

Avaya Solution & Interoperability Test Lab

How to Configure ISDN-PRI and Digital Loop Start T1 Interfaces between Avaya Communication Manager and Avaya Interactive Response (IR) using a single Telephony Card – Issue 1.0

Abstract

These Application Notes describe the steps for configuring ISDN-PRI and Digital Loop Start T-1 interfaces for interconnection between Avaya Communication Manager and an Avaya IR system with a single telephony card supporting different trunk parameters on each port.

1. Introduction

Avaya Interactive Response (IR) is an Interactive Voice Response (IVR) system that supports advanced applications of customer self-service solutions. Avaya IR Release 2.0 supports the assignment of different trunk parameters to each port on the quad (four T-1 or E-1 ports) telephony card. In previous releases of Avaya IR software, only one trunk protocol could be assigned to all the trunks of a T-1 telephony card. Telephony cards provide the telephony interface to the Avaya IR system.

Natural Microsystems (NMS) manufactures the commercial AG4040 T-1/E-1 telephony cards for the Avaya IR system. The Avaya IR 2.0 system supports a maximum of two quad-port AG4040 cards with either the Sun Fire 280R or the Sun Fire V240 platform. The AG4040 card offers T-1, E-1 (75 Ohm), and E-1 (120 Ohm) interfaces on a single card. The type of interface can be selected through Avaya IR system administration. A quad AG4040 telephony card can support the following:

- Four different T-1 protocols from amongst Integrated Service Digital Network (ISDN)-Primary Rate Interface (PRI), Digital Loop Start, and Digital Wink Start
- Four different E-1 protocols from amongst ISDN-PRI Interface, Digital Loop Start, and R2 MFC

The quad AG4040 telephony card cannot support both T-1 and E-1 interfaces on the same card. For more information on the NMS AG4040 telephony card, please refer to references [1] & [4] in **Section 7**.

These Application Notes also describe how to configure the T-1 interfaces on Avaya Communication Manager and describe how to use the Avaya IR Web Administration interface to administer the following:

- Digital interfaces including the assignment of a digital interface protocol on a T-1 telephony card.
- The assignment of telephone numbers to channels.
- The assignment of a service (application) to a channel or channels
- The assignment of Dialed Number Identification Service (DNIS) called numbers.

1.1. Reference Network Configuration

The configuration depicted in **Figure 1** is utilized to verify these Application Notes. **Figure 1** represents a typical multi-location enterprise with centralized control at the Main Office offered by the primary Avaya S8720 Media Server pair running Avaya Communication Manager. The Main Office also consists of an Avaya G650 Media Gateway and an Avaya IR system. Site 2 has an Enterprise Survivable Server (ESS) S8710 Media Server pair and an Avaya G650 Media Gateway as Port Network # 2. Site 4 contains a G350 Media Gateway and a Local Survivable Processor (LSP) S8500 Media Server. All site Port Networks, Media Gateways, and IP endpoints register to the C-LANs located in the Main Office G650 Media Gateway. Each site has Public Switched Telephone Network (PSTN) access via Time Division Multiplexed (TDM) trunks and private WAN access. There are three T-1 interfaces for interconnection between Avaya Communication Manager and the Avaya IR, which are the following:

- An ISDN-PRI T-1 between the Avaya G650 Media Gateway and Avaya IR within the Main Office
- A private Digital Loop Start T-1 between the Site 2 G650 Media Gateway and the Avaya IR located at the Main Office.
- A private Digital Loop Start T-1 between the Site 4 G350 Media Gateway and the Avaya IR located at the Main Office.



Figure 1: Reference Network Configuration

Note: These Application Notes assume that the configuration, excluding the T-1 interfaces to the Avaya IR, is already in place.

2. Equipment and Software Validated

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

Equipment – Main Office	Software					
Avaya S8720 Media Server	Avaya Communication Manager					
	R3.1.2 (R013x.01.2.632.1)					
Avaya G650 Media Gateway						
Avaya TN2312BP IPSI Circuit Pack	HW 12 FW 031					
• Avaya TN464F DS1 Circuit Packs (2)	HW 20 FW 018					
Avaya TN779DP C-LAN Circuit Pack	HW 01 FW 017					
Avaya TN2602AP MedPro Circuit Pack	HW 02 FW 024					
Avaya Converged Stackable Switch C363T-PWR (2)	4.5.14					
Avaya Interactive Response (Sun Fire V240 platform)	R2.0.221					
• Natural Microsystems (NMS) AG4040 T1	Natural Access 2005-1					
Cisco 6506 Switch Router	12.4(5)					

Table 1: Main Office

Equipment	Software					
Avaya G650 Media Gateway						
Avaya TN2312BP IPSI Circuit Pack	HW 12 FW 031					
• Avaya TN464F DS1 Circuit Packs (2)	HW 20 FW 018					
Avaya TN779DP C-LAN Circuit Pack	HW 01 FW 017					
Avaya TN2602AP Medpro Circuit Pack	HW 02 FW 024					
Avaya S8710 Media Server	Avaya Communication Manager					
• Enterprise Survivable Server (ESS)	R3.1.2 (R013x.01.2.632.1)					
Avaya Converged Stackable Switch C363T-PWR	4.5.14					
Cisco 1841 Router	12.4(5)					

Table 2: Site 2

Equipment	Software
Avaya G350 Media Gateway	25.30.0
• MM710AP (2)	HW 05 FW 015
Avaya S8500 Media Server (LSP)	Avaya Communication Manager
	R3.1.2 (R013x.01.2.632.1)

Table 3: Site 4

Equipment	Software
Avaya Site Administration (ASA)	3.1.13
Cisco 3845 WAN Router (2)	12.4(5)
PC Workstations: Microsoft Windows XP Professional	Version 2002

Table 4: Common Use Equipment and Software

3. Configure Avaya Communication Manager

These Application Notes assume all equipment in **Table 1** through **Table 4** has been previously administered with the exception of the configuration parameters required to interconnect the Avaya IR system to multiple Avaya Media Gateways. The following pages detail instructions on how to verify and administer the required configuration parameters. For additional information, please refer to reference [3] in **Section 7**.

3.1. Verify Avaya Communication Manager Licenses

To set up ISDN-PRI T-1 connectivity to the Avaya IR system, certain Avaya Communication Manger licenses must be active. The next steps verify these required licenses. If any licenses are missing, contact your Avaya Authorized Sales representative.

All commands were entered on an Avaya Communication Manager System Access Terminal (SAT) connected to the active S8720 Media Server at the Main Office. Use a login and password with the appropriate access permissions.

Step	Description
1.	Issue the command " display system-parameters customer options " to display the active licensed features. On page 1, the " Platform Maximum Ports " and " Maximum Stations " fields display the maximum number of station and ports allowed in the system. Verify that there are stations and ports available to configure the ISDN-PRI and Digital Loop Start T1 interfaces between the Avaya IR and Avaya Communication Manager.
	display system-parameters customer-options Page 1 of 11 OPTIONAL FEATURES
	G3 Version: V13 Location: 1 RFA System ID (SID): 1 Platform: 8 RFA Module ID (MID): 1
	USED Platform Maximum Ports: 44000 732 Maximum Stations: 36000 544 Maximum MOBILE Stations: 0 0 Maximum Off-PBX Telephones - EC500: 0 0 Maximum Off-PBX Telephones - OPS: 50 0 Maximum Off-PBX Telephones - SCCAN: 0 0
	(NOTE: You must logoff & login to effect the permission changes.)

	Description	
2.	Go to Page 4 and verify that the "ISDN Feature Pl	us" and "ISDN-PRI" fields are set to "v".
	These fields provide ISDN-PRI software and signal	ling.
	display system-parameters customer-options	Page 4 of 11
	OPTIONAL FEA	ATURES
	Emergency Access to Attendant? y	IP Stations? y
	Enable 'dadmin' Login? y	Internet Protocol (IP) PNC? y
	Enhanced Conferencing? y	ISDN Feature Plus? y
	Enterprise Survivable Server? n	ISDN Network Call Redirection? y ISDN-BRI Trunks? y
	Enterprise Wide Licensing? n	ISDN-PRI? Y
	ESS Administration? y	Local Survivable Processor? n
	Extended Cvg/Fwd Admin? n	Malicious Call Trace? y
	External Device Alarm Admin? n	Media Encryption Over IP? y
	Flexible Billing? n	e code for centralized voice Mail: n
	Forced Entry of Account Codes? n	Multifrequency Signaling? y
	Global Call Classification? n Multimed	dia Appl. Server Interface (MASI)? n
	Hospitality (Basic)? y	Multimedia Call Handling (Basic)? y
	TP Trunks? v	(Ennanced) ? y
	IP Attendant Consoles? y	
	(NOTE: You must logoff & login to effe	ect the permission changes.)
3.	Go to Page 5 and verify that the " Uniform Dialing	Plan " field is set to " y ". This provides 3-
3.	Go to Page 5 and verify that the " Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digi	Plan " field is set to " y ". This provides 3- t steering.
3.	Go to Page 5 and verify that the " Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digit	Plan " field is set to " y ". This provides 3- t steering.
3.	Go to Page 5 and verify that the " Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digit display system-parameters customer-options	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digi display system-parameters customer-options OPTIONAL FE	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digi display system-parameters customer-options OPTIONAL FEA Multinational Locations? n	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11 ATURES Station and Trunk MSP? n
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digit display system-parameters customer-options OPTIONAL FEA Multinational Locations? n Multiple Level Precedence & Preemption? n	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11 ATURES Station and Trunk MSP? n Station as Virtual Extension? n
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digit display system-parameters customer-options OPTIONAL FEA Multinational Locations? n Multiple Level Precedence & Preemption? n Multiple Locations? y	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11 ATURES Station and Trunk MSP? n Station as Virtual Extension? n Sustom Management Data Transfor? n
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digit display system-parameters customer-options OPTIONAL FEA Multinational Locations? n Multiple Level Precedence & Preemption? n Multiple Locations? y Personal Station Access (PSA)? y	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11 ATURES Station and Trunk MSP? n Station as Virtual Extension? n System Management Data Transfer? n Tenant Partitioning? n
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digi display system-parameters customer-options OPTIONAL FEA Multinational Locations? n Multiple Level Precedence & Preemption? n Multiple Locations? y Personal Station Access (PSA)? y Posted Messages? y	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11 ATURES Station and Trunk MSP? n Station as Virtual Extension? n System Management Data Transfer? n Tenant Partitioning? n Terminal Trans. Init. (TTI)? y
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digi display system-parameters customer-options OPTIONAL FEA Multinational Locations? n Multiple Level Precedence & Preemption? n Multiple Locations? y Personal Station Access (PSA)? y Posted Messages? y PNC Duplication? n	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11 ATURES Station and Trunk MSP? n Station as Virtual Extension? n System Management Data Transfer? n Tenant Partitioning? n Terminal Trans. Init. (TTI)? y Time of Day Routing? y
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digit display system-parameters customer-options OPTIONAL FEZ Multinational Locations? n Multiple Level Precedence & Preemption? n Multiple Locations? y Personal Station Access (PSA)? y Posted Messages? y PNC Duplication? n Port Network Support? y	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11 ATURES Station and Trunk MSP? n Station as Virtual Extension? n System Management Data Transfer? n Tenant Partitioning? n Terminal Trans. Init. (TTI)? y Time of Day Routing? y Uniform Dialing Plan? y
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digit display system-parameters customer-options OPTIONAL FEA Multinational Locations? n Multiple Level Precedence & Preemption? n Multiple Locations? y Personal Station Access (PSA)? y Posted Messages? y PNC Duplication? n Port Network Support? y	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11 ATURES Station and Trunk MSP? n Station as Virtual Extension? n System Management Data Transfer? n Tenant Partitioning? n Terminal Trans. Init. (TTI)? y Time of Day Routing? y Uniform Dialing Plan? y Usage Allocation Enhancements? y TN2501 VAL Maximum Capacity? y
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digit display system-parameters customer-options OPTIONAL FEA Multinational Locations? n Multiple Level Precedence & Preemption? n Multiple Locations? y Personal Station Access (PSA)? y Posted Messages? y PNC Duplication? n Port Network Support? y Processor and System MSP? n Private Networking? y	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11 ATURES Station and Trunk MSP? n Station as Virtual Extension? n System Management Data Transfer? n Tenant Partitioning? n Terminal Trans. Init. (TTI)? y Time of Day Routing? y Uniform Dialing Plan? y Usage Allocation Enhancements? y TN2501 VAL Maximum Capacity? y
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digi display system-parameters customer-options OPTIONAL FEA Multinational Locations? n Multiple Level Precedence & Preemption? n Multiple Locations? y Personal Station Access (PSA)? y Posted Messages? y PNC Duplication? n Port Network Support? y Processor and System MSP? n Private Networking? y Processor Ethernet? y	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11 ATURES Station and Trunk MSP? n Station as Virtual Extension? n System Management Data Transfer? n Tenant Partitioning? n Terminal Trans. Init. (TTI)? y Time of Day Routing? y Uniform Dialing Plan? y Usage Allocation Enhancements? y TN2501 VAL Maximum Capacity? y Wideband Switching? y
3.	Go to Page 5 and verify that the "Uniform Dialing to 7- digit Uniform Dial Plan (UDP) and 1 to 7 digit display system-parameters customer-options OPTIONAL FEX Multinational Locations? n Multiple Level Precedence & Preemption? n Multiple Locations? y Personal Station Access (PSA)? y Posted Messages? y PNC Duplication? n Port Network Support? y Processor and System MSP? n Private Networking? y Processor Ethernet? y	Plan" field is set to "y". This provides 3- t steering. Page 5 of 11 ATURES Station and Trunk MSP? n Station as Virtual Extension? n System Management Data Transfer? n Tenant Partitioning? n Terminal Trans. Init. (TTI)? y Time of Day Routing? y Uniform Dialing Plan? y Usage Allocation Enhancements? y TN2501 VAL Maximum Capacity? y Wideband Switching? y Wireless? n
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3.2. ISDN-PRI DS1 Board, Trunk Group and Routing Administration for the Main Office to Avaya IR Link

Step	Descri	ption								
1.	Enter the command "add ds1 x " where x is the location for the unassigned TN464F DS1- board in the Main Office G650 Media Gateway for the ISDN-PRI T-1 interface to the Avaya IR. Assign the following DS1 parameters:									
	a.	In the "Name" field	d, enter a d	escriptive name for the DS1 circ	cuit pack.					
	b.	Set the " Line Coding " field to " b8zs " for bipolar eight zero substitution support on the T-1 facility. This setting must match the " Line Code " setting in the Avaya IR ISDN-PRI T1 parameters screen (step 4 in Section 4.3).								
	c.	Leave the " Framin This setting must m parameters screen (g Mode " f natch the " I step 4 in S	Field at the default of " esf " for E Frame Type" setting in the Ava ection 4.3).	xtended S ya IR ISI	Superfr DN-PR	ame. I T1			
	d.	Set the "Signaling	Mode" fiel	ld to " isdn-pri " for T-1 ISDN se	ervice.					
	e.	Set the " Connect " on a private networ	field to " pl k.	bx " since the ISDN connection t	to the Av	aya IR	will be			
	f.	Set the " Interface " setting of " user " for screen (step 4 in Se	field to " n or the " PRI oction 4.3).	etwork ". The Avaya IR must h Side" setting in the Avaya IR I	ave the c SDN-PR	complei I T1 pa	mentary rameters			
	g. All oth	Set the " Protocol V network. her fields may be left ds1 01a12	Version" fi	ault setting.	tivity on	a priva	2			
			01-10			_				
	I	Location: Bit Rate: Line Compensation: Signaling Mode:	01A12 1.544 1 isdn-pri	Name: Line Coding: Framing Mode:	IR Port b8zs esf	1				
		Connect:	pbx	Interface:	network					
	Inte	erworking Message:	n PROGress	Protocol Version:	⊥ b					
	Inte	erface Companding: Idle Code:	mulaw 11111111	CRC?	n					
			D	CP/Analog Bearer Capability:	3.1kHz					
				T303 Timer(sec):	4					
		Slip Detection?	n	Near-end CSU Type: o	other					
				Block Progress Indicator? r	n					
	-									

Step	Description
2.	Enter the command "add signaling-group y " where y is an unassigned Signaling Group number. Set the " Primary D-Channel " field to " $x24$ " where x is the assigned TN464F DS1-board in step 1, and 24 is the standard signaling port (D-Channel) for the ISDN PRI. Leave all other fields at the default setting.
	add signaling-group 12 Page 1 of 5 SIGNALING GROUP
	Group Number: 12 Group Type: isdn-pri Associated Signaling? y Max number of NCA TSC: 0 Primary D-Channel: 01A1224 Max number of CA TSC: 0 Trunk Group for NCA TSC:
	Trunk Group for Channel Selection: Supplementary Service Protocol: a Network Call Transfer? n
3.	Enter the command "add trunk-group z " where z is an unassigned Trunk Group number. Assign the following Trunk Group parameters:
	 a. In the Group Name Tield, enter a descriptive name for the Trunk Group. b. Set the "Group-Type" field to "isdn". c. Based on the format defined in the Dial Plan Analysis table (to view, use the "display dial-plan analysis" command) for dial access codes, assign a number in the "TAC" field for the Trunk Group. d. Set the "Service Type" field to "tie" to designate general-purpose use.
	The remaining fields on page 1 through page 4 may be left at the default settings.
	Note: To send the Calling Party number from the incoming call to Avaya IR, set the " Send Calling Number " field on page 3 (not shown) to " y ".
	add trunk-group 12 Page 1 of 21 TRUNK GROUP
	Group Number: 12Group Type: isdnCDR Reports: yGroup Name: Main Office to IRCOR: 1TN: 1TAC: 1112Direction: two-wayOutgoing Display? nCarrier Medium: PRI/BRIDial Access? nBusy Threshold: 255Night Service:Queue Length: 000
	Service Type: tie Auth Code? n TestCall ITC: rest Far End Test Line No:

Step	Descri	otion									
4.	Go to I	Page 5 an	d assign	the f	ollov	ving	parameters fo	r each Trunk Group M	lember	1 thro	ugh 15
	and 16	through	23 on Pa	ge 6							
	a.	Set the " 01 is the	Port " fi first Tru	eld to ink C	o "x0 Group	1" wl 9 Mer	here x is the a nber of the IS	ssigned TN464F DS1 SDN-PRI (B-Channels)	-board).	in step	1, and
	b.	In the "N	Name " fi	eld,	enter	a des	scriptive nam	e for the Trunk Group	Memb	er.	
	c.	Set the " 2.	Sig Grp	" fie	ld to	"y" v	where y is the	assigned Signaling Gr	oup nu	mber i	n step
	d.	Repeat s Channel	teps a th s total).	roug	h c fo	or ead	ch Trunk Gro	up Member of the ISD	N-PRI	(23 B-	
	add	+runk-ar	oup 12						Dago	5 of	21
	auu	CLUIK GL	0up 12				TRUNK GROUP		raye	JUL	21
	GROU	P MEMBER	ASSIGNN	1ENTS	5		Admini To	stered Members (min/ tal Administered Mem	max): bers:	0/0 0	
		Port	Code	Sfx	Name		Night	Sig Grp			
	1:	01A1201	TN464	F	IR C	н-00		12			
	2:	01A1202	TN464	F	IR C	н-01		12			
	3:	01A1203	TN464	F	IR C	н-02		12			
	4:	01A1204	TN464	F	IR C	н-03		12			
	5:	01A1205	TN464	F	IR C	н-04		12			
	6:	01A1206	TN464	F	IR C	н-05		12			
	7:	01A1207	TN464	F	IR C	н-06		12			
	8:	01A1208	TN464	F	IR C	н-07		12			
	9:	01A1209	TN464	F	IR C	н-08		12			
	10:	01A1210	TN464	F	IR C	н-09		12			
	11:	01A1211	TN464	F	IR C	н-10		12			
	12:	01A1212	TN464	F	IR C	н-11		12			
	13:	01A1213	TN464	F	IR C	н-12		12			
	14:	01A1214	TN464	F	IR C	н-13		12			
	15:	01A1215	TN464	F	IR C	H-14		12			
	add	trunk-gr	oup 12				TRIINK GROUP		Page	6 of	21
	GROU	IP MEMBER	ASSIGN	MENTS	5		Admini To	stered Members (min/ tal Administered Mem	max): bers:	0/0 0	
		Port	Code	Sfx	Name		Night	Sig Gro			
	16:	01A1216	TN464	F	IR C	н-15		12			
	17:	01A1217	TN464	F	IR C	н-16		12			
	18:	01A1218	TN464	F	IR C	H-17		12			
	19:	01A1219	TN464	F	IR C	H-18		12			
	20:	01A1220	TN464	F	IR C	H-19		12			
	21:	01A1221	TN464	F	IR C	н-20		12			
	22:	01A1222	TN464	F	IR C	н-21		12			
	23:	01A1223	TN464	F	IR C	н-22		12			

ned Route Pattern subsequent rows indicate llowing parameters: e Route Pattern that will nk Group Number " <i>z</i> " y Restriction Level (FRL) this trunk group to the entered FRL to ault settings.
e Route Pattern that will nk Group Number "z" y Restriction Level (FRL) this trunk group to the entered FRL to `ault settings.
nk Group Number "z" y Restriction Level (FRL) this trunk group to the entered FRL to ault settings.
y Restriction Level (FRL) this trunk group to the entered FRL to Fault settings.
ault settings.
Page 1 of 3 to IR DCS/ IXC QSIG Tatw
n user n user n user n user n user n user
1 No. Numbering LAR Dgts Format ubaddress
none
N

Descri	ption												
Enter the command " change uniform-dialplan 0 " to enter and list the parameters that provide uniform dialing between Avaya Communication Manager and Avaya IR. Assign the following parameters:													
a.	a. Set the " Matching Pattern " field to the leading digits that Avaya Communication Manager will match to the user-dialed numbers. For this example, the entry " 432075 " is for the extension range 4320750 through 4320759.												
b.	b. Set the "Len" field to the number of user-dialed digits Avaya Communication Manager collects to match to the "Matching Pattern" field.												
c.	c. Set the " Del " field to the number of digits to delete before routing the call. For this example, " 0 " is entered and all entered digits will be used to route the call.												
d.	Set the Altern	e " Ne ate R	t " fi outi	eld to " a ng (AAF	ar" () ta	so tha ble (S	at the c Step 7)	ligit string for analysi	is for s.	ward	ed to the Au	itomatic	2
e.	Repea	t step	s a t	hrough (l for	each	exten	sion range	that w	vill ro	oute to the A	waya IF	R
char	nge uni	form-	dial	plan 0 UNI	FORM	M DIA:	L PLAN	TABLE			Page Percent	1 of Full:	2 0
Ma	atching			Insert			Node	Matching	ſ		Insert	N	Iode
Pa	attern	Len	Del	Digits	Net	Conv	Num	Pattern	Len	Del	Digits Net	Conv N	Ium
3		5	0		aar	n						n	
4.	32075	7	0		aar aar	n						n	
43	32077	7	0		aar	n						n	
	Descri Enter unifor follow a. b. c. d. c. d. e. Chan Ma Pa 3 4: 4: 4: 4: 4: 4:	Description Enter the comuniform dialing following para a. Set the Managis for the Set the Manage c. Set the Altern d. Set the Altern e. Repear Change uni Matching Pattern 3 432075 432076	Description Enter the command uniform dialing bet following parameter a. Set the "Ma Manager wi is for the ex b. Set the "Lea Manager co c. Set the "De example, "C d. Set the "Ne Alternate R e. Repeat step change uniform- Matching Pattern Len 3 5 432075 7 432076 7 432077 7	Description Enter the command "ch uniform dialing betwee following parameters: a. Set the "Matching Manager will m is for the extens b. Set the "Len" find Manager collect c. Set the "Del" find example, "0" is d. Set the "Net" find Alternate Routing e. Repeat steps a the Change uniform-dial Matching Pattern Len Del 3 5 0 432075 7 0 432076 7 0 432077 7 0	DescriptionEnter the command "change un uniform dialing between Avaya following parameters:a. Set the "Matching Patt Manager will match to the is for the extension rangeb. Set the "Len" field to the Manager collects to math C. Set the "Del" field to the example, "O" is enteredd. Set the "Net" field to the example, "O" is enteredd. Set the "Net" field to "a Alternate Routing (AAR e. Repeat steps a through o UNIMatchingInsert PatternPatternLen Del Digits 33543207570432077	DescriptionEnter the command "change uniform uniform dialing between Avaya Confollowing parameters:a. Set the "Matching Pattern" Manager will match to the unis for the extension range 43b. Set the "Len" field to the number of the extension range 43b. Set the "Len" field to the number of the example, "0" is entered andd. Set the "Net" field to the numer example, "0" is entered andd. Set the "Net" field to "aar" Alternate Routing (AAR) taken and the example of the example o	DescriptionEnter the command "change uniform-dialing between Avaya Communifollowing parameters:a. Set the "Matching Pattern" field Manager will match to the user-dis for the extension range 432075b. Set the "Len" field to the number Manager collects to match to thec. Set the "Del" field to the number example, "O" is entered and all endd. Set the "Net" field to "aar" so the Alternate Routing (AAR) table (Signaturee. Repeat steps a through d for eachchange uniform-dialplan 0 UNIFORM DIAMatching 3Insert Pattern 1Pattern 43207570aar aar n 43207770aar aar n 43207770aar aar n 432077	Description Enter the command "change uniform-dialplan uniform dialing between Avaya Communication following parameters: a. Set the "Matching Pattern" field to the Manager will match to the user-dialed in is for the extension range 4320750 throut b. Set the "Len" field to the number of use Manager collects to match to the "Matching example, "0" is entered and all entered of d. Set the "Net" field to "aar" so that the of Alternate Routing (AAR) table (Step 7) e. Repeat steps a through d for each extension change uniform-dialplan 0 UNIFORM DIAL PLAN Matching Insert Node Pattern Matching Insert Node Pattern 3 5 0 aar 3 5 0 aar 432075 7 0 aar 432077 7 0 aar	Description Enter the command "change uniform-dialplan 0" to enteruniform dialing between Avaya Communication Manager following parameters: a. Set the "Matching Pattern" field to the leading dial Manager will match to the user-dialed numbers. For is for the extension range 4320750 through 432075 b. Set the "Len" field to the number of user-dialed dial Manager collects to match to the "Matching Pattern" so that the digits to delete example, "0" is entered and all entered digits will be d. Set the "Net" field to "aar" so that the digit string Alternate Routing (AAR) table (Step 7) for analysis e. Repeat steps a through d for each extension range to uniform-dialplan 0 Change uniform-dialplan 0 UNIFORM DIAL PLAN TABLE Matching Insert Node Matching 3 5 3 5 432075 7 432075 7 aar n 432075 7 0 aar	Description Enter the command "change uniform-dialplan 0" to enter and uniform dialing between Avaya Communication Manager and A following parameters: a. Set the "Matching Pattern" field to the leading digits the Manager will match to the user-dialed numbers. For this is for the extension range 4320750 through 4320759. b. Set the "Len" field to the number of user-dialed digits A Manager collects to match to the "Matching Pattern" from A Manager collects to match to the "Matching Pattern" from Set the "Del" field to the number of digits to delete before example, "0" is entered and all entered digits will be used d. Set the "Net" field to "aar" so that the digit string is for Alternate Routing (AAR) table (Step 7) for analysis. e. Repeat steps a through d for each extension range that w Change uniform-dialplan 0 UNIFORM DIAL PLAN TABLE Matching Insert Node Matching Alternate Node Matching Insert Node Matching Alternation Insert Matching Insert Node Matching Alternation Insert Image: Insert Node Matching Insert Matching Insert Matching Insert Image Insert <tr< th=""><th>Description Enter the command "change uniform-dialplan 0" to enter and list to uniform dialing between Avaya Communication Manager and Avay following parameters: a. Set the "Matching Pattern" field to the leading digits that A Manager will match to the user-dialed numbers. For this examis for the extension range 4320750 through 4320759. b. Set the "Len" field to the number of user-dialed digits Avaya Manager collects to match to the "Matching Pattern" field. c. Set the "Del" field to the number of digits to delete before roo example, "0" is entered and all entered digits will be used to d. Set the "Net" field to "aar" so that the digit string is forward Alternate Routing (AAR) table (Step 7) for analysis. e. Repeat steps a through d for each extension range that will room UNIFORM DIAL PLAN TABLE Matching Insert Node Matching 3 5 0 aar n 432075 7 0 aar n</th><th>Description Enter the command "change uniform-dialplan 0" to enter and list the parameter uniform dialing between Avaya Communication Manager and Avaya IR. Assign following parameters: a. Set the "Matching Pattern" field to the leading digits that Avaya Comm Manager will match to the user-dialed numbers. For this example, the erris for the extension range 4320750 through 4320759. b. Set the "Len" field to the number of user-dialed digits Avaya Communic Manager collects to match to the "Matching Pattern" field. c. Set the "Del" field to the number of digits to delete before routing the cal example, "0" is entered and all entered digits will be used to route the cal d. Set the "Net" field to "aar" so that the digit string is forwarded to the Au Alternate Routing (AAR) table (Step 7) for analysis. e. Repeat steps a through d for each extension range that will route to the Au Alternate Routing (Insert Node Matching Insert Pattern Len Del Digits Net Conv Num Pattern Len Del Digits Net Sonv Num Pattern Len Del Digits Net 3 5 0 aar n 432075 7 0 aar n 432077 7 0 aar n</th><th>Description Enter the command "change uniform-dialplan 0" to enter and list the parameters that puniform dialing between Avaya Communication Manager and Avaya IR. Assign the following parameters: a. Set the "Matching Pattern" field to the leading digits that Avaya Communication Manager will match to the user-dialed numbers. For this example, the entry "43 is for the extension range 4320750 through 4320759. b. Set the "Len" field to the number of user-dialed digits Avaya Communication Manager collects to match to the "Matching Pattern" field. c. Set the "Del" field to the number of digits to delete before routing the call. For the example, "0" is entered and all entered digits will be used to route the call. d. Set the "Net" field to "aar" so that the digit string is forwarded to the Automatic Alternate Routing (AAR) table (Step 7) for analysis. e. Repeat steps a through d for each extension range that will route to the Avaya II Change uniform-dialplan 0 Page 1 of UNIFORM DIAL PLAN TABLE VINIFORM DIAL PLAN TABLE Percent Full: Matching Insert Node A32075 7 0 aar n 432076 7 0 aar n 432077 7 0 aar n</th></tr<>	Description Enter the command "change uniform-dialplan 0" to enter and list to uniform dialing between Avaya Communication Manager and Avay following parameters: a. Set the "Matching Pattern" field to the leading digits that A Manager will match to the user-dialed numbers. For this examis for the extension range 4320750 through 4320759. b. Set the "Len" field to the number of user-dialed digits Avaya Manager collects to match to the "Matching Pattern" field. c. Set the "Del" field to the number of digits to delete before roo example, "0" is entered and all entered digits will be used to d. Set the "Net" field to "aar" so that the digit string is forward Alternate Routing (AAR) table (Step 7) for analysis. e. Repeat steps a through d for each extension range that will room UNIFORM DIAL PLAN TABLE Matching Insert Node Matching 3 5 0 aar n 432075 7 0 aar n	Description Enter the command "change uniform-dialplan 0" to enter and list the parameter uniform dialing between Avaya Communication Manager and Avaya IR. Assign following parameters: a. Set the "Matching Pattern" field to the leading digits that Avaya Comm Manager will match to the user-dialed numbers. For this example, the erris for the extension range 4320750 through 4320759. b. Set the "Len" field to the number of user-dialed digits Avaya Communic Manager collects to match to the "Matching Pattern" field. c. Set the "Del" field to the number of digits to delete before routing the cal example, "0" is entered and all entered digits will be used to route the cal d. Set the "Net" field to "aar" so that the digit string is forwarded to the Au Alternate Routing (AAR) table (Step 7) for analysis. e. Repeat steps a through d for each extension range that will route to the Au Alternate Routing (Insert Node Matching Insert Pattern Len Del Digits Net Conv Num Pattern Len Del Digits Net Sonv Num Pattern Len Del Digits Net 3 5 0 aar n 432075 7 0 aar n 432077 7 0 aar n	Description Enter the command "change uniform-dialplan 0" to enter and list the parameters that puniform dialing between Avaya Communication Manager and Avaya IR. Assign the following parameters: a. Set the "Matching Pattern" field to the leading digits that Avaya Communication Manager will match to the user-dialed numbers. For this example, the entry "43 is for the extension range 4320750 through 4320759. b. Set the "Len" field to the number of user-dialed digits Avaya Communication Manager collects to match to the "Matching Pattern" field. c. Set the "Del" field to the number of digits to delete before routing the call. For the example, "0" is entered and all entered digits will be used to route the call. d. Set the "Net" field to "aar" so that the digit string is forwarded to the Automatic Alternate Routing (AAR) table (Step 7) for analysis. e. Repeat steps a through d for each extension range that will route to the Avaya II Change uniform-dialplan 0 Page 1 of UNIFORM DIAL PLAN TABLE VINIFORM DIAL PLAN TABLE Percent Full: Matching Insert Node A32075 7 0 aar n 432076 7 0 aar n 432077 7 0 aar n

7. Enter the command " change aar analysis 0 " to list and add add Avaya Communication Manager utilizes the AAR table to comp	itional AAR table entries.											
with the " Dialed String " entry that most closely matches, which pattern to use. Assign the following parameters:	ter the command " change aar analysis 0 " to list and add additional AAR table entries. aya Communication Manager utilizes the AAR table to compare the user-dialed number h the " Dialed String " entry that most closely matches, which then determines the route tern to use. Assign the following parameters:											
a. Set the " Dialed String " field to the digits that the call pr this example, the entry " 432075 " is for the extension ran	ocessing server analyzes. For ge 4320750 through 4320759.											
b. Set the " Total Min " and " Total Max " fields to the mini number of user-dialed digits Avaya Communication Max match to the " Dialed String " entry.	mum number and maximum nager collects to determine a											
c. Set the "Route Pattern" field to the route pattern number	er assigned in Step 5 .											
d. Set the "Call Type" field to "aar" for regular AAR calls												
e. Repeat steps a through d for each extension range that w	ill route to the Avava IR											
change aar analysis 0 AAR DIGIT ANALYSIS TABLE	Page 1 of 2											
	Percent Full: 2											
Dialed Total Route Call No String Min Max Pattern Type Nu	ode ANI											
3 5 5 1 aar	n											
30331 5 5 30 aar	n											
38 5 5 14 aar	n											
4 5 5 11 aar	n											
40 5 5 13 aar	n											
401 3 3 401 aar	n											
5 7 7 999 aar	n											
432075 7 7 12 aar	n											
432070 7 7 12 aar	n D											
432077 / / 12 aar	11											

3.3. Digital Loop DS1 Board and Station Administration for the Site 2 to Avaya IR Link

Step	Description					
1.	Enter the command " add ds1 <i>w</i> " where <i>w</i> is the location for the unassigned TN464F DS1- board in the Site 2 G650 Media Gateway for the T-1 interface to the Avaya IR. Assign the following T-1 parameters:					
	a. In the "Name" field, enter a descriptive name for the DS1 circuit pack.					
	 b. Leave the "Line Coding" field at the default setting of "ami-zcs" for Alternate Mark Inversion – Zero Code Suppression support on the T-1 facility. 					
	c. Set the "Framing Mode" field to "d4" for basic DS1 Superframe.					
	d. Set the " Signaling Mode " field to " robbed-bit " for in-band signaling with the T-1 service.					
	These settings must match in the Avaya IR Digital Loop-Start T1 screen (step 7 in Section 4.3) for " Trunk 2 ". All other fields may be left at the default setting.					
	DS1 CIRCUIT PACK					
	Location: 02A04 Name: IR Port 3 Bit Rate: 1.544 Line Coding: ami-zcs Line Compensation: 1 Framing Mode: d4 Signaling Mode: robbed-bit					
	Interface Companding: mulaw Idle Code: 1111111					
	Slip Detection? n Near-end CSU Type: other					

```
Description
Step
 2.
      A station must be administered for each Avaya IR Digital-Loop Channel. Enter the command
      "add station v", where v is an available extension for the station. The extension of this station
      must match the assigned "Phone Number" in Avaya IR for the Digital-Loop channel (Refer
      to step 2 in Section 4.5). Assign the following parameters for the station:
          a. Set the "Type" field to "DS1FD".
          b. Set the "Port" field to "w01" where w is the location for the assigned TN464F DS1-
              board in the Site 2 G650 Media Gateway for the T-1 interface to the Avaya IR (step 1),
              and 01 is the first port on that board.
          c. In the "Name" field, enter a descriptive name for the station.
      All other fields on pages 1 through 3 may be left at the default setting.
                                                                                 Page 1 of
         add station 4322750
                                                                                                 3
                                                   STATION
                                                      Lock Messages? nBCC: 0Security Code:TN: 1Coverage Path 1:COR: 1Coverage Path 2:COS: 1Hunt-to Station:Tests? y
         Extension: 4322750
              Type: DS1FD
              Port: 02A0401
              Name: B02 IR Station 1
         STATION OPTIONS
                       Loss Group: 4
             Off Premises Station? y
                R Balance Network? n
                    Survivable COR: internal
            Survivable Trunk Dest? y
 3.
      Repeat step 2 using the "duplicate station" command to add a station extension for each
      Avaya IR Digital Loop Start channel and port on the assigned TN464F DS1-board.
```

Step	Description						
4.	Enter the command " add hunt-group <i>s</i> ", where <i>s</i> is an available hunt group number. Assign the following parameters:						
	a. In the "Group Name" field, enter a descriptive name for the hunt group						
	b. Assign an available extension number in the "Group Extension" field. The Avaya IR Digital Loop Start channels are accessed via this assigned extension number.						
	c. Set the "Group Type" field to "ucd-mia".						
	add hunt-group 92 Page 1 of 60 HUNT GROUP						
	Group Number: 92 ACD? n Group Name: IR (TDM) Ports Queue? n Group Extension: 4322590 Vector? n Group Type: ucd-mia Coverage Path: TN: 1 Night Service Destination: COR: 1 MM Early Answer? n Security Code: Local Agent Preference? n ISDN/SIP Caller Display: grp-name						
5.	Go to Page 3 and enter the station extensions assigned in steps 2 and 3 as group members under the "Ext" fields as shown below. add hunt-group 92 Build HUNT GROUP Group Number: 92 Group Extension: Member Range Allowed: 1 - 1500 Comparison of the state						
	Total Administered Members: 0 Total Administered Members: 0 GROUP MEMBER ASSIGNMENTS Ext Name (24 characters) 14: 4322763 1: 4322750 14: 4322763 2: 4322751 15: 4322764 3: 4322752 16: 4322765 4: 4322753 17: 4322766 5: 4322754 18: 4322767 6: 4322755 19: 4322768 7: 4322756 20: 4322770 9: 4322758 22: 4322771 10: 4322759 23: 4322772 11: 4322760 24: 4322773 12: 4322761 25: 13: 4322762 26:						
	At End of Member List						

3.4. Digital Loop DS1 Board and Station Administration for the Site 4 to Avaya IR Link

Enter the command " add ds1 u " where u is the location for the unassigned DS1 Media Module (MM710AP) in the Site 4 G350 Media Gateway for the T-1 interface to the Avaya IR. Assign the following T-1 parameters:						
a.	In the "Name" field	d, enter a descripti	ve name for the DS1 circuit	it pack.		
b.	Set the " Line Codi the T-1 facility.	ng" field to "b8zs	" for bipolar eight zero sub	stitution	support	on
c.	Set the " Signaling service.	Mode" field to "r	obbed-bit " for in-band sig	naling wi	th the T-	-1
These 4.3) fo	settings must match r " Trunk 3 ". All ot	in the Avaya IR D her fields may be	Digital Loop-Start T1 screen left at the default setting.	n (step 1 () in Sect	ion
add	ds1 004v3	DS1 CI	RCUIT PACK	Page	1 of	2
I	Location: Bit Rate: ine Compensation: Signaling Mode:	004V3 1.544 1 robbed-bit	Name: I Line Coding: b Framing Mode: e	R Port 2 Bzs Sf		
Inte	rface Companding: Idle Code:	mulaw 11111111				
E	Slip Detection? cho Cancellation?	n n	Near-end CSU Type: otl	her		
	Enter t Modul Assign a. b. c. Fhese : I.3) for add	Enter the command "add of Module (MM710AP) in the Assign the following T-1 p a. In the "Name" field b. Set the "Line Codi the T-1 facility. c. Set the "Signaling service. These settings must match I.3) for "Trunk 3". All of add ds1 004v3 Location: Bit Rate: Line Compensation: Signaling Mode: Interface Companding: Idle Code: Slip Detection? Echo Cancellation?	Enter the command "add ds1 u" where u is to Module (MM710AP) in the Site 4 G350 Med Assign the following T-1 parameters: a. In the "Name" field, enter a descripting b. Set the "Line Coding" field to "b8zs" the T-1 facility. c. Set the "Signaling Mode" field to "re- service. These settings must match in the Avaya IR D Location: 004V3 Bit Rate: 1.544 Line Compensation: 1 Signaling Mode: robbed-bit Interface Companding: mulaw Idle Code: 1111111 Slip Detection? n Echo Cancellation? n	 Enter the command "add ds1 u" where u is the location for the unassig Module (MM710AP) in the Site 4 G350 Media Gateway for the T-1 int Assign the following T-1 parameters: a. In the "Name" field, enter a descriptive name for the DS1 circuit b. Set the "Line Coding" field to "b8zs" for bipolar eight zero sub the T-1 facility. c. Set the "Signaling Mode" field to "robbed-bit" for in-band sig service. Chese settings must match in the Avaya IR Digital Loop-Start T1 scree: Add ds1 004v3 add ds1 004v3 DS1 CIRCUIT PACK Liccation: 004V3 Bit Rate: 1.544 Line Compensation: 1 Signaling Mode: robbed-bit Interface Companding: mulaw Idle Code: 11111111 Slip Detection? n Near-end CSU Type: otl Echo Cancellation? n	Enter the command "add dsl u" where u is the location for the unassigned DS1 Module (MM710AP) in the Site 4 G350 Media Gateway for the T-1 interface to Assign the following T-1 parameters: a. In the "Name" field, enter a descriptive name for the DS1 circuit pack. b. Set the "Line Coding" field to "b8zs" for bipolar eight zero substitution is the T-1 facility. c. Set the "Signaling Mode" field to "robbed-bit" for in-band signaling wi service. These settings must match in the Avaya IR Digital Loop-Start T1 screen (step 10 L3) for "Trunk 3". All other fields may be left at the default setting. add dsl 004v3 Page DS1 CIRCUIT PACK Add dsl 004v3 Page DS1 CIRCUIT PACK Add dsl 004v3 Page DS1 CIRCUIT PACK Interface Companding: nulaw Interface Companding: mulaw Slip Detection? n Near-end CSU Type: other Echo Cancellation? n	Enter the command "add dsl u" where u is the location for the unassigned DS1 Media Module (MM710AP) in the Site 4 G350 Media Gateway for the T-1 interface to the Avay Assign the following T-1 parameters: a. In the "Name" field, enter a descriptive name for the DS1 circuit pack. b. Set the "Line Coding" field to "b8zs" for bipolar eight zero substitution support of the T-1 facility. c. Set the "Signaling Mode" field to "robbed-bit" for in-band signaling with the T-service. Chese settings must match in the Avaya IR Digital Loop-Start T1 screen (step 10 in Sect 1.3) for "Trunk 3". All other fields may be left at the default setting. add ds1 004v3 Page 1 of DS1 CIRCUIT PACK DS1 CIRCUIT PACK Location: 004v3 Name: IR Port 2 Bit Rate: 1.544 Line Coding: b8zs Line Compensation: 1 Framing Mode: esf Signaling Mode: robbed-bit Framing Mode: esf

Step	Description					
2.	A station must be administered for each Avaya IR Digital-Loop Channel. Enter the command " add station <i>t</i> ", where <i>t</i> is an available extension for the station. The extension of this station must match the assigned " Phone Number " in Avaya IR for the Digital Loop Start channel (Refer to step 2 in Section 4.6). Assign the following parameters for the station:					
	a. Set the "Type" field to "DS1FD".					
	 b. Set the "Port" field to "u01" wh Module (MM710AP) in the Site Avaya IR (step 1), and 01 is the 	here u is the location for the assist 4 G350 Media Gateway for the first port on that board.	igned DS1 Media e T-1 interface to the			
	c. In the " Name " field, enter a des	criptive name for the station.				
	All other fields on pages 1 through 3 ma	ay be left at the default setting.				
	add station 4324750	STATION	Page 1 of 3			
	Extension: 4324750 Type: DS1FD Port: 004V301 Name: B04 IR Station 1	Lock Messages? n Security Code: Coverage Path 1: Coverage Path 2: Hunt-to Station:	BCC: 0 TN: 1 COR: 1 COS: 1 Tests? y			
	STATION OPTIONS Loss Group: 4 Off Premises Station? y R Balance Network? n					
	Survivable COR: interna Survivable Trunk Dest? y	1				
3.	Repeat step 2 using the "duplicate stat Avaya IR Digital Loop Start channel an	ion" command to add a station ad port on the assigned DS1 Me	extension for each dia Module.			

Step	Description								
4.	 Enter the command "add hunt-group r", where r is an available hunt group number. Assign the following parameters: a. In the "Group Name" field, enter a descriptive name for the hunt group b. Assign an available extension number in the "Group Extension" field. The Avaya IR Digital Loop Start channels are accessed via this assigned extension number. 								
	c. Set the "Group Type" field to "ucd-mia".								
	add hunt-group 94	Page 1 of 60 HUNT GROUP							
	Group Number: Group Name: Group Extension: Group Type: TN: COR: Security Code: ISDN/SIP Caller Display:	94 ACD? n IR (TDM) Ports Queue? n 4324590 Vector? n ucd-mia Coverage Path: 1 Night Service Destination: 1 MM Early Answer? n Local Agent Preference? n grp-name							
5.	Go to Page 3 and enter the stati under the "Ext" fields as shown add hunt-group 94 Group Number: 94 Member Range Allowed: 1	ion extensions assigned in steps 2 and 3 as group members n below. Page 3 of 60 HUNT GROUP 4 Group Extension: Group Type: ucd-mia - 1500 Administered Members (min/max): 0 /0							
	GROUP MEMBER ASSIGNMENTS Ext Name (24 c) 1: 4324750 2: 4324751 3: 4324752 4: 4324753 5: 4324754 6: 4324755 7: 4324756 8: 4324757 9: 4324758 10: 4324759 11: 4324760 12: 4324761 13: 4324762 At End of Member List	Total Administered Members: 0 haracters) Ext Name (24 characters) 14: 4324763 15: 4324764 16: 4324765 17: 4324766 18: 4324767 19: 4324768 20: 4324769 21: 4324770 24: 4324771 23: 4324772 24: 4324773 25: 26:							
	At MIG OF MERIDET HISt								

4. Configure Avaya Interactive Response

The following steps illustrate how to configure Avaya IR using a Web Graphical User Interface (GUI).

Step	Description
1.	Open a Windows Explorer browser and enter the IP address or DNS entry of the Avaya IR system (For Example <u>http://10.1.1.54</u> or <u>http://sa-ir.solar.com</u>) to display the main Web Administration page. Click the "Web Administration" button to enter the secure Web Administration pages.
	Avaya Interactive Reponse - Microsoft Internet Explorer File Edit View Favorites Tools Help Back + O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R O + R
	Avaya Interactive Response Administration Web Pages
	• Medur Secondary Server • Help © 2006 Avaya Inc. All Rights Reserved.
2.	Enter a username and password with administrator privileges as shown below. Click the " Logon " button to enter Web Administration.
	Averye Legin Screen - Microsoft Internet Explorer Fe Edit Vew Favorites Tools Heb A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A
	400°% E https://10.1.154:0443/admr/bgs.html
	AVAYA Avaya Interactive Response
1	Help
	Logon Password: Select Larguage English M
	© 2006 Avaya Inc. All Rights Recarsed.

4.1. Verifying Licenses

Avaya IR R2.0 utilizes Primary and Secondary WebLM servers for implementation of feature licenses. If activation of additional features or ports is required, an updated license file must be obtain and installed on WebLM server. The license file contains details about the features and number of ports purchased. To obtain an updated license file, please contact your Avaya Authorized Sales representative.

The following illustrates how to verify the feature licenses on the Avaya IR.

Step	Description						
1.	Upon successful login to Web Administration, the following page appears. The windowpane on the left of the web page contains all the Avaya IR Web Administration functions.						
	To administer additional digital or VoIP (Channel) ports on the Avaya IR system requires the availability of free feature port licenses. To verify the Avaya IR System feature licenses, click on " Feature Licensing " under the " Configuration Management " section.						
	🚰 Avaya IR Administration - Micro	soft Internet Explorer					
	File Edit View Favorites Tools	Help					
	🌀 Back 🝷 🐑 👻 😰 🎸	🔪 🔎 Search 🧙 Favorites 🐼 😥 - 🌺 🔯 - 🛄 🦓					
	Address 🙋 https://10.1.1.54:8443/admin	yladmin.html					
	Αναγα	Avaya Interactive Response Administration Web Pages					
	Help Log out	Transmod autor tros Fages					
	ASG Security Administration						
	Backup/Restore Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarma Dialout Configuration CDH Scheduling Feature Licensing License Configurations JDBC Administration Message Administration YXML Log Administration System Control Renumber Voice Channel Report Voice System Stop Voice System Stop Voice System Stupt Interfaces Digital Interfaces Voice over IP Voice Equipment	Backup Information NOTICE ****** No complete backup has been done. No partial backup has been done. It is recommended to perform a full system backup every 30 days. If you fail to do so, you risk losing information on the system in the event of a catastrophe. ************************************					
	Display Equipment Equipment State Channels to Groups Phone Number Display Passwords Voice Services Channel Services Feature Packages Speech and DPR Administr Display Status Administration Universal Call ID Administ Reports Message Log Reports Message Log Reports Will Log Report YXML Log Report XML Performance Log Report XXML Performance Log Report	system Status Normal mode vlet/proctempvel?cmd=weblmConfig&class=com.avaya.ivr.admin.TempIProcConfig&configfile=Im.c					

Step	Description					
2.	Verify that the number of free licenses for the feature type "VALUE_IR_PORTS" is a value equal to or greater than the number of ports/channels to be configured on the Avaya IR system.					
	Note: Licenses will be requested by the Avaya IR system for only the number of " Enabled Channels " starting with channel 0. Refer to steps 4 , 7 & 10 in Section 4.3 .					
	Ανάγα	AVAYA Avaya Interactive Response Administration Web Pages				
	Help Log out					
	ASG Security Administration ASG Security Login Administr Backup/Réstore	Feature	Prim	arv	Secondar	v Festure
	Backup Backup Scheduling	Туре	Tot	Free	Tot Fre	e Name
	Delete Backup Files Backup History Default Backup Parameters	VALUE_IR_ASR_PORTS VALUE_IR_TTS_PORTS	96 96	91 91 108	*S *S	Advanced Speech Recognition Text To Speech (Speech Synthesis) Digital and Maisa Oray ID
	Configuration Management	VALUE_IR_SNMP	1	108	*S	Simple Network Management Protocol
	Alarm Administration Alarms Dialout Configuration CDH Scheduling Feature Licensing License Configurations IDBC Administration	*S: Secondary WebLM	serv	er is	not conf	igured

4.2. Verifying Installed NMS Package

Log into the Avaya IR Command Line Interface (CLI) and issue the command "**naver**" to verify that the installed NMS package is "**Natural Access 2005-1**" or later version.

```
Natural Access software version utility
                                                        *
    This program will list the installed NMS Communications software
                                                        *
* * * *
Natural Access 2005-1
ag-cas version 2.29
ag-isdn version 1.92
cnf version 2.15
ctaccess version 4.16
dlcp-cg version 1.15
naabstrct version 4.16
nabase version 4.16
nacore version 4.16
nademos version 4.16
nadriver version 4.16
nadrv64 version 4.16
nadsp version 4.16
naruntime version 4.16
nfx version 4.25
oam version 1.15
sa-ir(root)#
```

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4.3. Digital Interface Configuration

Continue by returning to Avaya IR Web Graphical User Interface (GUI).



Step	Description				
3.	The NMS AG 4040 card is the first card in the Avaya IR. To select the first trunk to configure on the NMS AG 4040 card, click on the check box to the right of the " Trunk 1 " field (as shown below). Then click the " Submit " button when complete.				
	Αναγα	Avaya Interactive Response Administration Web Pages			
	Help Log out				
	Backup/Restore Backup Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarm Administration Alarms Dialout Configurations CDH Scheduling Feature Licensing License Configurations JDBC Administration Message Administration System Control Renumber Voice Channel Report Voice System Stop Voice System Stop Voice System Stop Voice System	You are Here: Configuration Management>Switch Interfaces>Digital Interfaces>Assign Card: ISDN-Primary Rate Interface T1 Assign Card: ISDN-Primary Rate Interface T1 Card: 1 Trunk 1 Protocol: Trunk 2 Protocol: Trunk 3 Protocol: Trunk 4 Protocol:			

Step	Description						
4.	Assign the	Assign the following ISDN-PRI T-1 parameters for the Avaya IR to Main Office Link:					
	a. The table below contains the ISDN-PRI T-1 parameters that must match the settings in						
		Avaya Communication Manager for the Main Office DS1 configuration (Refer to step					
	11						
		Av	aya IR	Avaya Comm	unication Manager	Field	
		Fra	ame Type	Framing Mode		ESF	
		Lin	e Code	Line Coding		B8ZS	
		Idle	e Code	Idle Code		11111111	
	b. Se	t the "IS	DN Type " fi	eld to "Nation	nal".		-
	c. Se	t the " D	Channel on	Trunk <2 to	4 >" to " No ".		
	d. Se	t the "E	nabled Chan	nels" field to	"24" to enable the first	st 24 channels	
	e. Se	t the "P	RI Side" field	l to " USER ".	Avaya Communicati	on Manager n	nust have the
	CO	mpleme	ntary setting (of " network "	for the Main Office D	OS1 configurat	tion (Refer to
	Ste	ep 1 in 5	ection 3.1).				
	All other	fields m	ay be left at tl	he default sett	ing. Click on the " Su	bmit" button	to save the
	changes.						
	AVAYA	7			Avaya Interactive Re Administration Web I	e sponse Pages	
	Help Log out Backup/Restore						
	Backup Backup Schedu Delete Backup Backup History	uling Files	Assign C Rate Int	ard 1: ISDN-Pr erface T1	mary		
	Restore Configuration Ma	p Parameter anagement			73 T		
	Alarm Adminis Alarms Dialout Confi	iguration	Note: Only parameter: * Frame Type:	ESF 🔽	each trunk		
	CDH Schedulin Feature Licens License Config	g sing jurations	* Line Code:	B8ZS 💌			
	JDBC Administr Message Admin VXML Log Admin	ration nistration inistration	Idle Code: Length:	0			
	System Contro Renumber Vo	ol oice Channel	Clock Trunk:	1			
	Start Voice S Stop Voice S	ystem ystem	Clock Source:				
	Switch Interfac Digital Interf	ces faces	Clock Mode: Clock Fallback Trunk:				
	Voice Equipme Display Equi	ent pment	Fax Enabled?:	no 💌			
	Equipment St Channels to (tate Groups	ISDN Type:	National 💌			
	Display Pass Voice Services	words	D Channel on Trunk 1	?: yes 🗙			
	Channel Serv Number Serv	vices vices	D Channel on Trunk 2	?: no 💌			
	Feature Package ASAI Administ Speech and DP	es ration 28 Administra	D Channel on Trunk 3	?: no 💙			
	Display State Administratio	us on	Country:	United States 🗸			
	Universal Call Reports	ID Administ	Enabled Channels:	24 (0 to 128)			
	VXML Performa	ning Reports Report ort ance Log Per	PRI Side:	USER 💌			
		Since Loy Kei	Submit	set Cancel	Help		

Step	Description						
5.	Avaya IR confirms the a	assignment of "Trunk 1" for the NMS AG 4040 "Card 1".					
	AVAYA Avaya Interactive Response Administration Web Pages						
	Help Log out						
	Backup/Restore Backup Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarms	PriSide : USER Cardl_Trunkl_Protocol = ISDN The country for all cards assigned to the ISDN PRI T1 protocol is: United States (usa) Assign succeeded. Please stop and restart the voice system to activate the change.					
6.	Repeat step 1 and then click on the "Loop Start T1" link to assign a Digital Loop Start interface to the NMS AG 4040 card. To select the second trunk to configure on the NMS A 4040 card, click on the check box to the right of the "Trunk 2" field (as shown below). Th click the "Submit" button when complete.						
	AVAYA Avaya Interactive Response Administration Web Pages						
	Help Log out						
	Backup/Restore Backup Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarm Administration Alarms Dialout Configuration CDH Scheduling Feature Licensing License Configurations JDBC Administration Message Administration System Control Renumber Voice Channel Report Voice System Stop Voice System	You are Here: Configuration Management>Switch Interfaces>Digital Interfaces>Assign Card>Assign Card: Loop Start T1 Card: 1 Trunk 1 Protocol: ISDN Trunk 2 Protocol: Trunk 3 Protocol: Trunk 4 Protocol: Bubmit Reset Cancel Help					

Step	Description	
7.	The Loop Start T1 par the Site 2 DS1 configu field to " 48 " to enable	rameters must match the settings in Avaya Communication Manager for for for a step 1 in Section 3.3). Set the "Enabled Channels" all the channels for Trunk 1 and Trunk 2 on the NMS AG 4040 card.
	All other fields may be changes.	e left at the default setting. Click on the "Submit" button to save the
	AVAYA	Avaya Interactive Response Administration Web Pages
	Help Log out	
	Backup /Restore Backup Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarm Administration CDH Scheduling Feature Licensing License Configurations JDBC Administration Message Administration System Control Renumber Voice Channel Report Voice System Stop Voice System Start Voice System Start Voice System Switch Interfaces Digital Interfaces Digital Interfaces Digital Interfaces Digital Interfaces Digital Interfaces Digital Interfaces Digital Interfaces Digital Interfaces Digital State Channels to Groups Phone Number Display Passwords Voice Services Channel Services	You are Here: Configuration Management>Switch Interfaces>Digital Interfaces>Assign Card>Assign Card 1 : Loop Start T1> Assign Card 1 : Loop Start T1 Note: Only parameters with * can be different for each trunk * Frame Type: D4 * Line Code: AML_ZCS Idle Code: 11111111 Length: 0 Clock Trunk: 1 Clock Source: NETWORK Clock Fallback Trunk: none Fax Enabled?: no Country and Region: United States Enabled Channels: 48 (0 to 128)
	Number Services Feature Packages ASAI Administration Speech and DPR Administr	Submit Reset Cancel Help
	Display Status	
8.	Avaya IR confirms the	e assignment of " Trunk 2 " for the NMS AG 4040 " Card 1 ".
	AVALYA	Administration Web Pages
	Help Log out	
	Backup/Restore Backup Backup Scheduling Delete Backup Files Backup History	Cardl_Trunk3_Protocol = LOOP The country for all cards assigned to the Loop Start Tl protocol is: United States (usa)
	Default Backup Parameter Restore Configuration Management Alarm Administration	Assign succeeded. Please stop and restart the voice system to activate the change.

Step	Description	
9.	Repeat step 1 and then cl Start interface to the NM AG 4040 card, click on tl Then click the " Submit "	ick on the " Loop Start T1 " link to assign the second Digital Loop S AG 4040 card. To select the third trunk to configure on the NMS he check box to the right of the " Trunk 3 " field (as shown below). button when complete.
	Αναγα	Avaya Interactive Response Administration Web Pages
	Help Log out	
	Backup Scheduling Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarms Dialout Configuration CDH Scheduling Feature Licensing License Configurations JDBC Administration Wessage Administration WMML Log Administration System Control Renumber Voice Channel Report Voice System Sta Start Voice System	are Here: Configuration Management>Switch Interfaces>Digital Interfaces>Assign d>Assign Card: Loop Start T1 Assign Card: Loop Start T1 rd: 1 • nd: 1 • protocol: ISDN ink 2 • Protocol: ink 3 • