

Cisco 6608 - PBX Interoperability: Siemens Hicom 300 E CS Rel6.6 PBX with Cisco CallManager using T1 QSIG Protocol as an MGCP Gateway

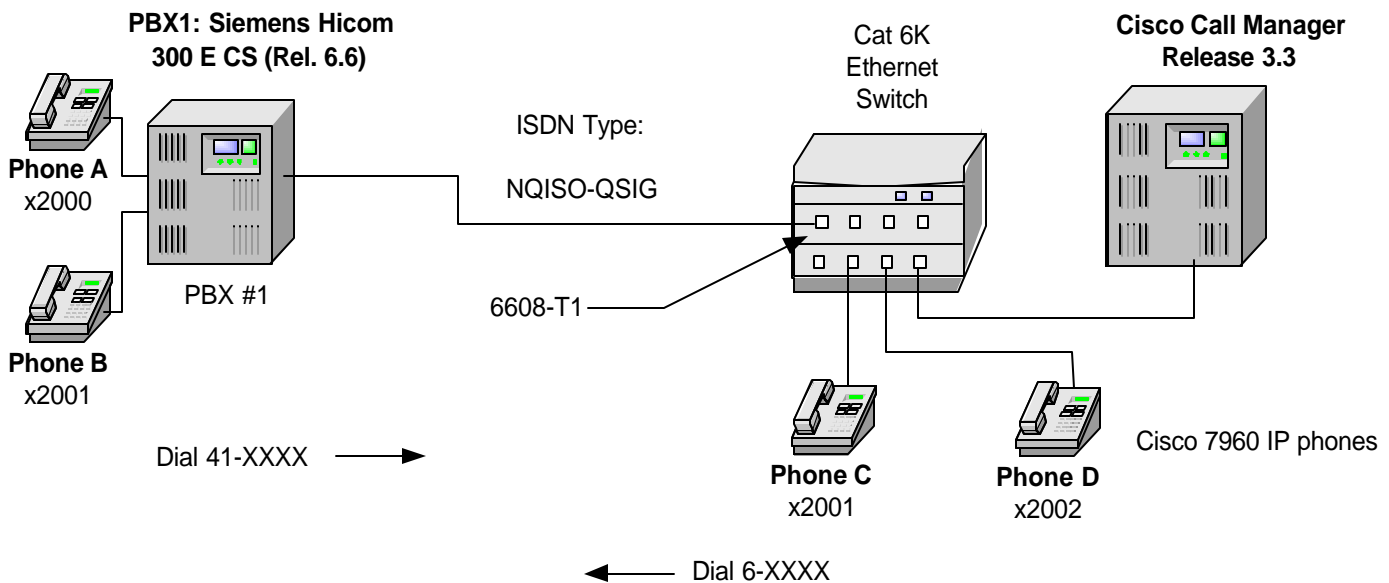
Introduction

This is an application note for connectivity of the Siemens Hicom 300 E CS Release 6.6 PBX with Cisco CallManager using Cisco 6608-T1 QSIG as an MGCP Gateway. Connectivity is achieved by using the PRI ISO QSIG T1 protocol type on the MGCP gateway and NQISO switch type on the Siemens PBX

Network Topology

As shown in the diagram above, a Siemens Hicom 300 E CS PBX is connected via an ISDN T1 PRI QSIG link to a Cisco 6608-T1 Gateway,

Basic Call Setup End-to-End Configuration



which in turn, is connected to an Ethernet switch. Interoperability testing involves Layers 1, 2 and 3 on the ISDN PRI QSIG link between a Cisco 6608-T1 and the PBX.



Layer 1 (Physical Layer)

The Siemens PBX configuration screen for the T1 trunk interface is reached with the command:

```
<cha-bssu
```

Layers 2 & 3 (Q.921 and Q.931)

Layer 2 and 3 packet exchanges are monitored using an Acacia Clarinet protocol analyzer, bridged across the PRI link in high impedance mode.

Layer 2 Q.921 packets are monitored to ensure that each PBX/6608-T1 software configuration properly exchanges SABME/UA packets to initialize the ISDN link, and then RR packets are exchanged every 30 seconds.

Layer 3 Q.931 packets are monitored to ensure that the appropriate call setup/teardown packets are exchanged for each configuration, and that the SETUP packets contain the mandatory Information Elements with the necessary details, as well as optional IEs such as Calling Name and Number.

Telephone calls are made end-to-end in both directions through the Cisco 6608-T1 Gateway, and a check is made to ensure that there is an audio path in both directions for each call.

User/Network Settings

The Cisco 6608-T1 Gateway with the ISDN protocol type **PRI ISO QSIG T1** set supports both protocol sides by selecting “Network/User” in the Protocol Side field when configuring the Gateway via Cisco CallManager.

