

Cisco 3745 Gateway-PBX Interoperability: Siemens 300E PBX using NM-HDV2-E1 PRI NET5 with H.323

Introduction

- This document contains the test results of PBX interoperability testing from a PBX via digital trunk (E1 PRI Net5) interfaces under test to a Cisco voice router via NM-HDV2-T1/E1 modules installed in Cisco voice gateways.
- This test plan is directed toward testing interoperability of the NM-HDV2-T1/E1 Voice Interface Module with a Siemens Hicom 330E and an Ericsson MD110 and as the Primary and Secondary PBXs.
- The test plan is for Connectivity/Interoperability testing of the selected PBXs connected via the NM-HDV2-T1/E1 interfaces to a C3745, and C2611XM. The PBXs / Routers under test are connected to an Ethernet switch so that VoIP session targets could be established.

Note: This application note allows you to configure Router A (Cisco 3745) and PBX A (Siemens Hicom 330E). To configure Router B (Cisco 2611) and PBX B (Ericsson MD110), see the following application note: Cisco 2611XM Gateway-PBX Interoperability: Ericsson MD110 PBX using NM-HDV2-E1 PRI NET5 with H.323 (document number 408136b.pdf).

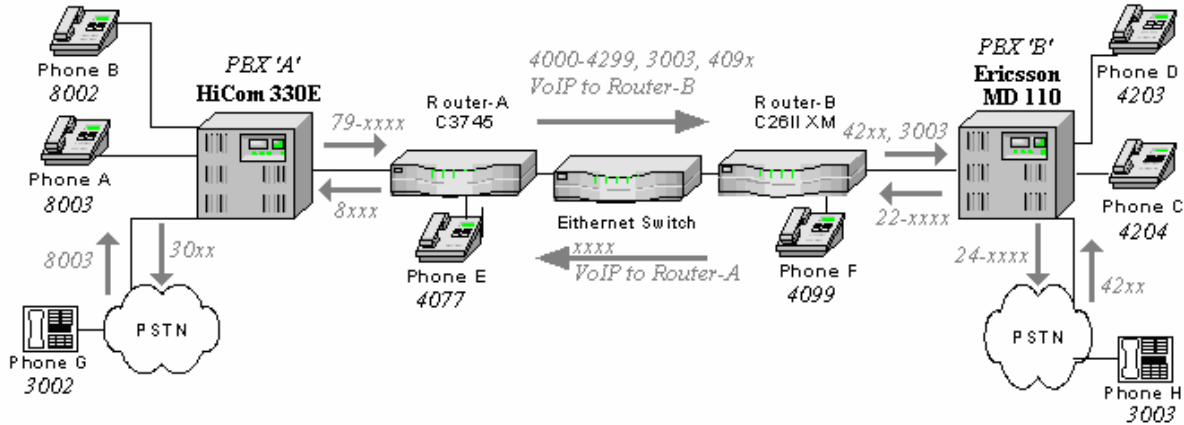
Network Topology

The diagram in Figure 1 is representative of the configuration used for testing. The diagram shows the test set-up for 2 Cisco voice gateways connected through an Ethernet switch and controlled via H.323.

Figure 1. Network Topology



H323 Test Configuration with Route Patterns



Limitations

- It is important to note that the correct position of J7 on th NM-HDV2-T1/E1 is critical to establish Layer 1 connectivity. Looking into the NM-HDV2-T1/E1 in the direction of insertion into the router, the jumper should be placed to connect the left and middle pins.
- The Hicom PBX does not support sending CALLING, CALLED, or CONNECTED name for this configuration (E1 PRI Net5).
- The Ericsson PBX does not support sending CALLED number in the ALERTING message for this configuration (E1 PRI Net5).
- The Ericsson PBX does not support sending CALLING, CALLED, or CONNECTED name for this configuration (E1 PRI Net5).
- The Hicom PBX does not support sending CALLED number in the ALERTING message for this configuration (E1 PRI Net5).
- The IOS gateway does not support sending CALLED number in the CALL PROCEEDING or PROGRESS messages on E1 PRI Net5.
- The IOS gateway does not support sending CALLING, CALLED, or CONNECTED name on E1 PRI Net5 (on PBXs and Routers set up in a symmetrical test scenario).
- The IOS gateway does not support sending CONNECTED number in the CONNECT messages on E1 PRI (on PBXs and Routers set up in a symmetrical test scenario).
- In the test scenario in which Phone 'E' called Phone 'C', the Ericsson PBX did send CONNECTED number in the CONNECT message, but the number displayed on the analog phone 'E' is just the dialed number, not the CONNECTED number. This was verified by placing a call from phone 'E' to phone 'D', where it was auto-forwarded to phone 'C'. The number for 'D' (the dialed number) was the number displayed on the analog phone 'E'.
- The CALLING number was displayed only if the caller-id feature was enabled for the destination PSTN analog port.



