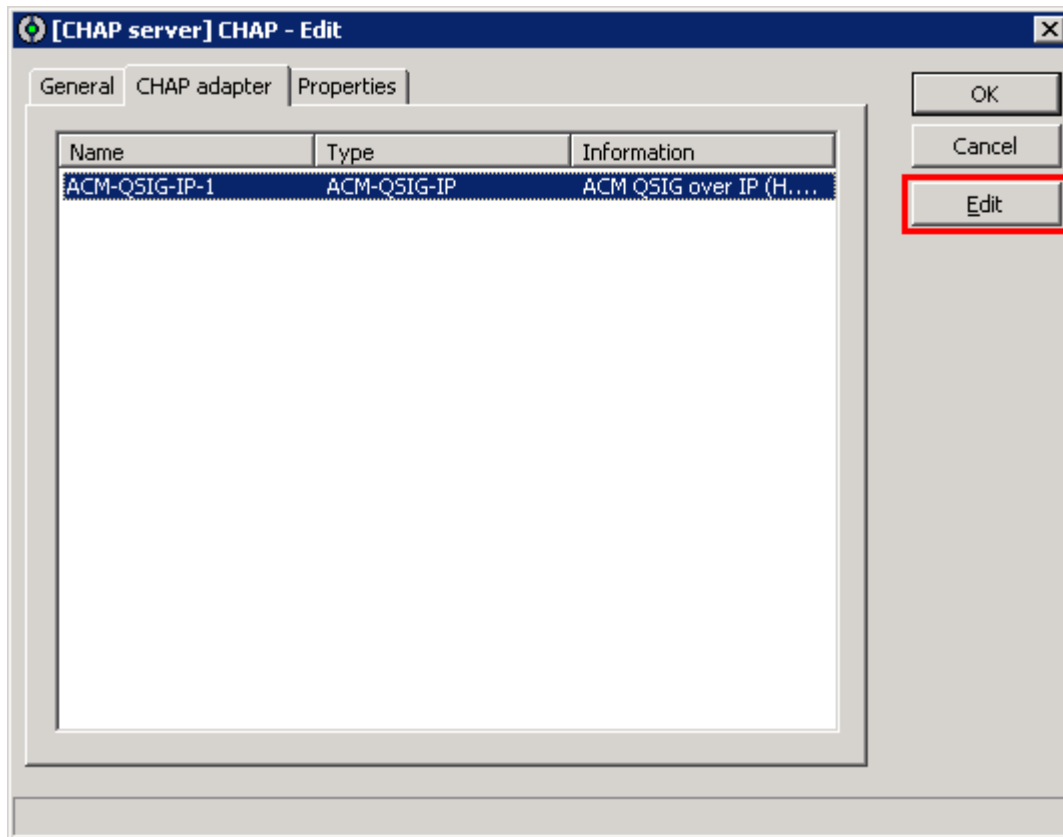
**Figure 108: CIE Edit CHAP Server Parameters**

Assign an appropriate name to the server and click the “CHAP adapter” tab.



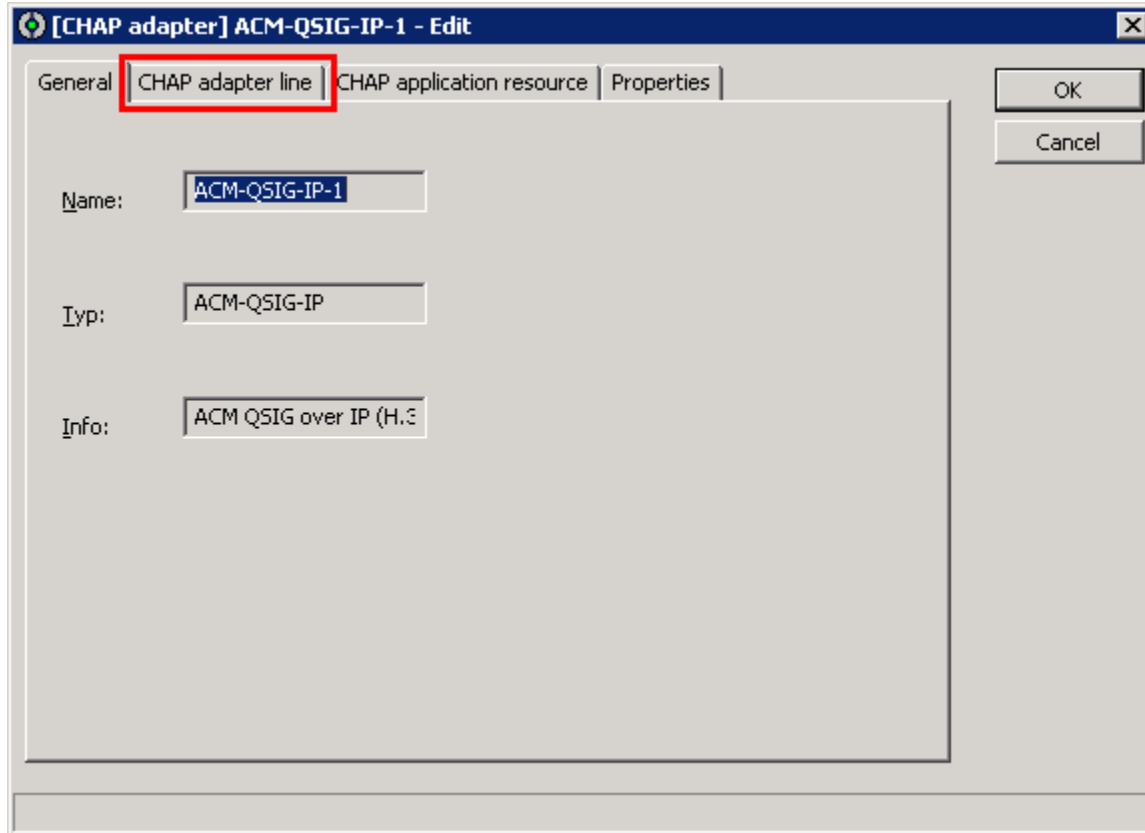
**Figure 109: CIE Configure CHAP Adapter**

Click “Edit”.



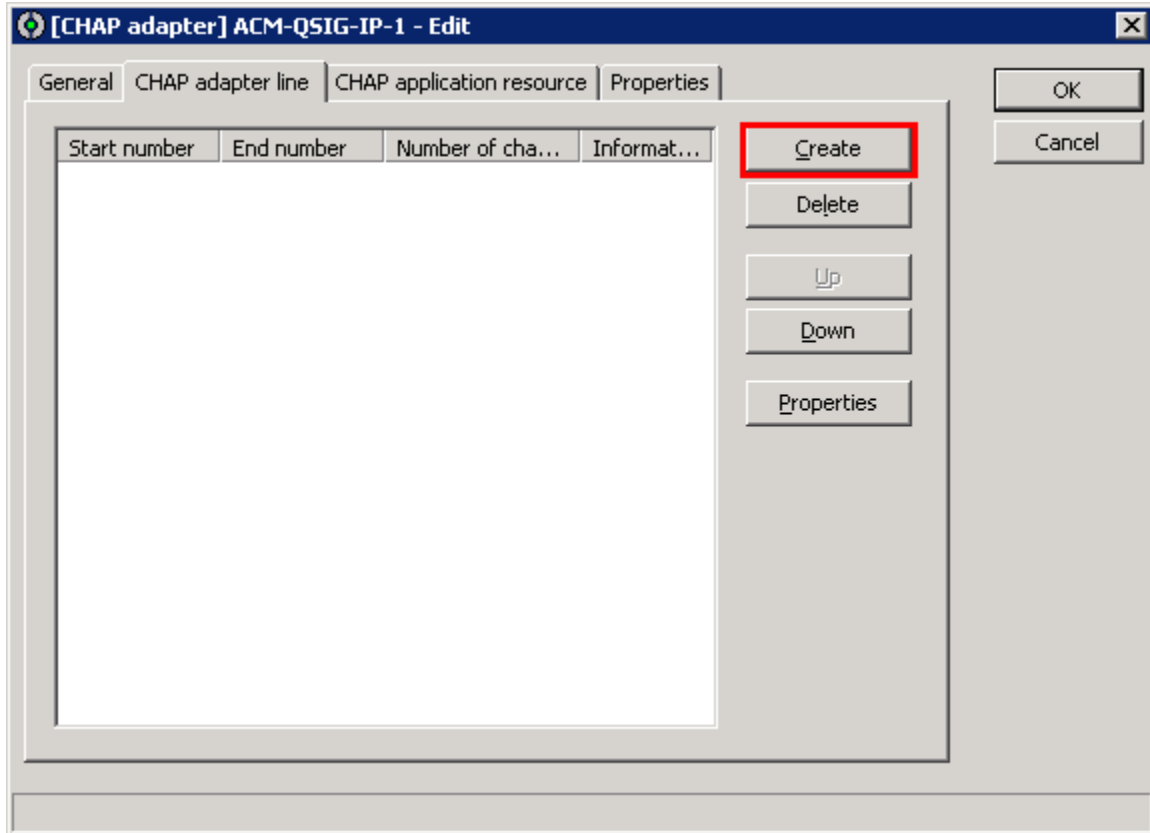
**Figure 110: CIE Select CHAP Adapter**

Select the “CHAP adapter line” tab.



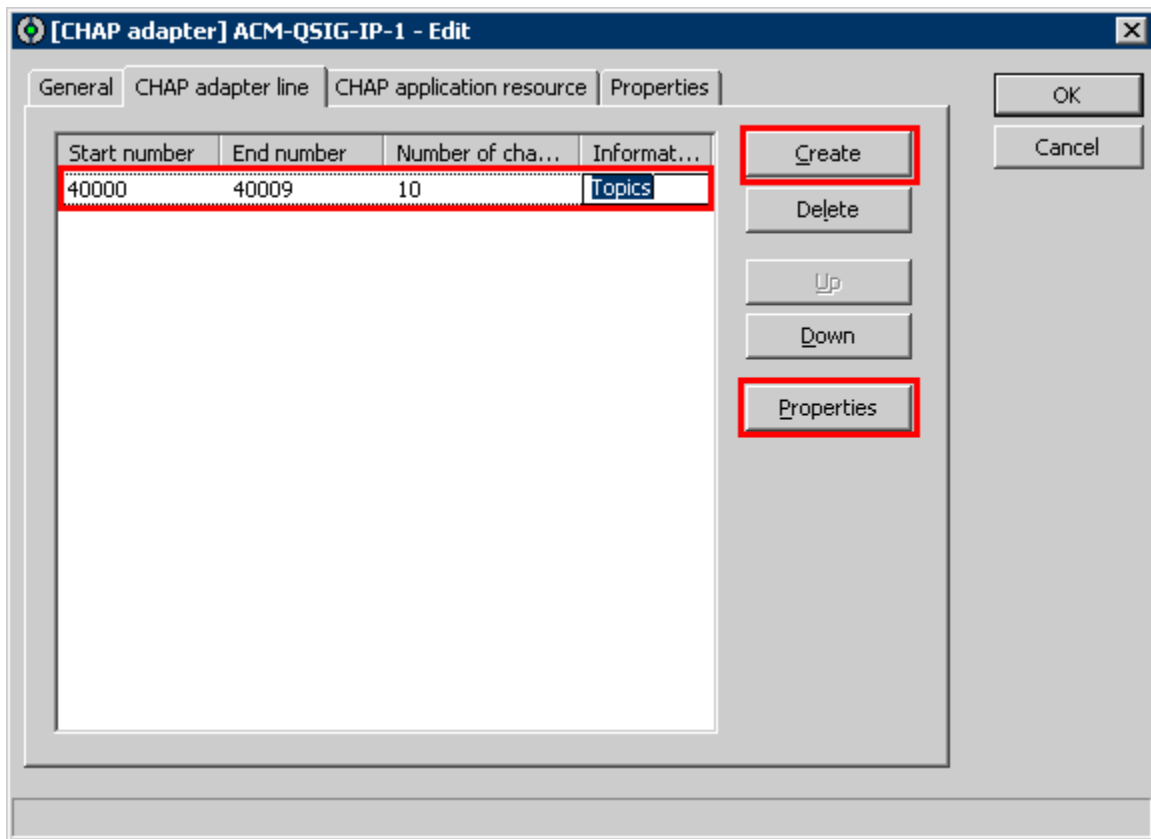
**Figure 111: CIE Configure CHAP Adapter Line**

Click “Create”.



**Figure 112: CIE Create CHAP Adapter Line**

Enter the “Start number”, “End number”, and number of channels to be used for the “Topics” channels and click “Create”. After the line adapter has been created, click “Properties”.

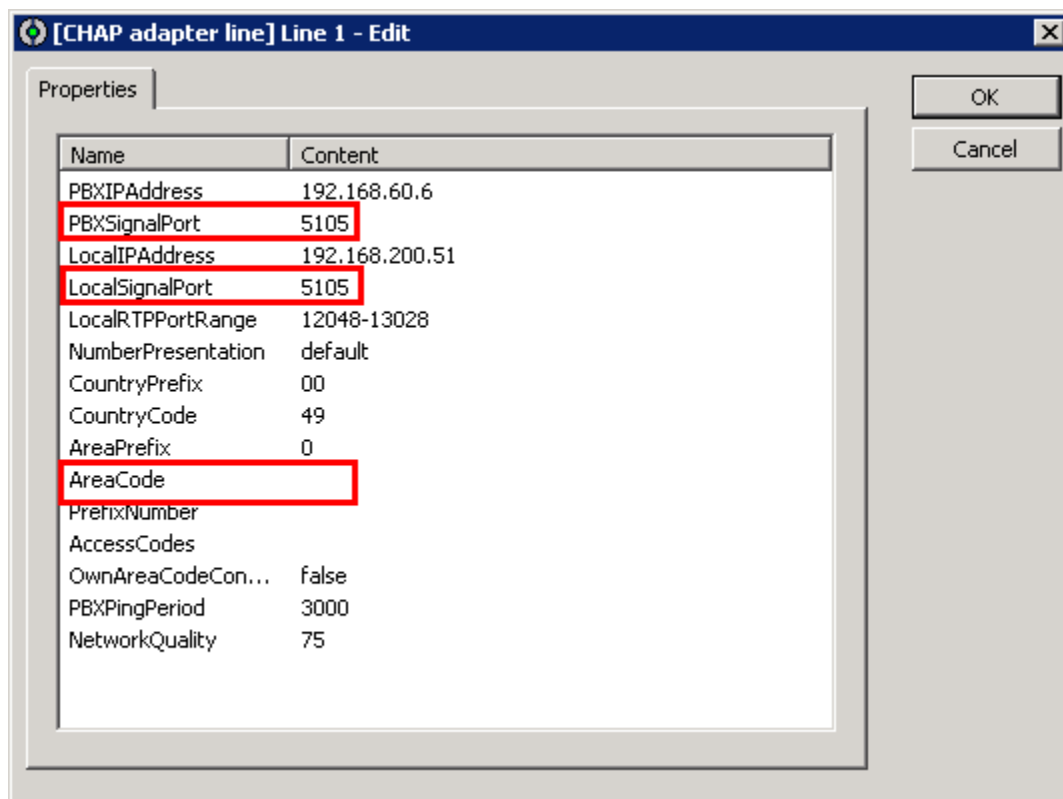


**Figure 113: CIE Configure CHAP Adapter Topics Line**

Set the parameters in the “Properties” dialog as shown in the following table, and click on “OK”.

