

# Cisco Unified CallManager 4.0-PBX Interoperability: Mitel 3300 ICP Release 4.1 PBX to a Cisco 6608 Gateway using T1 QSIG with MGCP

## Introduction

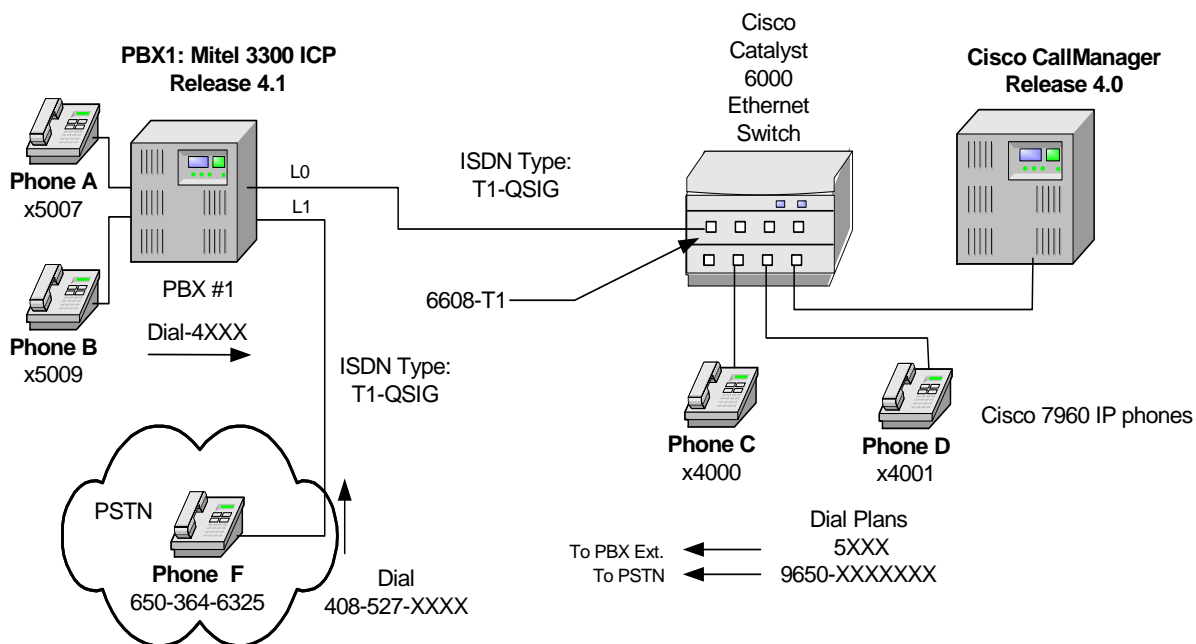
This is an application note for connectivity of Mitel 3300 ICP Release 4.1 PBX with Cisco Unified CallManager Release 4.0 using Cisco 6608-T1 QSIG as MGCP gateway.

Connectivity is achieved by using the PRI ISO QSIG T1 protocol type on the MGCP gateway and QSIG protocol (ISO Protocol Variant) type on the Mitel 3300 ICP PBX.

## Network Topology

The network topology diagram (Figure 1) shows the test setup for end-to-end interoperability with the Cisco Unified CallManager connected to the PBX via 6608-T1 QSIG link as MGCP gateway. A Mitel 3300 ICP PBX was connected via an ISDN T1 PRI QSIG link to a Cisco 6608-T1 gateway, which in turn was connected to an Ethernet switch. The interoperability testing involved Layers 1, 2, and 3 on the ISDN PRI QSIG link between a Cisco 6608-T1 and the PBX.

### Basic Call Setup End-to-End Configuration





## Limitations

### Calling Name and Number Features

When calling from Mitel digital phone to Cisco 7960 IP phone, the Cisco IP phone displays Calling Name and Number after the call is answered. Mitel phone however displays Connected Name only even though the Cisco Unified CallManager Q.SIG trunk is sending Connected Name and Connected Number information in the connect message back to PBX.

When calling from Cisco 7960 IP phone to Mitel digital phone, Mitel phone displays Calling Name and Number after the call is answered. The Cisco IP phone displays Called Number.

The Mitel Q.SIG trunk does not support sending Connected Name or Connected Number information in the connect message back to CallManager.

## System Components

### Hardware Requirements

Cisco Catalyst 6000 switch with 6608-T1 gateway

Cisco Unified CallManager server

Mitel 3300 ICP PBX:

- 3300 Controller, part number 56004538
- 3300 Universal NSU, part number 56002115
- SX2000 Expansion Chassis, part number 144236601

### Software Requirements

PBX Software Release 4.1

Cisco Unified CallManager Release 4.0

## Features

### Features Supported

CLIP-Calling Line (Number) Identification Presentation

CLIR-Calling Line (Number) Identification Restriction

CNIP-Calling Name Identification Presentation

CNIR-Calling Name Identification Restriction

CT-Call Transfer (by join)

CFU-Call Forwarding Unconditional (by join)

CFB-Call Forwarding Busy (by join)

CFNR-Call Forwarding No Reply (by join)

QSIG MWI- Message Waiting Indication (lamp ON, lamp OFF) supported by CallManager 4.0 (not tested <sup>1</sup>)

### Features Not Supported

COLP-Connected Line (Number) Identification Presentation not supported by Mitel

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<sup>1</sup> MWI is supported on CallManager 4.0 but was not tested because CallManager was not configured with a messaging System at the time of testing therefore it is not known at this time whether QSIG MWI integration with Mitel will work.