- The PSTN trunks did not support sending CALLING, CALLED, or CONNECTED name.
- The destination PSTN trunks did not support sending CALLED number in the CALL PROCEEDING or PROGRESS messages.
- The destination PSTN trunks did not support sending CONNECTED number in the CONNECT messages

System Components

Hardware Requirements

- Cisco 3745
- Siemens Hicom 330E
- Ericsson MD110
- NM-HDV2-2T1/E1 card

Software Requirements

- Siemens Hicom R5.1-e2.404-0-k-uk-c6s2
- Ericsson MD110: software version CXP1010101/2/BC12SP5/R2A
- Cisco IOS Release 12.3(7)T (release software fc1) with Cisco C3745-ADVENTERPRISEK9-M

Features

The following features are supported:

- Calling number
- Connected number

Configuration

Configuration Sequence and Tasks

- Configuring Router A
- Configuring PBX A

Configuration Menus and Commands

Configuring the Cisco 3745 (Router A)

show version

```
3745-A# show version
```



Cisco IOS Software, 3700 Software (C3745-ADVENTERPRISEK9-M), Version 12.3(7)T, R
RELEASE SOFTWARE (fc1)

Technical Support: <http://www.cisco.com/techsupport>

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Compiled Sat 21-Feb-04 05:53 by eaarmas

ROM: System Bootstrap, Version 12.2(8r)T2, RELEASE SOFTWARE (fc1)

3745-A uptime is 4 days, 35 minutes

System returned to ROM by power-on

System image file is "flash:c3745-adventerprisek9-mz.123-7.T.bin"

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to export@cisco.com.

Cisco 3745 (R7000) processor (revision 0.0) with 115712K/15360K bytes of memory.