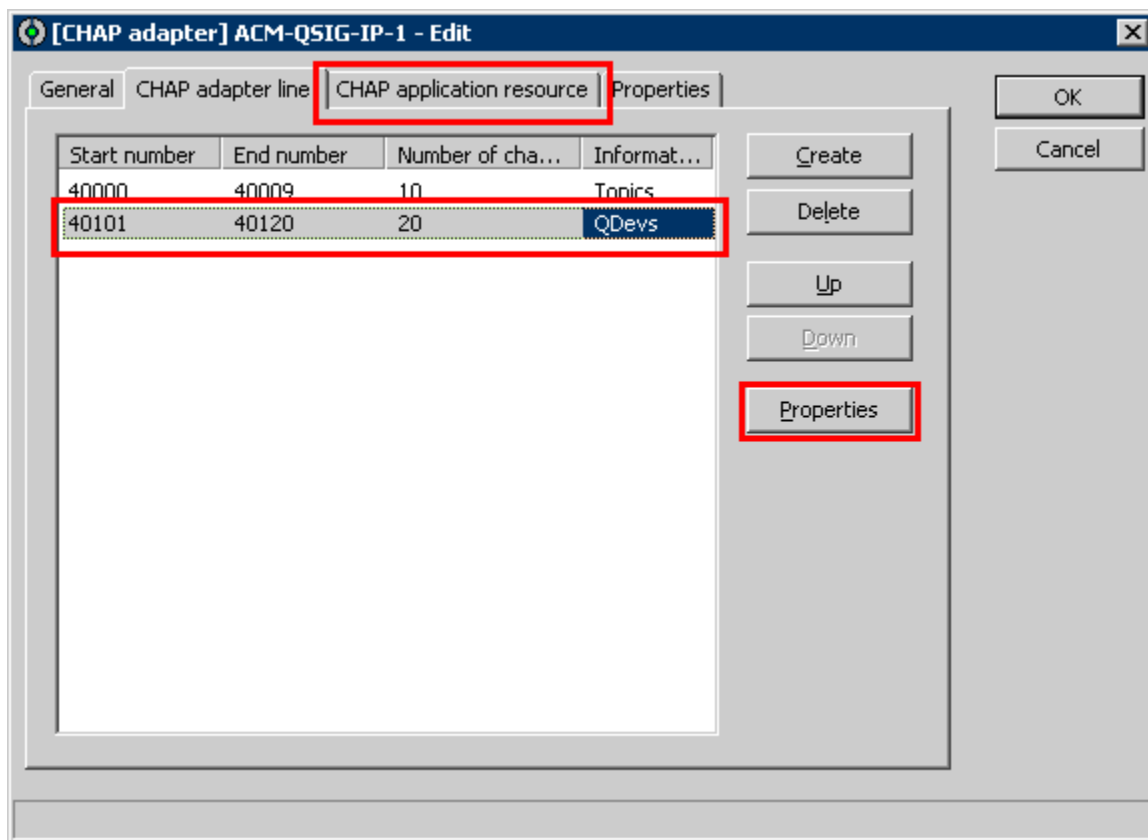
Parameter	Usage
PBXSignalPort	This must be set to the same value that was assigned to the “Near-end Listen Port” in <b>Figure 27</b> .
LocalSignalPort	This must be set to the same value that was assigned to the “Far-end Listen Port” in <b>Figure 27</b> .
AreaCode	This value must be assigned to “space” so that CIE will pass the entire calling party number to the agent, so that the number can be used to search the telephone directory (which contains the area code for local numbers).

**Table 29: Topics Adapter Line Parameters**



**Figure 114: CIE Configure CHAP Topics Adapter Line Properties**

Enter the “Start number”, “End number”, and number of channels to be used for the “QDevs” channels and select the “CHAP application resource” tab. After the line adapter has been created, click “Properties”.

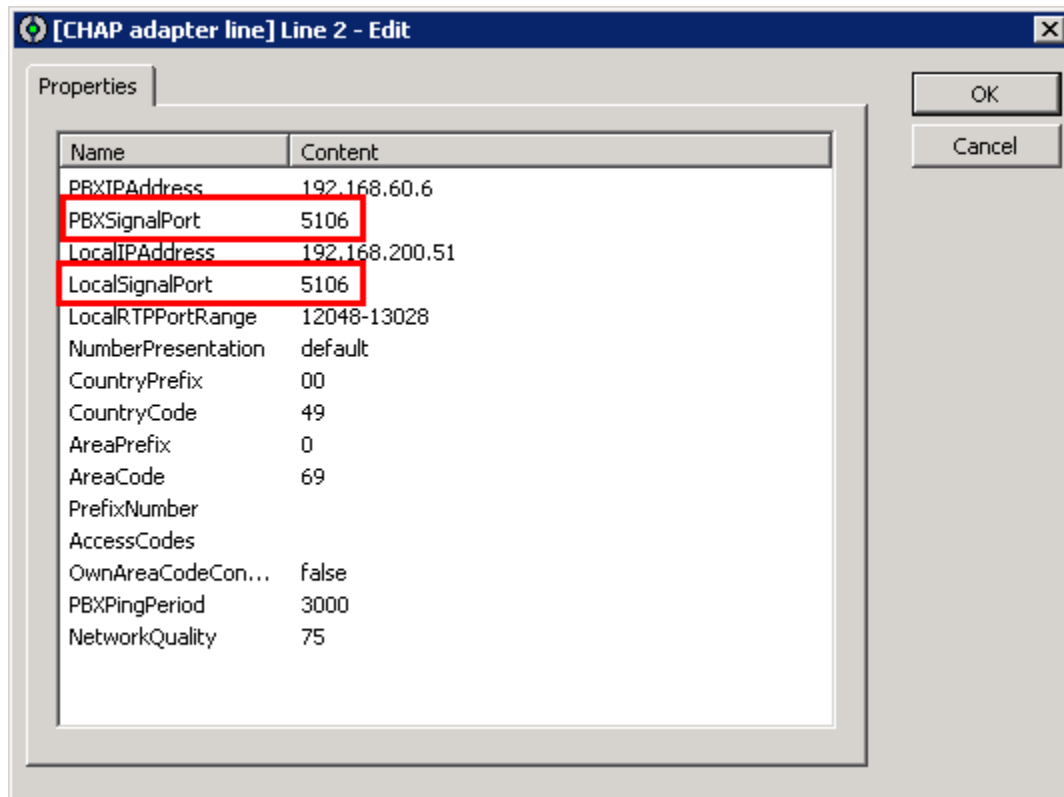


**Figure 115: CIE Configure CHAP Adapter Queue Line**

Set the parameters in the “Properties” dialog as shown in the following table, and click on “OK”.

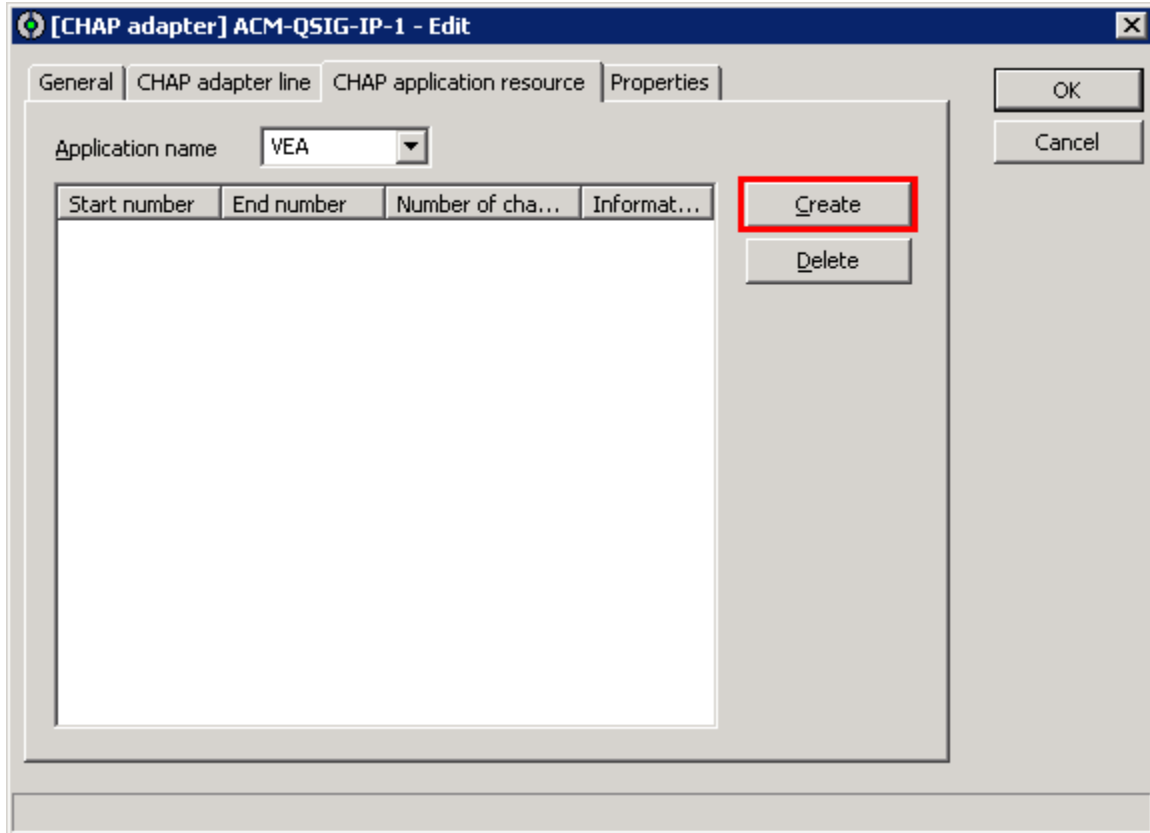
Parameter	Usage
PBXSignalPort	This must be set to the same value that was assigned to the “Near-end Listen Port” in <b>Figure 32</b> .
LocalSignalPort	This must be set to the same value that was assigned to the “Far-end Listen Port” in <b>Figure 32</b> .

**Table 30: Topics Queue Adapter Line Parameters**



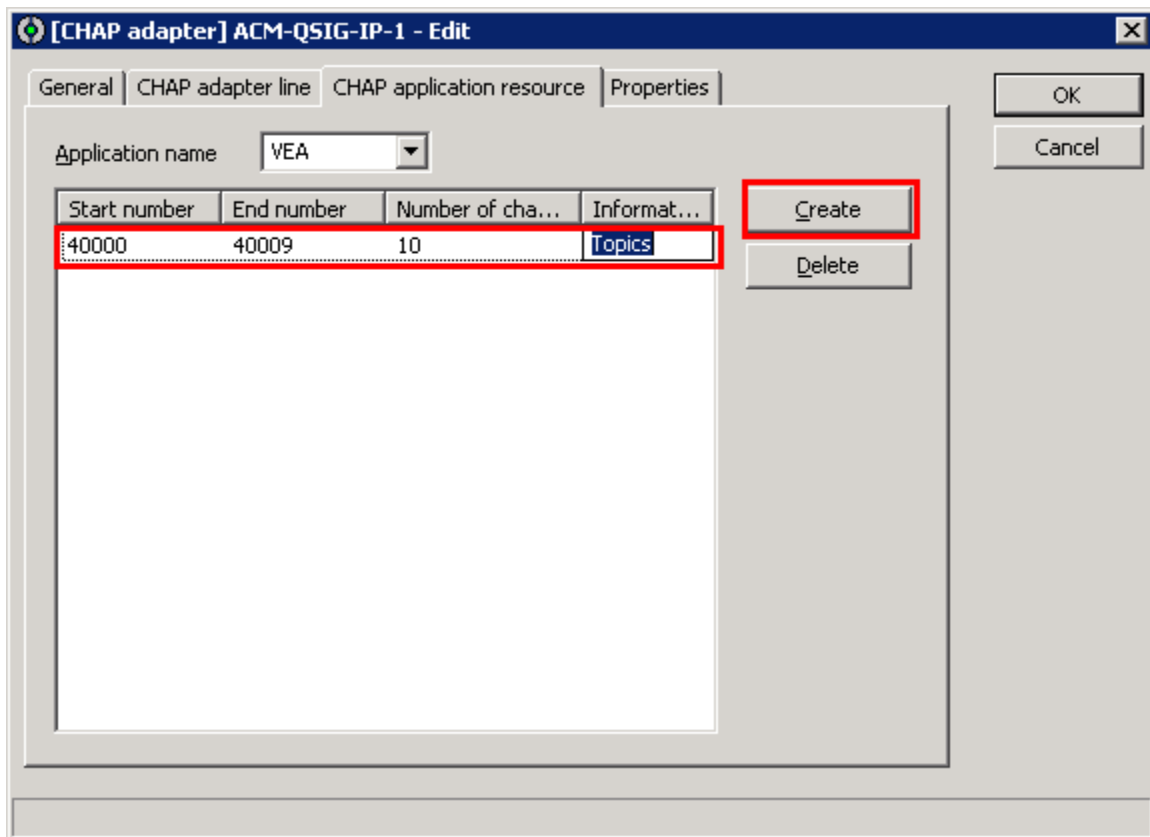
**Figure 116: CIE Configure CHAP Queue Adapter Line Properties**

Click the “Create” button.