The “network/user” choice for the Siemens Hicom 300 E CS PBX is made by deactivating the D- and B- channels (<**dea-dssu**) and the DS1 board (<**dea-bssu**) consecutively. A change command is then issued to the Board Configuration Switching Unit (BCSU) to get to the “network/user” prompt (<**cha-bcsu**). The DS1 board is then activated (<**act-bssu**), then the D- and B-channels are reactivated (<**act-dssu**), after the settings are changed.

Key features supported

- Calling Name Identification Presentation
- Calling Number Identification Presentation
- Calling Number Identification Restriction
- Connected Name Identification Presentation
- Connected Number Identification Presentation
- Honor Calling/Connected Name Identification Restriction
- Honor Calling/Connected Number Identification Restriction

Limitations

Cisco CallManager 3.3 release does not support the following:

- Sending Alerting Name Identification
- Sending Busy Name Identification
- Sending Calling/Connected Name Identification Restriction
- Sending Connected Number Identification Restriction



- Updating Connected Name and Number for Call Transfers
- Updating Connected Name for Call Forwarding

System Components

Hardware Requirements

- Cisco Catalyst 6000 switch with Cisco 6608-T1 Gateway
- Siemens Hicom 300 E CS PBX, TMDN or TMDN 64

Software Requirements

- Cisco IOS Software Release 6.1(4)
- PBX Software Release 6.6 with CorNetNQ package
- Cisco CallManager Release 3.3

Configuration

Configuring the Siemens Hicom 300 E CS PBX

Configure in the following sequence:

- Add the new access code to Dialing Plans
- Add the new trunk board using BCSU
- Configure Class of Trunk using COT
- Configure Class of Parameter for device handler using COP
- Add the new trunk group access code using TGACC
- Add the channels using TCSU
- Configure Trunk Least Cost Routing using LROUT
- Configure LCR Out-dial Rules using LODR

Adding the New Access Code to the Dial Plan (DPLN)

```
<dis-dpln;
```

```
TYPE = dgts
```

```
DGTS = ;
```

```
DIS-DPLN:DGTS,;
```

```
H500: AMO DPLN STARTED
```

| DIGIT INTERPRETATION

VALID FOR DIAL PLAN 0

|



```

-----
|          | CALL PROGRESS STATE | DIGIT ANALYSIS|          |          |
| DIRECTORY NUMBER|          1 11111 1111222|    RESULT    |RSVD | ROUTE|
|          |12345 67890 12345 6789012| (SKIP DIGIT) |          |          |
-----

```

```

| 0          | .....* ..... | GENANS          |          |          |
| 1          | .*...* .*...* **... | CO              |          |          |
| 2000 - 2002 | .**** *...* **...* | STN             |          |          |
| 2003 - 2024 | .**** *...* **...* | STN             | R        |          |
| 2025 - 2026 | .**** *...* **...* | STN             |          |          |
| 2222       | .**** .*...* **...* | ATNDIND        |          |          |
| 37 - 41    | .*...* .*...* **...* | CO              |          |          |
| 43 - 48    | .**** *...* **...* | TIE             |          |          |
| 49 - 55    | .*...* .*...* **...* | CO              |          |          |
| 71000      | .**** *...* **...* | STN             |          | 1        |
| 71001 - 79998 | .**** *...* **...* | STN             | R        |          |
| 79999      | .**** *...* **...* | STN             |          |          |
-----

```

```

| DIGIT INTERPRETATION          VALID FOR DIAL PLAN 0          |
-----

```

```

|          | CALL PROGRESS STATE | DIGIT ANALYSIS|          |          |
| DIRECTORY NUMBER|          1 11111 1111222|    RESULT    |RSVD | ROUTE|
|          |12345 67890 12345 6789012| (SKIP DIGIT) |          |          |
-----

```

```

| 9          | .*...* .*...* **...* | CO              |          |          |
| *0         | *...*  **...* ..... | ACDWORK        |          |          |
| *2         | *...*  **...* ..... | ACCTCODE       |          |          |
| *3         | .....*  **...* ..... | PUDIR          |          |          |
| *4         | *...*  **...* ..... | CONFRNC        |          |          |
| *52        | .....*  .....* ..... | MWCAN          |          |          |
-----

```



530	|....* .....	.....*	PMCANCEL	|	|	|
532	|....* .....	.....*	PMCALLBK	|	|	|
*563	|*.... ..**.	.....	BADLINE	|	|	|
*564	|*...* ..**.	.....*	ACDLOGON	|	|	|
*565	|*...* ..**.	.....*	ACDLOGOF	|	|	|
*570	|*...* ..**.	.....*	ACDPQ	|	|	|

DIGIT INTERPRETATION	VALID FOR DIAL PLAN 0
----------------------	-----------------------

	CALL PROGRESS STATE	DIGIT ANALYSIS		
DIRECTORY NUMBER	1 11111 1111222	RESULT	RSVD	ROUTE
	12345 67890 12345 6789012	(SKIP DIGIT)		