COLR- Connected Line (Number) Identification Restriction not supported by Mitel

CONP-Connected Name Identification Presentation not supported by Mitel

CONR- Connected Name Identification Restriction not supported by Mitel

## Configuration

### Configuring the Mitel 3300 ICP PBX

#### System Hardware Modules

Mitel Networks® 3300 Integrated Communications Platform (ICP) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Alarm Status: Major 2004-Feb-19 14:27:34 Data Refresh Help Exit

System Message:

Selection:

- Maintenance and Diagnostics
  - Alarm Details
  - Maintenance Commands
    - All
  - Logs
  - System Hardware Profile
    - System Hardware Modules
    - System Hardware Compute Co
  - IP Telephones
  - Backup
  - Restore

System Hardware Modules

Slot Number	Module ID, Driver ID	Variant ID	Card Description
1	12,1	n/a	Dual FIM - Multimode 820nm
2	12,1	n/a	Dual FIM - Multimode 820nm
3	--	--	--
4	--	--	--
5	22,1	n/a	Echo Cancellation 64 Channels
6	--	--	--
7	--	--	--
8	47,6	n/a	SHARC Enhanced DSP - 4 circuit

System Hardware Modules

Slot Number: 1  
Module ID, Driver ID: 12,1  
Minimum Reset Timing: 0  
Card Description: Dual FIM - Multimode 820nm  
PCB Assembly: 56001801  
PCB Revision Level: RC  
Processor Type: n/a  
Processor Speed (Core, Clock): 0, 0  
MAC Address: 00:00:00:00:00:00  
Country Code: NA

start | 2 Procomm Plus Con... | 4 Internet Explorer | Eudora - [In] | 2:03 PM



## System Software Version 4.1.6

Cisco - Mitel Networks® 3300 Integrated Communications Platform (ICP) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Alarm Status: Major 2004-Mar-04 13:17:08 Data Refresh Help Exit

Cisco - System Message:

Selection:  
Maintenance and Diagnostics

- Maintenance and Diagnostics
  - Alarm Details
  - Maintenance Commands
  - Logs
  - System Hardware Profile
    - System Hardware Modules
    - System Hardware Compute Cards
  - IP Telephones
    - Backup
    - Restore

Previous Page 1 of 1 Next Go to: value: Go

### System Hardware Compute Cards

Slot ID	PCB Assembly and Rev Level	IP Address
1	143890303 R1.2	172.20.12.254
2	143890303 R1.2	172.20.12.253

### System Hardware Compute Cards

Slot ID:	1
PCB Assembly and Rev Level:	143890303 R1.2
Core Speed:	297000000
Bus Speed:	86000000
Memory Size:	268435456
MAC Address:	08:00:0f:0f:3e:96
IP Address:	172.20.12.254
BOOTROM Rev:	1.2/5 Nov 4 2003
Post Rev:	2.9 27/05/2003

MITEL 3300 ICP  
About System Administration



## PRI QSIG Trunk Configuration

Site Options

```

-----
Connected Platform:      SX-2000 Light
PLATFORM:               PRI Card
Options:: CLIP / CLIR / Data / CBC / DDI / Network PRA / QSIG /
Created with IMAT Version "7.3.0.10"
Database Version "PRI 8.2 or NSU 1.3"

```

### Link Mapping

```

=====
PBX      MVIP  PRI    Card          PRI    PRI    Physical
Link*   Link  Card  Variant       link # logical #  Type
-----
  1      4     1     Dual link card  1      1      T1/DSX1
  2      5     1     Dual link card  2      2      T1/DSX1

```

### PRI Link Characteristics

```

=====
PRI      Protocol  Protocol      Test
logical# Type      Variant      Call Number    Physical Characteristics
-----
  1      QSIG     ISO          Invert D Channel: Off

```



**QSIG Master: On**  
**Enbloc-only: Off**  
**Disable Fake Answer Supervision: Off**  
**Qsig Channel Numbering: Off**  
**Line Coding=B8ZS**  
**Framing=ESF**  
**Line Build Out=0-133 feet**  
**Invert Data=Disable**  
**Comment ""**

2 QSIG ISO

Invert D Channel: Off  
 QSIG Master: Off  
 Enbloc-only: Off  
 Disable Fake Answer Supervision: Off  
 Qsig Channel Numbering: Off  
 Line Coding=B8ZS  
 Framing=ESF  
 Line Build Out=0-133 feet  
 Invert Data=Disable  
 Comment ""

=====

Trunk Data

Incoming Call Characteristics

PBX

link#	Trunks*	DDI Delivery	CPN Delivery
-------	---------	--------------	--------------

-----

1	01-23	Yes	Yes
---	-------	-----	-----

PRI Link: 1 Calling Party Number Prefix Insertion:



International Prefix =

National Prefix =

Subscriber Prefix =

Unknown Prefix =

PRI Link: 1 Called Party Number Prefix Insertion:

International Prefix =

National Prefix =

2            01-23            Yes            Yes

PRI Link: 2 Calling Party Number Prefix Insertion:

International Prefix =

National Prefix =

Subscriber Prefix =

Unknown Prefix =

PRI Link: 2 Called Party Number Prefix Insertion:

International Prefix =

National Prefix =

=====

CPN Substitutions Setup

-----

DID1: 5000-5900



CPN1 : 408554xxxx

DID2 :

CPN2 :

DID3 :

CPN3 :

DID4 :

CPN4 :

DID5 :

CPN5 :

DID6 :

CPN6 :

DID7 :

CPN7 :

DID8 :

CPN8 :

DID9 :

CPN9 :

DID10 :

CPN10 :

DID11 :

CPN11 :

DID12 :

CPN12 :

DID13 :

CPN13 :

DID14 :

CPN14 :

DID15 :

CPN15 :

DID16 :

CPN16 :

DID17 :





CPN17:

DID18:

CPN18:

DID19:

CPN19:

DID20:

CPN20:

DID21:

CPN21:

DID22:

CPN22:

DID23:

CPN23:

DID24:

CPN24:

DID25:

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DID98:  
CPN98:  
DID99:  
CPN99:  
DID100:  
CPN100:

=====

Outgoing Call Characteristics

PBX

link#      Trunks\*

-----

1	01-23	Receive Call Charge Notice: No
		Fixed Bearer Capability:
		Voice Speech, Data Null
		Fixed Network Specific Facilities: Unassigned (len=0)
		Network: QSIG
		Fixed CLIR: Voice Allow, Data Allow
		Per Call Network Specific Facilities:
		call by call on per call: Yes
		Network: QSIG
		0: Unassigned (len=0)
		1: Unassigned (len=0)
		2: Unassigned (len=0)
		3: Unassigned (len=0)
		4: Unassigned (len=0)
		5: Unassigned (len=0)
		6: Unassigned (len=0)
		7: Unassigned (len=0)
		8: Unassigned (len=0)



