Application Note

# Cisco VG200-PBX Interoperability: Siemens Hicom 330E with ISDN PRI Signaling

## Introduction

**This document describes the interoperability and configuration of Cisco CallManager 3.3 with a Siemens Hicom 330E PBX using ISDN PRI QSIG signaling.**

## Network Topology

Figure 1 represents the configuration used for testing: a Siemens Hicom 330E PBX connected to a Cisco VG200 voice gateway via an E1 PRI connection.

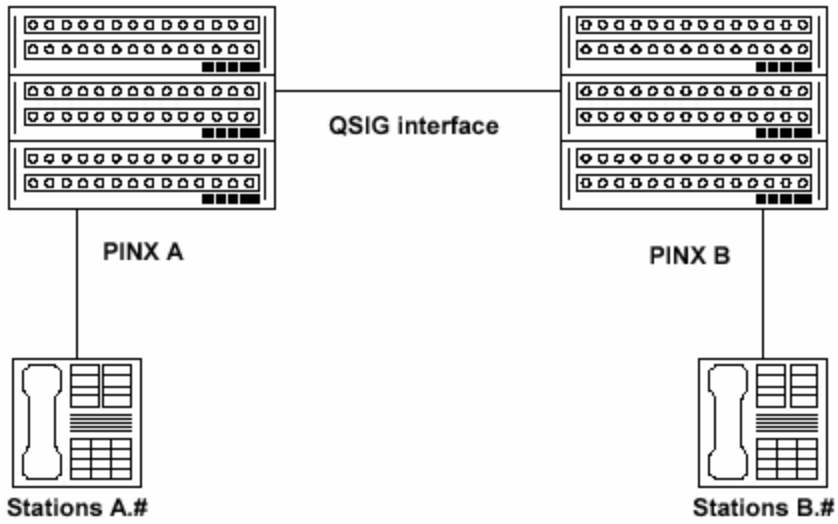


**Figure 1** Configuration for Basic Call Setup and Name Test Cases

## Limitations

- The Cisco VG200 gateway with ISDN protocol type setting of PRI-EURO supports both protocol sides by selecting “Network/User” in the protocol side field when configuring the gateway via CallManager.
- The Siemens Hicom 330E supports both “USER” (slave) and “NETWORK” (master) protocol sides.
- The following options are of particular interest:
  - Trunk **interface type** must be set to **PRA2**.
  - Network/User options are set in the Board/Digital Access Options menu. **Network mode** must be set to **Yes** for (Master/Network) or **No** (Slave/User).

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  - **Access Type** must be set to **T2**.
  - **Q931 signal variant** is used to determine Protocol type. This option was set to **ISDN all countries.**

- If AOC is enabled on the Siemens, the Setup message from the Siemens will contain a Facility IE to request Charging for the call. Since Cisco CallManager does not handle multiple Facility IE, the Calling Name will not be displayed on the IP phone. The AOC should be disabled on Siemens to get the Callling Name to work.
- Cisco CallManager 3.3 QSIG implementation does not depend on the physical interface. Cisco CallManager can terminate on either T1 or E1 interface on different Cisco voice gateways. Since MGCP backhaul mechanism is used, there is no difference between Cisco IOS or Cisco non-IOS gateways as far as layer 3 is concerned. This test report is based on test results for Cisco non-IOS gateway- 6608-E1 and Cisco IOS gateway- VG200 E1, however using other Cisco MGCP voice gateways on either E1 or T1 interfaces will have same results.
- The Cisco CallManager gateway configuration with ISDN protocol type of PRI ISO QSIG supports both protocol sides by selecting "Network/User" in the protocol side field when configuring the gateway via Cisco CallManager.
- The Siemens Hicom 330 E PBX, when set to ECMA1, ECMAV2, or PSS1V2, supports both "user" and "Network" protocol sides. This USER/NETWORK choice is made on the Siemens Hicom 330 E PBX by deactivating the B channels/D-channel (<dea-dssu). A change command is then issued to the Reference clock (<cha-refta) to get to the Master/Slave selection (Pri=0 for Master, 11 for slave). Now the trunk is changed (<cha-tdcsu) to get to Device type prompt (Dev=s2conn), (Bcgrp=1), and loadware parameters (Lwpar=1 for Slave, 4 for Master). The D-channel, and B-channels are then reactivated (<act-dssu), after the settings are changed.
- The Siemens Hicom 330 E PBX provides clocking on the interface, so Cisco gateway configuration needs to be set to derive its clock from the incoming Siemens line (clock field set to External).
- Overlap Receiving on Siemens Hicom 330 E PBX will not work if the Cisco gateway configuration is using the default parameter "Cisco Callmanager" for the field **Called Numbering Plan**. In order to support Overlap Sending on Cisco CallManager 3.3, make sure the Cisco gateway configuration is not using "Cisco CallManager" as an option for Called Numbering Plan field. All other options like ISDN, National Standard, Private, Unknown, will work.

## System Components

### Hardware Requirements

- Cisco hardware—Cisco VG200 with
- PBX hardware—version 6.5

### Software Requirements

- Cisco IOS software release—Cisco IOS Release 12.2(7)
- PBX software release—3.1
- Cisco CallManager release—3.3

## Configuration

### Configuring the Siemens Hicom 330E

DPLN

```
<dis-wabe

TYPE = gen

CD =

DPLN = 0;
```

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```
DIS-WABE:GEN,,0;
H500:  AMO WABE  STARTED
```

| DIGIT INTERPRETATION | | VALID FOR ALL DIAL PLANS | |
|---|---|---|---|
| CODE | CALL PROGRESS STATE<br>1 11111 11112 22<br>0 12345 67890 12345 67890 12 | DIGIT ANALYSIS RESULT | RESERVED/CONVERT<br>DNI/ADD-INFO<br>*=OWN NODE |
| 001 - 002 | * ..... ..... ..... ..... .. | NETRTE | R |
| 11 | . ..... ..... ..... ....* .. | MBKY | |
| 3001 | . .**** ***** **... ..... .. | STN | R |
| | | | DESTNO 0 |
| | | | DNNO 1- 1-150* |
| 3007 | . ..... ..... ..... ....* .. | MBKY | |
| 3007 | . .**** ***** **... ..... .. | STN | |
| | | | DESTNO 0 |
| | | | DNNO 1- 1-150* |
| 4100 - 4500 | . .**** ***** **... ..... .. | STN | R |
| | | | DESTNO 72 |
| | | | DNNO 0- 0- 0 |

| DIGIT INTERPRETATION | | VALID FOR ALL DIAL PLANS | |
|---|---|---|---|
| CODE | CALL PROGRESS STATE<br>1 11111 11112 22<br>0 12345 67890 12345 67890 12 | DIGIT ANALYSIS RESULT | RESERVED/CONVERT<br>DNI/ADD-INFO<br>*=OWN NODE |
| 5000 - 5007 | . .**** ***** **... ..... .. | STN | |
| | | | DESTNO 0 |
| | | | DNNO 1- 1-150* |
| 5008 - 5009 | . .**** ***** **... ..... .. | STN | R |
| | | | DESTNO 99 |
| | | | DNNO 0- 0- 0 |
| 5010 | . .**** *.*** **... ..... .. | ATNDIND | |
| 800 | . ..... *...* **... ..... .. | ATNDDID | |
| 854 | . .**** ***** **... ..... .. | NETW | R |
| | | | DESTNO 2 |
| | | | DNNO 0- 0- 0 |
| *66 | . ....* ..... ..... ..... .. | SIGNON | |

| DIGIT INTERPRETATION | | VALID FOR ALL DIAL PLANS | |
|---|---|---|---|
| CODE | CALL PROGRESS STATE<br>1 11111 11112 22<br>0 12345 67890 12345 67890 12 | DIGIT ANALYSIS RESULT | RESERVED/CONVERT<br>DNI/ADD-INFO<br>*=OWN NODE |
| *91 | . ....* ....* ..... ..... .. | MBOFF | |
| #66 | . ....* ..... ..... ..... .. | SIGNOFF | |
| #91 | . ....* ....* ..... ..... .. | MBON | |
| ##22 | . ..... ..... ..... ....* .. | DAKY | |
| ##24 | . ..... ..... ..... ....* .. | DSSKY | |

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```
| ##25            |. ..... ..... ..... ....* ..| FWDKY    |                    |
| ##26            |. ..... ..... ..... ....* ..| HTKY     |                    |
| ##27            |. ..... ..... ..... ....* ..| KNOVRKY  |                    |
| ##28            |. ..... ..... ..... ....* ..| MBKY     |                    |
| ##29            |. ..... ..... ..... ....* ..| MSGRKY   |                    |
| ##35            |. ..... ..... ..... ....* ..| TIMEKY   |                    |
| ##36            |. ..... ..... ..... ....* ..| VCKY     |                    |
-------------------------------------------------------------------------------
| DIGIT INTERPRETATION                  VALID FOR ALL DIAL PLANS             |
-------------------------------------------------------------------------------
|                 |    CALL PROGRESS STATE     |  DIGIT   | RESERVED/CONVERT |
|      CODE       |            1 11111 11112 22| ANALYSIS | DNI/ADD-INFO     |
|                 |0 12345 67890 12345 67890 12|  RESULT  | *=OWN NODE       |
-------------------------------------------------------------------------------
| ##37            |. ..... ..... ..... ....* ..| VCRKY    |                    |
| ##38            |. ..... ..... ..... ....* ..| CCKY     |                    |
| ##39            |. ..... ..... ..... ....* ..| CONFKY   |                    |
| ##41            |. ..... ..... ..... ....* ..| NAMEKY   |                    |
| ##42            |. ..... ..... ..... ....* ..| PARKKY   |                    |
| ##43            |. ..... ..... ..... ....* ..| REMKY    |                    |
| ##44            |. ..... ..... ..... ....* ..| STKY     |                    |
| ##45            |. ..... ..... ..... ....* ..| CBKKY    |                    |
| ##46            |. ..... ..... ..... ....* ..| CONSKY   |                    |
| ##47            |. ..... ..... ..... ....* ..| DNDKY    |                    |
| ##48            |. ..... ..... ..... ....* ..| EXHOLDKY |                    |
| ##49            |. ..... ..... ..... ....* ..| HOLDKY   |                    |
-------------------------------------------------------------------------------
| DIGIT INTERPRETATION                  VALID FOR ALL DIAL PLANS             |
-------------------------------------------------------------------------------
|                 |    CALL PROGRESS STATE     |  DIGIT   | RESERVED/CONVERT |
|      CODE       |            1 11111 11112 22| ANALYSIS | DNI/ADD-INFO     |
|                 |0 12345 67890 12345 67890 12|  RESULT  | *=OWN NODE       |
-------------------------------------------------------------------------------
| ##50            |. ..... ..... ..... ....* ..| IUSEKY   |                    |
| ##51            |. ..... ..... ..... ....* ..| LNRKY    |                    |
| ##52            |. ..... ..... ..... ....* ..| PRIVKY   |                    |
| ##53            |. ..... ..... ..... ....* ..| RLSKY    |                    |
| ##54            |. ..... ..... ..... ....* ..| SNRKY    |                    |
| ##55            |. ..... ..... ..... ....* ..| TRNSKY   |                    |
| ##56            |. ..... ..... ..... ....* ..| RCTOFFKY |                    |
| ##57            |. ..... ..... ..... ....* ..| TOGGLEKY |                    |
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
| DIGIT INTERPRETATION                        DPLN 0                         |
-------------------------------------------------------------------------------
|                 |    CALL PROGRESS STATE     |  DIGIT   | RESERVED/CONVERT |
|      CODE       |            1 11111 11112 22| ANALYSIS | DNI/ADD-INFO     |
|                 |0 12345 67890 12345 67890 12|  RESULT  | *=OWN NODE       |
-------------------------------------------------------------------------------
| 0               |. ..... *.... ..... ..... ..| ATNDDID  |                    |
| 0               |. ....* ..*** **... ..... ..| ATND     |                    |
| 150             |. .**** ***** **... ..... ..| OWNNODE  |                    |
| 2               |. .**** ***** **... ..... ..| TIE      |                    |
| 31              |. .**** ***** **... ..... ..| TIE      |                    |
```

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| 33 | .**** ***** **... ..... .. | TIE | |
|---|---|---|---|
| **37 - 38** | .**** ***** **... ..... .. | **TIE** | |
| 40 | .**** ***** **... ..... .. | TIE | |
| 702 | .**** ***** **... ..... .. | TIE | R |
| 9 | .**** ..*** **... ..... .. | CO | |
| *0 | *.... ..*.. ....* ..... .. | ACBK | |
| *10 | ....* ....* **... ..... .. | CCMANS | R |

| DIGIT INTERPRETATION | | DPLN 0 | |
|---|---|---|---|
| | CALL PROGRESS STATE | DIGIT | RESERVED/CONVERT |
| CODE | 1 11111 11112 22 | ANALYSIS | DNI/ADD-INFO |
| | 0 12345 67890 12345 67890 12 | RESULT | *=OWN NODE |
| *11 | ....* ..... ....* ..... .. | AFWDVCE | |
| *12 | ....* ..... ....* ..... .. | AFWDDTE | |
| *13 | ....* ..... ..... ..... .. | AFWDDWD | |
| *14 | .**** ***** **..* ..... .. | AFWDREM | |
| | | | CFREMVAR CFU |
| | | | CFREMSE VOICE |
| *15 | *...* ..**. ..... ..... .. | APRIV | |
| *16 | ....* ..... ..... ..... .. | PUGDIS | |
| *17 | *.... ..**. ..... ..... .* | SPLIT | |
| *18 | *.... ..**. ..... ..... .. | TRACE | |
| *19 | ....* ..... ....* ..... .. | AREM | |
| *20 | ...** ..... ..... ..... .. | NOPT | |

| DIGIT INTERPRETATION | | DPLN 0 | |
|---|---|---|---|
| | CALL PROGRESS STATE | DIGIT | RESERVED/CONVERT |
| CODE | 1 11111 11112 22 | ANALYSIS | DNI/ADD-INFO |
| | 0 12345 67890 12345 67890 12 | RESULT | *=OWN NODE |
| *21 | ....* ..... ....* ..... .. | AFFWDVCE | |
| *22 | ....* ..... ....* ..... .. | AFFWDDTE | |
| *23 | *...* ..**. ..... ..... .. | CALLPARK | |
| *24 | ....* ..**. ..... ..... .. | DISUON | |
| *3 | .**** ..**. ..... ..... .. | PUDIR | |
| *40 | ....* ....* **... ..... .. | CCANS | R |
| *41 | ..... ..... ..... ..*.. .. | CCDIS | |
| *43 | .**.* *...* **... ..... .. | DTE | |
| *44 | .**** ***** **..* ..... .. | FWDREM | |
| | | | CFREMVAR CFU |
| | | | CFREMSE VOICE |
| *45 | ..... ..... ..... ..*.. .. | CCMEETME | |

| DIGIT INTERPRETATION | | DPLN 0 | |
|---|---|---|---|
| | CALL PROGRESS STATE | DIGIT | RESERVED/CONVERT |
| CODE | 1 11111 11112 22 | ANALYSIS | DNI/ADD-INFO |
| | 0 12345 67890 12345 67890 12 | RESULT | *=OWN NODE |
| *46 | ***** *.*** **... ..... .. | CCSCD | R |
| *47 | ..... ..... ..... ..*.. .. | CCSURG | |