*571	|*...* ..**.	.....	ACDPS	|	|	|
572	|....* .....	.....	RING	|	|	|
*580	|*...* ..**.	.....	ACDSQ	|	|	|
*581	|*...* ..**.	.....	ACDSS	|	|	|
*6	|***** ..**.	.....	ROLMPARK	|	|	|
*7	|*...* ..**.	.....	CONSULT	|	|	|
*80 - *89	|.**** ..**.	.....	PARK	|	|	|
9	|....* ..**.	.....	HOLD	|	|	|
0	|.***. ....	.....	BVSL	|	|	|
1	|*.... ..**.	.....*	TOGGLE	|	|	|
3	|....* ..**.	.....*	PU	|	|	|
**41 - **48	|..... ..*..	.....*	CONFRMV	|	|	|

DIGIT INTERPRETATION	VALID FOR DIAL PLAN 0
----------------------	-----------------------

	CALL PROGRESS STATE	DIGIT ANALYSIS		
DIRECTORY NUMBER	1 11111 1111222	RESULT	RSVD	ROUTE
	12345 67890 12345 6789012	(SKIP DIGIT)		



50	*...* ...	CAFGRAVL			
51	*...* ...	CAFGRUNA			
6	...* ...	INTERCOM			
**8	...*	MWANS			
***4	.....*	CONFRMVL			
***5	...*	MONSLNT			
#65	*...* ...	CAFGRUFF			
#01	...	RCHNL			
#02	...	RTERM			
#03	...	LTERM			
#04	....* ...* ...*	PRITEST			
*#274	*...*	WS			

DIGIT INTERPRETATION VALID FOR DIAL PLAN 0

	CALL PROGRESS STATE	DIGIT ANALYSIS			
DIRECTORY NUMBER	1 11111 1111222	RESULT	RSVD	ROUTE	
	12345 67890 12345 6789012	(SKIP DIGIT)			

*#50	*...* ...**	CAFAVLB			
*#51	*...* ...**	CAFUNAV			
*#55	*...* ...**	CAFFWD			
*#56	*...* ...**	CAFFWDC			
#57	...* ...** ...*	PIDON			
#58	...* ...** ...*	PIDOFF			
#590	...	DCOSX			
#591	...	ACOSX			
*#63	*****	CLEAR			
*#65	*...* ...**	CAFLOGOF			
#735	...	RELOCATE			



#738	SET			
-------	-------------	-----	--	--	--

DIGIT INTERPRETATION	VALID FOR DIAL PLAN 0			
----------------------	-----------------------	--	--	--

	CALL PROGRESS STATE	DIGIT ANALYSIS			
DIRECTORY NUMBER	1 11111 1111222	RESULT	RSVD	ROUTE	
	12345 67890 12345 6789012	(SKIP DIGIT)			

#97	...* .....	COXFER			
#0	*...* ...*	ACDUNAV			
#1	*...* ..*	ACBK			
#2	*...* ...*	PRION			
#3	...* ...*	SPDI			
#4	***.* ...*	SNR			
#5	...*	ADND			
#61	....* ..** .....	SPDC1			
#62	....* ..** .....	SPDC2			
#80	*...* ...*	BROADCST			
#81	*...* ...*	SPKRCALL			
#8378	...*	HWTEST			

DIGIT INTERPRETATION	VALID FOR DIAL PLAN 0			
----------------------	-----------------------	--	--	--

	CALL PROGRESS STATE	DIGIT ANALYSIS			
DIRECTORY NUMBER	1 11111 1111222	RESULT	RSVD	ROUTE	
	12345 67890 12345 6789012	(SKIP DIGIT)			

#91	...*	CFWVABTH			
#92	...*	CFWVAEXT			
#93	...*	CFWVAINT			
#94	...*	CFWVB			



#95	....* .....* .....	CFWVNA			
#96	....* .....* .....	CFWVNA			
#*056	....* .....*.....	DATA56			
#*1	***** ..**	MWACT			
#*2	*...* ..**	BUZZ			
#*329	.**.* *.*** **....	FAX	R		
#*4	*...* ..**	VCECALL			
#*75	....* ..... .....	DIGIDAT			

DIGIT INTERPRETATION	VALID FOR DIAL PLAN 0
----------------------	-----------------------

	CALL PROGRESS STATE	DIGIT ANALYSIS			
DIRECTORY NUMBER	1 11111 1111222	RESULT	RSVD	ROUTE	
	12345 67890 12345 6789012	(SKIP DIGIT)			

#*76	....* *.***. ..*. * .....	SWITCH			
#*77	....* *.***. ***.* .....	DTE			
#*78	....* ..** ..** .....	CODE			
#*79	....* ..** ..** .....	SPEED			
#*8	***** *****. ..***. *****.	MWCANORI			
#*90	....* .....* .....	HUNTPROG			
#*92	....* ..... .....	AHTVCE			
#*93	....* ..... .....	DHTVCE			
#*94	....* ..... .....	AHTDTE			
#*95	....* ..... .....	DHTDTE			
#*96	....* ..... .....	AHTFAX			
#*97	....* ..... .....	DHTFAX			