CPN Value:

Voice

Default CPN:

CPN Substitutions:

Data

Default CPN:

CPN Substitutions:

2 01-23 Receive Call Charge Notice: No

Fixed Bearer Capability:

Voice Speech, Data Null

Fixed Network Specific Facilities: Unassigned (len=0)

Network: QSIG

Fixed CLIR: Voice Allow, Data Allow

Per Call Network Specific Facilities:

call by call on per call: Yes

Network: QSIG

0: Unassigned (len=0)

1: Unassigned (len=0)

2: Unassigned (len=0)

3: Unassigned (len=0)

4: Unassigned (len=0)

5: Unassigned (len=0)

6: Unassigned (len=0)

7: Unassigned (len=0)

8: Unassigned (len=0)

CPN Value:

Voice

Default CPN:

CPN Substitutions:

Data

Default CPN:

CPN Substitutions:



=====

PBX Trunk Range Assignments

	Starting	Ending			
TRA Id	Link Trunk	Link Trunk	AssocTRLs	TRA Description	Protocol

-----

=====

Min/Max Limits Definitions

TRL Id	AssocISLs	Counts	CxC Service	Protocol/
/RejCause	AssocSGLs	/RejCause	Min Max	/Param Description

-----

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## Link Descriptor Assignment

Mitel Networks@ 3300 Integrated Communications Platform (ICP) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Alarm Status: Major 2004-Feb-19 14:27:34 Data Refresh Help Exit

System Message:

Selection:

System Configuration

- System Configuration
- System Capacity
- Units/Modules
- Trunks
  - Class of Service Options Assign
  - Analog Trunks
  - Digital Trunks
    - DPNSS
      - Link Descriptor Assignm**
      - Digital Link Assignment
      - MSDN-DPNSS-DASSII Tr
      - Trunk Service Assignmer
      - Digital Trunk Assignment
      - Network Synchronization
- E1/CEPT
- T1/D4
- IP Networking/NET
- Direct Trunk Select
- Automatic Route Selection (AR)
- Devices
- Music On Hold
- Loudspeaker Paging
- Telephone Paging
- System Output Ports

Link Descriptor Assignment

Number	Address for Message Control	BER - Maintenance Limit, 10 <sup>m-n</sup>	BER - Service Limit, 10 <sup>m-n</sup>	Data Call Alternate Digit Inversion
1	B	4	3	Yes
3	B	6	6	Yes
4		5	3	Yes
10	B	6	6	Yes
12	B	5	5	Yes
13	B	4	3	Yes
14	A	5	4	Yes

Link Descriptor Assignment

Number: 1  
Address for Message Control: B  
BER - Maintenance Limit, 10<sup>m-n</sup>: 4  
BER - Service Limit, 10<sup>m-n</sup>: 3  
Data Call Alternate Digit Inversion: Yes  
Framing Losses in 24 hrs - Maintenance Limit: 255  
Framing Losses in 24 hrs - Service Limit: 9000  
Integrated Digital Access: ISDN NODE  
Satellite Link Delay: NO  
Slip Rate - Maintenance Limit: 255

start | 2 Procomm Plus Con... | 3 Internet Explorer | Eudora - [In] | 1:55 PM





## Digital Trunk Assignment

Mitel Networks@ 3300 Integrated Communications Platform (ICP) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Alarm Status: Major 2004-Feb-19 14:27:34 Data Refresh Help Exit

System Message:

Selection:

System Configuration

- System Configuration
- System Capacity
- Units/Modules
- Trunks
  - Class of Service Options Assig
  - Analog Trunks
  - Digital Trunks
    - DPNSS
      - Link Descriptor Assignm
      - Digital Link Assignment
      - MSDN-DPNSS-DASSII Tr
      - Trunk Service Assignmer
      - Digital Trunk Assignment
      - Network Synchronization
    - E1/CEPT
    - T1/D4
  - IP Networking/NET
  - Direct Trunk Select
  - Automatic Route Selection (AR)
- Devices
- Music On Hold
- Loudspeaker Paging
- Telephone Paging
- System Output Ports

Change Clear

Previous Page 7 of 11 Next Go to:  value:  Go

Cabinet	Shelf	Slot	Circuit	Card Type	Trunk Number
8	1	1	1	UNIVERSAL T1	801
8	1	1	2	UNIVERSAL T1	802
8	1	1	3	UNIVERSAL T1	803
8	1	1	4	UNIVERSAL T1	804
8	1	1	5	UNIVERSAL T1	805
8	1	1	6	UNIVERSAL T1	806
8	1	1	7	UNIVERSAL T1	807
8	1	1	8	UNIVERSAL T1	808
8	1	1	9	UNIVERSAL T1	809
8	1	1	10	UNIVERSAL T1	810

Digital Trunk Assignment

Cabinet: 8  
Shelf: 1  
Slot: 1  
Circuit: 1  
Card Type: UNIVERSAL T1  
Trunk Number: 801  
Trunk Service Number: 12  
DTS Service Number:  
Circuit Descriptor Number: 28  
Interconnect Number: 1

start | 2 Procomm Plus Con... | 3 Internet Explorer | Eudora - [In] | 1:58 PM



# Trunk Service Assignment

Mitel Networks@ 3300 Integrated Communications Platform (ICP) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Alarm Status: Major 2004-Feb-19 14:27:34 Data Refresh Help Exit

System Message:

Selection:

- System Administration
  - System Administration
  - User Authorization Profiles
  - System Options
  - Automatic Route Selection (ARS)
    - Trunk Service Assignment
    - Trunk Group Assignment
    - Class of Restriction Group Assignment
    - System Account Code Definition
    - Independent Account Code
    - Default Account Code Definition
    - Call Progress Tone Detection
    - Digit Modification Assignment
    - Maximum Dialed Digits
    - Route Assignment
    - Route List Assignment (Optional)
    - Day and Time Zone Assignment
    - Route Plan Assignment (Optional)
    - ARS Digits Dialed Assignment
    - ARS Leading Digits Assignment
    - Interconnect Restriction
    - Node Identity Assignment
  - Automatic Call Distribution (ACD)
  - Call Handling
  - Telephone Management
  - Telephone Directory Management
  - Property Management System