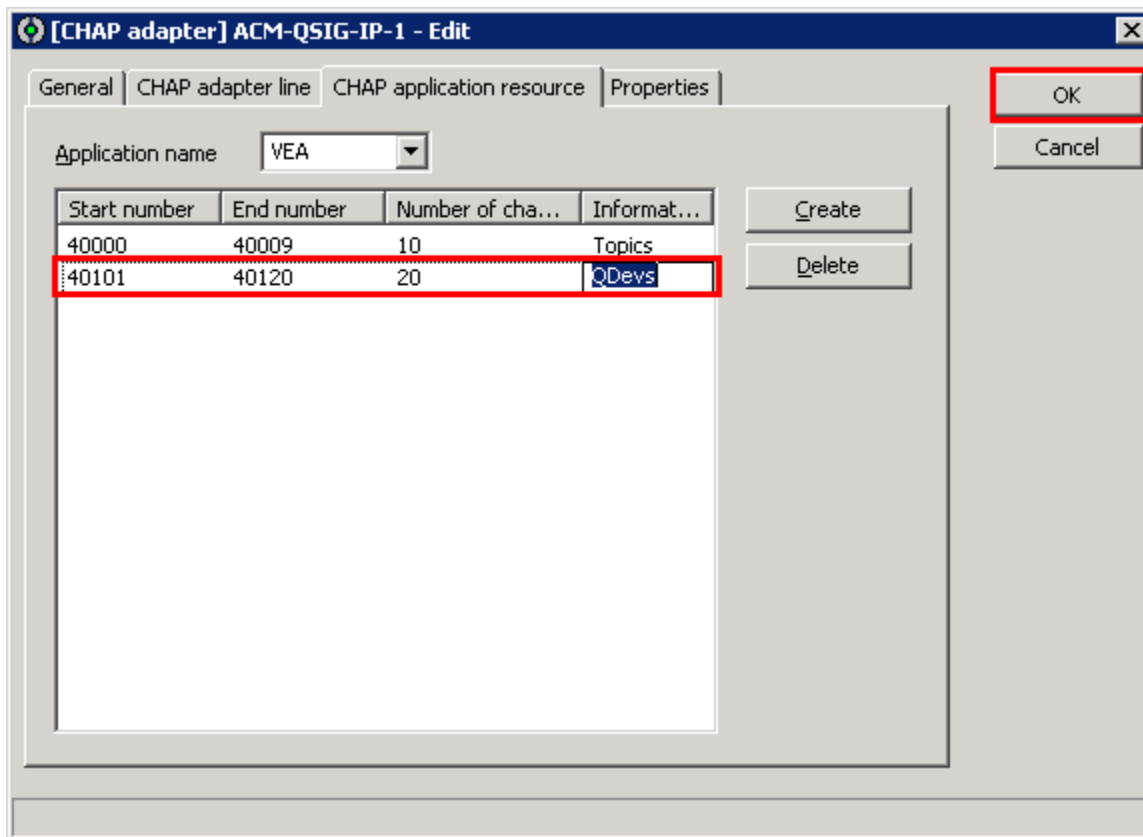
**Figure 117: CIE Create CHAP Application Resource**

Enter the “Start number”, “End number”, and number of channels to be used for the “Topics” channels and click “Create”.



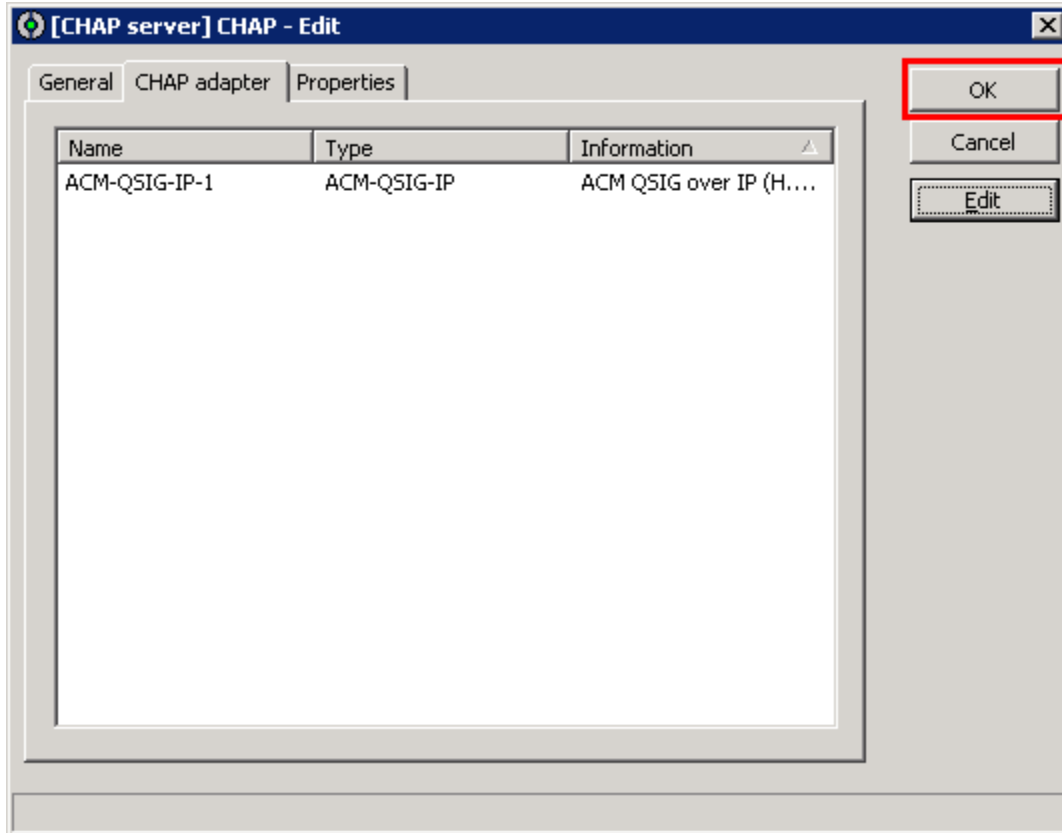
**Figure 118: CIE Configure CHAP Topics Application Resource**

Enter the “Start number”, “End number”, and number of channels to be used for the “QDevs” channels and click “OK”.



**Figure 119: CIE Configure CHAP Queue Application Resource**

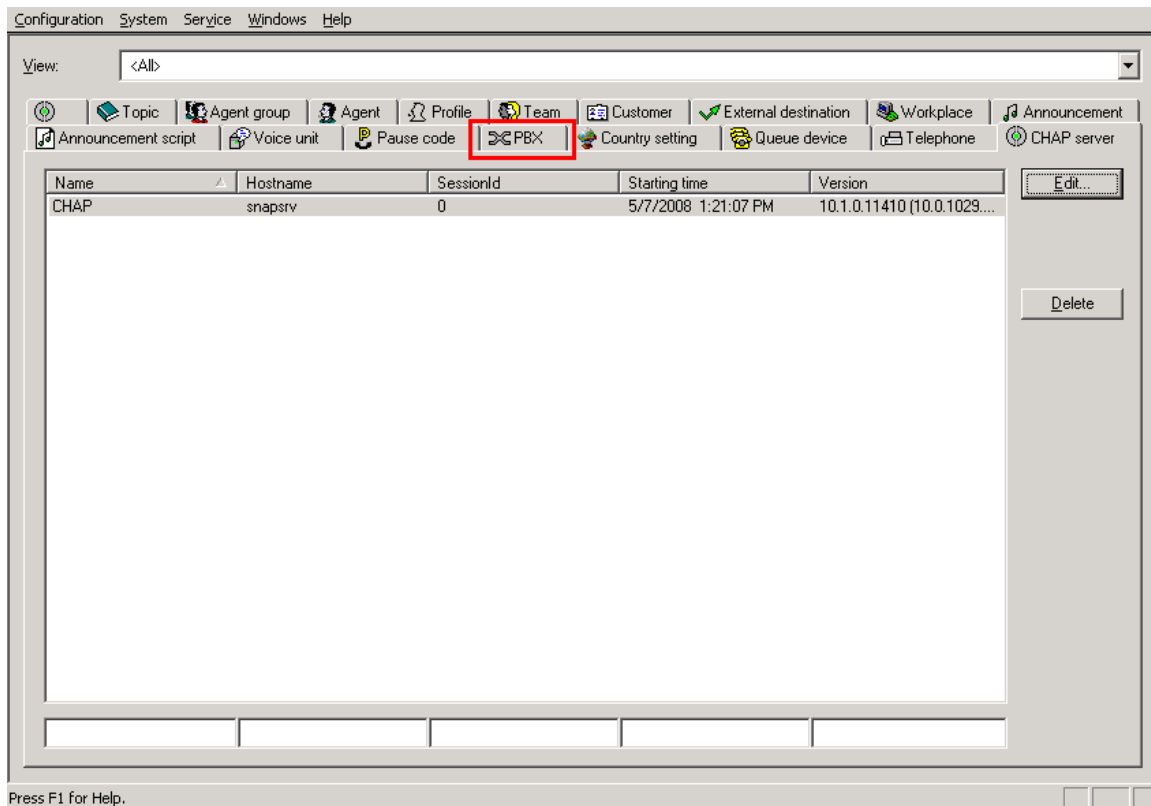
Click “OK”.



**Figure 120: CIE Complete CHAP Adapter Configuration**

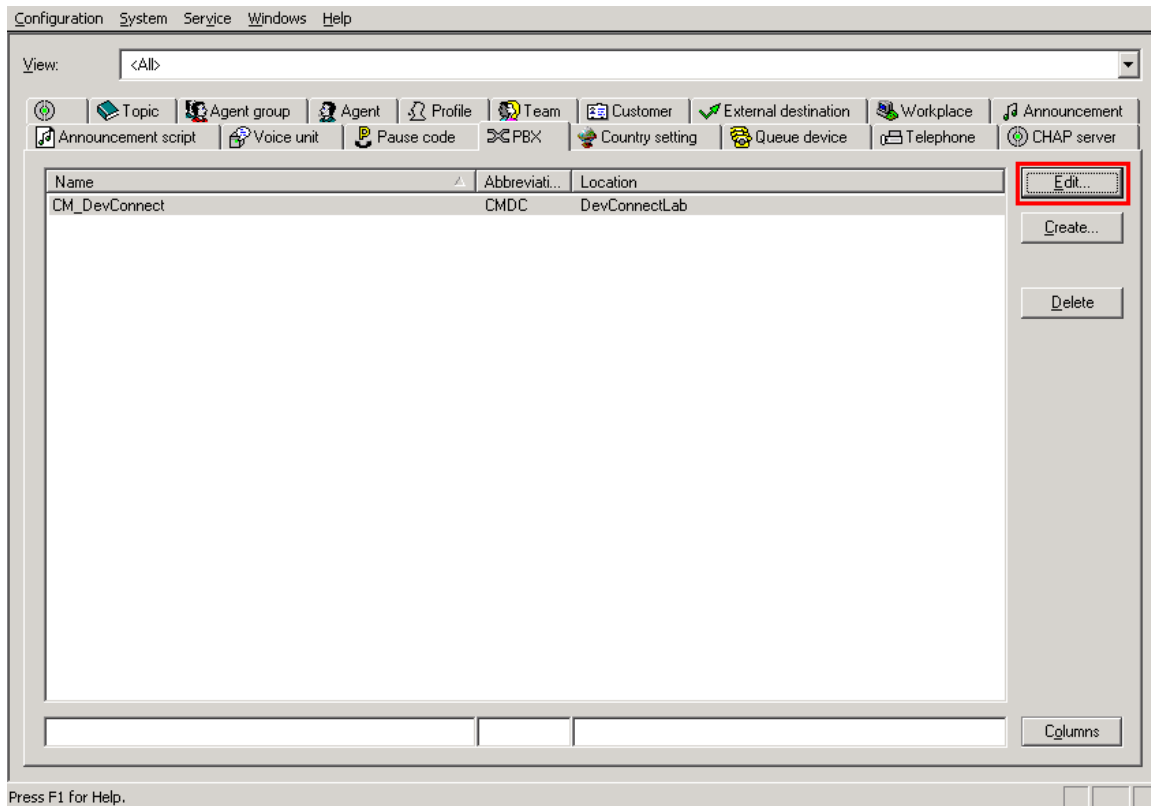
### 3.3.2.8 Configure PBXs

Click the “PBX” tab.



**Figure 121: CIE Configure PBXs**

Click “Edit”.



**Figure 122: CIE Configure PBX**

Configure the PBX parameters as shown in the following table, and click “OK”.

Parameter	Usage
Name	Enter a name to be assigned to the PBX. This name is also used by the TOM interface (see <b>Figure 146</b> ).
Abbreviation	Enter an abbreviation to be assigned to the PBX.
Location	Enter a name for the location of the PBX.
Color	Select a color from the drop down menu which is to be assigned to the PBX.
Type	Select “Communication Manager” from the drop-down list.
Version	Select “V5.0” from the drop-down list.
Username	Enter the user name which was assigned in <b>Figure 60</b> .
Password	Enter the password which was assigned in <b>Figure 60</b> .

**Table 16: Configuration of PBX Parameters**

**Figure 123: CIE Assign PBX Parameters**

### 3.3.2.9 Configure Tag List

From the “System” drop-down menu, select the “Tag list...” menu item.