DIGIT INTERPRETATION	VALID FOR DIAL PLAN 0
----------------------	-----------------------

	CALL PROGRESS STATE	DIGIT ANALYSIS			
--	---------------------	----------------	--	--	--



DIRECTORY NUMBER	1 11111 1111222	RESULT	RSVD	ROUTE
	12345 67890 12345 6789012	(SKIP DIGIT)		

##*99	.....* ..... .....	HUNTCLR		
##0	*...* ..**	ACDAVLB		
##1	.....* ..... .....	DCBK		
##2	*...* ..**	PRIOFF		
##3	.....* ..... .....	SPDIPROG		
##4	*...* ..**	LNR		
##5	.....* ..... .....	DDND		
##7	*.....	KNOVR		
##8	***** ..**	DTA		
##91	.....* ..... .....	CFWVAOFF		
##*78	.....* ..** .....	RESET		
###1	*..... ..**	TRACE		

DIGIT INTERPRETATION VALID FOR DIAL PLAN 0

	CALL PROGRESS STATE	DIGIT ANALYSIS		
DIRECTORY NUMBER	1 11111 1111222	RESULT	RSVD	ROUTE
	12345 67890 12345 6789012	(SKIP DIGIT)		

###20	..... **..* **.. .....	MILLWAT		
###21	..... **..* **.. .....	LOOPBACK		
###22	..... **..* **.. .....	SILENCE		
###23	..... **..* **.. .....	COMBO		
###4	*.....	THRCONF		
###6	.....* ..... .....	MONTONE		



AMO-DPLN -105 DIALING PLANS, FEATURE ACCESS CODES

DISPLAY COMPLETED;

Adding a New Trunk Board using BCSU

<dis-bcsu

TYPE = tmd

LTG = 1

LTU = 2

SLOT = 25;

DIS-BCSU:TMD,1,2,25;

H500: AMO BCSU STARTED

```
-----  
| DETAILS OF TMD BOARD AT ADDRESS (LTG.LTU.SLOT) = 1. 2. 25 |  
|  
| CABTYP = 1            TIMTYP = SYST            SIGTYP = MOS        |  
| FRAME = ESF            TABS = NO            FCTID = 2        |  
| BI8SUB = YES           BIVDET = NO                                    |  
|-----|  
| RDRATIO = 6            RDTH = 2500            RDQUAL = 15000    |  
| YLSEND = 5000           YLTH = 400            YLQUAL = 100     |  
| LOS = 150            AOS = 4000                                    |  
| SESDISTH = 10        SESREQTH = 10                                |  
| OESDISTH = 30        OESDISIN = 24-00-00                                |  
| OESREQTH = 4000      OESREQIN = 04-00-00                        |  
|-----|  
| NETUSR = NETWK        ACKTIM = 1000            DLVTIM = 5000     |
```



```

| OCTMAX = 260      RETMAX = 3      WINDOW = 7      |
| CRIDC  =          TTSC   =          NSFIV  =          |
| NSFTSC =          PFDGT  =          |
|-----|
|      IGN = 0      IID  = 0          |
|-----|

```

AMO-BCSU -105 BOARD CONFIGURATION, SWITCHING UNIT
 DISPLAY COMPLETED;

Configuring Class of Trunk (COT)

```

<dis-cot
COTNO = ;

```

DIS-COT:;

```

H500: AMO COT STARTED
|D|A|D|D|D|M|S|V|E|E|A|R|
|I|N|S|S|I|D|A|L|S|S|N|F|
|T|S|A|A|S|R|T|S|P|P|I|L|
| |R| |S| | | |A|A|D|D|A|
| | | | | | | |T|N|N|N|S|
| | | | | | | |I|I|I|H|
COT | | | | | | | |S|S| |
-----+-----+-----+-----+-----+-----+-----+
0 | | | | | | | | | | | |
1 | |X| | | | | | | | | |
3 |X| | | | | | | | | |
6 | |X| | | | | | | | | |
14 |X| | | |X| | | | | | |
-----+-----+-----+-----+-----+

```

AMO-COT -105 CLASS OF TRUNK FOR CALL PROCESSING



DISPLAY COMPLETED;

Configuring Class of Parameter (COP) for Device Handler

<dis-cop;

DIS-COP;

H500: AMO COP STARTED

|	|	S		E A	|	|	|
|	|	T		E S N	|	|	|
|	|	A S	V S P I D	|DD| S|			|
|	|	D Z	L P D D T	|TT| U|	P		|
|	|	I A A S S A N N O	|MM| P|	D			|
|COP|	A N C A A N I I N	|FF| V|	P				|
|IDX|	L S K T T I S S E	| L|12|1234|					|

```

+---+-----+---+---+---+
| 0|          | | | | |
| 1|  X          | | | | |
| 6| XX          X | | | X |
| 50| X          |X |X |X |
+---+-----+---+---+

```

AMO-COP -105 CLASS OF PARAMETER

DISPLAY COMPLETED;