Change Clear

Previous Page 1 of 15 Next Go to:  value:  Go

Trunk Service Number	Release Link Trunk	Class of Service	Class of Restriction	Baud Rate	Intercept Number	Trunk Label
1	NO	11	1	300	1	
2	NO	12	1	300	1	
3	NO	13	1	300	1	
4	NO	1	1	300	1	
5	NO	1	12	300	1	
6	NO	1	1	300	1	
7	NO	1	1	300	1	
8	NO	1	1	300	1	
9	NO	1	1	300	1	
10	NO	1	1	300	1	

Trunk Service Assignment

Trunk Service Number: 1  
 Release Link Trunk: NO  
 Class of Service: 11  
 Class of Restriction: 1  
 Baud Rate: 300  
 Intercept Number: 1  
 Non-dial In Trunks Answer Point - Day: 500  
 Non-dial In Trunks Answer Point - Night 1: 500  
 Non-dial In Trunks Answer Point - Night 2: 500  
 Dial In Trunks Incoming Digit Modification - Absorb:

start | 2 Procom Plus Con... | 3 Internet Explorer | Eudora - [In] | 1:52 PM



Mitel Networks@ 3300 Integrated Communications Platform (ICP) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Alarm Status: Major 2004-Feb-20 12:02:30 Data Refresh Help Exit

System Message:

Selection:

System Administration

- System Administration
  - User Authorization Profiles
  - System Options
  - Automatic Route Selection (ARS)
    - Trunk Service Assignment
    - Trunk Group Assignment
    - Class of Restriction Group Assignment
    - System Account Code Definition
    - Independent Account Code
    - Default Account Code Definition
    - Call Progress Tone Detection
    - Digit Modification Assignment
    - Maximum Dialed Digits
    - Route Assignment
    - Route List Assignment (Optional)
    - Day and Time Zone Assignment
    - Route Plan Assignment (Optional)
    - ARS Digits Dialed Assignment
    - ARS Leading Digits Assignment
    - Interconnect Restriction
    - Node Identity Assignment
  - Automatic Call Distribution (ACD)
  - Call Handling
  - Telephone Management
  - Telephone Directory Management
  - Property Management System

Change Clear

Previous Page 2 of 14 Next Go to: value: Go

Trunk Service Number	Release Link Trunk	Class of Service	Class of Restriction	Baud Rate	Intercept Number	Trunk Label
11	NO	1	1	300	1	
12	NO	1	1	300	1	
13	NO	1	1	300	1	
14	NO	1	1	300	1	
15	NO	1	1	300	1	
16	NO	1	1	300	1	
17	NO	1	1	300	1	
18	NO	1	1	300	1	
19	NO	1	1	300	1	
20	NO	1	1	300	1	

Trunk Service Assignment

Trunk Service Number: 12  
Release Link Trunk: NO  
Class of Service: 1  
Class of Restriction: 1  
Baud Rate: 300  
Intercept Number: 1  
Non-dial In Trunks Answer Point - Day:  
Non-dial In Trunks Answer Point - Night 1:  
Non-dial In Trunks Answer Point - Night 2:  
Dial In Trunks Incoming Digit Modification - Absorb: 0

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## Digit Modification Assignment

Mitel Networks@ 3300 Integrated Communications Platform (ICP) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Alarm Status: Major 2004-Feb-19 14:27:34 Data Refresh Help Exit

System Message:

Selection:

System Administration

- System Administration
- User Authorization Profiles
- System Options
- Automatic Route Selection (ARS)
  - Trunk Service Assignment
  - Trunk Group Assignment
  - Class of Restriction Group Assignment
  - System Account Code Definition
  - Independent Account Code
  - Default Account Code Definition
  - Call Progress Tone Detection
  - Digit Modification Assignment**
  - Maximum Dialed Digits
  - Route Assignment
  - Route List Assignment (Optional)
  - Day and Time Zone Assignment
  - Route Plan Assignment (Optional)
  - ARS Digits Dialed Assignment
  - ARS Leading Digits Assignment
  - Interconnect Restriction
  - Node Identity Assignment
- Automatic Call Distribution (ACD)
- Call Handling
- Telephone Management
- Telephone Directory Management
- Property Management System

Change Clear

Previous Page 1 of 3 Next Go to: value: Go

Digit Modification Number	Number of Digits to Absorb	Digits to be Inserted	Final Tone Plan/Information Marker
1	1		
2	2		
3	0		
4	3		
5	0		
6	0		
7	0		
8	0		
9	0		
10	0		
11	0		
12	0		
13	0		
14	0		
15	0		
16	0		
17	0		
18	0		
19	0		

start 2 Procomm Plus Con... 3 Internet Explorer Eudora - [In] 1:53 PM





## Route Assignment

Mitel Networks@ 3300 Integrated Communications Platform (ICP) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Alarm Status: Major 2004-Feb-19 14:27:34 Data Refresh Help Exit

System Message:

Selection:

System Administration

- System Administration
  - User Authorization Profiles
  - System Options
    - Automatic Route Selection (ARS)
      - Trunk Service Assignment
      - Trunk Group Assignment
      - Class of Restriction Group Assignment
      - System Account Code Definition
      - Independent Account Code
      - Default Account Code Definition
      - Call Progress Tone Detection
      - Digit Modification Assignment
      - Maximum Dialed Digits
      - Route Assignment**
      - Route List Assignment (Optional)
      - Day and Time Zone Assignment
      - Route Plan Assignment (Optional)
      - ARS Digits Dialed Assignment
      - ARS Leading Digits Assignment
      - Interconnect Restriction
      - Node Identity Assignment
    - Automatic Call Distribution (ACD)
    - Call Handling
    - Telephone Management
    - Telephone Directory Management
    - Property Management System