Processor board ID

R7000 CPU at 350MHz, Implementation 39, Rev 3.3, 256KB L2, 2048KB L3 Cache

2 FastEthernet interfaces

13 Serial interfaces



```
2 Channelized E1/PRI ports
4 Voice FXO interfaces
2 Voice FXS interfaces
DRAM configuration is 64 bits wide with parity disabled.
151K bytes of NVRAM.
31744K bytes of ATA System CompactFlash (Read/Write)
```

```
Configuration register is 0x1
```

```
3745-A#
```

```
show running configuration
```

```
3745-A# show running config
```

```
Building configuration...
```

```
Current configuration : 2385 bytes
```

```
!
version 12.3
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname 3745-A
!
boot-start-marker
boot-end-marker
!
card type e1 4 1
!
no network-clock-participate slot 1
no network-clock-participate slot 2
no network-clock-participate slot 3
```



```
no network-clock-participate slot 4
no network-clock-participate wic 0
no network-clock-participate wic 1
no network-clock-participate wic 2
no network-clock-participate aim 0
no network-clock-participate aim 1
no aaa new-model
ip subnet-zero
ip cef
!
!
!
!
ip audit po max-events 100
no ftp-server write-enable
isdn switch-type primary-net5
voice-card 1
  no dspfarm
!
voice-card 4
  no dspfarm
!
!
!
voice rtp send-recv
!
!
!
!
voice class h323 1
!
!
```



```
!  
!  
!  
!  
!  
!  
!  
!  
!  
controller E1 4/0  
  pri-group timeslots 1-12,16  
  description connection to HICOM  
!  
controller E1 4/1  
!  
no crypto isakmp enable  
!  
!  
!  
!  
interface FastEthernet0/0  
  ip address 172.20.43.151 255.255.255.0  
  duplex auto  
  speed auto  
!  
interface FastEthernet0/1  
  no ip address  
  shutdown  
  duplex auto  
  speed auto  
!  
interface Serial4/0:15
```



```
description connection to HICOM
no ip address
no logging event link-status
isdn switch-type primary-net5
isdn overlap-receiving (for overlap cases only)
isdn incoming-voice voice
isdn send-alerting
isdn sending-complete
no cdp enable
!
ip classless
ip route 0.0.0.0 255.255.255.0 FastEthernet0/0
!
no ip http server
no ip http secure-server
!
!
!
!
!
!
control-plane
!
!
!
voice-port 1/0/0
!
voice-port 1/0/1
!
voice-port 1/0/2
!
voice-port 1/0/3
```



```
!  
voice-port 4/0/0  
    station-id name phone E  
    station-id number 4077  
    caller-id enable  
!  
voice-port 4/0/1  
    station-id name phone EE  
    station-id number 4078  
    caller-id enable  
!  
voice-port 4/0:15  
!  
!  
!  
!  
!  
dial-peer voice 400 pots  
    destination-pattern 4077  
    port 4/0/0  
!  
dial-peer voice 401 pots  
    destination-pattern 4078  
    port 4/0/1  
!  
dial-peer voice 1 voip  
    destination-pattern 4[0-2]..  
    session target ipv4:172.20.43.155  
    ip qos dscp cs1 media  
!  
dial-peer voice 4015 pots  
    destination-pattern 8...
```



```
direct-inward-dial
port 4/0:15
forward-digits all
!
dial-peer voice 2 voip
destination-pattern 53..
session target ipv4:172.20.43.253
!
dial-peer voice 3 voip
destination-pattern 3003
session target ipv4:172.20.43.155
!
dial-peer voice 4 voip
destination-pattern 409.
session target ipv4:172.20.43.155
!
!
!
line con 0
line aux 0
line vty 0 4
login
!
!
end
```

3745-A#



show isdn status

3745-A# **show isdn status**

Global ISDN Switchtype = primary-net5

ISDN Serial4/0:15 interface

dsl 0, interface ISDN Switchtype = primary-net5

Layer 1 Status:

ACTIVE

Layer 2 Status:

TEI = 0, Ces = 1, SAPI = 0, State = MULTIPLE_FRAME_ESTABLISHED

Layer 3 Status:

0 Active Layer 3 Call(s)

Active dsl 0 CCBs = 0

The Free Channel Mask: 0x80000FFF

Number of L2 Discards = 0, L2 Session ID = 3

Total Allocated ISDN CCBs = 0

3745-A#

show voice port summary

3745-A#sho voice port sum

PORT	CH	SIG-TYPE	ADMIN	OPER	STATUS	STATUS	EC
1/0/0	--	fxo-ls	up	dorm	idle	on-hook	y
1/0/1	--	fxo-ls	up	dorm	idle	on-hook	y
1/0/2	--	fxo-ls	up	dorm	idle	on-hook	y
1/0/3	--	fxo-ls	up	dorm	idle	on-hook	y
4/0/0	--	fxs-ls	up	dorm	on-hook	idle	y
4/0/1	--	fxs-ls	up	dorm	on-hook	idle	y
4/0:15	01	isdn-voice	up	dorm	none	none	y
4/0:15	02	isdn-voice	up	dorm	none	none	y
4/0:15	03	isdn-voice	up	dorm	none	none	y



4/0:15	04	isdn-voice	up	dorm none	none	y
4/0:15	05	isdn-voice	up	dorm none	none	y
4/0:15	06	isdn-voice	up	dorm none	none	y
4/0:15	07	isdn-voice	up	dorm none	none	y
4/0:15	08	isdn-voice	up	dorm none	none	y
4/0:15	09	isdn-voice	up	dorm none	none	y
4/0:15	10	isdn-voice	up	dorm none	none	y
4/0:15	11	isdn-voice	up	dorm none	none	y
4/0:15	12	isdn-voice	up	dorm none	none	y



show controller e1

3745-A# **show controller e1**

E1 4/0 is up.