Adding the New Trunk Group Access Code (TGACC)

<dis-tgacc

TGRP = 41;



DIS-TGACC:41;

H500: AMO TGACC STARTED

```

+-----+
| TGRP NUMBER      :    41   TGRP NAME   : QSIG           /N   MAXIMUM NO:   23 |
| SUBGROUP NUMBER:     5   DEVICE TYPE: CORNET B           DIR TYPE  : BOTH |
| ACD THRESHOLD   :     *   TRACENO    :                0   USAGE TYPE: TERR |
| ALLOCATED TO AT LEAST ONE ROUTE                               GDTR RULE :    0 |
| SELECTION       :  LOW   CFBLOCK    :  DISABLED          |
| THE FOLLOWING PORTS (LTG-LTU-SLOT-CIRCUIT) ARE ALLOCATED:   |
+-----+
| 1- 2- 25- 1| 1- 2- 25- 2| 1- 2- 25- 3| 1- 2- 25- 4| 1- 2- 25- 5| 1- 2- 25- 6|
+-----+
| 1- 2- 25- 7| 1- 2- 25- 8| 1- 2- 25- 9| 1- 2- 25-10| 1- 2- 25-11| 1- 2- 25-12|
+-----+
| 1- 2- 25-13| 1- 2- 25-14| 1- 2- 25-15| 1- 2- 25-16| 1- 2- 25-17| 1- 2- 25-18|
+-----+
| 1- 2- 25-19| 1- 2- 25-20| 1- 2- 25-21| 1- 2- 25-22| 1- 2- 25-23| - - - |
+-----+

```

AMO-TGACC-105 TRUNK GROUP ACCESS CODE

DISPLAY COMPLETED;

Adding the TCSU-B Channel

<dis-tcsu

PEN1 = 1-2-25-1;

DIS-TCSU:1-2-25-1;

H500: AMO TCSU STARTED

```

+-----+
| PEN: 1- 2- 25- 1  INS: Y   BOARD: TMDN64P   DEV: S1B       TGRP: 41 |
+-----+

```



```
| TRKID : 0002          TCCID      :          |
| CCT    : QSIG      /0002          |
|
| ACDATA : 0          COTNO      : 6          LCRCOSD : 5          |
| ATNTYP : TIE       DITIDX     : 0          LCRCOSV : 5          |
| BNEGOT : N         DPLN       : 0          LOCANA   :          |
| COPNO  : 6         ITR        : 0          REMANA   :          |
| COSNO  : 75          |
+-----+
```

```
AMO-TCSU -105          TRUNK CONFIGURATION, SWITCHING UNIT
DISPLAY COMPLETED;
```

Configuring the TCSU-D Channel

```
<dis-tcsu
```

```
PEN1 = 1-2-25-24;
```

```
DIS-TCSU:1-2-25-24;
```

```
H500: AMO TCSU STARTED
```

```
+-----+
| PEN:  1- 2- 25-24  INS: Y   BOARD: TMDN64P   DEV: S1D          |
+-----+
| TCCID :          |
| CCT   : QSIG     |
|
| ACDATA : 0          COTNO      : 6          DPLN       : 0          |
| COPNO  : 6          DITIDX     :          ITR        : 0          |
| CONVER : N         PROTOCOL   : NQISO      |
| BEARER : ONE      |
+-----+
```



```

| TMR:
| 302: 15 303: 6 304: 20 305: 30 306: 30
| 308: 6 309: 90 310: 110 313: 4 314: 6
| 316: 120 322: 4 384: 30 385: 30 386: 30

```

```

+-----+
AMO-TCSU -105          TRUNK CONFIGURATION, SWITCHING UNIT

```

DISPLAY COMPLETED;

Configuring Trunk Least Cost Routing (LROUT)

```
<dis-lrout
```

```
ROUTE = 41;
```

```
DIS-LROUT:41;
```

```
H500: AMO LROUT STARTED
```

LCR ROUTE DEFINITION TABLE

```

-----
|ROUTENUM = 41          SCHED A = X  AORT   =          INFORMATION      |
|ROUTEELE = 1          B = AUTH   = 1    TRANS CAP = S3V          |
|BEARER   = ONE        C = ONHKQ  = Y    TRKSIG  = COR          |
|BANDWTH  = 1          D = OFFHKQ = Y    SCCID   =              |
|TRUNKGRP = 41         E = ODRNUM = 1    SVCVCE  = NON          |
|MASTGRP  = 3          F = APLTYP = VFD  SVCN-V  = NON          |
|ROUTESERV = N         G =              FACNUM  =              |
|              H =              |
-----

```



```
-----  
|ROUTENUM = 41          SCHED A = X  AORT   =          INFORMATION      |  
|ROUTELEE = 2           B =    AUTH   = 1    TRANS CAP = S3V          |  
|BEARER   = ONE        C =    ONHKQ  = Y    TRKSIG = COR            |  
|BANDWTH  = 1          D =    OFFHKQ = Y    SCCID  =                  |  
|TRUNKGRP = 41         E =    ODRNUM = 1    SVCVCE = NON            |  
|MASTGRP  = 3          F =    APLTYP = VD   SVCN-V = NON            |  
|ROUTESERV = N         G =                                FACNUM =        |  
|           H =                                |  
-----
```