Change Clear

Previous Page 1 of 8 Next Go to: value: Go

### Route Assignment

Route Number	Trunk Group Number	COR Group Number	Digit Modification Number	Digits Before Outpulsing	XNET Trunk Group Number	Route Type	Compression
1	1	1	1				Off
2	2	1	5				Off
3	3	1	3				Off
4		1	1				Off
5		1	1				Off
6		1	1				Off
7		1	1				Off
8		1	1				Off
9		1	1				Off
10		1	1				Off
11		1	1				Off
12	12	1	5				Off
13	13	1	4				Off
14	14	1	2				Off
15		1	1				Off
16		1	1				Off
17		1	1				Off
18		1	1				Off

start 2 Proconm Plus Con... 3 Internet Explorer Eudora - [In] 1:51 PM



## ARS Digits Dialing Plan

Mitel Networks@ 3300 Integrated Communications Platform (ICP) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Alarm Status: Major 2004-Feb-20 12:02:30 Data Refresh Help Exit

System Message: New record successfully added.

Selection:

System Administration

- System Administration
- User Authorization Profiles
- System Options
- Automatic Route Selection (ARS)
  - Trunk Service Assignment
  - Trunk Group Assignment
  - Class of Restriction Group Assignment
  - System Account Code Definition
  - Independent Account Code
  - Default Account Code Definition
  - Call Progress Tone Detection
  - Digit Modification Assignment
  - Maximum Dialed Digits
  - Route Assignment
  - Route List Assignment (Optional)
  - Day and Time Zone Assignment
  - Route Plan Assignment (Optional)
  - ARS Digits Dialed Assignment**
  - ARS Leading Digits Assignment
  - Interconnect Restriction
  - Node Identity Assignment
- Automatic Call Distribution (ACD)
- Call Handling
- Telephone Management
- Telephone Directory Management
- Property Management System

Add Change Delete

Previous Page 1 of 1 Next Go to: value: Go

### ARS Digits Dialed Assignment

Digits Dialed	Number of Digits to Follow	Termination Type	Termination Number
100	1	Route	13
40	2	Route	2
48	2	Route	12
666	4	Route	13
7	Unknown	Route	1
80	Unknown	Route	2
90	Unknown	Route	3
91	Unknown	Route	13
950484	4	Route	3
650364	4	Route	12
527	4	Route	2

start | 4 Internet Explorer | C:\3300BU | Procomm Plus Tehel | 11:53 AM





## Configuring Cisco Unified CallManager

### 6608-T1 Gateway Configuration

The screenshot shows the Cisco CallManager 4.0 Administration web interface in Microsoft Internet Explorer. The browser address bar shows the URL: `http://cm-klngon/CCMAdmin/gatewayconfig.asp?pkid={DF71136E-4975-4B2C-BDE6-C24A840B4ABC}&type=1`. The page title is "Gateway Configuration".

**Product : Cisco Catalyst 6000 T1 VoIP Gateway**  
**Gateway : S0/DS1-0@SDA0001C9D93A98**  
**Device Protocol: Digital Access PRI**  
**Registration: Registered with Cisco CallManager 172.20.32.254**  
**IP Address: [172.20.32.112](#)**

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=" &lt; None &gt;"/>
Location	<input type="text" value=" &lt; None &gt;"/>
AAR Group	<input type="text" value=" &lt; None &gt;"/>
Load Information	<input type="text"/>

**Multilevel Precedence and Preemption (MLPP) Information**

MLPP Domain (e.g., "0000FF")	<input type="text"/>
MLPP Indication	<input type="text" value="Off"/>
MLPP Preemption	<input type="text" value="Disabled"/>

**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"/>
Channel IE Type*	<input type="text" value="Timeslot Number"/>



Cisco CallManager 4.0 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://cm-klngon/CCAdmin/gatewayconfig.asp?pkid={DF71136E-4975-4B2C-BDE6-C24A840B4ABC}&type=1> Go Links >>

PCM Type\*

Delay for first restart (1/8 sec ticks)

Delay between restarts (1/8 sec ticks)

Inhibit restarts at PRI initialization

Enable status poll

**Call Routing Information**

**Inbound Calls**

Significant Digits\*

Calling Search Space

AAR Calling Search Space

Prefix DN

**Outbound Calls**

Calling Line ID Presentation\*

Calling Party Selection\*

Called party IE number type unknown\*

Calling party IE number type unknown\*

Called Numbering Plan\*

Calling Numbering Plan\*

Number of digits to strip\*

Caller ID DN

SMDI Base Port\*

**PRI Protocol Type Specific Information**

Display IE Delivery

Redirecting Number IE Delivery - Outbound

Redirecting Number IE Delivery - Inbound

Send Extra Leading Character In DisplayIE\*\*\*

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

Done Local intranet



Cisco CallManager 4.0 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://cm-klngon/CCMAdmin/gatewayconfig.asp?pkid={DF71136E-4975-4B2C-BDE6-C24A840B4ABC}&type=1>

MCDN Channel Number Extension Bit Set to Zero\*\*

Send Calling Name In Facility IE

Interface Identifier Present\*\*

Interface Identifier Value\*\*

Connected Line ID Presentation (QSIG Inbound Call)\*

Connected PBX Model

**Product Specific Configuration**

Clock Reference\*

TX-Level CSU\*

FDL Channel\*

Framing\*

Audio Signal Adjustment into IP Network\*

Audio Signal Adjustment from IP Network\*

Yellow Alarm\*

Zero Suppression\*

Digit On Duration(50-500ms)\*

Interdigit Duration(50-500msec)\*

SNMP Community String

Disable SNMP Set operations\*

Debug Port Enable\*

Hold Tone Silence Duration\*

Port Used for Voice Calls\*

Port Used for Modem Calls\*

Port Used for Fax Calls\*

**Fax and Modem Parameters**

Fax Relay Enable\*

Fax Error Correction Mode Override\*

Maximum Fax Rate\*

Done Local intranet



Cisco CallManager 4.0 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://cm-kingon/CCMAdmin/gatewayconfig.asp?pkid={DF71136E-4975-4B2C-BDE6-C24A840B4ABC}&type=1> Go Links »