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```
| *48             |. ..... ..... ..... ..*.. ..| CCVCE     |                  |
| *49             |. ....* ..... ..... ..... ..| ACOSX     |                  |
| *50             |. ....* ..**. ..... ..... ..| FWDIGNOR  |                  |
| *51             |. ....* ..... ..... ..... ..| ADND      |                  |
| *52             |. ....* ..... ..... ..... ..| AHTVCE    |                  |
| *53             |. ***** *.*** **... ..... ..| CCMSURG   | R                |
| *54             |. ....* ..... ..... ..... ..| SPD       |                  |
| *55             |. *...* ..**. ..... ..... ..| BABYLSNG  |                  |
| *56             |. ***** *.*** **... ..... ..| CCMS      | R                |
| *57             |. ..... ..... ..... ..*.. ..| CCS       |                  |
-------------------------------------------------------------------------------
| DIGIT INTERPRETATION                              DPLN 0                     |
-------------------------------------------------------------------------------
|                 |    CALL PROGRESS STATE     |  DIGIT    | RESERVED/CONVERT |
|      CODE       |            1 11111 11112 22| ANALYSIS  | DNI/ADD-INFO     |
|                 |0 12345 67890 12345 67890 12|  RESULT   | *=OWN NODE       |
-------------------------------------------------------------------------------
| *58             |. ***** *.*** **... ..... ..| CCSN      | R                |
| *59             |. ..... ..... ..... ..*.. ..| CCSTN     |                  |
| *60             |. *.... ..... ..... ..... ..| KNOVR     |                  |
| *61             |. .**** ..*** **... ..... ..| SPDC1     |                  |
| *62             |. .**** ..*** **... ..... ..| SPDC2     |                  |
| *63             |. .**.* ..**. ..... ..... ..| SPDI      |                  |
| *64             |. ....* ..... ....* ..... ..| SPDIPROG  |                  |
| *69             |. *.... ..**. ..... ..... ..| EOVR      |                  |
| *7              |. *...* ..**. ..... ..... .*| LNR       |                  |
| *81             |. ....* ..**. ..... .*... ..| APIN1     |                  |
| *82             |. ....* ..**. ..... .*... ..| APIN2     |                  |
| *83             |. ....* ..**. ..... .*... ..| APIN3     |                  |
-------------------------------------------------------------------------------
| DIGIT INTERPRETATION                              DPLN 0                     |
-------------------------------------------------------------------------------
|                 |    CALL PROGRESS STATE     |  DIGIT    | RESERVED/CONVERT |
|      CODE       |            1 11111 11112 22| ANALYSIS  | DNI/ADD-INFO     |
|                 |0 12345 67890 12345 67890 12|  RESULT   | *=OWN NODE       |
-------------------------------------------------------------------------------
| *84             |. ....* ..**. ..... .*... ..| APIN4     |                  |
| *85             |. ....* ..**. ..... .*... ..| APIN5     |                  |
| *88             |. ...** ....* *.... ..... ..| CTLS      |                  |
| *89             |. ..*.. *...* *.... ..... ..| TESTLN    |                  |
| *9              |. *.... ..... ..... ..... ..| CONF3     |                  |
| **              |. ....* ..... ..... ..... ..| PU        |                  |
| *#50            |. *...* ..**. ..... ..... .*| ACDLOGON  |                  |
| *#51            |. *...* ..**. ..... ..... .*| ACDAV     |                  |
| *#52            |. *...* ..**. ..... ..... .*| ACDWORK   |                  |
| *#53            |. *...* ..**. ..... ..... .*| ACC       |                  |
| *#54            |. ....* ..... ..... ..... ..| MONSLNT   |                  |
| *#55            |. ....* ..... ..... ..... ..| MONTONE   |                  |
-------------------------------------------------------------------------------
| DIGIT INTERPRETATION                              DPLN 0                     |
-------------------------------------------------------------------------------
|                 |    CALL PROGRESS STATE     |  DIGIT    | RESERVED/CONVERT |
|      CODE       |            1 11111 11112 22| ANALYSIS  | DNI/ADD-INFO     |
|                 |0 12345 67890 12345 67890 12|  RESULT   | *=OWN NODE       |
```

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```
-------------------------------------------------------------------------------
| *#60            |. *...* ..**. ..... ..... ..| ACDPGS    |                  |
| *#61            |. *...* ..**. ..... ..... ..| ACDPQS    |                  |
| *#62            |. ....* ..... ..... ..... ..| ACDEMMSG  |                  |
| *#63            |. ....* ..... ..... ..... ..| ACDSHMSG  |                  |
| *#71            |. *...* ..**. ..... ..... ..| CAFAV     |                  |
| *#72            |. *...* ..**. ..... ..... ..| CAFGRAV   |                  |
| *#74            |. *...* ..**. ..... ..... ..| CAFAFWD   |                  |
| #0              |. ....* ..... ..... ..... ..| DCBK      |                  |
| #11             |. ....* ..... ..... ..... ..| DFWDVCE   |                  |
| #12             |. ....* ..... ..... ..... ..| DFWDDTE   |                  |
-------------------------------------------------------------------------------
| DIGIT INTERPRETATION                              DPLN 0                    |
-------------------------------------------------------------------------------
|                 |    CALL PROGRESS STATE     |  DIGIT    | RESERVED/CONVERT |
|      CODE       |            1 11111 11112 22| ANALYSIS  | DNI/ADD-INFO     |
|                 |0 12345 67890 12345 67890 12|  RESULT   | *=OWN NODE       |
-------------------------------------------------------------------------------
| #14             |. .**** ***** **..* ..... ..| DFWDREM   |                  |
|                 |                            |           |CFREMVAR CFU      |
|                 |                            |           |CFREMSE  VOICE    |
| #15             |. *...* ..**. ..... ..... ..| DPRIV     |                  |
| #19             |. ....* ..... ..... ..... ..| DREM      |                  |
| #21             |. ....* ..... ..... ..... ..| DFFWDVCE  |                  |
| #22             |. ....* ..... ..... ..... ..| DFFWDDTE  |                  |
| #24             |. ....* ..**. ..... ..... ..| DISUOFF   |                  |
| #49             |. ....* ..... ..... ..... ..| DCOSX     |                  |
| #51             |. ....* ..... ..... ..... ..| DDND      |                  |
| #52             |. ....* ..... ..... ..... ..| DHTVCE    |                  |
| #74             |. ....* ..... ..... ..... ..| DIGIDAT   |                  |
-------------------------------------------------------------------------------
| DIGIT INTERPRETATION                              DPLN 0                    |
-------------------------------------------------------------------------------
|                 |    CALL PROGRESS STATE     |  DIGIT    | RESERVED/CONVERT |
|      CODE       |            1 11111 11112 22| ANALYSIS  | DNI/ADD-INFO     |
|                 |0 12345 67890 12345 67890 12|  RESULT   | *=OWN NODE       |
-------------------------------------------------------------------------------
| #8              |. ....* ..**. ..... .*... ..| DPIN      |                  |
| #92             |. ....* ....* ..... ..... ..| MBOFF     |                  |
| #*50            |. *...* ..**. ..... ..... .*| ACDLOGOF  |                  |
| #*51            |. *...* ..**. ..... ..... .*| ACDNAV    |                  |
| #*60            |. *...* ..**. ..... ..... ..| ACDSGS    |                  |
| #*61            |. *...* ..**. ..... ..... ..| ACDSQS    |                  |
| #*70            |. *...* ..**. ..... ..... ..| CAFLOGOF  |                  |
| #*71            |. *...* ..**. ..... ..... ..| CAFNAV    |                  |
| #*72            |. *...* ..**. ..... ..... ..| CAFGRNAV  |                  |
| #*73            |. *...* ..**. ..... ..... ..| CAFGROFF  |                  |
| #*74            |. *...* ..**. ..... ..... ..| CAFDFWD   |                  |
| ##1             |. ..... ..... ....* ..... ..| KYPROG    |                  |
-------------------------------------------------------------------------------
| DIGIT INTERPRETATION                              DPLN 0                    |
-------------------------------------------------------------------------------
|                 |    CALL PROGRESS STATE     |  DIGIT    | RESERVED/CONVERT |
|      CODE       |            1 11111 11112 22| ANALYSIS  | DNI/ADD-INFO     |
```

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```
|                |0 12345 67890 12345 67890 12|  RESULT  | *=OWN NODE       |
-------------------------------------------------------------------------------
| ##40           |. ..... ..... ..... ....* ..| NAKYLO   |                  |
| ##7            |. ....* ....* ..... ..... ..| MBON     |                  |
| ##8            |. ....* ....* ..... ..... ..| MBOFF    |                  |
-------------------------------------------------------------------------------

AMO-WABE -162       DIALLING PLANS, FEATURE ACCESS CODES

DISPLAY COMPLETED;
```

**Access Code for Enbloc Sending dial plan, DPLN**

```
<dis-ldpln

TYPE = ldp

M40: APPLICABLE GROUP CONDITION: MAXIMUM OF 1 OUT OF 2 PARAMETERS

LDPNO = 47;

DIS-LDPLN:LDP,47;

H500:  AMO LDPLN STARTED
   +--------------+-----------------------------------------+
   |              |                                         |
   | LDPNO :   47 | LDP : 37-XXXX                           |
   |              | SPC : 6                                 |
   +--------------+------+------+------++------+------+------+
   |              | DPLN | LRTE | LAUTH|| DPLN | LRTE | LAUTH|
   |              +------+------+------++------+------+------+
   |              |   0  |   37 |   1  ||   8  |      |      |
   |              |   1  |      |      ||   9  |      |      |
   |              |   2  |      |      ||  10  |      |      |
   |              |   3  |      |      ||  11  |      |      |
   |              |   4  |      |      ||  12  |      |      |
   |              |   5  |      |      ||  13  |      |      |
   |              |   6  |      |      ||  14  |      |      |
   |              |   7  |      |      ||  15  |      |      |
   +--------------+------+------+------++------+------+------+

AMO-LDPLN-196       ADMINISTRATION LCR DIALPLAN

DISPLAY COMPLETED;
```

**Access Code for Overlap Sending dial plan, DPLN**

```
<dis-ldpln

TYPE = ldp
```

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```
M40: APPLICABLE GROUP CONDITION: MAXIMUM OF 1 OUT OF 2 PARAMETERS
LDPNO = 43;
DIS-LDPLN:LDP,43;
H500:  AMO LDPLN STARTED
   +--------------+-----------------------------------------+
   |              |                                         |
   | LDPNO :   43 | LDP : 38-X                              |
   |              | SPC : 22                                |
   +--------------+------+------+------++------+------+------+
   |              | DPLN | LRTE | LAUTH|| DPLN | LRTE | LAUTH|
   |              +------+------+------++------+------+------+
   |              |   0  |   38 |   1  ||   8  |      |      |
   |              |   1  |      |      ||   9  |      |      |
   |              |   2  |      |      ||  10  |      |      |
   |              |   3  |      |      ||  11  |      |      |
   |              |   4  |      |      ||  12  |      |      |
   |              |   5  |      |      ||  13  |      |      |
   |              |   6  |      |      ||  14  |      |      |
   |              |   7  |      |      ||  15  |      |      |
   +--------------+------+------+------++------+------+------+

AMO-LDPLN-237       ADMINISTRATION LCR DIALPLAN

DISPLAY COMPLETED;
```

BCSU

```
<dis-bcsu

TYPE = tbl

LTG = 1

LTU = 1

SLOT = 73;

DIS-BCSU:TBL,1,1,73;
H500:  AMO BCSU  STARTED

 ADDRESS : LTG  1  LTU 1
-----+-----------+---------+---+---+-+------------+-----+--------+------------+
     | ASSIGNED  | MODULE  |FCT|HWY| | INSERTED   |     |        | MODULE     |
 PEN | MODULE    | TYPE    |ID |BDL| | MODULE     |STATE| HW-INFO| STATUS     |
-----+-----------+---------+---+---+-+------------+-----+--------+------------+
  73 | Q2196-X     DIU-N2     1  A | | Q2196-X    |  1  | -04 -  | READY      |
AMO-BCSU -162       BOARD CONFIGURATION, SWITCHING UNIT

DISPLAY COMPLETED;
```

Class of Trunk, COT

```
<dis-cot

COTNO = 4;
```

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```
DIS-COT:4;
H500:  AMO COT   STARTED

   COT:   4  INFO: 4:Q931 EXTERNAL
   DEVICE: INDEP        SOURCE: DB
   PARAMETER:
        PRIORITY FOR AC WILL BE DETERMINED FROM MESSAGE              PRI
        RECALL IF USER HANGS UP IN CONSULTATION CALL                 RCL
        TRUNK CALL TRANSFER                                          XFER
        TRUNK SIGNALING ANSWER                                       ANS
        CHANGEOVER FROM HOLD TO RING TONE                            CHRT
        KNOCKING OVERRIDE POSSIBLE                                   KNOR
        CALL EXTEND FOR BUSY, RING OR CALL STATE                     CEBC
        NETWORKWIDE AUTOMATIC CALLBACK ON BUSY                       CBBN
        NETWORKWIDE AUTOMATIC CALLBACK ON FREE                       CBFN
        DON'T RELEASE CALL TO BUSY HUNT GROUP                        BSHT
        END-OF-DIAL FOR BLOCK IS SET                                 BLOC
        SEND NO NODE NUMBER TO PARTNER                               LWNC
        INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR                     NLCR
        TSC-SIGNALING FOR NETWORKWIDE FEATURES (MANDATORY)           TSCS
        INCOMING CDR BY ZONE OR FROM LINE                            ICZL
        INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR (DATA)              NLRD
        INTERWORKING CALLBACK - NO ANSWER AND MAILBOX CALLBACK       IWCB
        CONTROLLED TRUNK AND LINE SELECTION                          CTLS
        NO TONE                                                      NTON
AMO-COT  -162       CLASS OF TRUNK FOR CALL PROCESSING

DISPLAY COMPLETED;
```

Class of Parameter for device handler, COP

```
<disp-cop

COPNO = 4;

DISP-COP:4;
H500:  AMO COP   STARTED

   COP:   4  INFO: 4:Q931
   DEVICE: INDEP        SOURCE: DB
   PARAMETER:
        LINE WITH END-OF-DIAL                                        EOD
        SPECIAL MODE                                                 SFRM
        CODE CALLING RELEASE AFTER EVERY TASK                        CCR
        REGISTRATION OF LAYER 3 ADVISORIES                           L3AR

AMO-COP  -162       CLASS OF PARAMETER FOR DEVICE HANDLER

DISPLAY COMPLETED;
```

Class of Service, COSSU

```
<dis-cossu
```

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```
TYPE = cos

COS = 32;

DIS-COSSU:COS,32;
H500:  AMO COSSU STARTED
   +------+----------+---------+---------+---------+----------+
   | COS  |  VOICE   |   FAX   |   TTX   |   VTX   |    DTE   |
   +------+----------+---------+---------+---------+----------+
   |   32 |>32:TRUNKS                                         |
   |      |      TA  |   NOCO  |   NOCO  |   NOCO  |      TA  |
   |      |  TNOTCR  |  NOTIE  |  NOTIE  |  NOTIE  |  TNOTCR  |
   |      |          |         |         |         |   BASIC  |
   |      |          |         |         |         |     MSN  |
   |      |          |         |         |         |  CDRINT  |
   |      |          |         |         |         |  MULTRA  |
   |      |          |         |         |         |          |
   +------+----------+---------+---------+---------+----------+
AMO-COSSU-162       CLASSES OF SERVICE, SWITCHING UNIT

DISPLAY COMPLETED;

<dis-cossu

TYPE = lcos

LCOS = 31;

DIS-COSSU:LCOS,31;
H500:  AMO COSSU STARTED
   THE LCR CLASSMARKS ARE CONTAINED IN THE FOLLOWING LCOS:
   +----+-------------------------------------------------------------+
   |LCOS|             LCOSV              |             LCOSD             |
   |    |12345678901234567890123456789012|12345678901234567890123456789012|
   |    |>SERVICE INFORMATION                                         |
   +----+----+----|----+----|----+----|--+----+----|----+----|----+----|--+
   |  31|                             XX|                             XX|
   +----+-------------------------------------------------------------+

AMO-COSSU-162       CLASSES OF SERVICE, SWITCHING UNIT

DISPLAY COMPLETED;
```

Trunk group access code for Enbloc Sending, BUEND

```
<dis-buend

TGRP = 37;

DIS-BUEND:37;
H500:  AMO BUEND STARTED

+------------------------------ FORMAT = L ----------------------------------+
|  TGRP NUMBER :    37   TGRP NAME   : PRI               MAXIMUM NO.   :   30 |
```

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```
|  SUBGROUP NO.:    10   DEVICE TYPE : S2CONN            TRACENO       :    0 |
|  RESERVED    :     N   SEARCH MODE : CIRCULAR          ACD THRESHOLD :    * |
|  NUMBER OF ASSOCIATED ROUTES       :   2               PRIORITY      :    1 |
|  THE FOLLOWING TRUNKS (LTG-LTU-SLOT-CCT) HAVE BEEN ALLOCATED:                |
+------------------------------------------------------------------------------+
|   1- 1- 73-0   B-CHL:  1 |  1- 1- 73-0   B-CHL:  2 |  1- 1- 73-0   B-CHL:  3 |
|   1- 1- 73-0   B-CHL:  4 |  1- 1- 73-0   B-CHL:  5 |  1- 1- 73-0   B-CHL:  6 |
|   1- 1- 73-0   B-CHL:  7 |  1- 1- 73-0   B-CHL:  8 |  1- 1- 73-0   B-CHL:  9 |
|   1- 1- 73-0   B-CHL: 10 |  1- 1- 73-0   B-CHL: 11 |  1- 1- 73-0   B-CHL: 12 |
|   1- 1- 73-0   B-CHL: 13 |  1- 1- 73-0   B-CHL: 14 |  1- 1- 73-0   B-CHL: 15 |
|   1- 1- 73-0   B-CHL: 16 |  1- 1- 73-0   B-CHL: 17 |  1- 1- 73-0   B-CHL: 18 |
|   1- 1- 73-0   B-CHL: 19 |  1- 1- 73-0   B-CHL: 20 |  1- 1- 73-0   B-CHL: 21 |
|   1- 1- 73-0   B-CHL: 22 |  1- 1- 73-0   B-CHL: 23 |  1- 1- 73-0   B-CHL: 24 |
|   1- 1- 73-0   B-CHL: 25 |  1- 1- 73-0   B-CHL: 26 |  1- 1- 73-0   B-CHL: 27 |
|   1- 1- 73-0   B-CHL: 28 |  1- 1- 73-0   B-CHL: 29 |  1- 1- 73-0   B-CHL: 30 |
+------------------------------------------------------------------------------+
AMO-BUEND-162       TRUNK GROUP

DISPLAY COMPLETED;
```

Trunk group access code for Overlap Sending, BUEND

```
<dis-buend
TGRP = 1-1-73-1

TGRP = 38;

DIS-BUEND:38,L;
H500:  AMO BUEND STARTED

+------------------------------ FORMAT = L ----------------------------------+
|  TGRP NUMBER :    38   TGRP NAME   : PRI MWI            MAXIMUM NO.   :   30 |
|  SUBGROUP NO.:     9   DEVICE TYPE : S2CONN             TRACENO       :    0 |
|  RESERVED    :     N   SEARCH MODE : CIRCULAR           ACD THRESHOLD :    * |
|  NUMBER OF ASSOCIATED ROUTES       :   1                PRIORITY      :    2 |
|  THE FOLLOWING TRUNKS (LTG-LTU-SLOT-CCT) HAVE BEEN ALLOCATED:                |
+------------------------------------------------------------------------------+
|   1- 1- 73-1   B-CHL:  1 |  1- 1- 73-1   B-CHL:  2 |  1- 1- 73-1   B-CHL:  3 |
|   1- 1- 73-1   B-CHL:  4 |  1- 1- 73-1   B-CHL:  5 |  1- 1- 73-1   B-CHL:  6 |
|   1- 1- 73-1   B-CHL:  7 |  1- 1- 73-1   B-CHL:  8 |  1- 1- 73-1   B-CHL:  9 |
|   1- 1- 73-1   B-CHL: 10 |  1- 1- 73-1   B-CHL: 11 |  1- 1- 73-1   B-CHL: 12 |
|   1- 1- 73-1   B-CHL: 13 |  1- 1- 73-1   B-CHL: 14 |  1- 1- 73-1   B-CHL: 15 |
|   1- 1- 73-1   B-CHL: 16 |  1- 1- 73-1   B-CHL: 17 |  1- 1- 73-1   B-CHL: 18 |
|   1- 1- 73-1   B-CHL: 19 |  1- 1- 73-1   B-CHL: 20 |  1- 1- 73-1   B-CHL: 21 |
|   1- 1- 73-1   B-CHL: 22 |  1- 1- 73-1   B-CHL: 23 |  1- 1- 73-1   B-CHL: 24 |
|   1- 1- 73-1   B-CHL: 25 |  1- 1- 73-1   B-CHL: 26 |  1- 1- 73-1   B-CHL: 27 |
|   1- 1- 73-1   B-CHL: 28 |  1- 1- 73-1   B-CHL: 29 |  1- 1- 73-1   B-CHL: 30 |
+------------------------------------------------------------------------------+
AMO-BUEND-143       TRUNK GROUP

DISPLAY COMPLETED;
```

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Trunk Configuration, TDCSU

**For Master side configuration**

```
<dis-tdcsu

PEN1 = 1-1-73-0;

DIS-TDCSU:1-1-73-0;
H500:  AMO TDCSU STARTED
  +------------------------ DIGITAL TRUNK (FORMAT=L) -------------------------+
  |             DEV = S2CONN                  PEN =  1-01-073-0               |
  |---------------------------------------------------------------------------|
  | COTNO    = 4             COPNO    = 4             DPLN     = 0            |
  | ITR      = 0             COS      = 32            LCOSV    = 31           |
  | LCOSD    = 31            CCT      = PRI           DESTNO   = 99           |
  | PR0TVAR  = PSS1V2        SEGMENT  = 1             TCHARG   = N            |
  | SUPPRESS = 0             DGTPR    =               CHIMAP   = N            |
  | ISDNCC   =               ISDNAC   =               ISDNLC   =              |
  | ISDNIP   =               ISDNNP   =                                       |
  | PNPL2C   =               PNPL1C   =               PNPLC    =              |
  | PNPL2P   =               PNPL1P   =               PNPAC    =              |
  | TRACOUNT = 31            SATCOUNT = MANY          NNO      = 1  -1  -999  |
  | ALARMNO  = 2             FIDX     = 1             CARRIER  = 1            |
  | ZONE     = EMPTY         COTX     = 4             FWDX     = 10           |
  | DOMTYPE  =               DOMAINNO =               TPROFNO  =              |
  | INIGHT   =                                                               |
  | CCHDL    =               UUSCCX   = 16            UUSCCY   = 8            |
  |---------------------------------------------------------------------------|
  | TGRP     = 37            SRCHMODE = CIR           BCNEG    = N            |
  | BCGR     = 1             INS      = Y             LWPAR    = 4            |
  | LWPP     = 0             LWLT     = 0             LWPS     = 0            |
  | LWR1     = 0             LWR2     = 0                                     |
  | BCHAN    1 && 30                                                         |
  |                                                                           |
  +---------------------------------------------------------------------------+
  AMOUNT OF B-CHANNELS IN THIS DISPLAY-OUTPUT: 30

AMO-TDCSU-162       DIGITAL TRUNKS
DISPLAY COMPLETED;

<dis-lwpar

INFOPAT = 4

FORMAT = l

DEV = ;

DIS-LWPAR:4,L,;
H500:  AMO LWPAR STARTED
```

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```
+-------------------------------------------------------------------------+
| LOADWARE PARAMETERS     CIRCUIT TYPE: DIUS2  SOURCE:DB    BLOCK:    4 |
+-------------------------------------------------------------------------+
| LNTYPE   = COPPER         VERSION  = S2           QUAL     =  ON       |
| MASTER   = Y              DCHAN1   = 16           DCHAN2   = 0         |
| PATTERN  = D5H            QUAL1    =  10 SEC.     QUAL2    =  10 MIN.  |
| SMD      = Y              PERMACT  = Y            FCBAB    = DFH       |
| CDG      = Y              FIXEDTEI = 0            CNTRNR   = 255       |
| TEIVERIF = N              CRC4REP  = N                                 |
| DEV      = INDEP                                                        |
| INFO     = 4:COPPER-MASTER CLOCK(DPNSS A-END)                          |
+-------------------------------------------------------------------------+

AMO-LWPAR-162       LOADWARE PARAMETERS FOR NETWORKING MODULES

DISPLAY COMPLETED;
```

**For Slave side configuration**

```
<dis-tdcsu

PEN1 = 1-1-73-0;

DIS-TDCSU:1-1-73-0;
H500:  AMO TDCSU STARTED
  +------------------------ DIGITAL TRUNK (FORMAT=L) -------------------------+
  |             DEV = S2CONN                  PEN =  1-01-073-0              |
  |--------------------------------------------------------------------------|
  | COTNO    = 4            COPNO    = 4            DPLN     = 0            |
  | ITR      = 0            COS      = 32           LCOSV    = 31           |
  | LCOSD    = 31           CCT      = PRI          DESTNO   = 99           |
  | PROTVAR  = PSS1V2       SEGMENT  = 1            TCHARG   = N            |
  | SUPPRESS = 0            DGTPR    =              CHIMAP   = N            |
  | ISDNCC   =              ISDNAC   =              ISDNLC   =              |
  | ISDNIP   =              ISDNNP   =                                      |
  | PNPL2C   =              PNPL1C   =              PNPLC    =              |
  | PNPL2P   =              PNPL1P   =              PNPAC    =              |
  | TRACOUNT = 31           SATCOUNT = MANY         NNO      = 1  -1  -999  |
  | ALARMNO  = 2            FIDX     = 1            CARRIER  = 1            |
  | ZONE     = EMPTY        COTX     = 4            FWDX     = 10           |
  | DOMTYPE  =              DOMAINNO =              TPROFNO  =              |
  | INIGHT   =                                                              |
  | CCHDL    =              UUSCCX   = 16           UUSCCY   = 8            |
  |--------------------------------------------------------------------------|
  | TGRP     = 37           SRCHMODE = CIR          BCNEG    = N            |
  | BCGR     = 1            INS      = Y            LWPAR    = 1            |
  | LWPP     = 0            LWLT     = 0            LWPS     = 0            |
  | LWR1     = 0            LWR2     = 0                                    |
  | BCHAN    1 && 30                                                        |
  |                                                                          |
  +--------------------------------------------------------------------------+
```

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```
  AMOUNT OF B-CHANNELS IN THIS DISPLAY-OUTPUT: 30

AMO-TDCSU-162       DIGITAL TRUNKS
DISPLAY COMPLETED;

<dis-lwpar

INFOPAT = 1

FORMAT = l

DEV = ;

DIS-LWPAR:1,L,;
H500:  AMO LWPAR STARTED

   +-------------------------------------------------------------------------+
   | LOADWARE PARAMETERS     CIRCUIT TYPE: DIUS2  SOURCE:DB    BLOCK:    1 |
   +-------------------------------------------------------------------------+
   | LNTYPE   = COPPER         VERSION  = S2           QUAL     =  ON      |
   | MASTER   = N              DCHAN1   = 16           DCHAN2   = 0        |
   | PATTERN  = D5H            QUAL1    =  10 SEC.     QUAL2    =  10 MIN. |
   | SMD      = N              PERMACT  = Y            FCBAB    = DFH      |
   | CDG      = N              FIXEDTEI = 0            CNTRNR   = 255      |
   | TEIVERIF = N              CRC4REP  = N                                |
   | DEV      = INDEP                                                      |
   | INFO     = 1:COPPER-DERIVE CLOCK FROM LINE(I421)                      |
   +-------------------------------------------------------------------------+

AMO-LWPAR-162       LOADWARE PARAMETERS FOR NETWORKING MODULES

DISPLAY COMPLETED;
```

## Reference Clock Configuration, REFTA

**For Master side configuration**

```
<dis-refta

TYPE = circuit

PEN = 1-1-73-0;

DIS-REFTA:CIRCUIT,1-1-73-0;
H500:  AMO REFTA STARTED
   +-------------------------------------------------------------------------+
   |          R E F E R E N C E   C L O C K   C I R C U I T S                 |
   +-------------+---------+----------+------+--------+------+--------+-----+
   | PEN         | MODULE  | DEVICE   | PRI  | ERROR  |BLOCK | SUPP.  |READY|
   |             |         |          |      |        |      |        |BUT  |
   |             |         |          |      |        |      |        |ASYN.|
   +-------------+---------+----------+------+--------+------+--------+-----+
   |  1- 1- 73- 0 | DIU-N2  | S2CONN   |   0  |  17575 |    N |        |  N  |
```

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```
   +--------------+---------+----------+------+--------+------+--------+-----+

AMO-REFTA-162       REFERENCE CLOCK TABLE
DISPLAY COMPLETED;
```

**For Slave side configuration**

```
<dis-refta

TYPE = circuit

PEN = 1-1-73-0;

DIS-REFTA:CIRCUIT,1-1-73-0;
H500:  AMO REFTA STARTED
   +-------------------------------------------------------------------------+
   |          R E F E R E N C E   C L O C K   C I R C U I T S                 |
   +--------------+---------+----------+------+--------+------+--------+-----+
   | PEN          | MODULE  | DEVICE   | PRI  | ERROR  |BLOCK | SUPP.  |READY|
   |              |         |          |      |        |      |        |BUT  |
   |              |         |          |      |        |      |        |ASYN.|
   +--------------+---------+----------+------+--------+------+--------+-----+
   |  1- 1- 73- 0 | DIU-N2  | S2CONN   |  11  |  17575 |    N |        |  N  |
   +--------------+---------+----------+------+--------+------+--------+-----+

AMO-REFTA-162       REFERENCE CLOCK TABLE
DISPLAY COMPLETED;
```