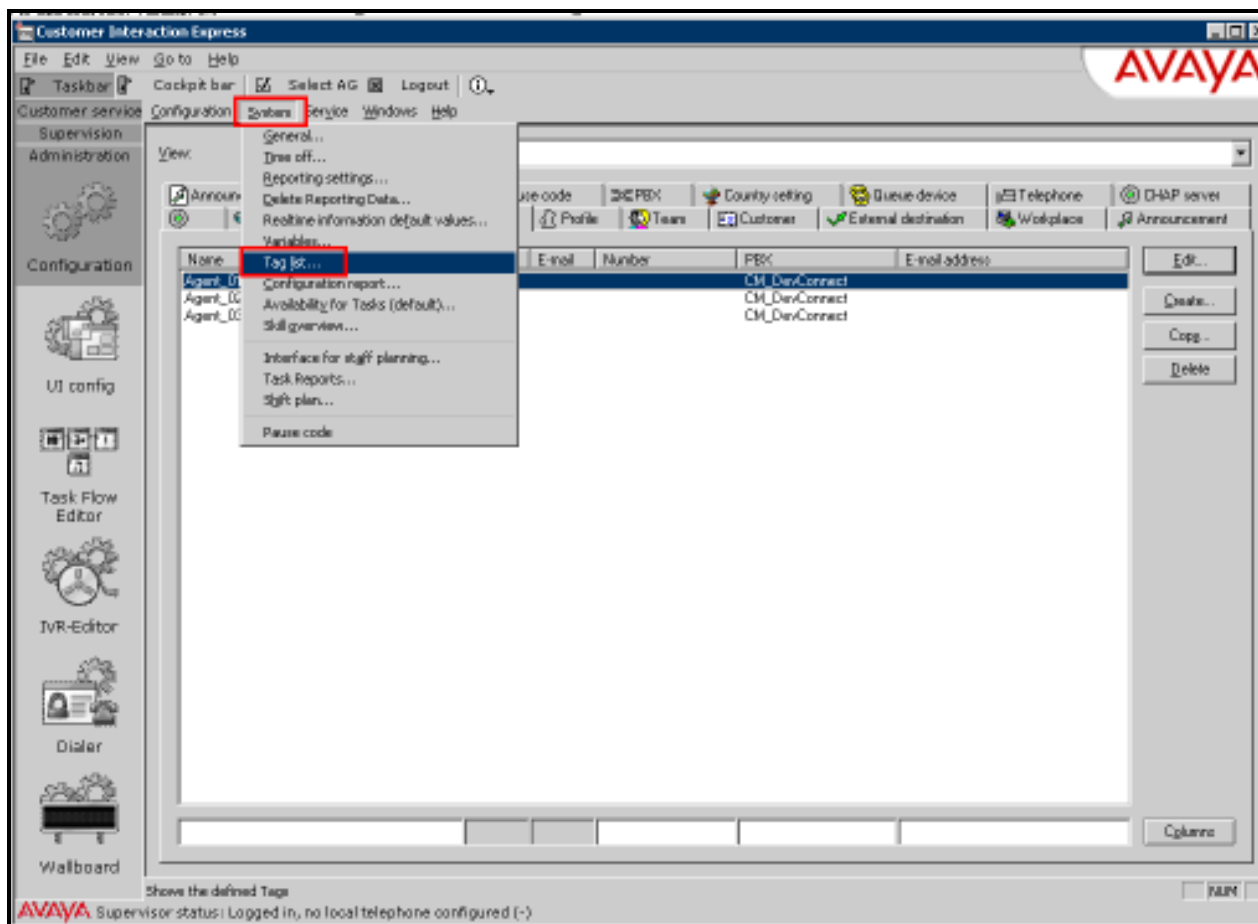
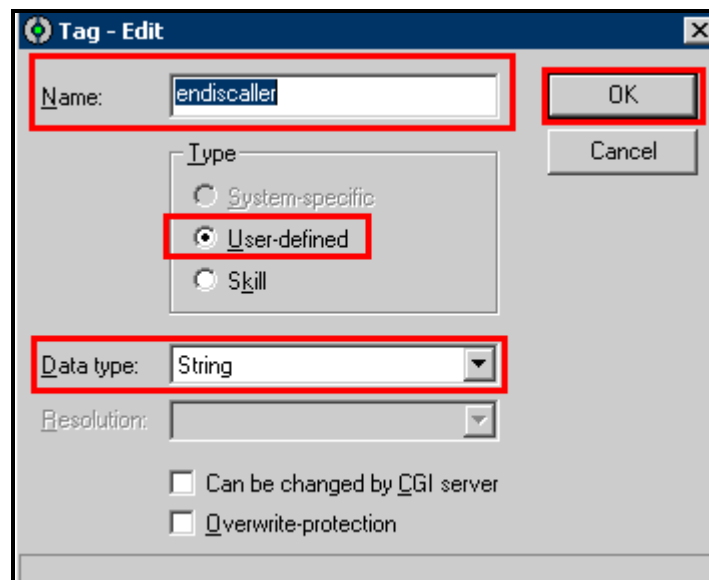


Figure 124: CIE Select Tag List

From the Defined Tags dialog, click “Add” to add each of the following tags: “endiscaller”, “endisgroup”. Each of these tags should have the values shown in the following table.

Parameter	Usage
Name	This value should be set to “endiscaller” for the first tag, and “endisgroup” for the second tag.
Type	Select the “User-defined” radio button.
Data type	Select “String” from the drop-down list.

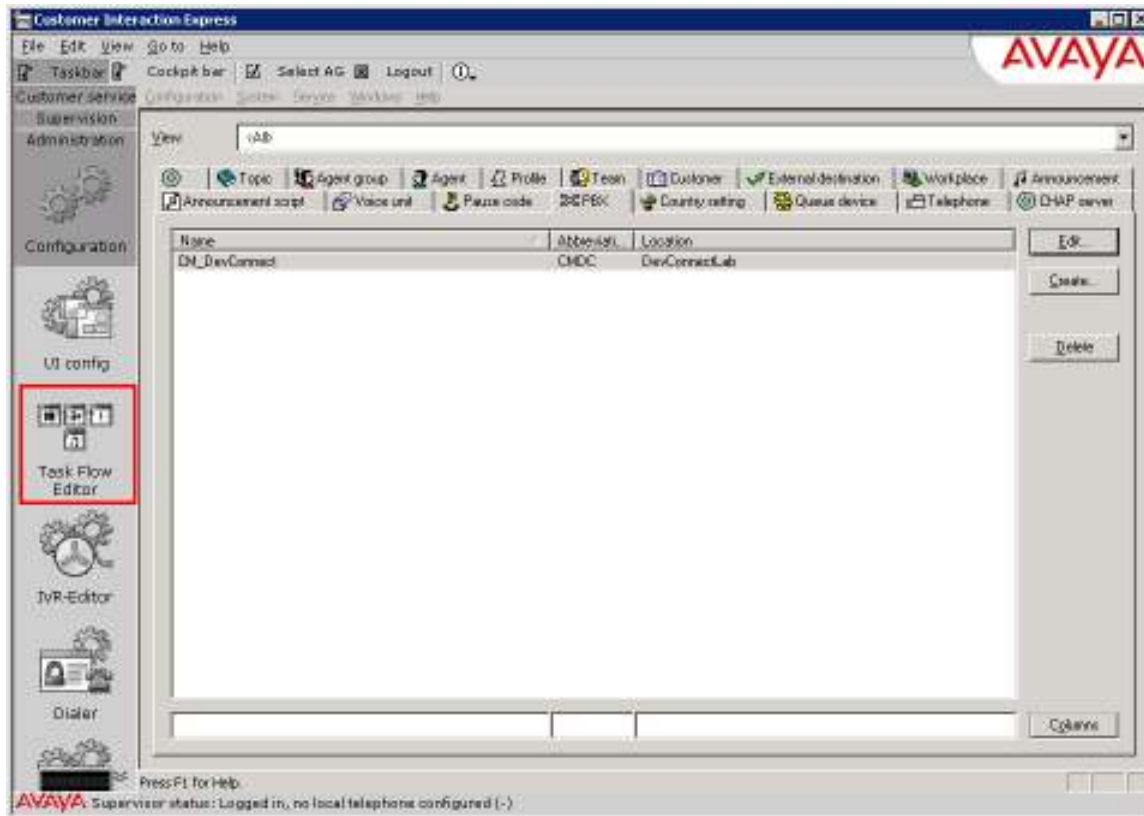
**Table 31: Tag Parameters**



**Figure 125: CIE Configure Tags**

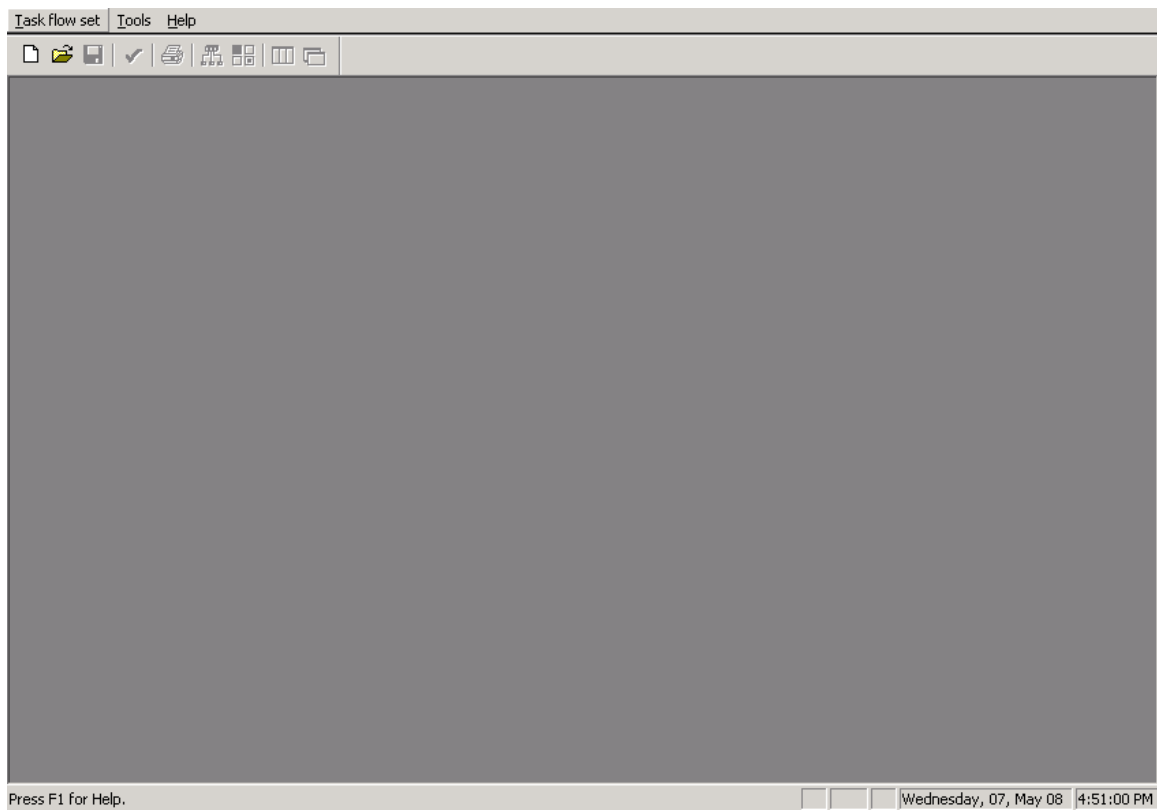
### 3.3.2.10 Configure Task Flow

Click the “Task Flow Editor” control in the left frame. Note the call flow configuration shown in this section is of a very rudimentary nature which serves only to deliver calls to agents which have registered for the corresponding topic. More elaborate call flow configurations are beyond the scope of these Application Notes.



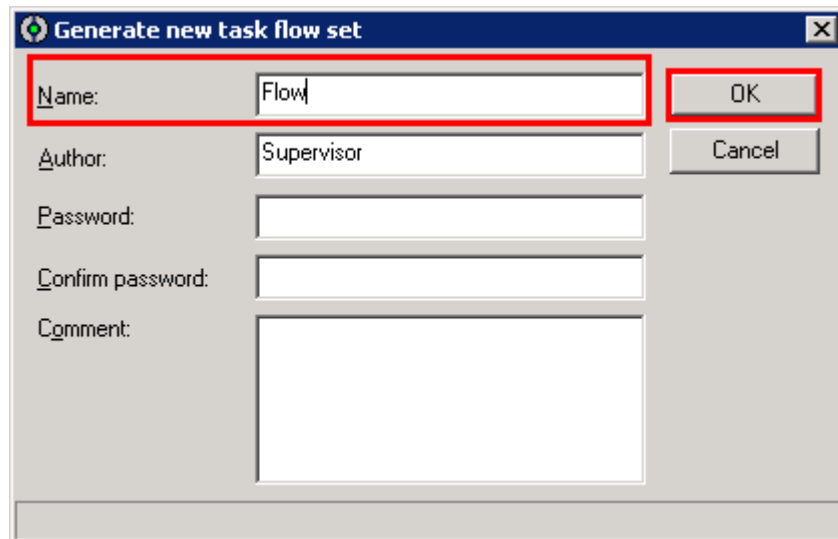
**Figure 126: CIE Select Task Flow Editor**

Click the right mouse button and select “Task flow set” -> “new”.



**Figure 127: CIE Create New Task Flow**

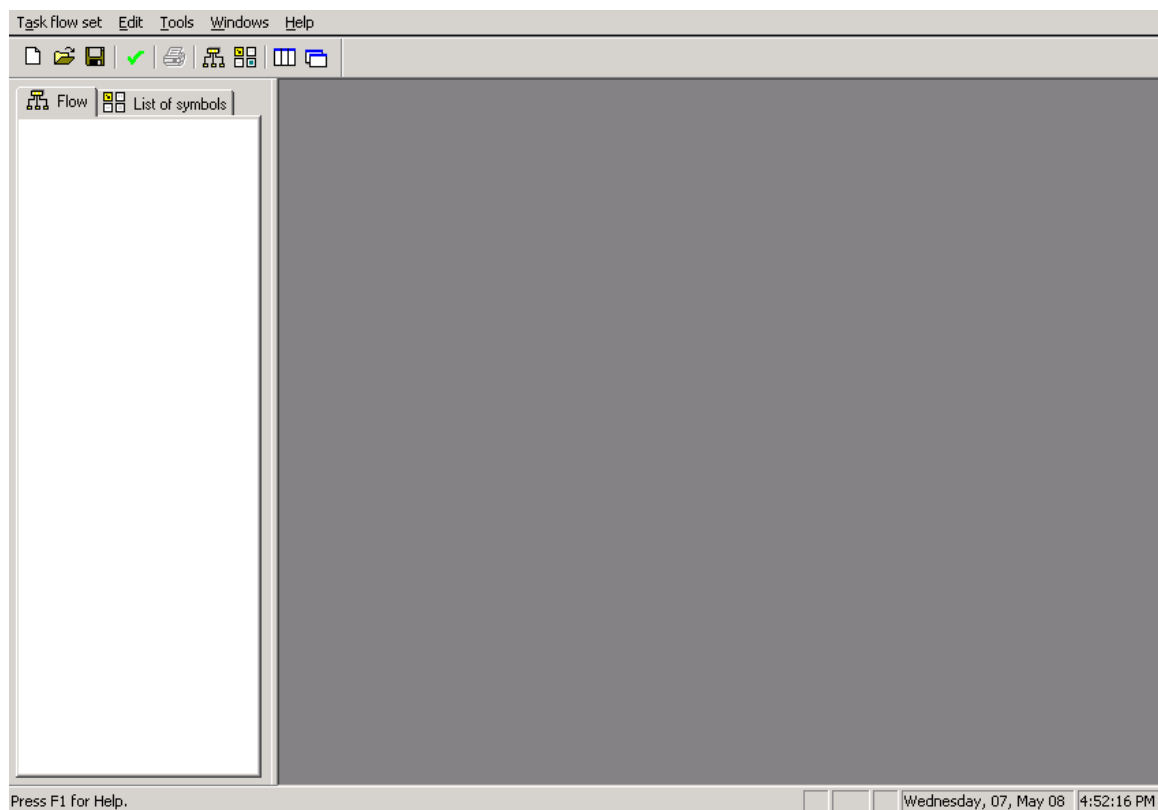
Enter the name to be assigned to the task flow set and click “OK”.