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"/>
NSE Type*	Non-IOS Gateways

**Playout Delay Parameters**

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

**Echo Canceller Configuration**

Echo TailLength (ms)*	32 ms
Minimum ERL (db)*	6 db

\* 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



## Partitions Configuration

The screenshot shows the Cisco CallManager 4.0 Administration web interface in Microsoft Internet Explorer. The browser title is "Cisco CallManager 4.0 Administration - Find and List Partitions - Microsoft Internet Explorer". The address bar shows the URL: `http://cm-kingon/CCMAdmin/routepartitionlist.asp?findBy=name&match=begins&pattern=&submit1=Find&rows=20`. The page has a navigation menu with items: System, Route Plan, Service, Feature, Device, User, Application, Help. The main header includes the Cisco CallManager Administration logo and the Cisco Systems logo. The page title is "Find and List Partitions" with a link to "Add a New Partition". The search results show "2 matching record(s) for Partition Name begins with """. The search criteria are "Partition Name" with a dropdown set to "begins with" and a search button "Find". The results are displayed in a table with columns "Partition Name" and "Description".

<input type="checkbox"/>	Partition Name	Description
<input type="checkbox"/>	Incoming Trunk	Incoming Trunk
<input type="checkbox"/>	Phones	Phones

Below the table, there is a "Delete Selected" button and pagination controls: "First Previous Next Last" and "Page 1 of 1".



## Calling Search Space Configuration

Cisco CallManager 4.0 Administration - Calling Search Space Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print

Address http://cm-klngon/CCMAdmin/callingsearchspace.asp?pkid={9106F9C5-B86A-4C9E-A3A3-BA0F27017989} Go Links

System Route Plan Service Feature Device User Application Help

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

### Calling Search Space Configuration

[Add New Calling Search Space](#)  
[Back to Find/List Calling Search Spaces](#)  
[Dependency Records](#)

**Calling Search Space: Incoming Trunk**  
Status: Ready

Copy Update Delete Restart Devices

**Calling Search Space Information**

Calling Search Space Name\* Incoming Trunk

Description

**Route Partitions for this Calling Search Space**

Find Partitions containing Find

Available Partitions

Phones

Selected Partitions\*  
(ordered by highest priority)

Incoming Trunk

\* indicates required item

Local intranet



Cisco CallManager 4.0 Administration - Calling Search Space Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://cm-klington/CCMAdmin/callingsearchspace.asp?pkid={607F7659-E6E6-4AB2-A2CC-3A124448754B}> Go Links

System Route Plan Service Feature Device User Application Help

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

**Calling Search Space Configuration**

[Add New Calling Search Space](#)  
[Back to Find/List Calling Search Spaces](#)  
[Dependency Records](#)

**Calling Search Space: Phones (in use)**  
Status: Ready

Copy Update Delete Restart Devices

**Calling Search Space Information**

Calling Search Space Name\*

Description

**Route Partitions for this Calling Search Space**

Find Partitions containing  Find

Available Partitions

Incoming Trunk
----------------

Selected Partitions\* (ordered by highest priority)

Phones
--------

\* indicates required item

Done Local intranet



## Enbloc Route Pattern Configuration

Cisco CallManager 4.0 Administration - Route Pattern/Hunt Pilot Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://cm-klington/CCMAdmin/routepatternconfig.asp?pkid={89F5482D-22A8-4FEE-A402-C2E89728F18D}

### Route Pattern/Hunt Pilot: 5XXX

Status: Ready  
Note: Any update to this Route Pattern or Hunt Pilot automatically resets the associated gateway or Route/Hunt List

Copy Update Delete

#### Pattern Definition

Route Pattern/Hunt Pilot\* 5XXX

Partition < None >

Description

Numbering Plan\* North American Numbering Plan

Route Filter < None >

MLPP Precedence Default

Gateway or Route/Hunt List\* S0/DS1-0@SDA0001C9D93A98 (Edit)

Route Option

Route this pattern

Block this pattern — Not Selected —

Provide Outside Dial Tone  Allow Overlap Sending  Urgent Priority

#### Calling Party Transformations

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask

Prefix Digits (Outgoing Calls)

Calling Line ID Presentation Default

Calling Name Presentation Default

#### Connected Party Transformations

Connected Line ID Presentation Default

Connected Name Presentation Default

#### Called Party Transformations

Discard Digits < None >

Called Party Transform Mask

Prefix Digits (Outgoing Calls)

#### ISDN Network-Specific Facilities Information Element

Carrier Identification Code

Network Service Protocol — Not Selected —

Network Service	Service Parameter Name	Service Parameter Value
— Not Selected —	< Not Exist >	

Done Local intranet





## Overlap Sending Route Pattern Configuration

Cisco CallManager 4.0 Administration - Route Pattern/Hunt Pilot Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://cm-klngon/CCMAdmin/routepatternconfig.asp?pkid={E959BFF6-5645-4444-9E24-2768AFCAAD03}

### Route Pattern/Hunt Pilot: 9.X

Status: Ready  
Note: Any update to this Route Pattern or Hunt Pilot automatically resets the associated gateway or Route/Hunt List

Copy Update Delete

#### Pattern Definition

Route Pattern/Hunt Pilot*	9X
Partition	< None >
Description	
Numbering Plan*	North American Numbering Plan
Route Filter	< None >
MLPP Precedence	Default
Gateway or Route/Hunt List*	S0/DS1-0@SDA0001C9D93A98 (Edit)
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern — Not Selected —

Provide Outside Dial Tone     Allow Overlap Sending     Urgent Priority

#### Calling Party Transformations

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask	
Prefix Digits (Outgoing Calls)	
Calling Line ID Presentation	Default
Calling Name Presentation	Default

#### Connected Party Transformations

Connected Line ID Presentation	Default
Connected Name Presentation	Default

#### Called Party Transformations

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

#### ISDN Network-Specific Facilities Information Element

Carrier Identification Code		
Network Service Protocol	— Not Selected —	
Network Service	Service Parameter Name	Service Parameter Value
— Not Selected —	< Not Exist >	

Done Local intranet



## Translation Pattern Configuration

Cisco CallManager 4.0 Administration - Translation Pattern Configuration - Microsoft Internet Explorer

Address: <http://cm-klngon/CCMAdmin/translationconfig.asp?pkid={89B55D17-7179-4943-A5CF-EED9D09BF290}>

### Translation Pattern Configuration

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

**Translation Pattern: 4XXX**  
Status: Ready

#### Pattern Definition

Translation Pattern	<input type="text" value="4XXX"/>
Partition	<input type="text" value="Incoming Trunk"/>
Description	<input type="text"/>
Numbering Plan*	<input type="text" value="North American Numbering Plan"/>
Route Filter	<input type="text" value="&lt; None &gt;"/>
Calling Search Space	<input type="text" value="Phones"/>
MLPP Precedence	<input type="text" value="Default"/>
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern <input type="text" value="Not Selected"/>

Provide Outside Dial Tone     Allow Overlap Sending     Urgent Priority

#### Calling Party Transformations

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>
Calling Line ID Presentation	<input type="text" value="Default"/>
Calling Name Presentation	<input type="text" value="Default"/>

#### Connected Party Transformations

Connected Line ID Presentation	<input type="text" value="Default"/>
Connected Name Presentation	<input type="text" value="Default"/>

#### Called Party Transformations

Discard Digits	<input type="text" value="&lt; None &gt;"/>
Called Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>

\* indicates required item.



## Translation Pattern for Incoming PSTN Calls

Cisco CallManager 4.0 Administration - Translation Pattern Configuration - Microsoft Internet Explorer

Address: <http://cm-klngon/CCMAdmin/translationconfig.asp?pkid={A3066907-2F1B-4A87-B787-F4C7FB5B1D61}>

### Translation Pattern Configuration

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

**Translation Pattern: 527.XXXX**  
Status: Ready

#### Pattern Definition

Translation Pattern	<input type="text" value="527.XXXX"/>
Partition	<input type="text" value="Incoming Trunk"/>
Description	<input type="text"/>
Numbering Plan*	<input type="text" value="North American Numbering Plan"/>
Route Filter	<input type="text" value="&lt; None &gt;"/>
Calling Search Space	<input type="text" value="Phones"/>
MLPP Precedence	<input type="text" value="Default"/>
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern <input type="text" value="Not Selected"/>
<input checked="" type="checkbox"/> Provide Outside Dial Tone	<input checked="" type="checkbox"/> Urgent Priority

#### Calling Party Transformations

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>
Calling Line ID Presentation	<input type="text" value="Default"/>
Calling Name Presentation	<input type="text" value="Default"/>

#### Connected Party Transformations

Connected Line ID Presentation	<input type="text" value="Default"/>
Connected Name Presentation	<input type="text" value="Default"/>

#### Called Party Transformations

Discard Digits	<input type="text" value="PreDot"/>
Called Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>

\* indicates required item.

Done Local intranet



## PSTN Route Pattern Configuration

Cisco CallManager 4.0 Administration - Route Pattern/Hunt Pilot Configuration - Microsoft Internet Explorer

Address: http://cm-klinton/CCMAdmin/routepatternconfig.asp?pkid={D711DDCC-3043-40B9-8FC9-9B9B101B6FC0}

**Route Pattern/Hunt Pilot: 9.650XXXXXXX**

Status: Ready  
Note: Any update to this Route Pattern or Hunt Pilot automatically resets the associated gateway or Route/Hunt List

Copy Update Delete

**Pattern Definition**

Route Pattern/Hunt Pilot\* 9.650XXXXXXX

Partition < None >

Description

Numbering Plan\* North American Numbering Plan

Route Filter < None >

MLPP Precedence Default

Gateway or Route/Hunt List\* S0/DS1-0@SDA0001C9D93A98 (Edit)

Route Option  
 Route this pattern  
 Block this pattern -- Not Selected --

Provide Outside Dial Tone  Allow Overlap Sending  Urgent Priority

**Calling Party Transformations**

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask

Prefix Digits (Outgoing Calls) 527

Calling Line ID Presentation Default

Calling Name Presentation Default

**Connected Party Transformations**

Connected Line ID Presentation Default

Connected Name Presentation Default

**Called Party Transformations**

Discard Digits PreDot

Called Party Transform Mask

Prefix Digits (Outgoing Calls)

**ISDN Network-Specific Facilities Information Element**

Carrier Identification Code

Network Service Protocol -- Not Selected --

Network Service	Service Parameter Name	Service Parameter Value
-- Not Selected --	< Not Exist >	

Done Local intranet



## 7960 IP phone Configuration

Cisco CallManager 4.0 Administration - Phone Configuration - Microsoft Internet Explorer

Address: <http://cm-klington/CCMAdmin/phoneconfig.asp?pkid={23EE0A35-0B85-42D6-8B13-18D674D3F2CE}>

### Phone Configuration

[Add a new phone](#)  
[Add/Update Speed Dials](#)  
[Subscribe/Unsubscribe Services](#)  
[Dependency Records](#)  
[Back to Find/List Phones](#)

**Directory Numbers**

**Base Phone**

- Line 1 - 4000 in 7915 Phones
- Line 2 - Add new DN 7915

**Phone: SEP000B5FD22FE8 (Auto 4000)**  
**Registration: Registered with Cisco CallManager 172.20.32.254**  
**IP Address: [172.20.32.102](#)**  
Status: Ready

**Phone Configuration (Model = Cisco 7960)**

**Device Information**

MAC Address*	<input type="text" value="000B5FD22FE8"/>
Description	<input type="text" value="Auto 4000"/>
Owner User ID	<input type="text"/> (Select User ID)
Device Pool*	<input type="text" value="Default"/> (View details)
Calling Search Space	<input type="text" value="&lt; None &gt;"/>
AAR Calling Search Space	<input type="text" value="&lt; None &gt;"/>
Media Resource Group List	<input type="text" value="&lt; None &gt;"/>
User Hold Audio Source	<input type="text" value="&lt; None &gt;"/>
Network Hold Audio Source	<input type="text" value="&lt; None &gt;"/>
Location	<input type="text" value="&lt; None &gt;"/>
User Locale	<input type="text" value="&lt; None &gt;"/>
Network Locale	<input type="text" value="&lt; None &gt;"/>
Device Security Mode	<input type="text" value="Use System Default"/>
Built In Bridge	<input type="text" value="Default"/>
Privacy	<input type="text" value="Default"/>

**Phone Button Template Information**

Phone Button Template*	<input type="text" value="Standard 7960"/> (View button list)
------------------------	---

**Softkey Template Information**

Softkey Template	<input type="text" value="&lt; None &gt;"/>
------------------	---

**Expansion Module Information**

Module 1	<input type="text" value="&lt; None &gt;"/>
Module 2	<input type="text" value="&lt; None &gt;"/>

Local intranet



Cisco CallManager 4.0 Administration - Phone Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://cm-kingon/CCMAdmin/phoneconfig.asp?pkid={23EE0A35-0B85-42D6-8B13-18D674D3F2CE}> Go Links

**Firmware Load Information (leave blank to use default)**

Phone Load Name

Module 1 Load Name  (Module 1 selection required)

Module 2 Load Name  (Module 2 selection required)

**Cisco IP Phone - External Data Locations (leave blank to use default)**

Information

Directory

Messages

Services

Authentication Server

Proxy Server

Idle

Idle Timer (seconds)

**Extension Mobility (Device Profile) Information**

Enable Extension Mobility Feature

Log Out Profile

Log In User ID

Log In Time

Log Out Time

**Multilevel Precedence and Preemption (MLPP) Information**

MLPP Domain  (e.g., "0000FF")

MLPP Indication

MLPP Preemption

**Product Specific Configuration**

Disable Speakerphone

Disable Speakerphone and Headset

Forwarding Delay\*

PC Port\*

Settings Access\*

Gratuitous ARP\*

PC Voice VLAN Access\*

Local intranet



Cisco CallManager 4.0 Administration - Directory Number Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://cm-klington/CCMAdmin/directorynumber.asp?NumPlanMapID={FDF4C8AE-583C-4480-9C58-36FC82BAA685}> Go Links

## Directory Number Configuration

[Configure Device \(SEP000B5FD22FE8\)](#)  
[Dependency Records](#)

**Associated With**  
SEP000B5FD22FE8  
7960 (Line 1)

**Directory Number: 4000 (Phones)**  
Status: Ready  
Note: Any update to this Directory Number automatically resets the associated devices

Update Remove from Device Reset Devices

**Directory Number**

Directory Number\* 4000  
Partition Phones

**Directory Number Settings**

Voice Mail Profile <None>  
(Choose <None> to use default)  
Calling Search Space Phones  
AAR Group <None>  
User Hold Audio Source <None>  
Network Hold Audio Source <None>  
Auto Answer Auto Answer Off

**Call Forward and Pickup Settings**

	Voice Mail Destination	Calling Search Space
Forward All	<input type="checkbox"/>	<None>
Forward Busy	<input type="checkbox"/>	<None>
Forward No Answer	<input type="checkbox"/>	<None>

No Answer Ring Duration (seconds)  
Call Pickup Group <None>

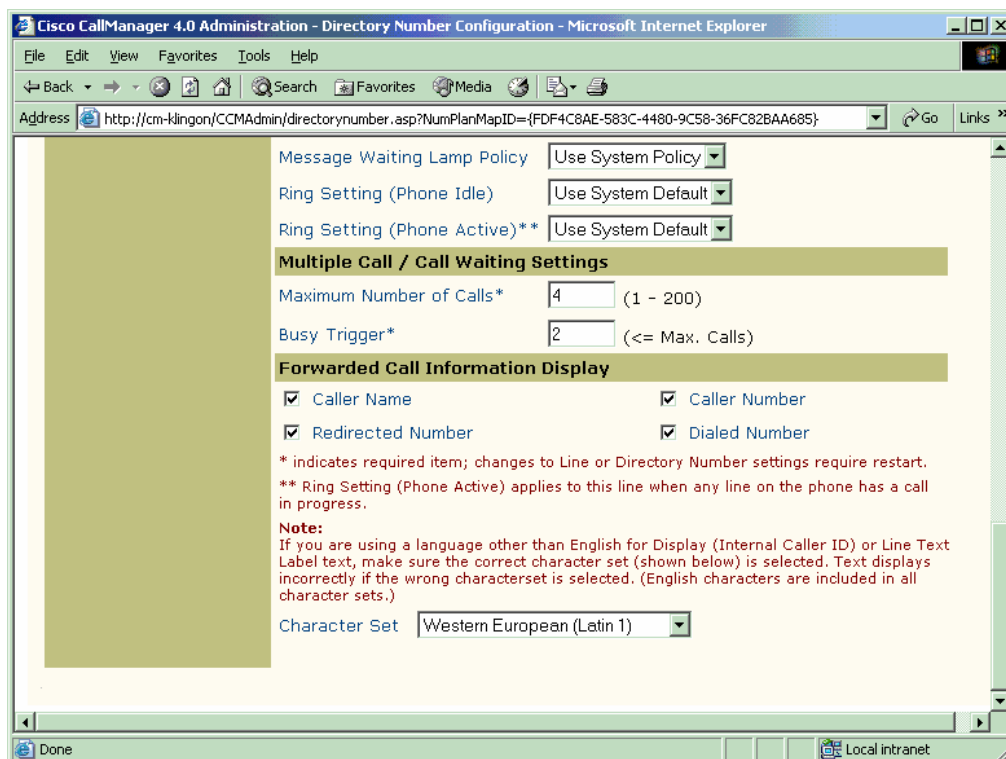
**MLPP Alternate Party Settings**

Target (Destination)  
Calling Search Space <None>  
No Answer Ring Duration (seconds)

**Line Settings for this Device**

Display (Internal Caller ID) JOHN DOE  
Line Text Label  
External Phone Number Mask

Done Local intranet



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