Trunk Least Cost Routing Configuration:

**LDAT**

```
<dis-ldat

TYPE = lcr

LROUTE = 37;

DIS-LDAT:LCR,37;
H500:  AMO LDAT  STARTED
   +-------------------------------------------------------------------------+
   | LROUTE = 37    LDPLN      NAME = PRI TEST                SERVICE =  ALL |
   | TYPE = LCR                                  DNNO OF ROUTE  = 1 -1  -999 |
   | SERVICE INFO =                                                          |
   +-------+-------+-------+-----+-----+----------+------------+----+---------+
   |       |       |       |     |     | SCHEDULE | CARRIER    |BAND|         |
   | LRTEL |  LVAL |  TGRP | ODR |LAUTH| ABCDEFGH |       ZONE |WDTH|   LATTR |
   +-------+-------+-------+-----+-----+----------+------------+----+---------+
   |     1 |     1 |    37 |   1 |   1 | ******** | 1    EMPTY |  1 |    NONE |
   +-------+-------+-------+-----+-----+----------+------------+----+---------+

AMO-LDAT -162       LCR-DIRECTIONS
DISPLAY COMPLETED;
```

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**RICHT**

```
<dis-richt

MODE = lrte

LRTE = 37;

DIS-RICHT:LRTE,37;
H500:  AMO RICHT STARTED
+-----------------------------------------------------------------+
| LRTE = 37     NAME = PRI TEST                    SRVC = ALL     |
| DNNO = 1 -1  -999                                               |
| ROUTOPT = NO     REROUT = YES   PLB = NO     FWDBL = NO         |
| MFV: CNV=FIX     DSP=WITHOUT TEXT=               PULS=PP300   |
| ROUTENO =     4 BUGS = LIN                   MAINGROUP =    4   |
| INFO =                                                          |
+-----------------------------------------------------------------+
| TGRP =  37   LDAT      PRI                   SUBGROUP =   10    |
+-----------------------------------------------------------------+

AMO-RICHT-162       TRUNK ROUTING
DISPLAY COMPLETED;
```

LCR Out-dial Rules, LODR

```
<dis-lodr

ODR = 1

INFOPAT = ;

DIS-LODR:1,;
H500:  AMO LODR  STARTED
   +-------------------------------------------------------+
   |  ODR     POSITION  CMD         PARAMETER              |
   +--------+-----------------------------------------------+
   |    1   |      1    ECHO        2                      |
   |        |      2    END                                |
   +--------+-----------------------------------------------+
   |INFO:PSTN                                              |
   +-------------------------------------------------------+
H03: THE NEXT FREE ODR IS 4
AMO-LODR -162       ADMINISTRATION OF LCR OUTDIAL RULES
DISPLAY COMPLETED;
```

Station Configuration, SBCSU

```
<dis-sbcsu

STNO = 5000
TYPE = termdata
```

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```
DIS-SBCSU:5000,TERMDATA;
H500:  AMO SBCSU STARTED

  ------------------------------ USER DATA -----------------------------------
  STNO    =5000    OPT     =OPTI    COS1   =7     DPLN   =0        SPDI   =Y
  MAINO   =5000    CONN    =DIR     COS2   =7     ITR    =0        SPDC1  =0
  PEN     = 1- 1- 79-  1            LCOSV1 =31    COSX   =0        SPDC2  =1
  INS     =Y       STD     =3       LCOSV2 =31    SERVID =0        CBKBMAX=5
                   SECR    =N       LCOSD1 =31    DSSTNA =N        RCBKB  =N
  SSTNO   =N       DIGNODIS=N       LCOSD2 =31    DSSTNB =Y        RCBKNA =N
  TRACE   =N       HFREE   =        ASYNCT =500   PERMACT=         CBKNAMB=Y
  ALARMNO =0       HMUSIC  =0       API    =N     TEXTSEL=ENGLISH
  EXTBUS  =        REP     =0       OPTICOM=N     OPTISPA:0        DLAUT  =
  CALLOG  =NONE    IDCR    =N       OPTICA =0     OPTIS0A:0        DLMAN  =
                   HEADSET =N       OPTIDA =0     OPTIABA:0        PRIO   =
                   HSKEY   =NORMAL  ATMADDR=                       VPI    =
                   DFSVCANA=        TFAGRP =      PATTERN=         VCI    =
  DVCFIG  =OPTISET TSI     =1       SOPTIDX=      SPROT  =
                                    DOPTIDX=      DPROT  =
                                    FOPTIDX=      FPROT  =
                                    TOPTIDX=      TPROT  =
                                    VOPTIDX=      VPROT  =
  ------------------- ACTIVATION IDENTIFIERS FOR FEATURES ---------------------
  FWDS    :N       FWDT    :N       FWDV   :N     FWDF   :N        FWDD   :N
  HTOS    :N       HTOT    :N       HTOV   :N     HTOF   :N        HTOD   :N
  DND     :N       VCP     :Y       CWT    :N                      TCLOGIN:N
  --------------------- FEATURES AND GROUP MEMBERSHIPS ------------------------
  ESSTN   :
  PUGR    :        HUNTING GROUP   : N
  KEYSYS  :N       NIGHT OPTION    : N       ASSOCIATED  STN           : N
  ---------------------- SUBSCRIBER ATTRIBUTES (AMO SDAT) ----------------------
  NONE
  ------------------------------------------------------------------------------
AMO-SBCSU-83        STATION AND S0-BUS CONFIGURATION OF SWITCHING UNIT

DISPLAY COMPLETED;

  <dis-persi

TYPE = name

STNO = 5000;

DIS-PERSI:NAME,5000;
H500:  AMO PERSI STARTED
   +--------+---------------------------------+---------------------------+
   | STNO   |    CHRISTIAN AND SURNAME        |   ORGANIZATIONAL UNIT     |
   +--------+---------------------------------+---------------------------+
   |        |                                 |                           |
   | 5000   | DIGITAL TEST 1*                 |                           |
   |        |                                 |                           |
   +--------+---------------------------------+---------------------------+
```

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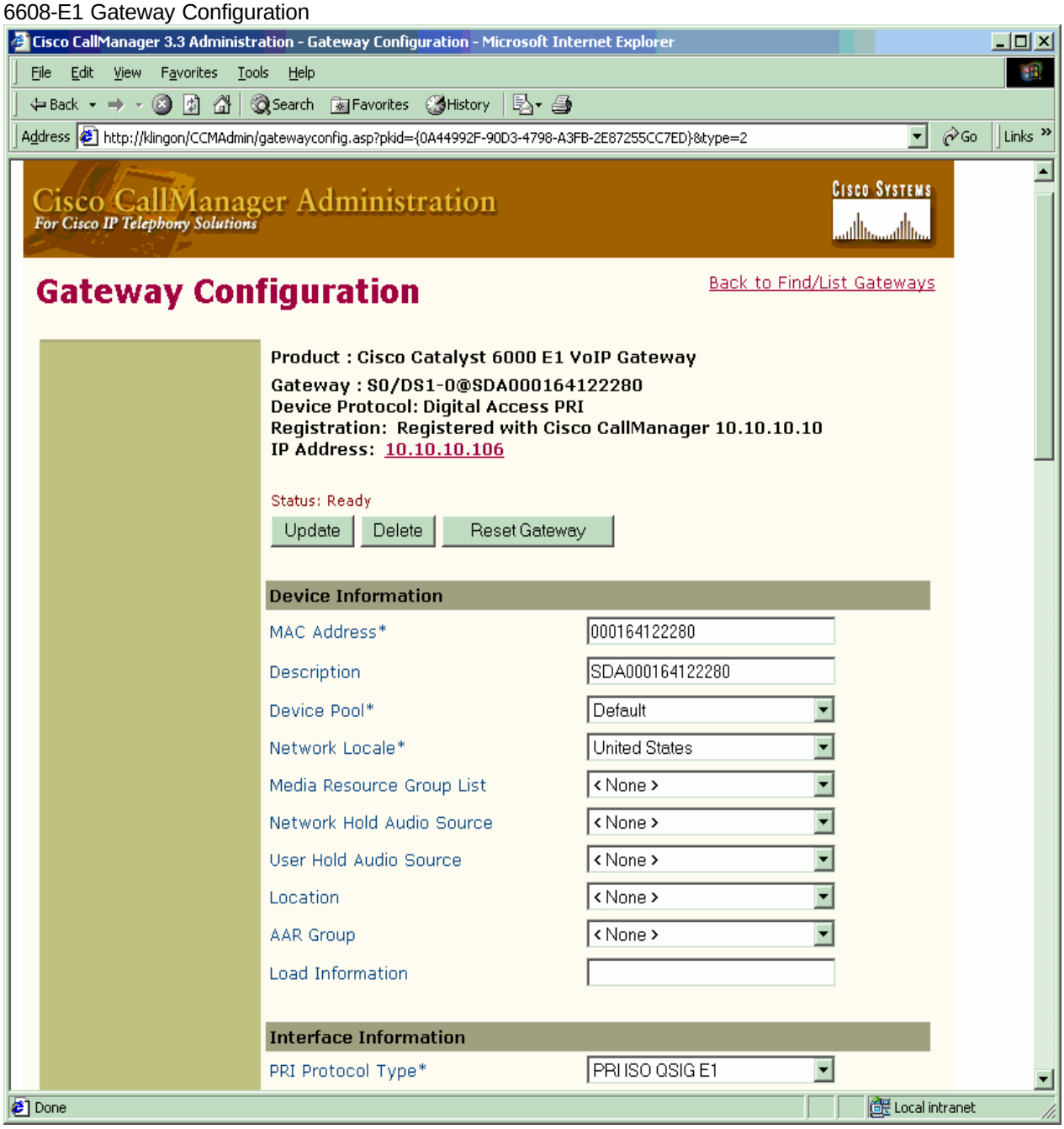
```
AMO-PERSI-83        PERSONAL IDENTIFICATION DATA