END OF LCR ROUTE DEFINITION TABLE DISPLAY

AMO-LROUT-105 ROUTE DEFINITION DETERMINATION PACKAGE

DISPLAY COMPLETED;

Configuring LCR Out-dial Rules (LODR)

<dis-lodr;

DIS-LODR;

H500: AMO LODR STARTED

<< DISPLAY LCR OUTDIAL RULE >>

ODR NO	COMMAND	BRANCH VALUE
1	ECHOALL	
	END	

----- END OF DISPLAY -----



AMO-LODR -105 AMO LCR ODR FOR SWITCHING UNIT

DISPLAY COMPLETED;

Configuring the SCSU Station

<dis-scsu

STNO = 2000;

TYPE = all

DIS-SCSU:2000,ALL;

H500: AMO SCSU STARTED

STNO	2000	NAME	ERIC	DOE			ACT	DEV	
COS1	60	COSX	0	DIAL	-	DLIDX	-	DEVFUNC	OPTI
COS2	60	SPDC1	-	DPLN	0	TA	N	PEN	1-2-37-0
LCRCOSV1	12	SPDC2	-	HTLNIDX	-	TADLIDX	-	PUBSCR	2000
LCRCOSV2	12	SPDI	10	ITR	0	TAINS	-	ACTCDE	000000000000
LCRCOSD1	12	HANDSFR	Y	SPECL	-	ACCLASS	-	NTYPE	-
LCRCOSD2	12	INS	Y	PUGRP	-	QPRIOR	-	RPTYPE	
DSSALERT	N	DTS	Y	STD	1	FAXSERV	N/A	HDSTYPE	NONE
NWBALNO	-	CDIDX	-	WINKOFF	-	SEIZE	-	DTE DL VER	
CFWDV	N	CFWDD	N	DND	N	CALLWAIT	N	VCE DL VER	0
VCP	OFF	MSGWLMP	-	PHONMAIL	N	COMGRP	0	DNIDSP	N
MAINO	-	CUI	N	KEYM	0	TSI	1	LOCODE	-
DCFWBUSY	N	API	N	EVMS	N	EVMSIDX	0	OPTITYPE	OEADVPL
TATYPE	-			TATYPE2	-			FLASH	-
PATTERN	-	TFAGROUP	-	ATMADDR	-			SPKALERT	Y
RELTEST	-								



```
FIXED CFW1 -          FIXED CFW2 -          VAR CFW -  
STATION-HUNT N  
UCD-HUNT      N  
PILOT-HUNT    N  
NIGHTVARIANT  N
```

```
-----  
AMO-SCSU -105      SUBSCRIBER CONFIGURATION IN THE SWU  
DISPLAY COMPLETED;
```

Configuring Cisco CallManager



6608-T1 Gateway Configuration

Cisco CallManager Administration
For Cisco IP Telephony Solutions

Gateway Configuration [Back to Find/List Gateways](#)

Product : Cisco Catalyst 6000 T1 VoIP Gateway
Gateway : S0/DS1-0@SDA0001C9D93A98
Device Protocol: Digital Access PRI
Registration: Registered with Cisco CallManager 10.10.10.1
IP Address: [10.10.10.116](#)

Status: Ready

Device Information

MAC Address*	<input type="text" value="0001C9D93A98"/>
Description	<input type="text" value="SDA0001C9D93A98"/>
Device Pool*	<input type="text" value="Default"/>
Network Locale*	<input type="text" value="United States"/>
Media Resource Group List	<input type="text" value="< None >"/>
Location	<input type="text" value="< None >"/>
AAR Group	<input type="text" value="< None >"/>
Load Information	<input type="text"/>

Interface Information

PRI Protocol Type*	<input type="text" value="PRI ISO QSIG T1"/>
Protocol Side*	<input type="text" value="User"/>
Channel Selection Order*	<input type="text" value="Top Down"/>



Cisco CallManager 3.3 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Print

Address <http://ferengi/CCMAdmin/gatewayconfig.asp?pkid={3466B2B5-3ACD-495D-B532-8926E45EFC65}&type=1> Go Links

Channel IE Type*	Timeslot Number
PCM Type*	μ-law
Delay for first restart (1/8 sec ticks)	32
Delay between restarts (1/8 sec ticks)	4
<input checked="" type="checkbox"/> Inhibit restarts at PRI initialization	
<input type="checkbox"/> Enable status poll	

Call Routing Information

Inbound Calls

Significant Digits*	All
Calling Search Space	< None >
AAR Calling Search Space	< None >
Prefix DN	