The image shows a Windows-style dialog box titled "Generate new task flow set". It contains several input fields: "Name:" with the text "Flow", "Author:" with the text "Supervisor", "Password:", "Confirm password:", and "Comment:". To the right of the "Name:" field, the "OK" button is highlighted with a red rectangular box. Below the "OK" button is a "Cancel" button. The dialog box has a standard Windows title bar with a close button (X) in the top right corner.

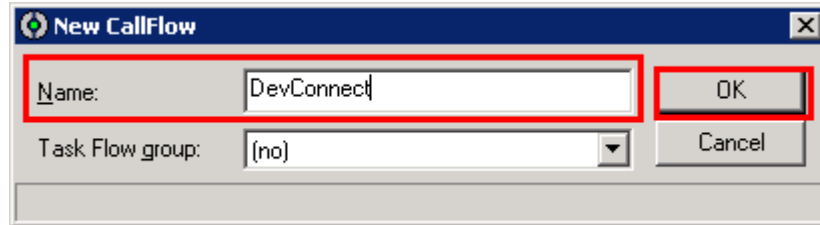
**Figure 128: CIE Assign Task Flow Parameters**

Place the cursor in the left frame, right-click the mouse, and click “New”.



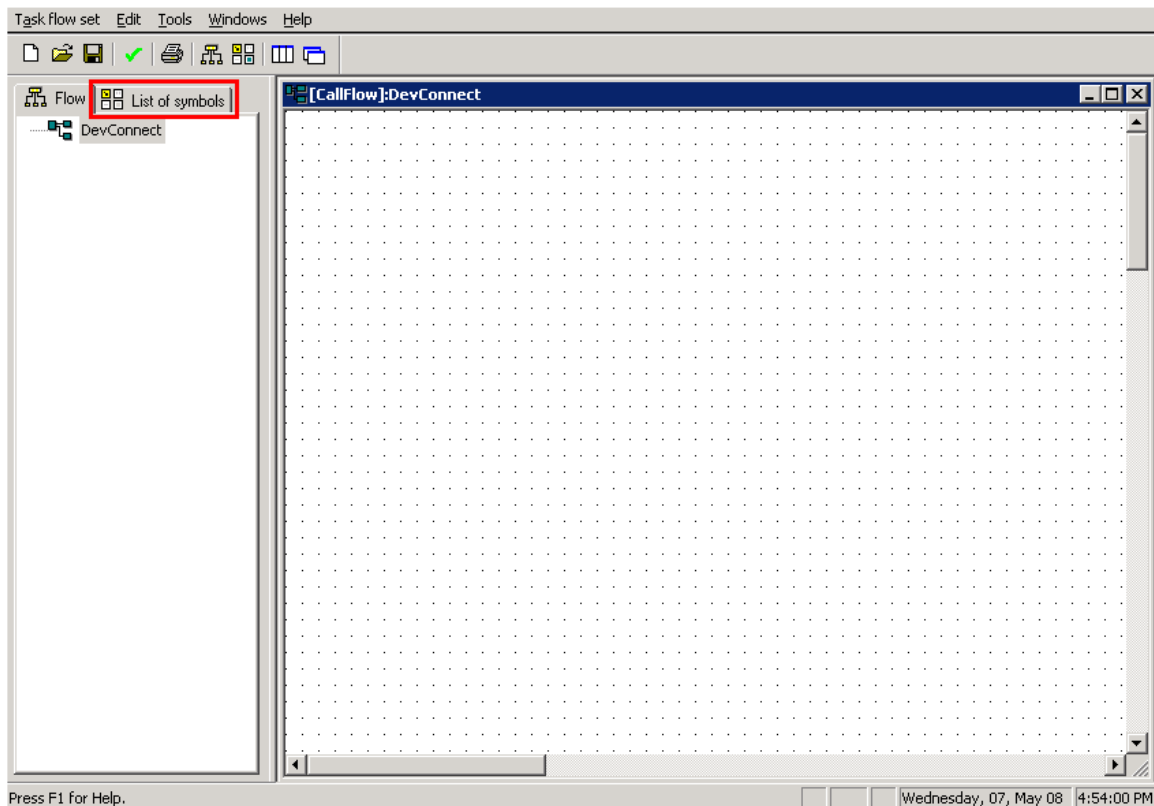
**Figure 129: CIE Create Task Flow Workspace**

Enter a descriptive “Name” to identify the call flow and click “OK”.



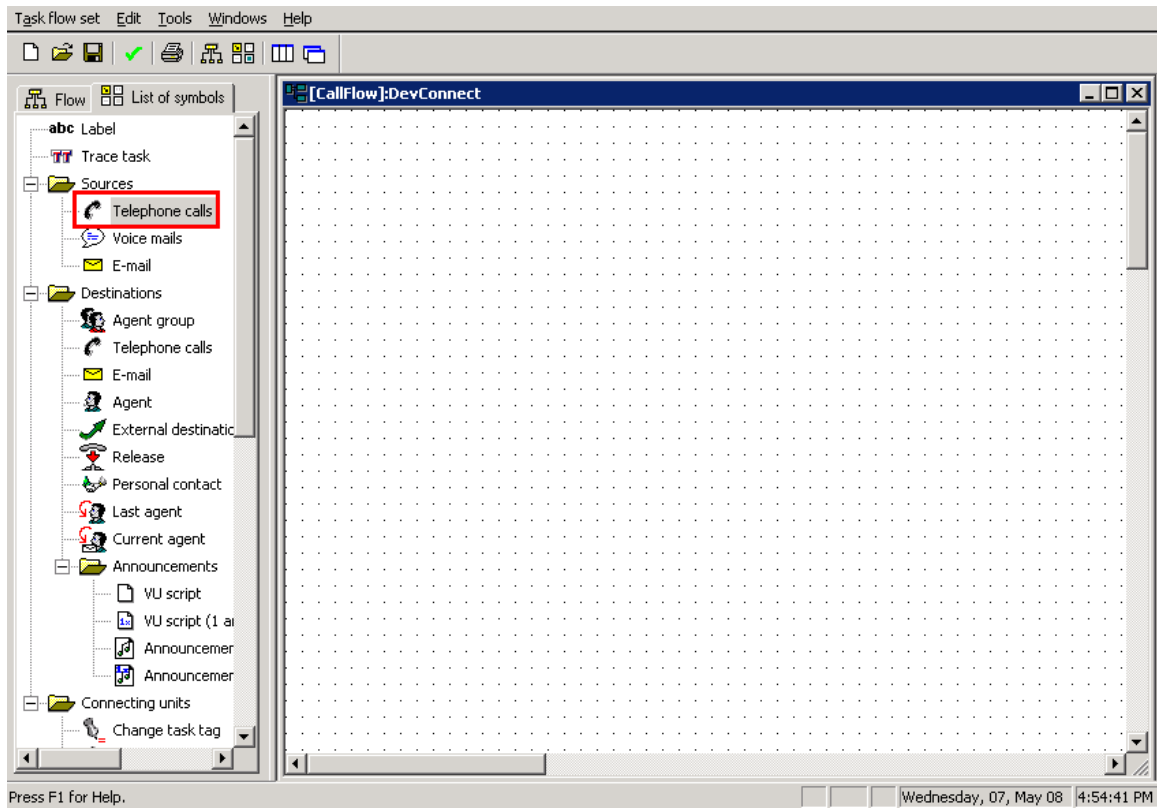
**Figure 130: CIE Assign Task Flow Name**

Click the “List of symbols” tab.



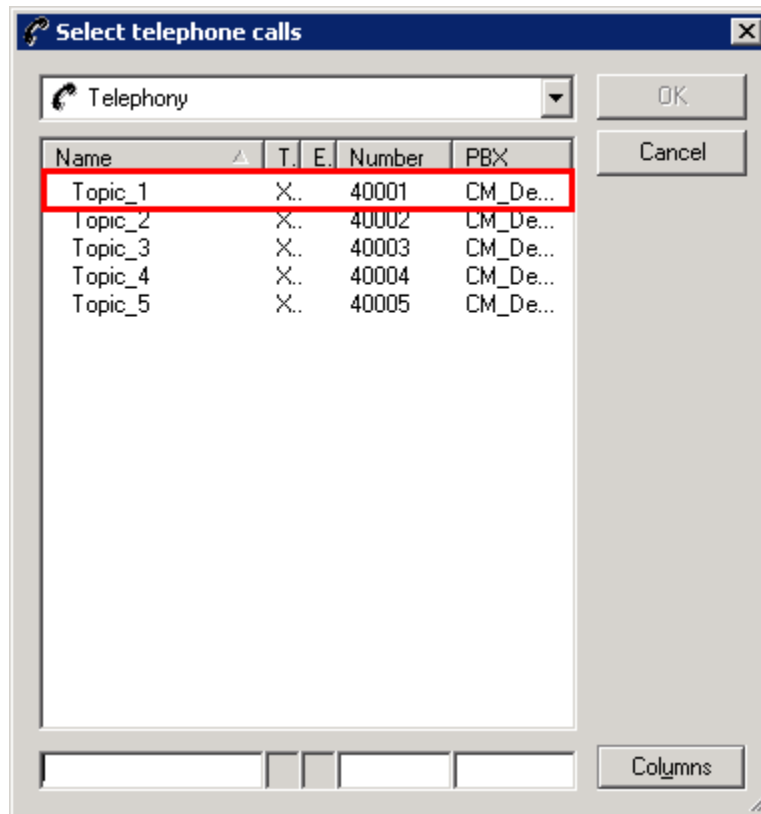
**Figure 131: CIE Select Task Flow Symbols**

Select “Telephone calls” Source control and drag it to the right pane.



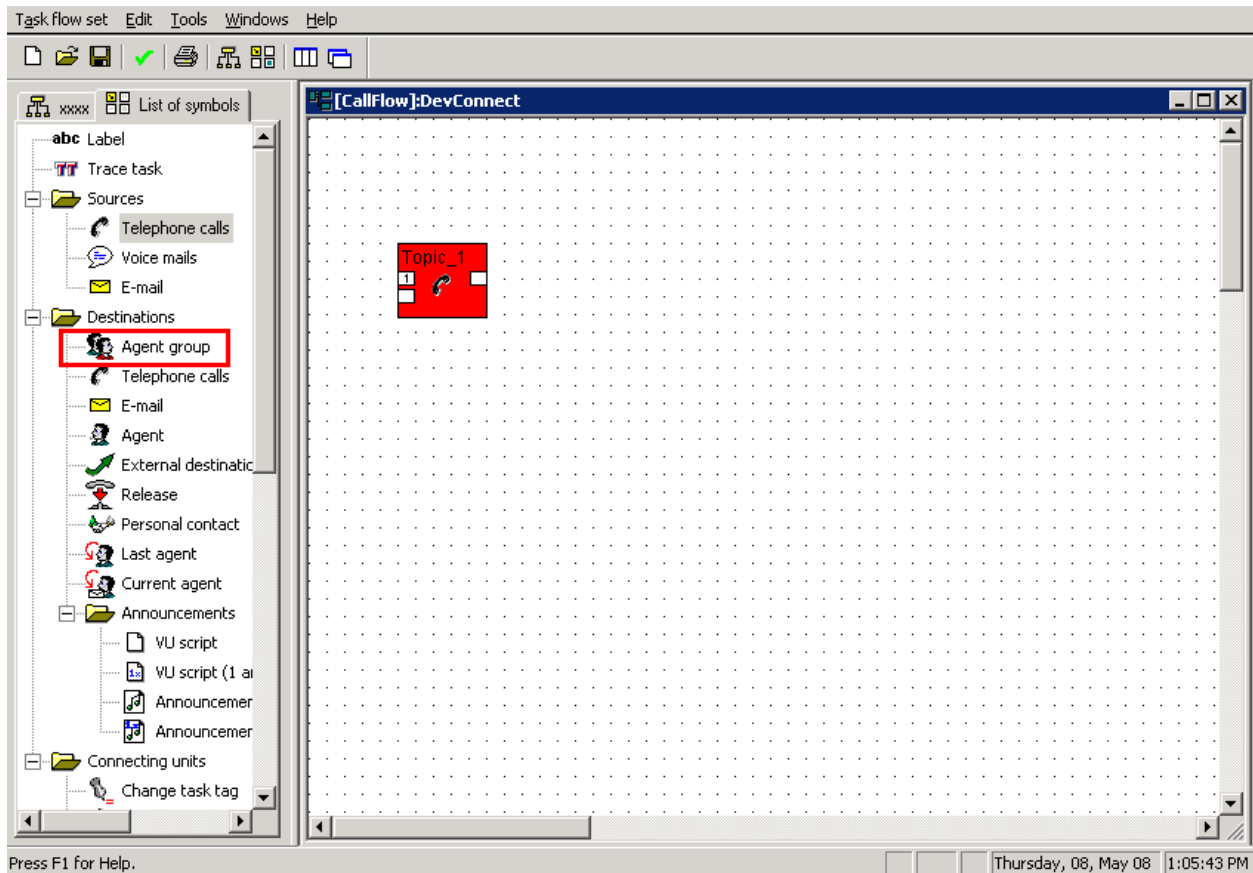
**Figure 132: CIE Select Telephone Call Symbol**

Select “Topic\_1” and click “OK”.



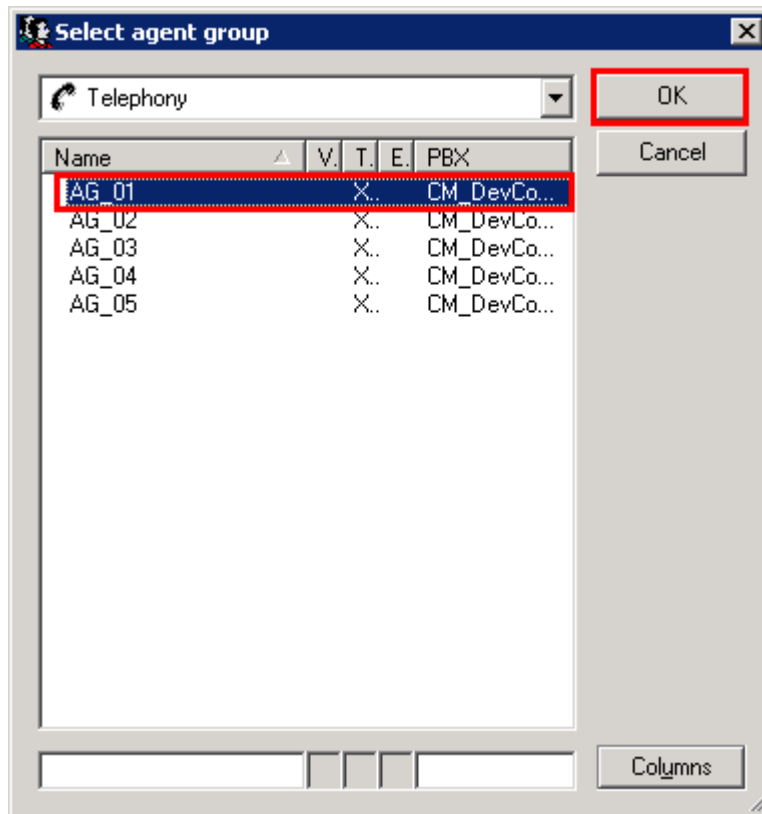
**Figure 133: CIE Select Task Flow Topic**

Drag the “Agent Group” symbol onto the workspace.