DISPLAY COMPLETED;
```

**Configuring Cisco CallManager**

6608-E1 Gateway Configuration

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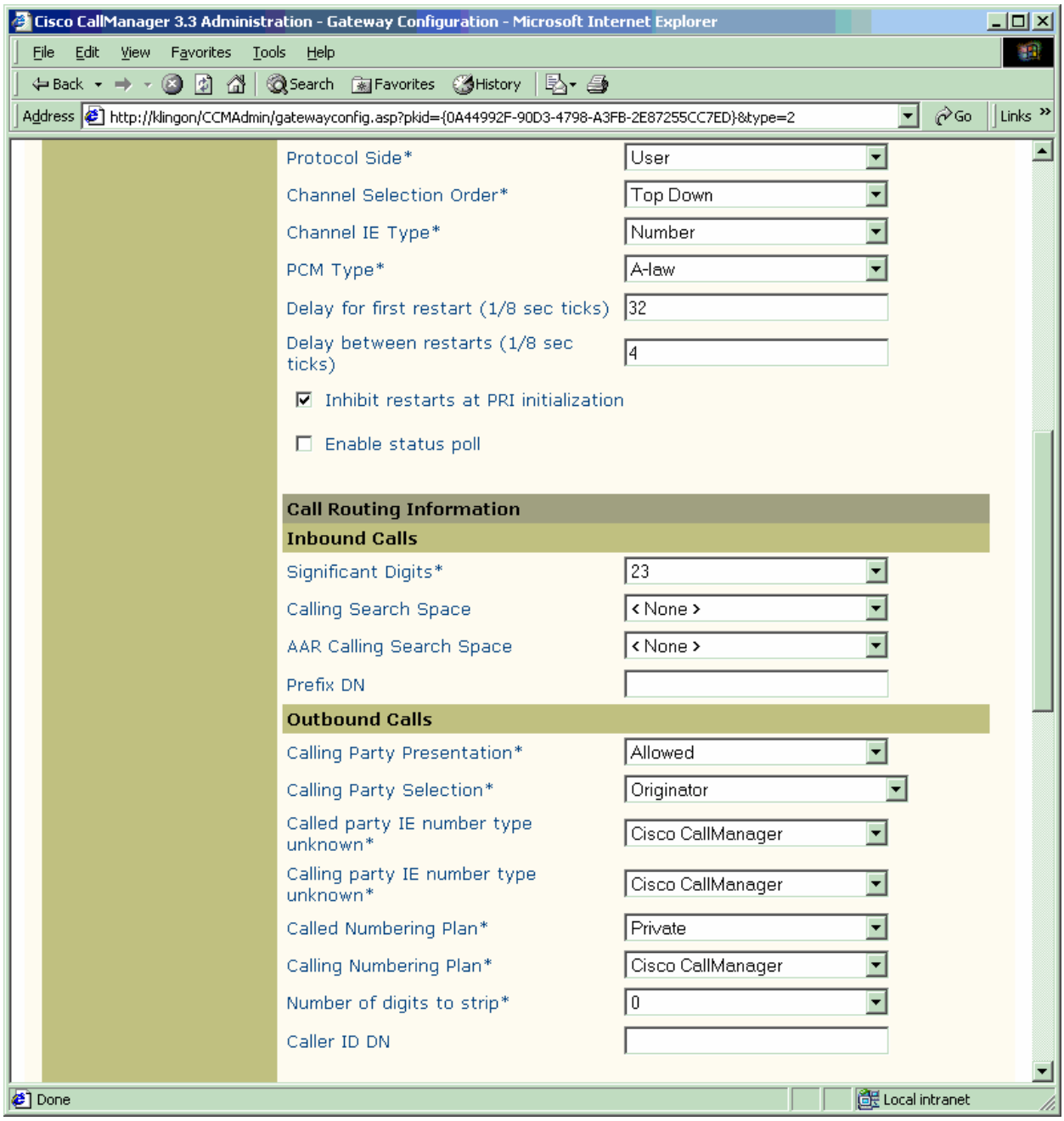


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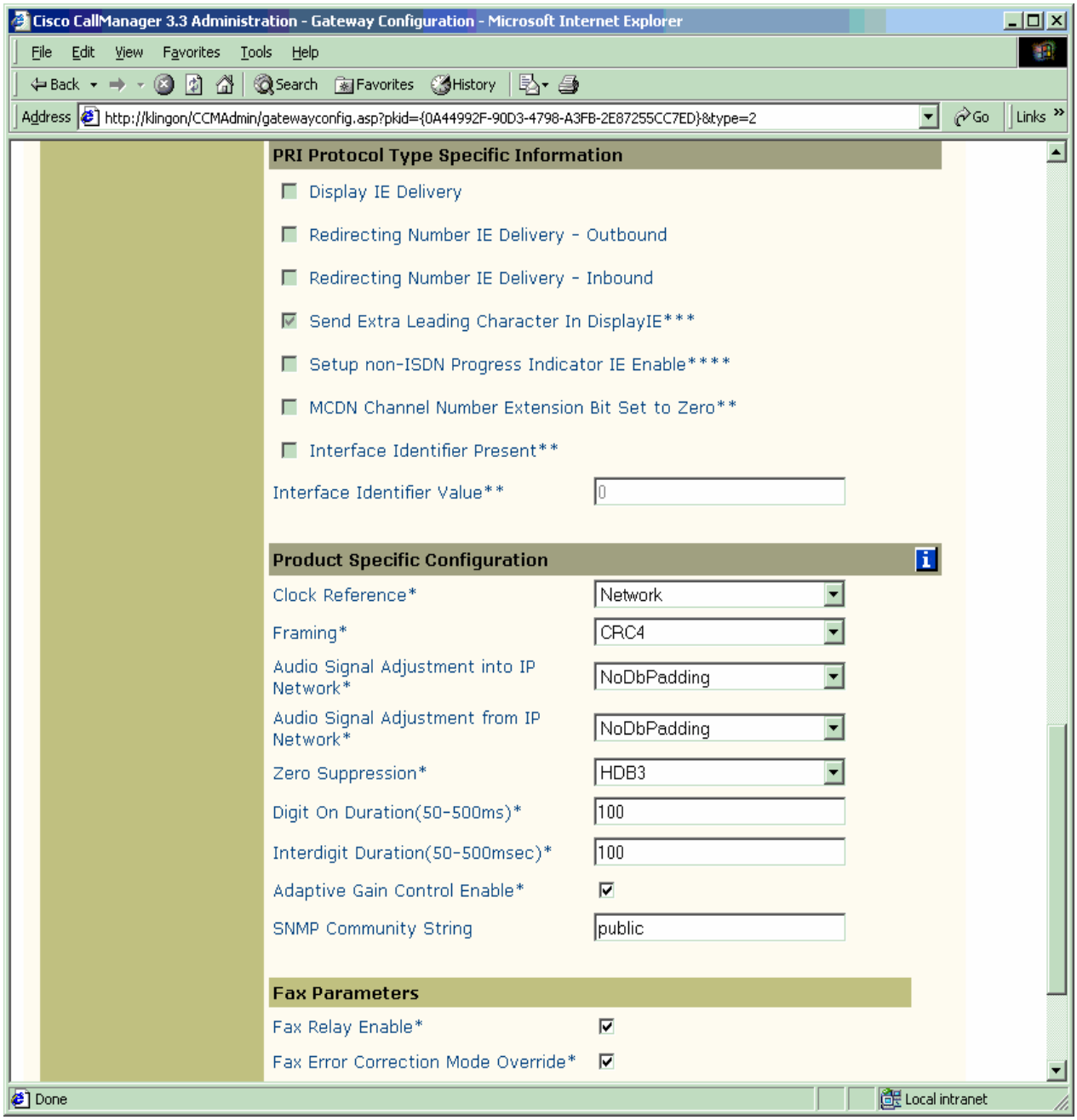


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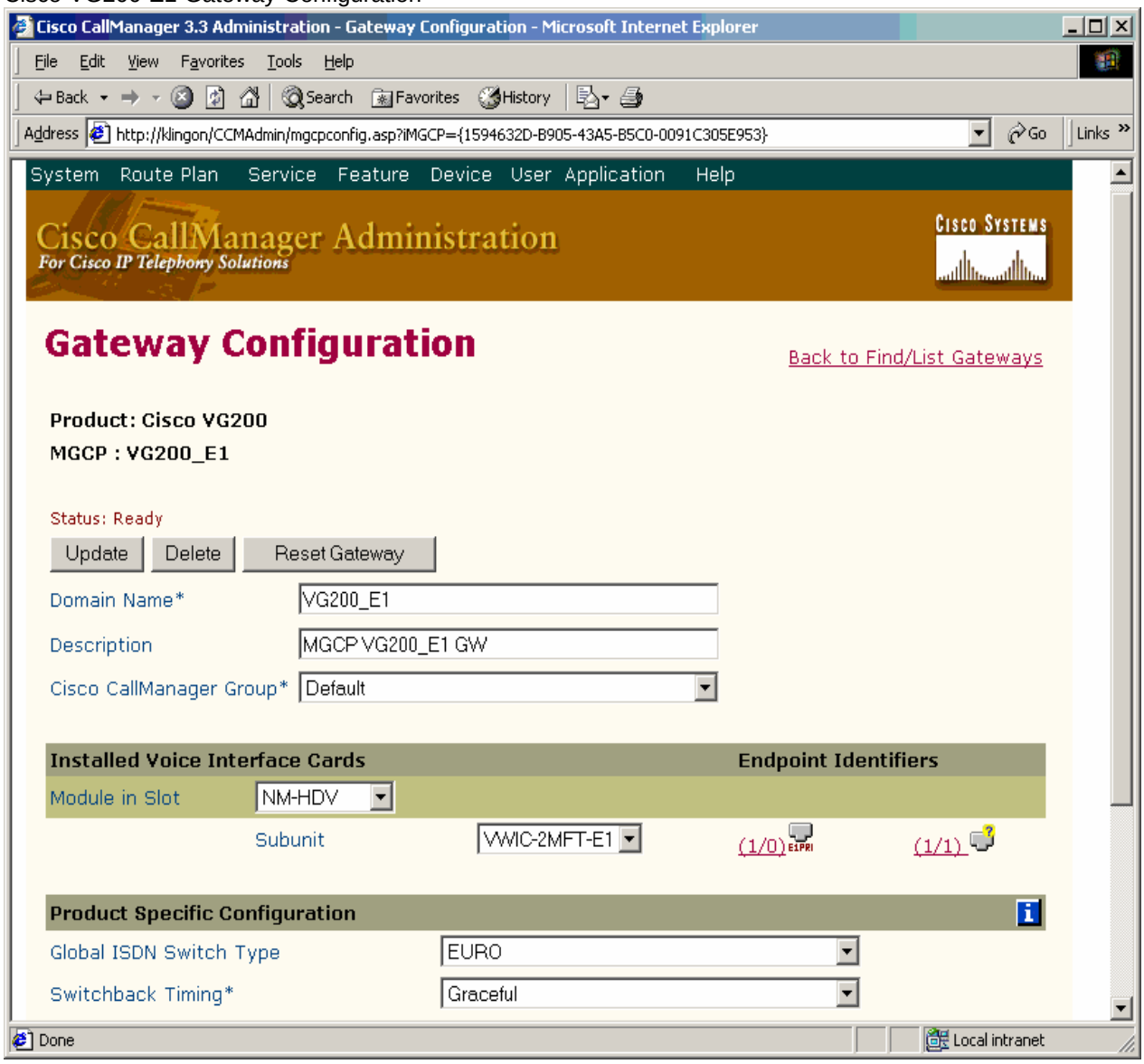
Cisco VG200 E1 Gateway Configuration

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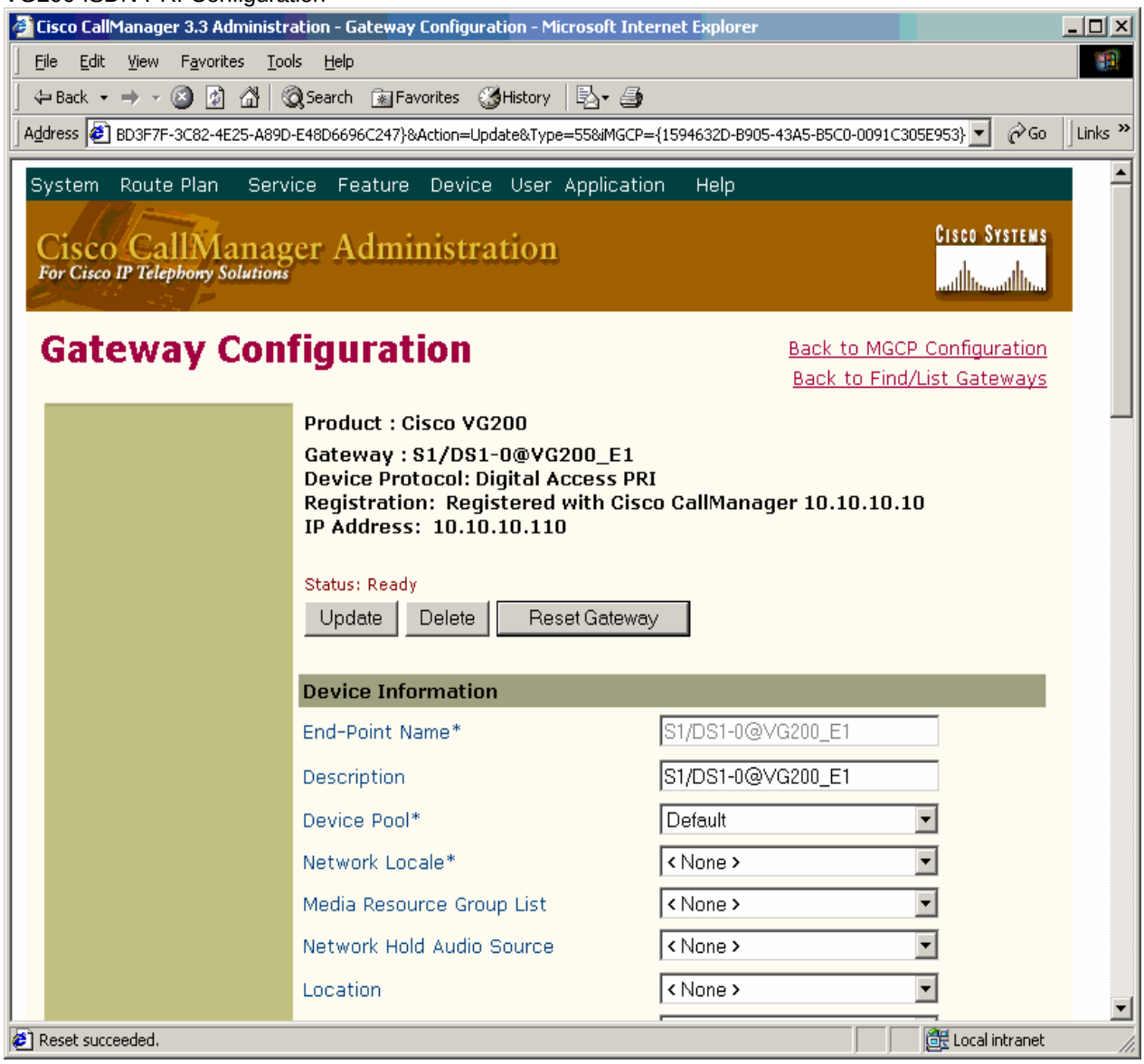
VG200 ISDN PRI Configuration

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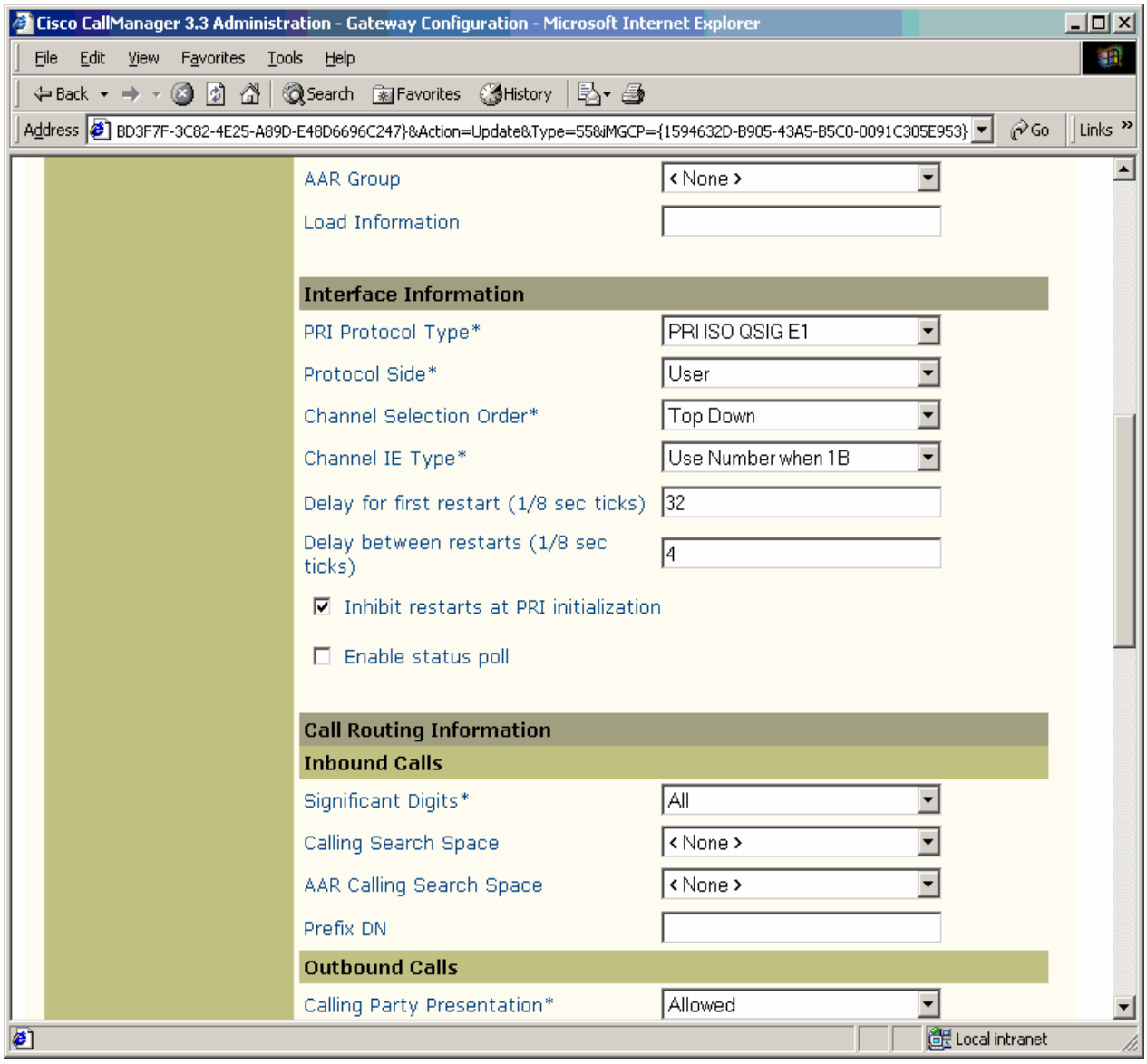


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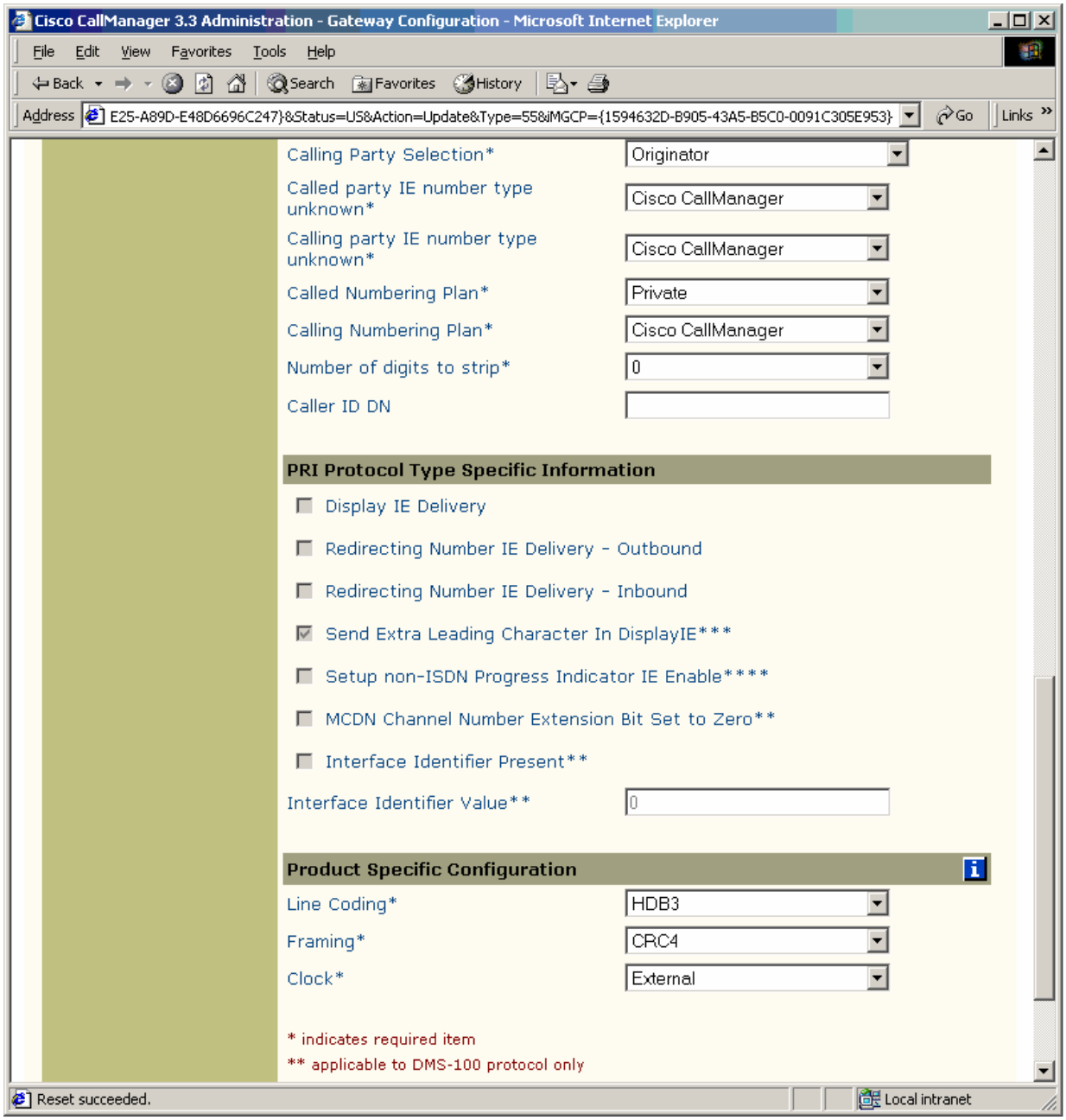


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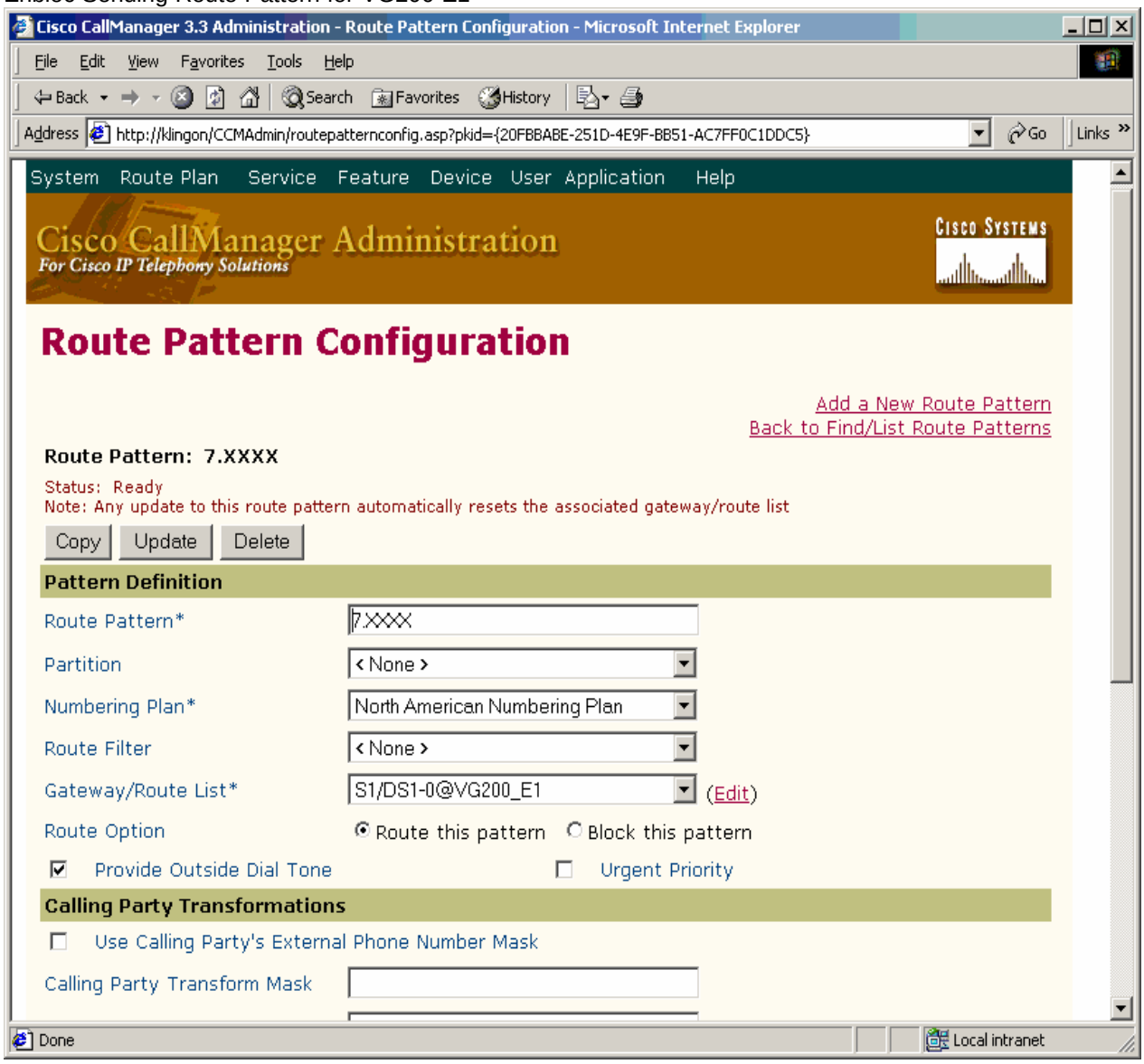
Enbloc Sending Route Pattern for VG200 E1

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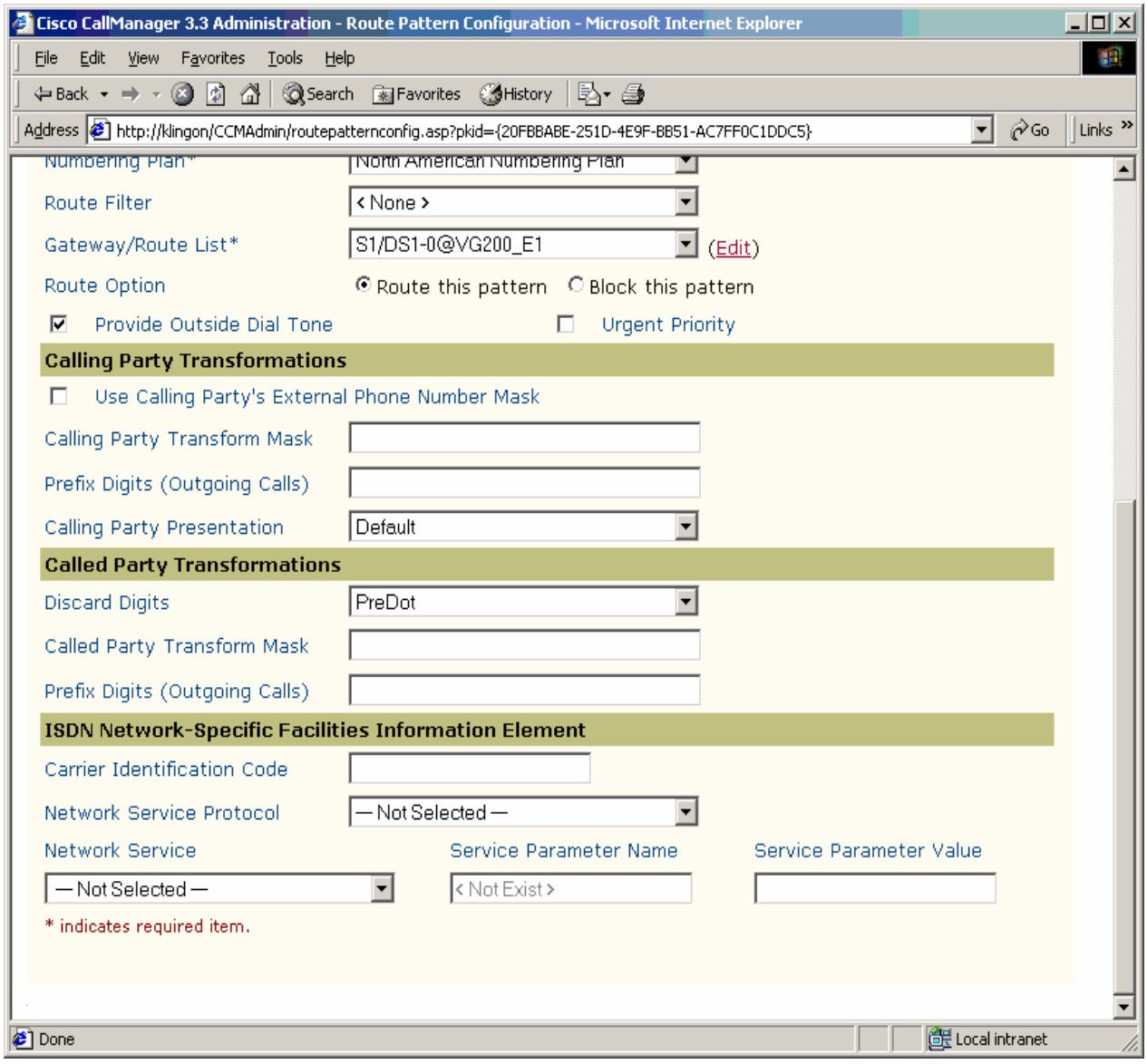


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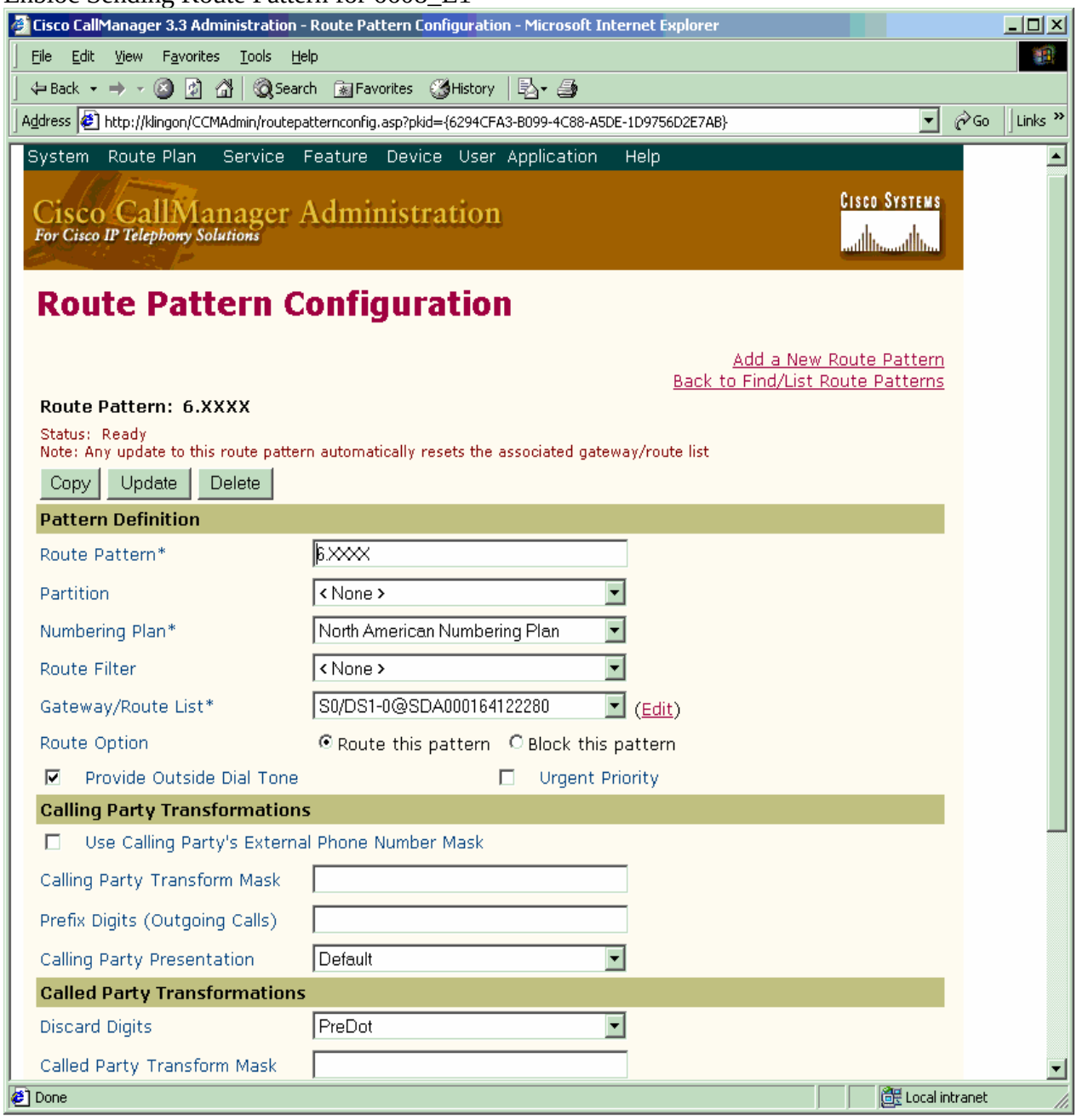
Enbloc Sending Route Pattern for 6608_E1

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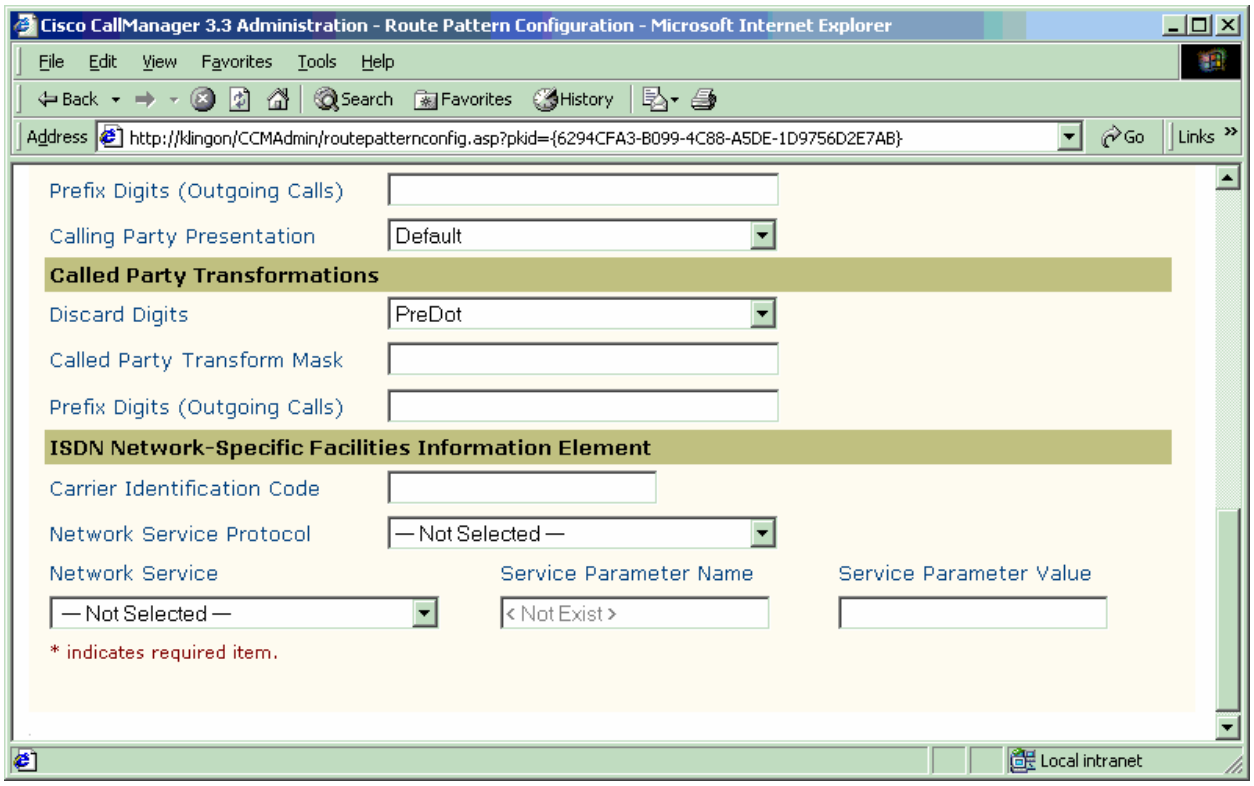


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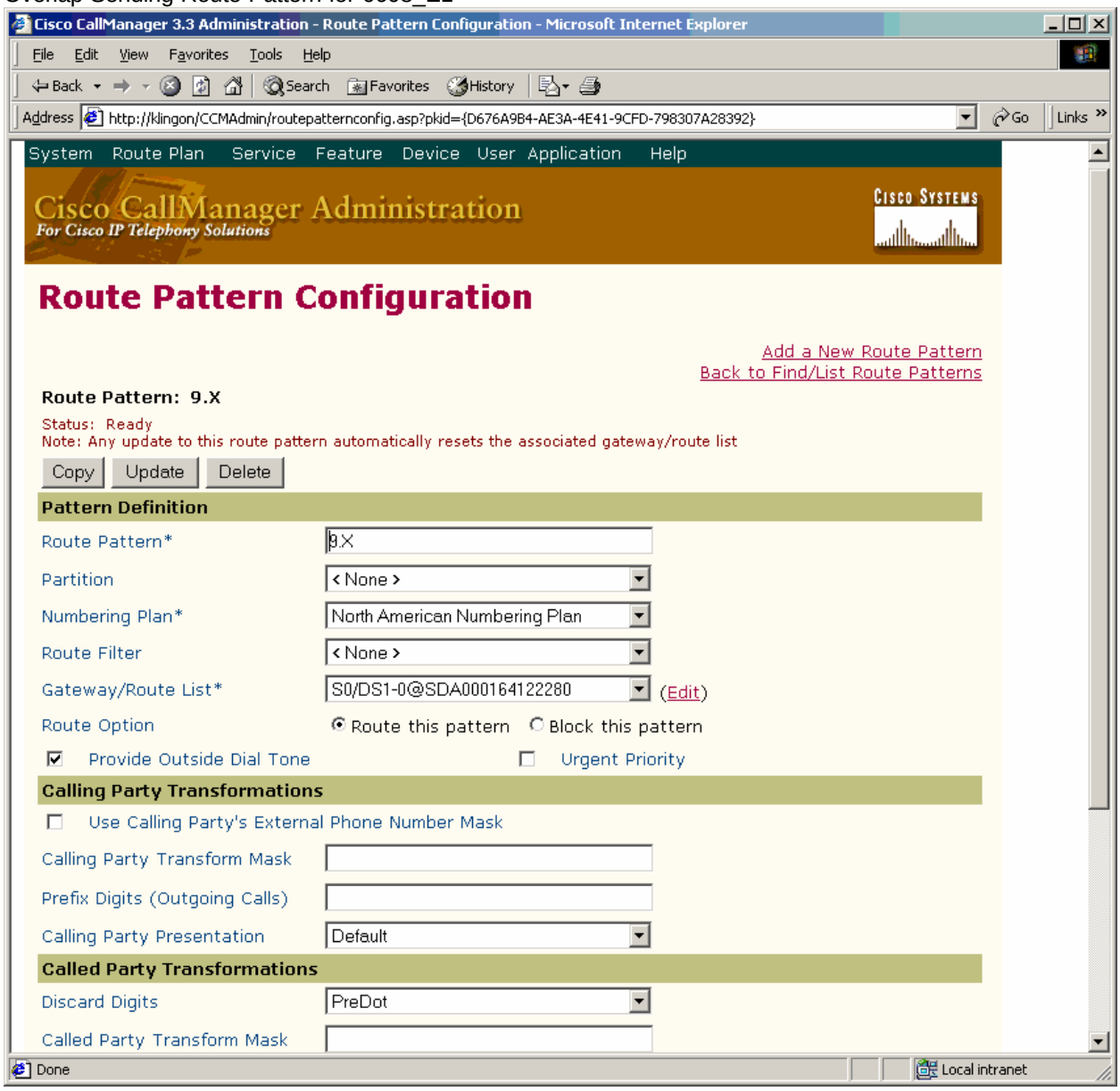
Overlap Sending Route Pattern for 6608_E1

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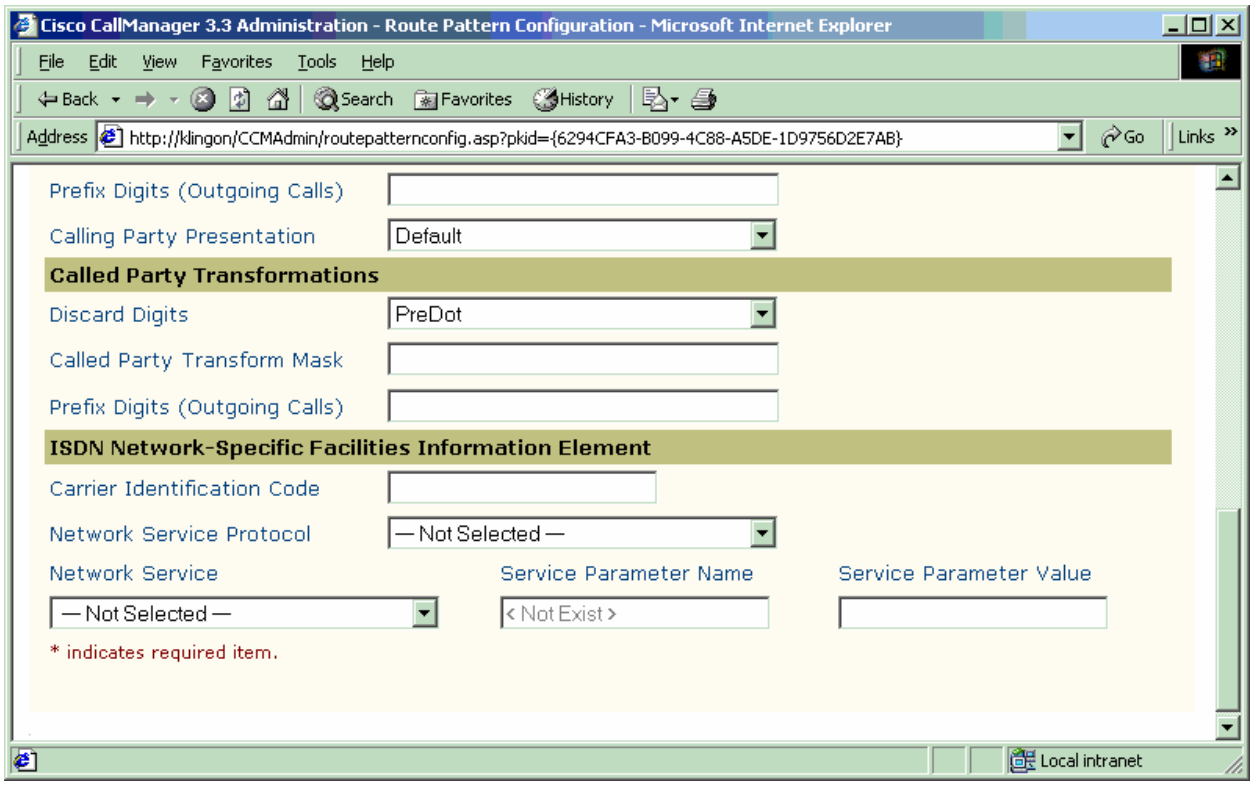


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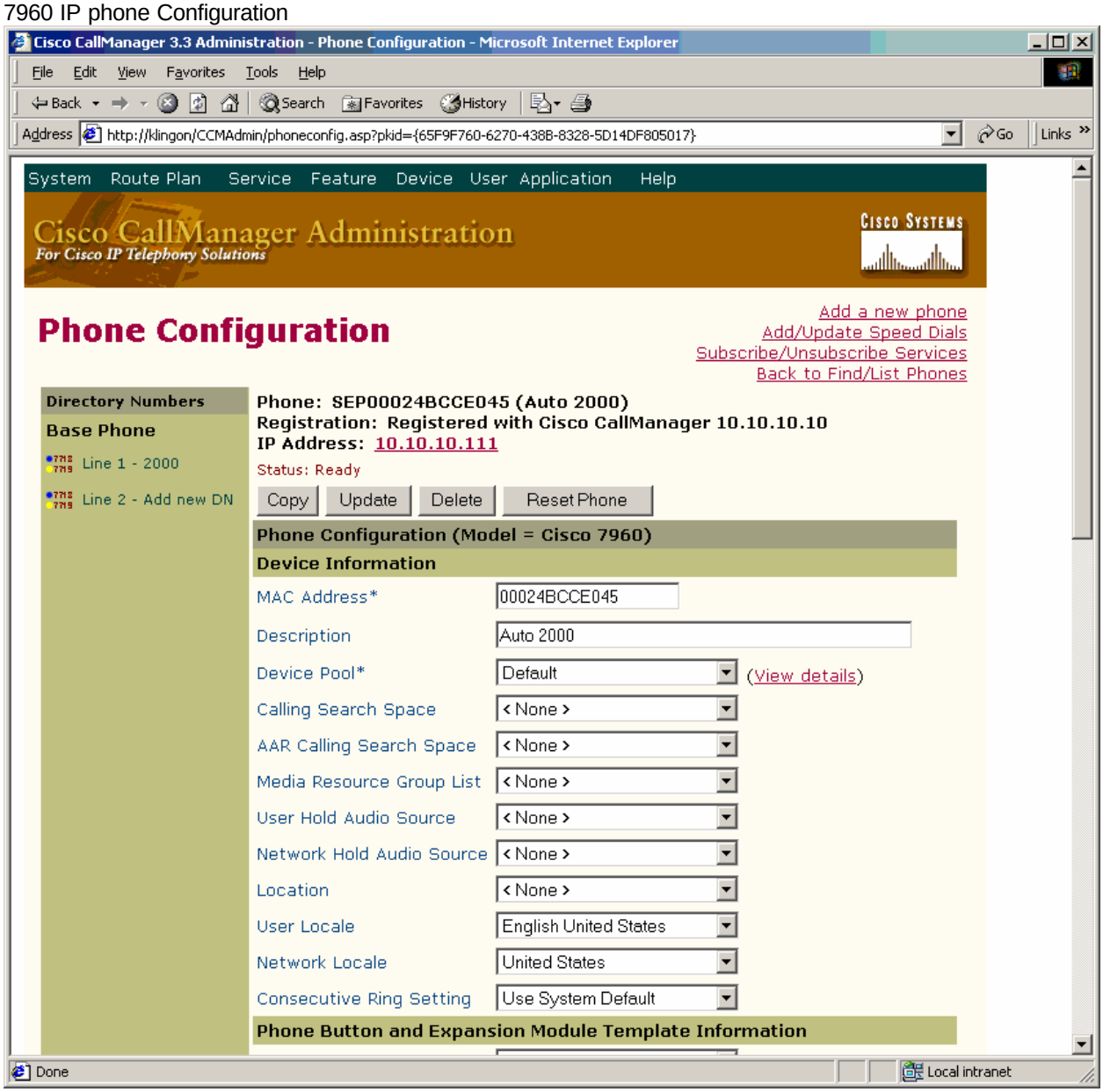
7960 IP phone Configuration

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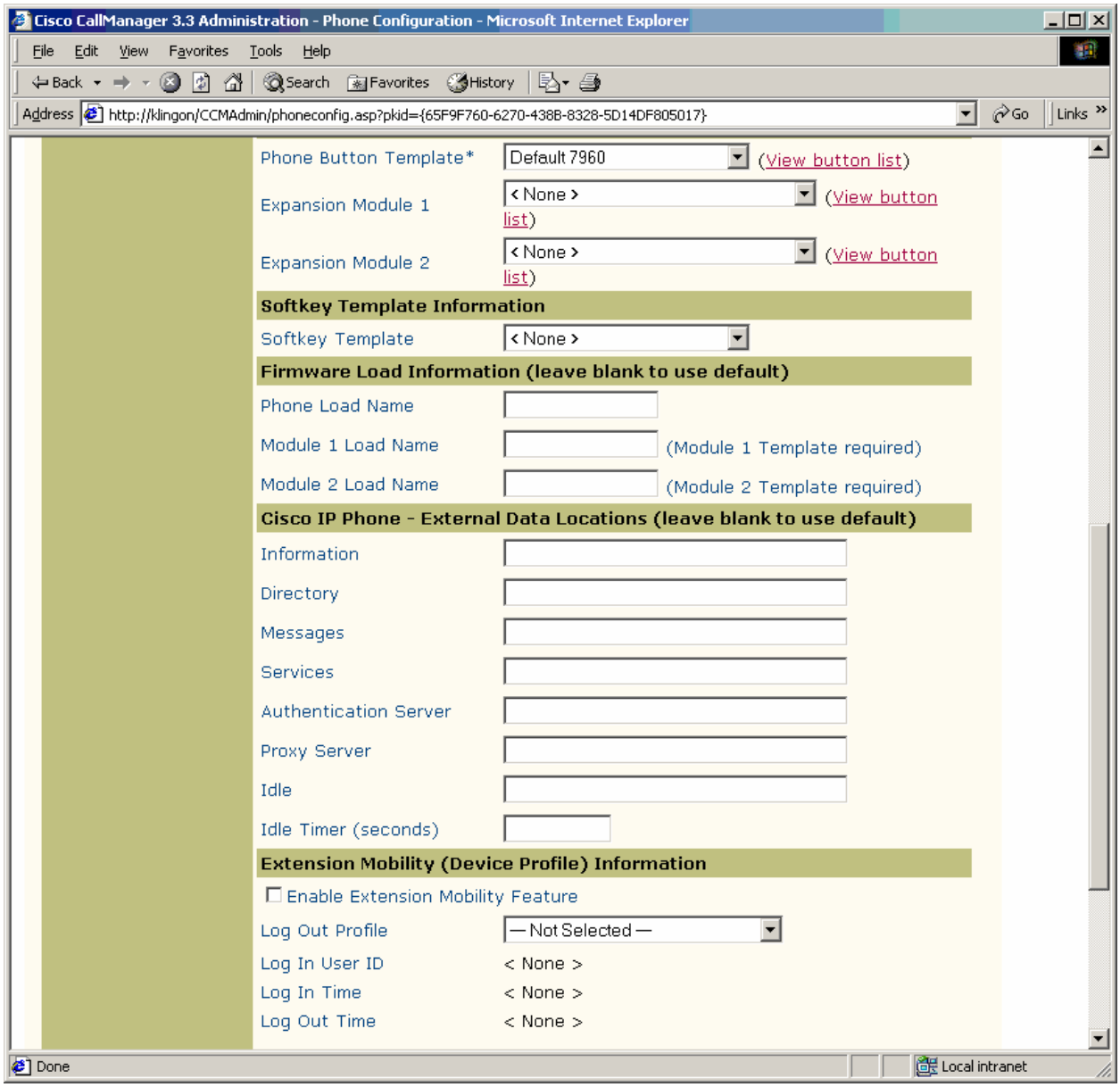


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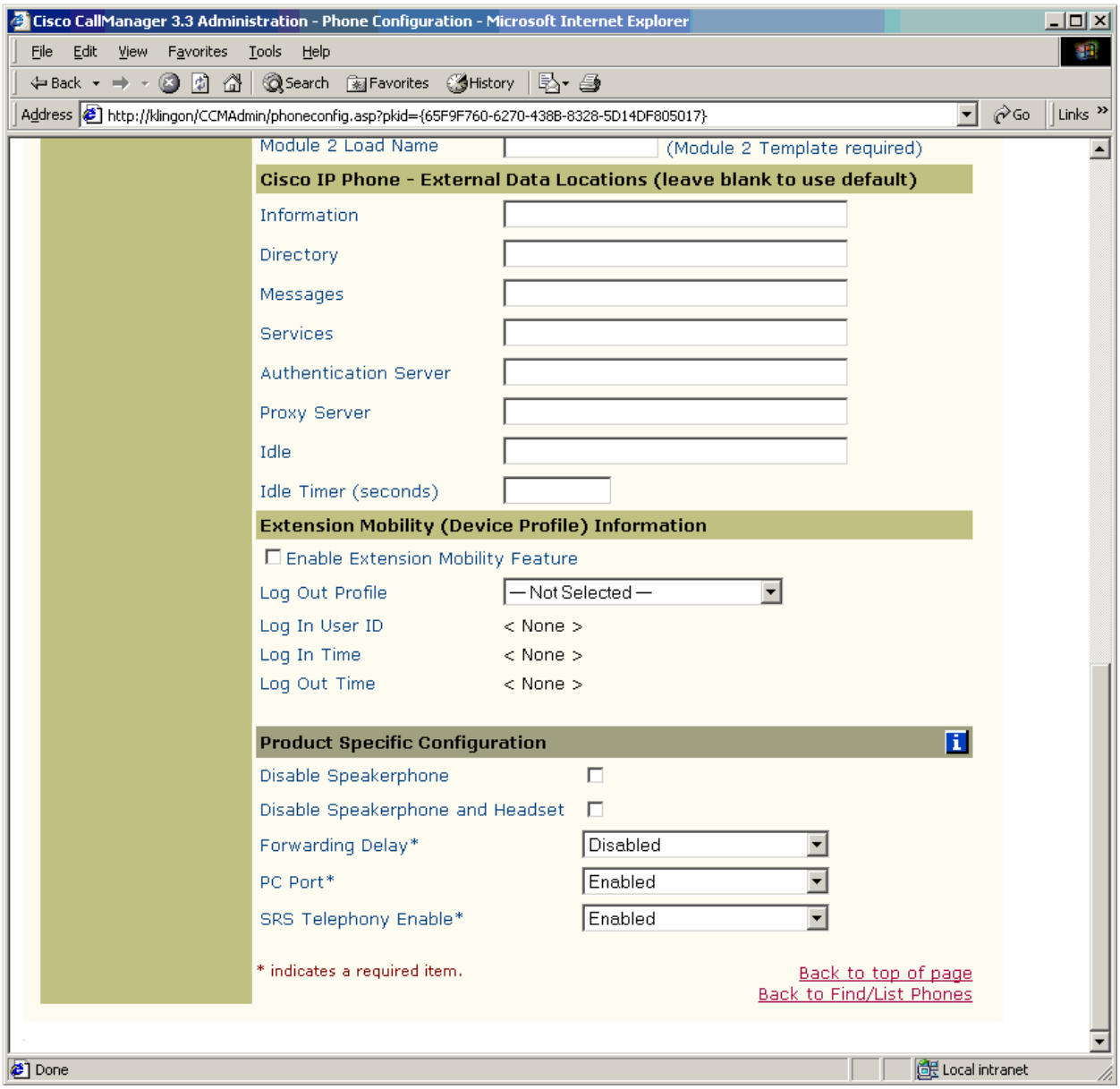


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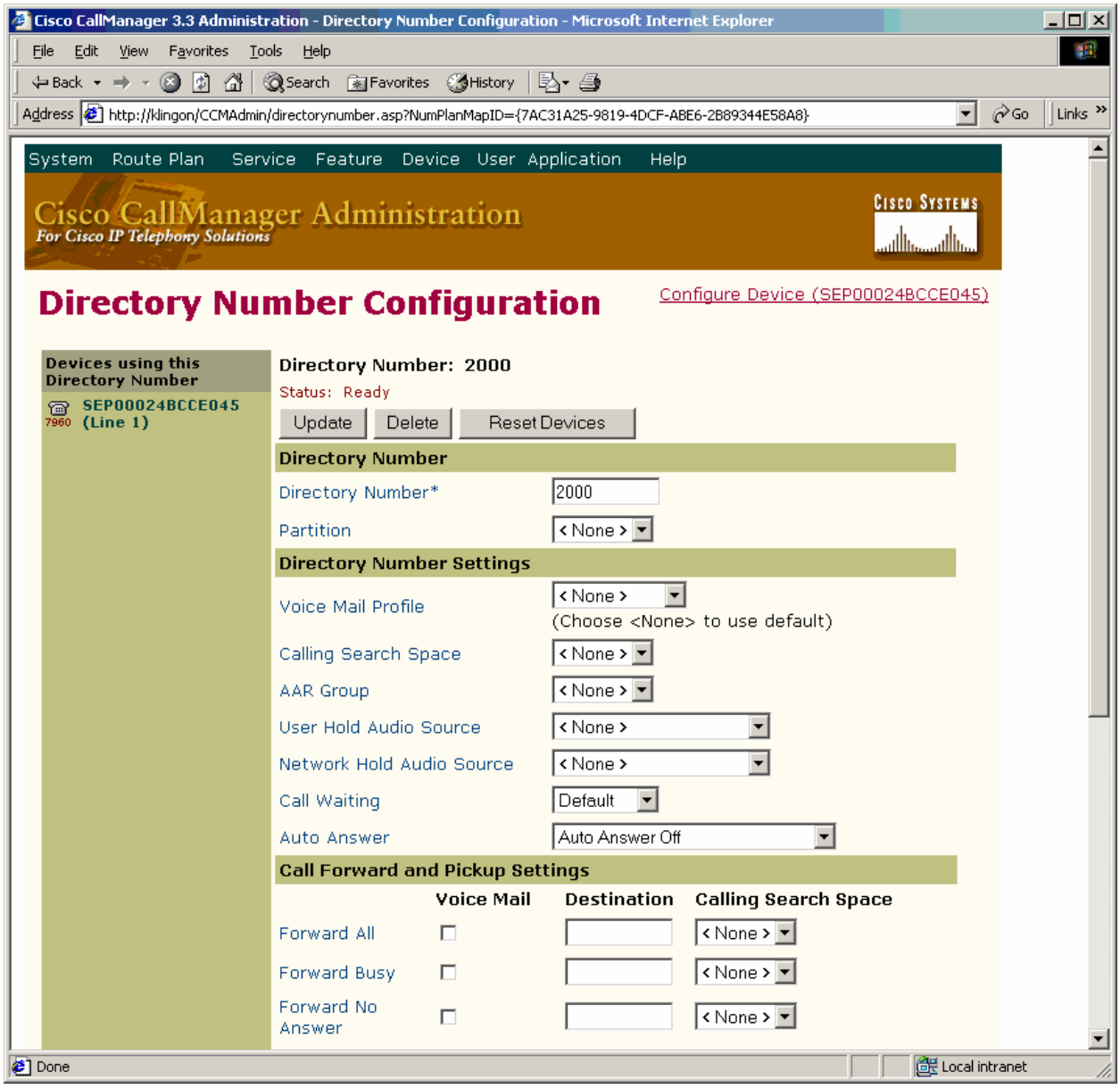


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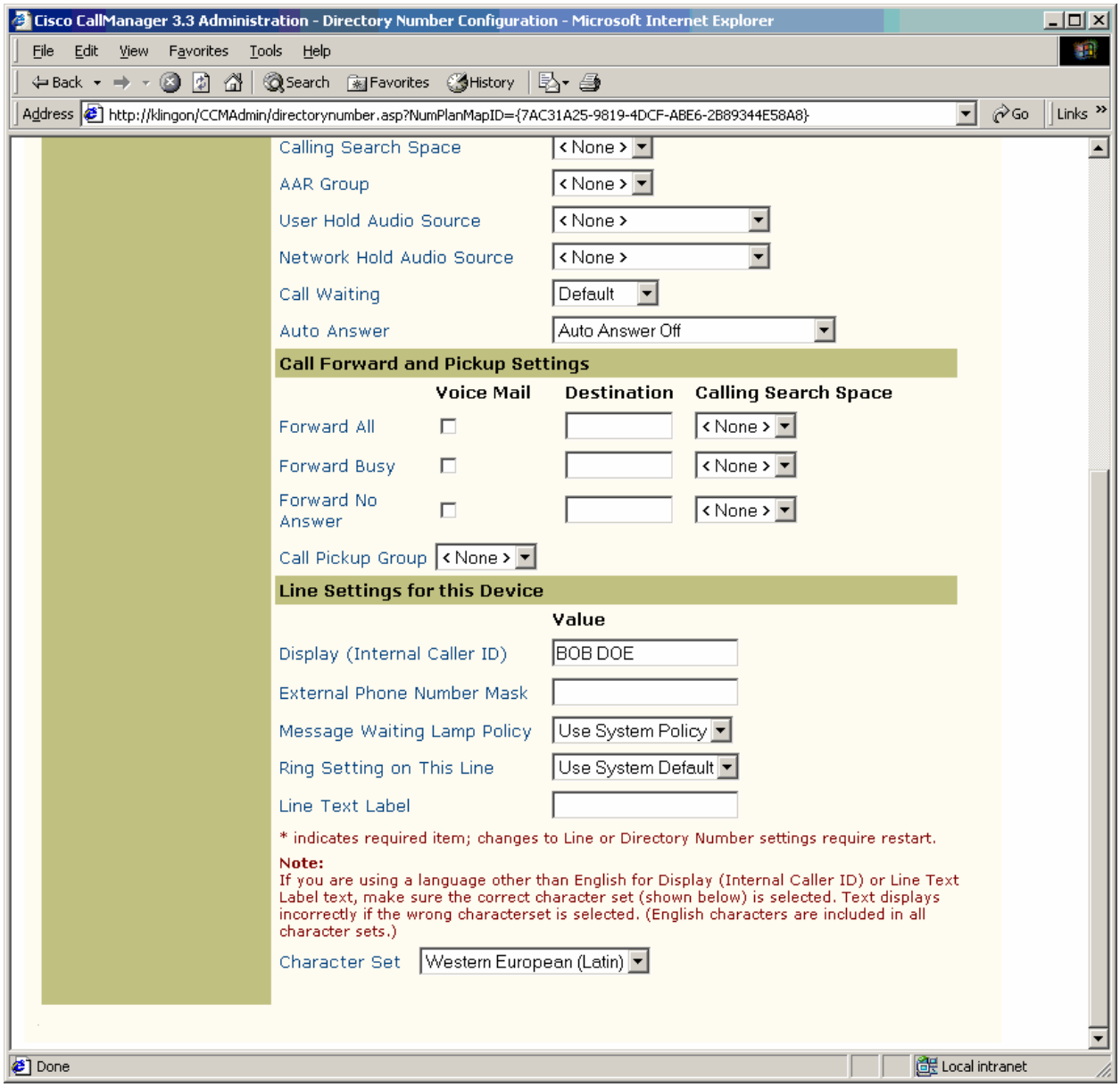


**Configuring the Cisco VG200**