Outbound Calls

Calling Party Presentation*	Allowed
Calling Party Selection*	Originator
Called party IE number type unknown*	Cisco CallManager
Calling party IE number type unknown*	Cisco CallManager
Called Numbering Plan*	Private
Calling Numbering Plan*	Cisco CallManager
Number of digits to strip*	0
Caller ID DN	

PRI Protocol Type Specific Information

<input type="checkbox"/> Display IE Delivery
--

Local intranet



Cisco CallManager 3.3 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Print

Address <http://ferengi/CCMAdmin/gatewayconfig.asp?pkid={3466B2B5-3ACD-495D-B532-8926E45EFC65}&type=1> Go Links

Redirecting Number IE Delivery - Outbound

Redirecting Number IE Delivery - Inbound

Send Extra Leading Character In DisplayIE***

Setup non-ISDN Progress Indicator IE Enable****

MCDN Channel Number Extension Bit Set to Zero**

Interface Identifier Present**

Interface Identifier Value**

Product Specific Configuration

Clock Reference*	<input type="text" value="Network"/>
TX-Level CSU*	<input type="text" value="0dB"/>
FDL Channel*	<input type="text" value="ATT 54016"/>
Framing*	<input type="text" value="ESF"/>
Audio Signal Adjustment into IP Network*	<input type="text" value="NoDbPadding"/>
Audio Signal Adjustment from IP Network*	<input type="text" value="NoDbPadding"/>
Yellow Alarm*	<input type="text" value="Bit2"/>
Zero Suppression*	<input type="text" value="B8ZS"/>
Digit On Duration(50-500ms)*	<input type="text" value="100"/>
Interdigit Duration(50-500msec)*	<input type="text" value="100"/>
Adaptive Gain Control Enable*	<input type="checkbox"/>
SNMP Community String	<input type="text" value="public"/>
Debug Port Enable*	<input checked="" type="checkbox"/>
Hold Tone Silence Duration*	<input type="text" value="0"/>
Port Used for Voice Calls*	<input checked="" type="checkbox"/>

Local intranet



Cisco CallManager 3.3 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Print

Address <http://ferengj/CCMAdmin/gatewayconfig.asp?pkid={3466B2B5-3ACD-495D-B532-8926E45EFC65}&type=1> Go Links

Port Used for Voice Calls*	<input checked="" type="checkbox"/>
Port Used for Modem Calls*	<input checked="" type="checkbox"/>
Port Used for Fax Calls*	<input checked="" type="checkbox"/>

Fax and Modem Parameters

Fax Relay Enable*	<input checked="" type="checkbox"/>
Fax Error Correction Mode Override*	<input checked="" type="checkbox"/>
Maximum Fax Rate*	14400bps
Fax Payload Size*	20
Non Standard Facilities Country Code*	65535
Non Standard Facilities Vendor Code*	65535
Fax/Modem Packet Redundancy*	<input type="checkbox"/>
V.21 Flag Sequence Detection Count*	4
NSE Type*	Non-IOS Gateways

Playout Delay Parameters

Initial Playout Delay*	40
Minimum Playout Delay*	20
Maximum Playout Delay*	150

* indicates required item
** applicable to DMS-100 protocol only
*** applicable to DMS-100 protocol and DMS-250 protocol only
**** may be required to force ringback from some PBXs

[Back to Find/List Gateways](#)

Local intranet



Enbloc Route Pattern Configuration

Cisco CallManager 3.3 Administration - Route Pattern Configuration - Microsoft Internet Explorer

Address: <http://ferengi/CCMAdmin/routepatternconfig.asp?pkid={AB9DD1D1-A861-44F8-A286-72E0CA4426A1}&status=uc>

Cisco CallManager Administration
For Cisco IP Telephony Solutions

Route Pattern Configuration

[Add a New Route Pattern](#)
[Back to Find/List Route Patterns](#)

Route Pattern: 6.XXXX
Status: Update completed
Note: Any update to this route pattern automatically resets the associated gateway/route list

Pattern Definition

Route Pattern*
Partition
Description
Numbering Plan*
Route Filter
Gateway/Route List* (Edit)
Route Option Route this pattern Block this pattern
 Provide Outside Dial Tone Urgent Priority

Calling Party Transformations

Use Calling Party's External Phone Number Mask
Calling Party Transform Mask
Prefix Digits (Outgoing Calls)
Calling Party Presentation

Called Party Transformations

Discard Digits
Called Party Transform Mask
Prefix Digits (Outgoing Calls)

ISDN Network-Specific Facilities Information Element

Carrier Identification Code
Network Service Protocol
Network Service Service Parameter Name Service Parameter Value

Local intranet



Configuring the Catalyst 6000 Switch

Console> (enable) **show version**

WS-C6506 Software, Version NmpSW: 6.1(4)

Copyright (c) 1995-2001 by Cisco Systems

NMP S/W compiled on May 15 2001, 12:27:20

System Bootstrap Version: 5.3(1)

Hardware Version: 2.0 Model: WS-C6506 Serial #: TBA04110341

Mod	Port	Model	Serial #	Versions
1	2	WS-X6K-SUP1A-2GE	SAD041504XL	Hw : 3.1 Fw : 5.3(1) Fw1: 5.1(1)CSX Sw : 6.1(4) Sw1: 6.1(4)
		WS-F6K-PFC	SAD0413097K	Hw : 1.1
3	48	WS-X6248-RJ-45	SAD04150CK1	Hw : 1.2 Fw : 5.1(1)CSX Sw : 6.1(4)
4	24	WS-X6624-FXS	SAD050203M8	Hw : 3.0 Fw : 5.4(2) Sw : 6.1(4) HP : A00203030009; DSP : A003D033 (3.6.
33)				
5	8	WS-X6608-E1	SAD043300AJ	Hw : 1.1 Fw : 5.4(2) Sw : 6.1(4)



33) HP1: D00403030009; DSP1: D005D033 (3.6.)

33) HP2: D00403030009; DSP2: D005D033 (3.6.)

33) HP3: D00403030009; DSP3: D005D033 (3.6.)

33) HP4: D00403030009; DSP4: D005D033 (3.6.)

2) HP5: C00103010007; DSP5: C002E031 (3.3.)

2) HP6: C00103010007; DSP6: C002E031 (3.3.)

2) HP7: C00103010007; DSP7: C002E031 (3.3.)

2) HP8: C00103010007; DSP8: C002E031 (3.3.)

6 8 WS-X6608-T1 SAD04400EM0 Hw : 1.1

Fw : 5.4(2)

Sw : 6.1(4)

33) HP1: D00403030009; DSP1: D005D033 (3.6.)

15) HP2: D00403010044; DSP2: D005Q031 (3.6.)

15) HP3: D00403010044; DSP3: D005Q031 (3.6.)

15) HP4: D00403010044; DSP4: D005Q031 (3.6.)

15) HP5: D00403010044; DSP5: D005Q031 (3.6.)

15) HP6: D00403010044; DSP6: D005Q031 (3.6.)



HP7: D00403010044; DSP7: D005Q031 (3.6.

15)

HP8: D00403010044; DSP8: D005Q031 (3.6.

15)

Module	DRAM			FLASH			NVRAM		
	Total	Used	Free	Total	Used	Free	Total	Used	Free
1	65408K	43764K	21644K	16384K	5327K	11057K	512K	245K	267K

Uptime is 229 days, 22 hours, 39 minutes

Console> (enable)

Console> (enable) **sh module**

Mod	Slot	Ports	Module-Type	Model	Sub	Status
1	1	2	1000BaseX Supervisor	WS-X6K-SUP1A-2GE	yes	ok
3	3	48	10/100BaseTX Ethernet	WS-X6248-RJ-45	no	ok
4	4	24	FXS	WS-X6624-FXS	no	ok
5	5	8	E1	WS-X6608-E1	no	ok
6	6	8	T1	WS-X6608-T1	no	ok

Mod	Module-Name	Serial-Num
1		SAD041504XL
3		SAD04150CK1
4		SAD050203M8
5		SAD043300AJ
6		SAD04400EM0



```
Mod MAC-Address(es)                Hw      Fw      Sw
-----
1  00-d0-d3-37-f9-8e to 00-d0-d3-37-f9-8f 3.1     5.3(1)  6.1(4)
   00-d0-d3-37-f9-8c to 00-d0-d3-37-f9-8d
   00-01-63-af-5c-00 to 00-01-63-af-5f-ff
3  00-01-97-4a-10-30 to 00-01-97-4a-10-5f 1.2     5.1(1)CSX 6.1(4)
4  00-03-32-ba-2e-35                3.0     5.4(2)  6.1(4)
5  00-01-64-12-22-80 to 00-01-64-12-22-87 1.1     5.4(2)  6.1(4)
6  00-01-c9-d9-3a-98 to 00-01-c9-d9-3a-9f 1.1     5.4(2)  6.1(4)
```

```
Mod Sub-Type          Sub-Model          Sub-Serial  Sub-Hw
-----
1  L3 Switching Engine  WS-F6K-PFC        SAD0413097K 1.1
```

Console> (enable)

Console> (enable) **show port 6/1**

```
Port  Name          Status      Vlan      Duplex Speed Type
-----
6/1          connected  1          full 1.544 T1
```

```
Port  DHCP    MAC-Address      IP-Address      Subnet-Mask
-----
6/1    enable  00-01-c9-d9-3a-98 10.10.10.116    255.255.255.0
```

```
Port  Call-Manager(s)  DHCP-Server      TFTP-Server      Gateway
-----
6/1    10.10.10.1       10.10.10.1       10.10.10.1       10.10.10.125
```

```
Port  DNS-Server(s)    Domain
-----
```



6/1 - -

Port CallManagerState DSP-Type

6/1 registered C549

Port NoiseRegen NonLinearProcessing

6/1 enabled enabled

Port Trap IfIndex

6/1 disabled 98

Console> (enable)



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