Applique type is Channelized E1 - balanced

Description: connection to HICOM

No alarms detected.

alarm-trigger is not set

Version info Firmware: 20030723, FPGA: 255

Framing is CRC4, Line Code is HDB3, Clock Source is Line.

Current port master clock:recovered from controller 4/0

Data in current interval (241 seconds elapsed):

0 Line Code Violations, 0 Path Code Violations

0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins

0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 0 Unavail Secs

Total Data (last 24 hours)

0 Line Code Violations, 0 Path Code Violations,

0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,

0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 0 Unavail Secs

E1 4/1 is down.

Applique type is Channelized E1 - balanced

Transmitter is sending remote alarm.

Receiver has loss of signal.

alarm-trigger is not set

Version info Firmware: 20030723, FPGA: 255

Framing is CRC4, Line Code is HDB3, Clock Source is Line.

Current port master clock:recovered from controller 4/0

Data in current interval (242 seconds elapsed):

0 Line Code Violations, 0 Path Code Violations

0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins

0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 242 Unavail Secs

Total Data (last 24 hours)



0 Line Code Violations, 0 Path Code Violations,
0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 86400 Unavail Secs

3745-A#



Configuring PBX A

Configuring the Siemens Hicom 330E (PBX 'A')

DISPLAY-TDCSU: PEN1=1-1-79-0;

DISPLAY-TDCSU: PEN1=1-1-79-0;

H500: AMO TDCSU STARTED

```
+----- DIGITAL TRUNK (FORMAT=L) -----+
|          DEV = S2CONN          PEN = 1-01-079-0          |
|-----|
|  COTNO   = 5          COPNO   = 4          DPLN     = 0          |
|  ITR     = 0          COS     = 32         LCOSV    = 32         |
|  LCOSD   = 32         CCT     =           DESTNO   = 55         |
|  PROTVAR = ETSI      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      = 55         |
|  ALARMNO = 0        FIDX     = 1          CARRIER  = 1          |
|  ZONE    = EMPTY    COTX     = 4          FWDX     = 10         |
|  DOMTYPE =          DOMAINNO =           TPROFNO  =           |
|  INIGHT  =           |
|  CCHDL   =          UUSCCX   = 16        UUSCCY   = 8          |
|-----|
|  TGRP    = 70        SRCHMODE = ASC       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-111 DIGITAL TRUNKS

DISPLAY COMPLETED;

<DISPLAY-COSSU:TYPE=COS,COS=32;

DISPLAY-COSSU:TYPE=COS,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-111 CLASSES OF SERVICE, SWITCHING UNIT

DISPLAY COMPLETED;

<DISPLAY-COT:COTNO=5;

DISPLAY-COT:COTNO=5;

H500: AMO COT STARTED

COT: 5 INFO: 5:ECMA1 V2.0

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
CONNECTION TO ROUTE OPTIMIZATION NODE	ROPT
TSC-SIGNALING FOR NETWORKWIDE FEATURES (MANDATORY)	TSCS
INCOMING CDR BY ZONE OR FROM LINE	ICZL
AOC PER CALL (AUTOMATICAL OR ON REQUEST), MAND. CORNET-NQ	AOCC
LINE WITH IMPLICIT NUMBERS	LINO
NO TONE	NTON

AMO-COT -111 CLASS OF TRUNK FOR CALL PROCESSING

DISPLAY COMPLETED;

<DISPLAY-COP:COPNO=4;

DISPLAY-COP:COPNO=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 -111 CLASS OF PARAMETER FOR DEVICE HANDLER

DISPLAY COMPLETED;



<

<DISPLAY-COSSU:TYPE=LCOSV,LCOSV=32;

DISPLAY-COSSU:TYPE=LCOSV,LCOSV=32;

H500: AMO COSSU STARTED

```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| LCOS |                                     LAUTH                                     | LCR |
|  V  |          1          2          3          4          5          6  |OPTS=|
|      |1234567890123456789012345678901234567890123456789012345678901234|LCRET|
|      |>SERVICE INFORMATION                                     | LCR |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 32 |XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX| . |
|      |>32:TRUNKS                                             |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```