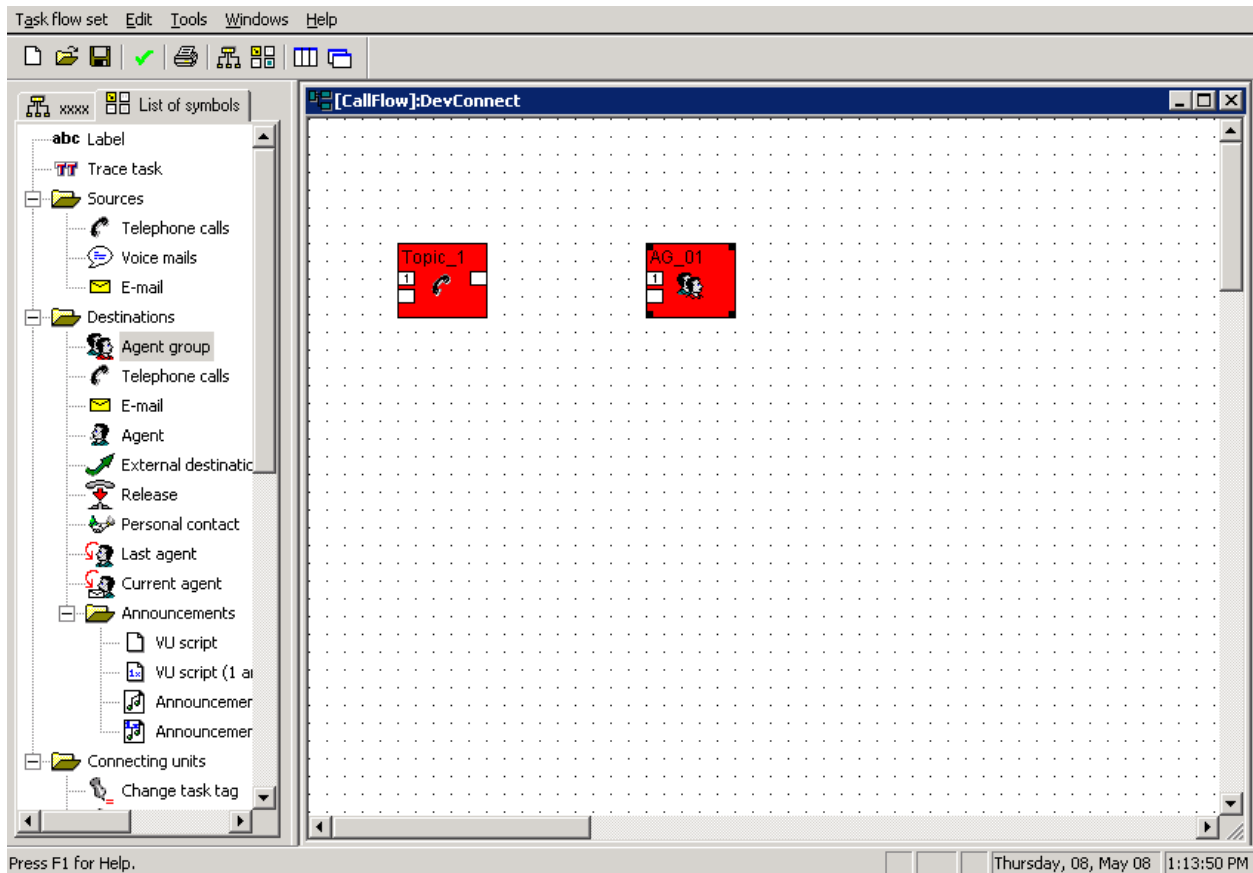
**Figure 134: CIE Drag Agent Group onto Task Flow Workspace**

Select an Agent Group to assign to the call, and click “OK”.



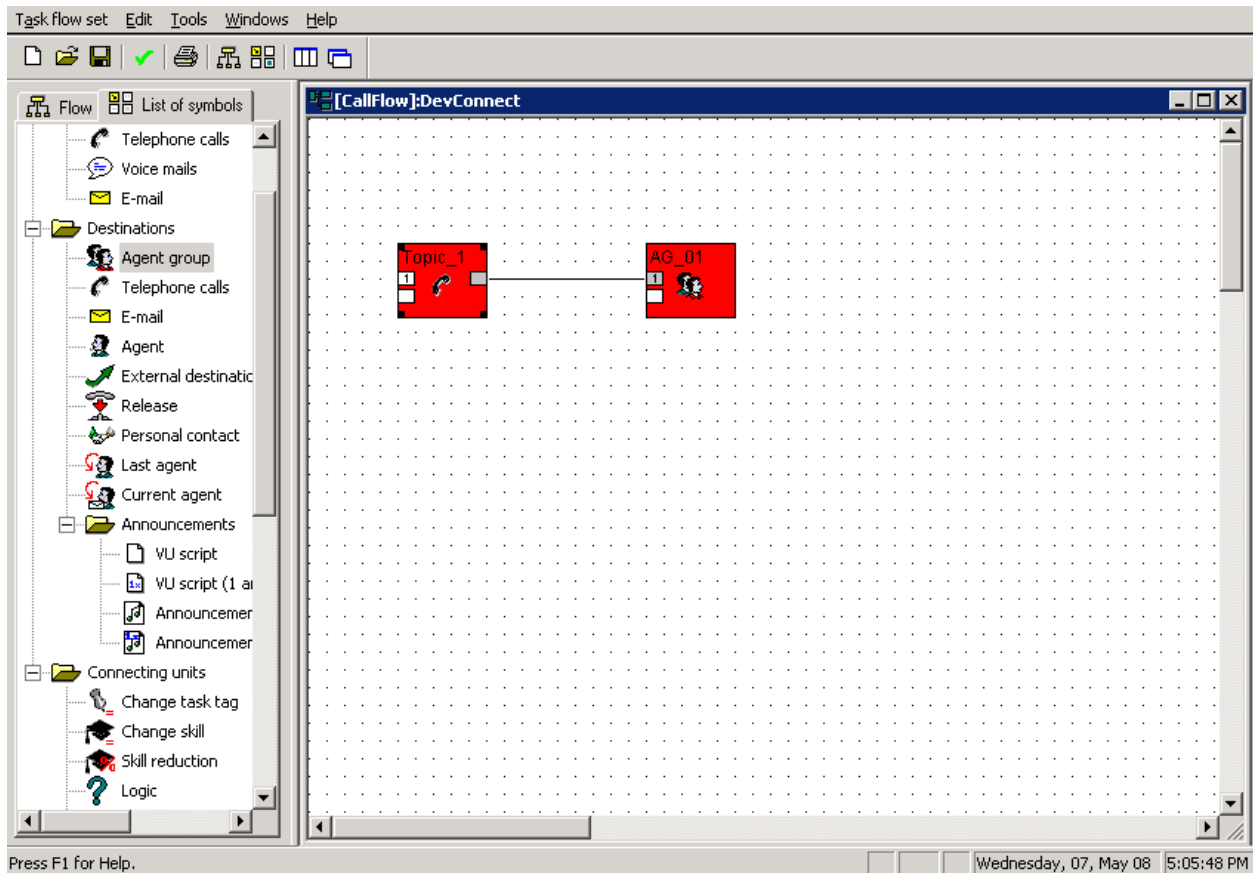
**Figure 135: CIE Assign Agent Group to Topic**

Use the cursor to connect the Topic to the Agent Group.



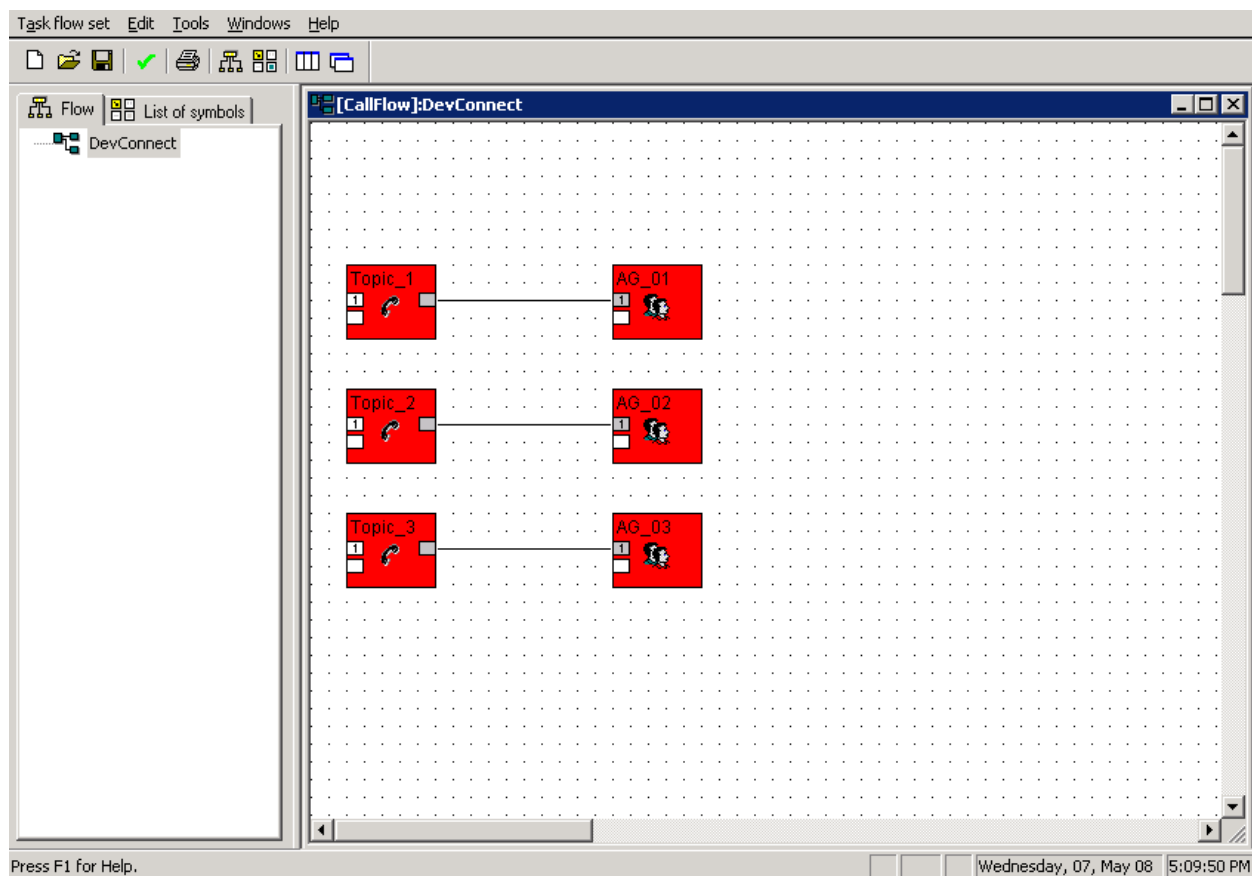
**Figure 136: CIE Topic and Agent Group Created**

Repeat this procedure for the remaining Topics.



**Figure 137: CIE Topic Connected to Agent Group**

After all of the Topics and Agent Groups have been configured, the CIE Server configuration is complete.



**Figure 138: CIE All Topics Connected to Agent Groups**

### 3.4. Configure Client Workstation

For the test configuration, the file “c:\Windows\System32\Drivers\etc\hosts” on the agent workstations was configured as shown below to contain the IP address of the CIE server and Telemanager*Pro* Server shown in **Figure 1**.

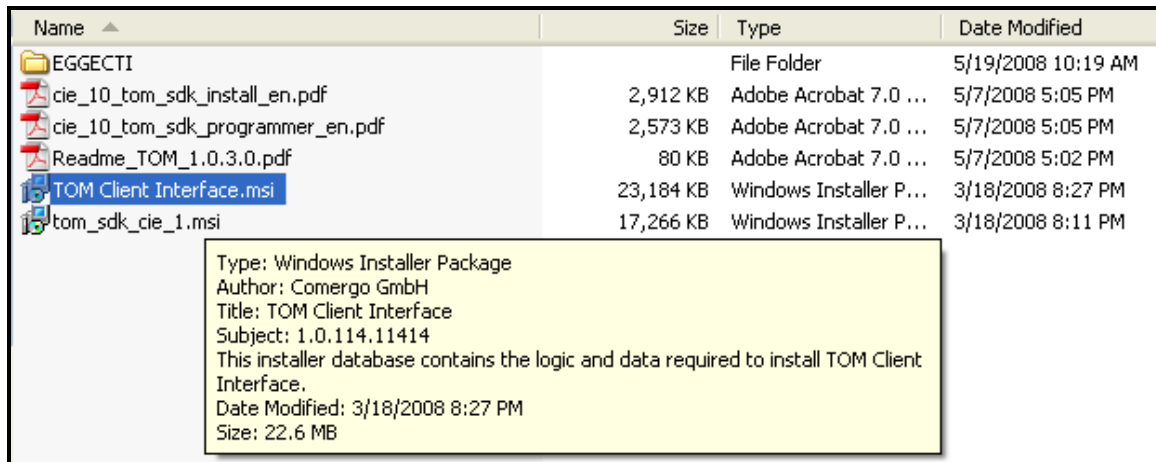
```
# Copyright (c) 1993-1999 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#       102.54.94.97       rhino.acme.com           # source server
#       38.25.63.10       x.acme.com               # x client host
127.0.0.1       localhost
192.168.200.51  avaya-cie
192.168.150.9   telemanager-srv
```

**Figure 139: Names Used by Agent Workstations**

### 3.4.1. Install and Configure Avaya TOM Client Interface

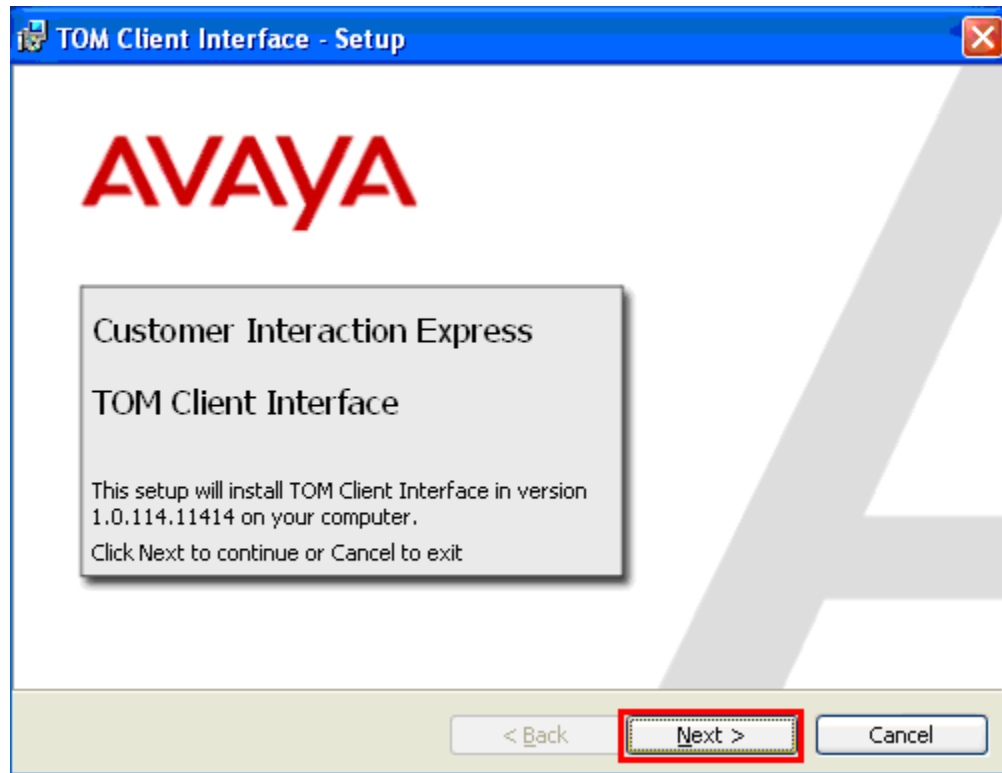
The Avaya TOM Client Interface serves as an interface to the CIE for application programs. The TOM Client Interface must be installed on each PC on which the Telemanager*Pro* client is to be used.

Double click on the “TOM Client Interface.msi” file which is included in the distribution media.



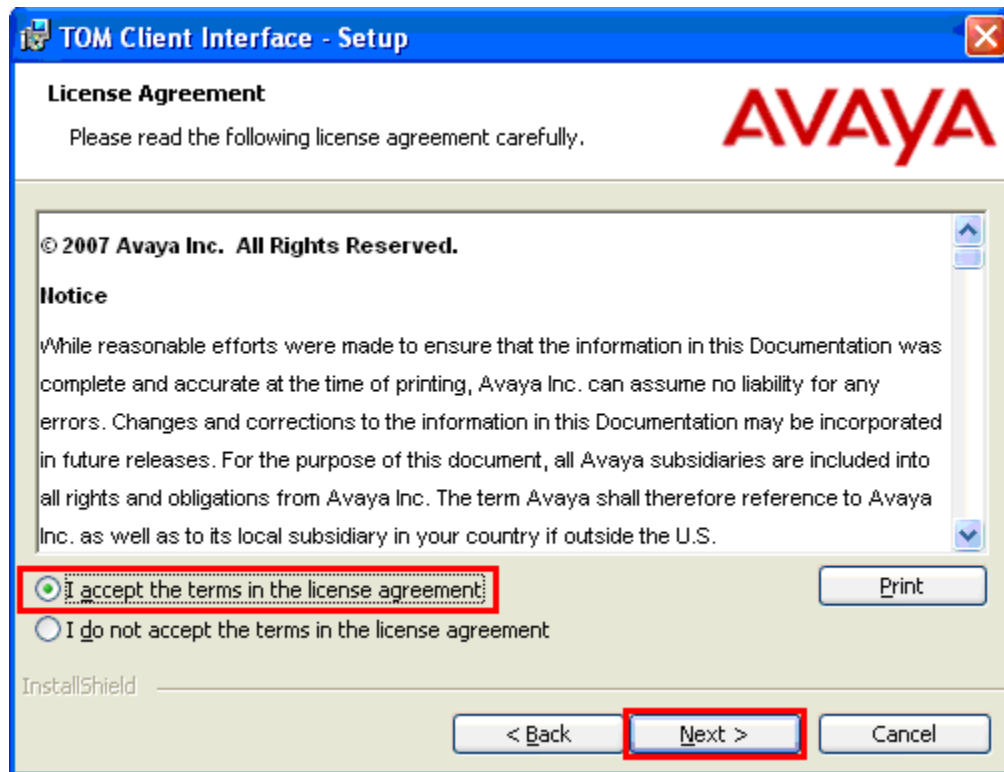
**Figure 140: TOM Installation Initiation**

When the TOM Client Interface welcome screen appears, click “Next”.



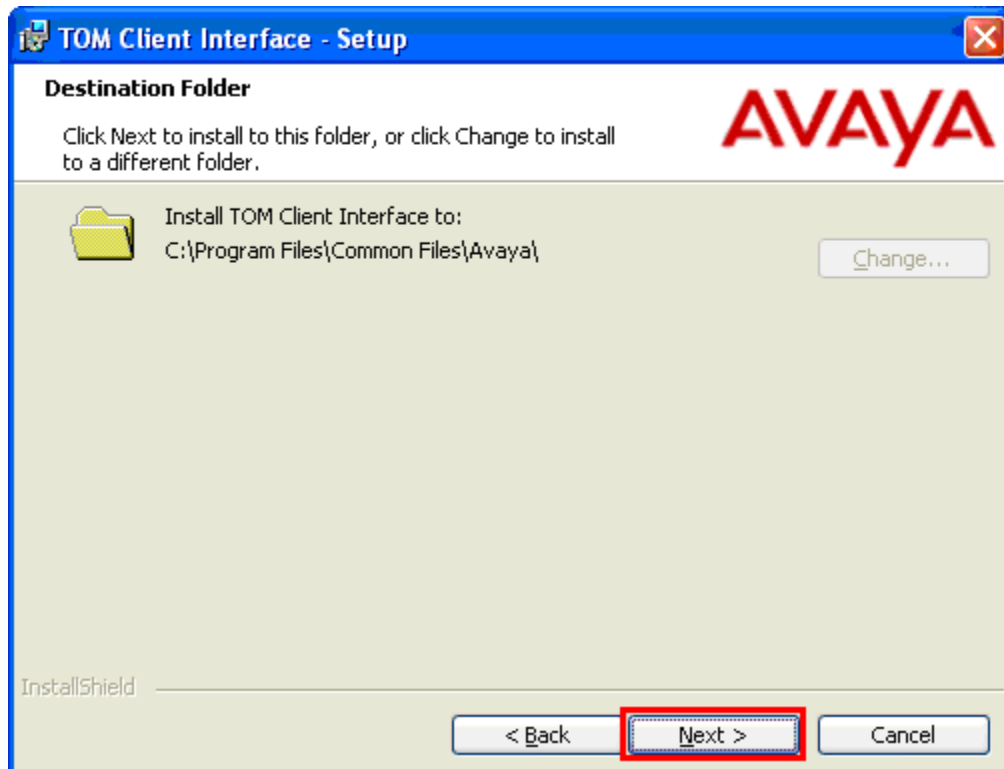
**Figure 141: TOM Installation Welcome Screen**

Read the terms of the License Agreement and select the acceptance radio button and click “Next” if the license terms are acceptable.



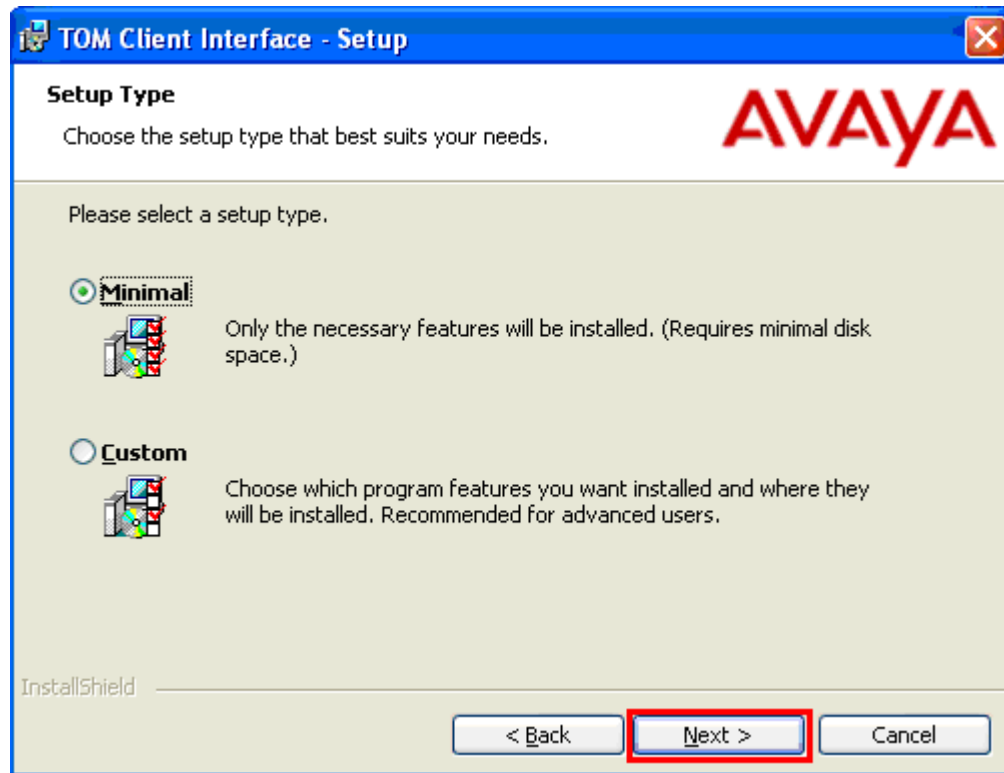
**Figure 142: TOM License Agreement Screen**

Click “Next” to accept the default installation folder.



**Figure 143: TOM Destination Folder Selection Screen**

Accept the default “Setup Type” of “Minimal” by clicking “Next”.



**Figure 144: TOM Setup Type Selection Screen**

Enter the name or IP address of the license server which was installed for CIE, and click “Next”.

**TOM Client Interface - Setup**

**WebLM Parameter**

Please enter the Avaya License Server

AVAYA

License Server: avaya-cie Port: 8080

InstallShield

< Back Next > Cancel

**Figure 145: TOM License Server Selection Screen**

Configure the TOM Client Interface General settings as shown in the following table and click “Next”.

Parameter	Usage
Hostname of CORBA Naming Service	Enter the name or IP address of the system on which the CIE server is installed
Hostname of Trace System Server	Enter the name or IP address of the system on which the CIE server is installed
Name of Default PABX	Enter the name which was assigned to the PBX (see <b>Figure 123</b> ).

**Table 32: TOM General Settings Parameters**

**TOM Client Interface - Setup**

**General Settings**  
Please enter the communication parameters.

AVAYA

Hostname of CORBA Naming Service: avaya-cie Port: 2809

Hostname of Trace System Server: avaya-cie Port: 10300

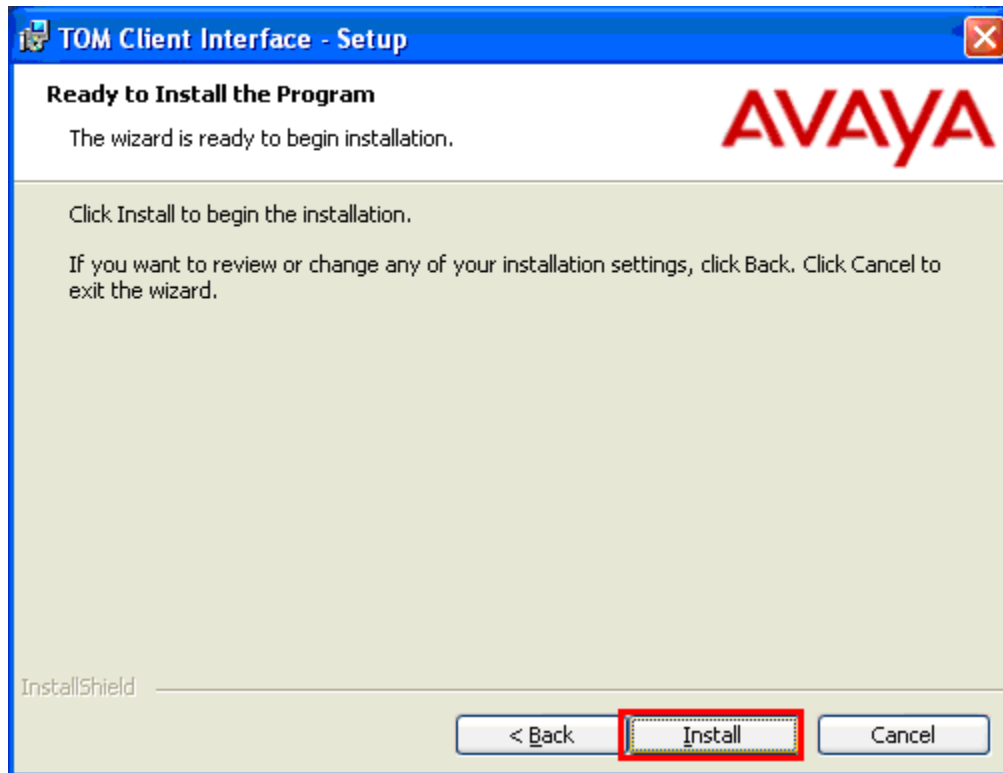
Name of Default PABX: CM\_DevConnect

InstallShield

< Back Next > Cancel

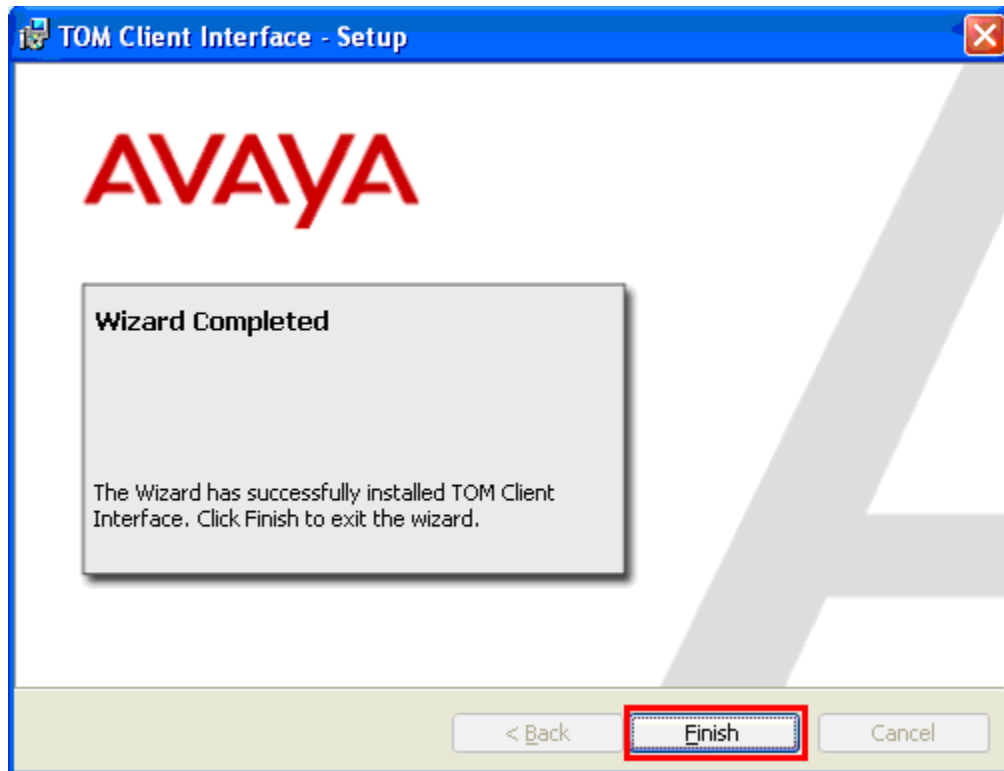
**Figure 146: TOM General Settings Screen**

Click “Install” on the next screen to begin the actual installation.



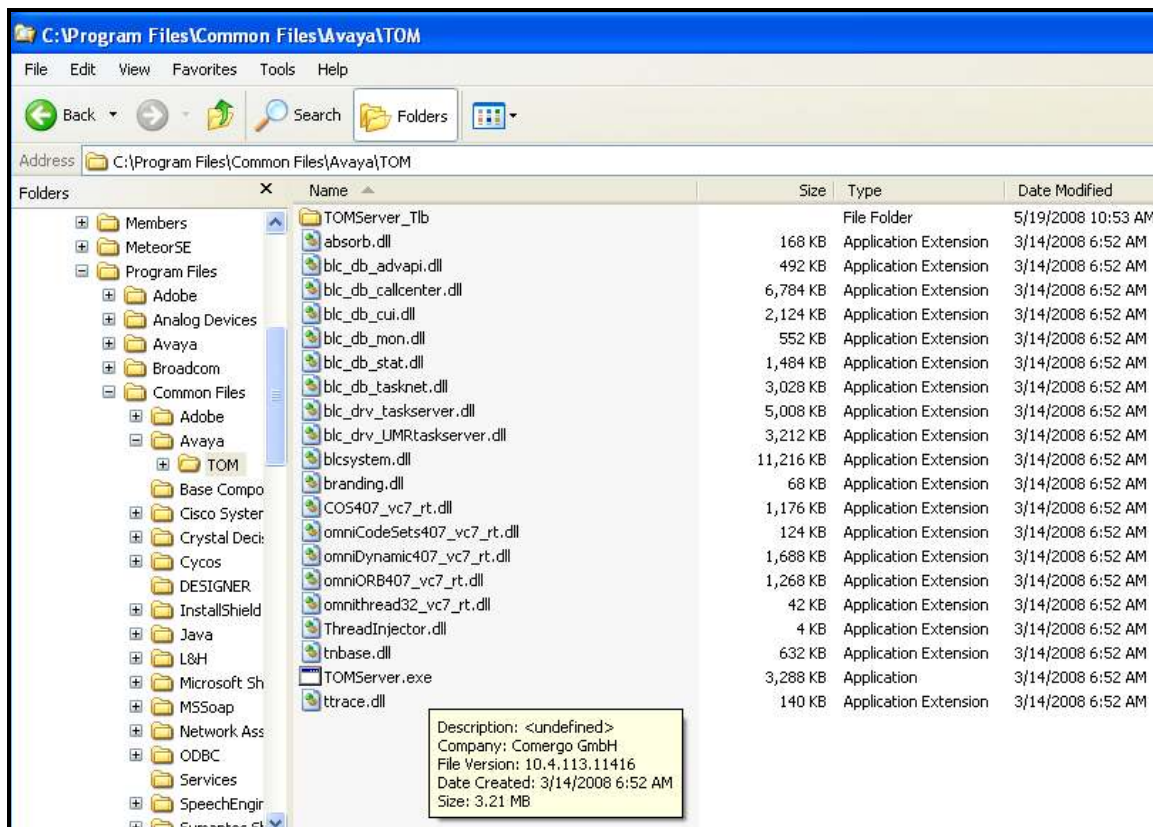
**Figure 147: TOM Install Confirmation Screen**

Click “Finish” on the final screen to complete the installation.



**Figure 148: TOM Install Completion Screen**

Upon completion of installation, the destination directory should contain the various TOM Client Interface Components, as shown below.



**Figure 149: TOM Installation Destination Directory**

## 3.4.2. EGGETI

### 3.4.2.1 Installing EGGETI

The CTI-Interface of the Customer-Contact-Suite Telemanager<sup>PRO</sup> is called EGGETI and can be installed locally or on a network share. The default path is “c:\Program Files\Common Files\EGGENET”. The EGGETI registers itself and needs Administrator-Access when executed for the first time. The application is started by executing the “EGGENET.exe” file.

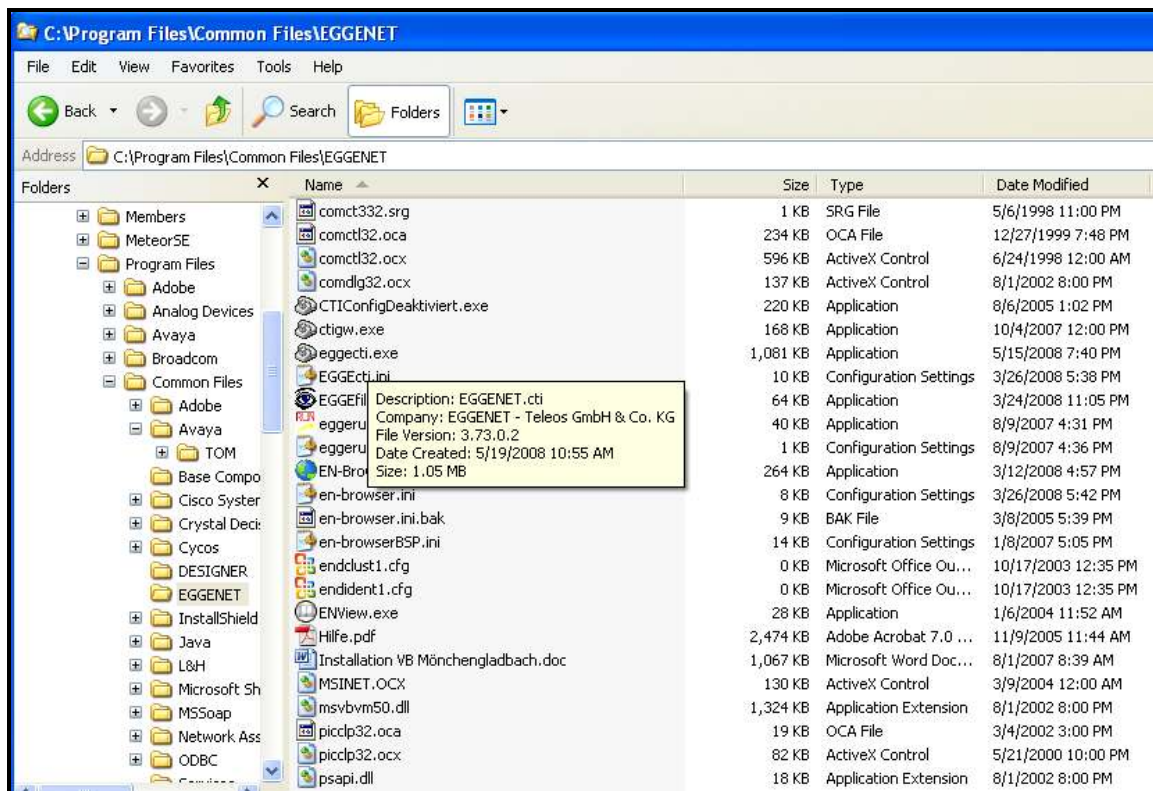


Figure 150: Telemanager<sup>Pro</sup> Component Directory

### 3.4.2.2 Configure EGGETI

Edit the EGGEcti.ini configuration file with an ASCII editor (i.e., Notepad). Leave all values with default settings, except for those values shown in the following table:

Parameter	Usage
CTIAgentID	Enter the user login ID to be assigned to the agent. If this is left blank, the first value entered at the first agent login will be used subsequently.
CTIAgentPWD	Enter the password to be assigned to the agent. If this is left blank, the first value entered at the first agent login will be used subsequently.
CTIServerLogin	Enter “Blc;” to activate the connection to CIE.
CTILinePrefix	Enter “0” to indicate the Calling Party Number associated with incoming calls should be used.
CTINumberLengthIntern	Enter the length of the extensions assigned to CIE.
CTISetFreeAfterCall	Enter “1” to make agents available after call completion.

**Table 33: Eggecti Configuration Parameters**

```
CTIAgentID=  
CTIAgentPWD=A  
CTIServerLogin=Blc;  
CTILinePrefix=0  
CTINumberLengthIntern=5  
CTISetFreeAfterCall=1
```

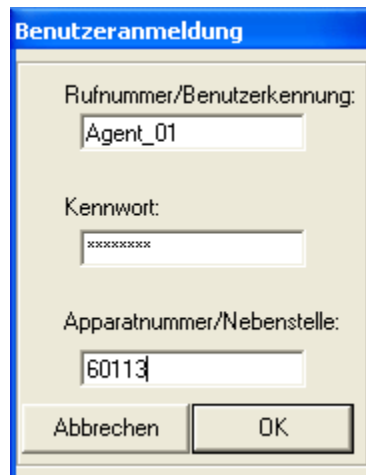
**Figure 151: Eggecti Configuration File**

### 3.4.2.3 Agent Login

The agent login tool is started by executing “eggecti.exe” from the EGGNET directory. The first time the Telemanager*PRO* application is run, it prompts the agent for login information with the dialog shown below. The agent should enter values as described in the following table (note that the English meanings of German words are shown on parentheses).

Parameter	Usage
Rufnummer/Benutzerkennung (phone number/user ID)	Enter one of the agent IDs, which was assigned in <b>Figure 98</b> .
Kennwort (password)	Enter the corresponding password which was assigned in <b>Figure 98</b> .
Apparatnummer/Nebenstelle (device number/extension)	Enter the extension of the telephone used by the agent. This extension must be contained in the list which was assigned in <b>Figure 106</b> .

**Table 34: Eggecti Configuration Parameters**

The image shows a Windows-style dialog box titled "Benutzeranmeldung" (User Login) in a blue header bar. The dialog has a light beige background. It contains three text input fields. The first field is labeled "Rufnummer/Benutzerkennung:" and contains the text "Agent\_01". The second field is labeled "Kennwort:" and contains a series of ten asterisks "xxxxxxxxxx". The third field is labeled "Apparatnummer/Nebenstelle:" and contains the text "60113". At the bottom of the dialog, there are two buttons: "Abbrechen" (Cancel) on the left and "OK" on the right.

**Figure 152: Agent Login Dialog Screen**

## 4. Interoperability Compliance Testing

### 4.1. General Test Approach

All tests performed were of a functional nature. No performance or load testing was performed. The following tests were performed during compliance testing:

- Verify agent login/logout using the agent call control, which is illustrated below.



**Figure 153: Agent Login Dialog Screen**

- Verify agent topic registration/unregistration.
- Verify Onhook/offhook workstation status is updated.
- Verify agent After Call Work status changes are signaled correctly to CIE.
- Verify agent pause status changes are signaled correctly to CIE.
- Verify that incoming calls are delivered to agents which have registered for the corresponding topic.
- Verify that the workstation signals incoming calls.
- Verify that the correct customer record is presented to the agent for incoming calls.
- Verify that calls are queued if no agent is available and are delivered to an agent who logs on.
- Verify that calls can be accepted by the handset, the headset, or the application.
- Verify that calls can be terminated by the handset, the headset, or the application.
- Verify that the client can initiate and terminate After Call Work status.
- Verify that the client can transfer or blind transfer a call to another agent or other telephone which is not used by an agent.
- Verify that the agent can retrieve a call when the transferred-to party does not answer.
- Verify that the client can alternate between two calls.
- Verify the ability for the agent to make an external call.
- Verify the ability for the agent to make an external call via the Lotus Notes directory.

### 4.2. Test Results

All tests were performed correctly.

## 5. Verification Steps

The correct operation of the various system components can be verified via the following steps:

- Use the Avaya Communication Manager “status trunk” command to verify that the PSTN, the CIE Topics, and CIE Queue trunks are all “in-service”.
- Verify that local telephones can call each other.
- Verify that external telephones can call/be called by local telephones.
- Verify that the Avaya AES administration tool can be used to make a call between two local stations.
- Verify that external telephones can call extensions assigned to CIE topics, and that agents which have registered for that topic are signaled.

## 6. Conclusion

These Application Notes contain instructions for configuring Avaya Communication Manager, Avaya Application Enablement Services, Avaya Customer Interaction Express, and EGGENET Telemanager*PRO* to function together to increase call center agent productivity. A list of instructions is provided to enable the user to verify that the various components have been correctly configured.

## 7. Additional References

This section references documentation relevant to these Application Notes. The Avaya product documentation is available at <http://support.avaya.com>.

- [1] *Administrator Guide for Avaya Communication Manager*, January 2008, Issue 4.0, Document Number 03-300509.
- [2] *Feature Description and Implementation for Avaya Communication Manager*, January 2008, Issue 6, Document Number 555-245-205.
- [3] *User Manual Customer Interaction Express 1.0 Configuration*, Issue 1.5
- [4] *User Manual Customer Interaction Express 1.0 System Administrator*, Issue 1.5

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