```
VG200_E1#show running-configuration

Building configuration...

Current configuration : 1490 bytes
!
version 12.2
no parser cache
no service pad
```

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```
service timestamps debug datetime msec
service timestamps log uptime
no service password-encryption
!
hostname VG200_E1
!
!
voice-card 1
!
ip subnet-zero
!
!
isdn switch-type primary-net5
!
!
!
!
!
!
!
!
no voice hpi capture buffer
no voice hpi capture destination
!
ccm-manager mgcp
ccm-manager music-on-hold
ccm-manager config server 10.10.10.10
ccm-manager config
!
controller E1 1/0
 pri-group timeslots 1-31 service mgcp
!
controller E1 1/1
!
!
interface FastEthernet0/0
 ip address 10.10.10.110 255.255.255.0
 speed auto
 full-duplex
!
interface Serial1/0:15
 no ip address
 no logging event link-status
 isdn switch-type primary-qsig
 isdn incoming-voice voice
 isdn bind-l3 ccm-manager
 no cdp enable
!
ip default-gateway 10.1.1.1
ip classless
```

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```
ip route 0.0.0.0 0.0.0.0 FastEthernet0/0
no ip http server
ip pim bidir-enable
!
!
call rsvp-sync
!
voice-port 1/0:15
!
mgcp
mgcp call-agent 10.10.10.10 2427 service-type mgcp version 0.1
mgcp dtmf-relay voip codec all mode out-of-band
mgcp rtp unreachable timeout 1000 action notify
mgcp package-capability rtp-package
mgcp package-capability sst-package
no mgcp timer receive-rtcp
mgcp sdp simple
mgcp fax t38 inhibit
!
mgcp profile default
!
dial-peer voice 1 pots
 application mgcpapp
!
dial-peer voice 9991015 pots
 application mgcpapp
 port 1/0:15
!
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
 login
line vty 5 15
 login
!
end

VG200_E1#
```


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