AMO-COSSU-111 CLASSES OF SERVICE, SWITCHING UNIT

DISPLAY COMPLETED;

<DISPLAY-SBCSU:STNO=8003,type=optidat;

DISPLAY-SBCSU:STNO=8003,TYPE=OPTIDAT;

H500: AMO SBCSU STARTED

```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|          OPTISET INDIVIDUAL DEVICE DATA          STNO = 8003          |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| PHONE-ID / OPTION-ID          | ASSET-ID          | SW-VERSION | SELF TEST |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| OPTISET E ADVANCE PLUS          | 23 90 C7 91 | RA02.0A   | 0          |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|          HARDWARE SETTINGS          |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```



```

+-----+
| RINGVOL : 4          RINGSOUN : 2          ALERTVOL : 2          |
| CALLVOL  : 1          SPKRVOL  : 4          ROOMCHAR : NORMAL    |
+-----+

```

AMO-SBCSU-111 STATION AND S0-BUS CONFIGURATION OF SWITCHING UNIT
 DISPLAY COMPLETED;

*****DIGITAL STATION PHONE CONFIGURATION*****

<DISPLAY-SBCSU:STNO=8003;

DISPLAY-SBCSU:STNO=8003;

H500: AMO SBCSU STARTED

----- USER DATA -----

```

STNO    =8003    OPT     =OPTI    COS1    =7      DPLN    =0      SPDI    =Y
MAINO   =8003    CONN    =DIR     COS2    =7      ITR     =0      SPDC1   =0
PEN     = 1- 1- 55- 3          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     OPTISOA :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-111 STATION AND S0-BUS CONFIGURATION OF SWITCHING UNIT

DISPLAY COMPLETED;

<dis-cossu:cos,7;

DIS-COSSU: COS,7;

H500: AMO COSSU STARTED

COS	VOICE	FAX	TTX	VTX	DTE
7	>7:STANDARD/FWDNWK - NOANSA&FWDBSY				
	TA	NOCO	NOCO	NOCO	TA
	TSUID	NOTIE	NOTIE	NOTIE	TNOTCR
	TNOTCR				BASIC
	CDRINT				MSN
	CDRS				CDRINT
	CDRC				MULTRA
	MB				
	COSXCD				



	VCE				
	SPKR				
	DATA				
	NOANSA				
	FWDNWK				
	RERING				
	MSN				
	FWDBSY				
	FWDECA				
	CCBS				
	FWDEXT				

+-----+-----+-----+-----+-----+-----+

AMO-COSSU-111 CLASSES OF SERVICE, SWITCHING UNIT

DISPLAY COMPLETED;

<DISPLAY-COSSU:TYPE=LCOS,LCOS=31;

DISPLAY-COSSU:TYPE=LCOS,LCOS=31;

H500: AMO COSSU STARTED

THE LCR CLASSMARKS ARE CONTAINED IN THE FOLLOWING LCOS:

+-----+-----+-----+-----+-----+-----+

LCOS	LCOSV	LCOSD
12345678901234567890123456789012	12345678901234567890123456789012	12345678901234567890123456789012
>SERVICE INFORMATION		
+-----+-----+-----+-----+-----+-----+		
31	XX	XX
+-----+-----+-----+-----+-----+-----+		

AMO-COSSU-111 CLASSES OF SERVICE, SWITCHING UNIT

DISPLAY COMPLETED;

<DISPLAY-LDAT:TYPE=LCR;

DISPLAY-LDAT:TYPE=LCR;



H500: AMO LDAT STARTED

```

+-----+
| LROUTE = 79   LDPLN       NAME = OPEN NUMBER E1           SERVICE = ALL |
| TYPE = LCR                               DNNO OF ROUTE =   999 |
| SERVICE INFO =                               |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|           |           |           |           |           | SCHEDULE | CARRIER | BAND |           |
| LRTEL | LVAL | TGRP | ODR | LAUTH | ABCDEFGH |           | ZONE | WIDTH | LATTR |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|      1 |      1 |    70 |    1 |    1 | ***** |    1 | EMPTY |    1 |    NONE |
|           | DNNO =    999                               |           |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```

AMO-LDAT -111 LCR-DIRECTIONS

DISPLAY COMPLETED;

<DISPLAY-LODR:;

DISPLAY-LODR:;

H500: AMO LODR STARTED

```

+-----+-----+-----+-----+-----+
| ODR   POSITION  CMD      PARAMETER           |
+-----+-----+-----+-----+-----+
|    1   |    1   | ECHO   |    2           |
|         |    2   | END    |                 |
+-----+-----+-----+-----+-----+

```

AMO-LODR -111 ADMINISTRATION OF LCR OUTDIAL RULES

DISPLAY COMPLETED;

DIS-RICT:LRTE,79,;

H500: AMO RICHT STARTED



```

+-----+
| LRTE = 79      NAME = OPEN NUMBER E1   (NEUTRAL)  SRVC = ALL  |
| DNNO =          999  DESTNO = 99      |
| ROUTOPT = YES   REROUT = YES   PLB = NO    FWDBL = NO    |
| MFV: CNV=WITHOUT DSP=WITHOUT TEXT=          PULS=        |
| ROUTENO =      17  BUGS = LIN  ROUTATT = NO    MAINGRP = 17  |
| INFO =                                                |
+-----+
| TGRP = 70 LDAT OPEN NUMBER E1   (NEUTRAL)  SUBGROUP = 18  |
+-----+

```

AMO-RICHT-111 TRUNK ROUTING

DISPLAY COMPLETED;

<DISPLAY-LDPLN:TYPE=LDP;

DISPLAY-LDPLN:TYPE=LDP;

H500: AMO LDPLN STARTED

```

+-----+
|          |          |          |
| LDPNO : 35 | LDP : 79-XXXX |          |
|          | SPC : 22      |          |
+-----+
|          | DPLN | LRTE | LAUTH|| DPLN | LRTE | LAUTH|
|          | +-----+ +-----+ +-----+ +-----+
|          | 0 | 79 | 1 || 8 |   |   |
|          | 1 |   |   || 9 |   |   |
|          | 2 |   |   || 10|   |   |
|          | 3 |   |   || 11|   |   |
|          | 4 |   |   || 12|   |   |
|          | 5 |   |   || 13|   |   |
|          | 6 |   |   || 14|   |   |
|          | 7 |   |   || 15|   |   |

```



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AMO-LDPLN-111 ADMINISTRATION LCR DIALPLAN

DISPLAY COMPLETED;

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*****PBX SOFTWARE RELEASE/VERSION*****

<DISPLAY-VEGAS:LIST=LONG;

DISPLAY-VEGAS:LIST=LONG;

H500: AMO VEGAS STARTED

SYSTEM NO.	AMO	APS NO.	START	USER	STATUS
SWU: L31900Q2999A00001	REGEN	P30252B4200B00105	10.04.04	04:19 HIM	FREE
SWU RES CODE	APS: P30252B4200S00105	(DIR FILE:	:PDS:APSI/PS/S0-EK0SC)		
SWU AMO CODE	APS: P30252B4200B00105	(DIR FILE:	:PDS:APSI/PS/B0-EK0BC)		
SWU AMO TEXT	APS: P30252B4200B00105	(DIR FILE:	:PDS:APSI/PS/B0-EK0BC)		
BREAK MARK	: NO				
RESERVATION	: NO				
ADS: L31900Q2999A00001	REGEN	P30252B4200A00105	10.04.04	04:19 HIM	FREE
ADS RES CODE	APS: P30252B4200D00105	(DIR FILE:	:PDS:APSI/PS/D0-EK0DC)		
ADS AMO CODE	APS: P30252B4200A00105	(DIR FILE:	:PDS:APSI/PS/A0-EK0AC)		
ADS AMO TEXT	APS: P30252B4200A00105	(DIR FILE:	:PDS:APSI/PS/A0-EK0AC)		
BREAK MARK	: NO				
RESERVATION	: NO				

AMO-VEGAS-111 ADMIN. OF DATABASE GENERATION RUNS ON SUPPORT SYSTEM

DISPLAY COMPLETED;

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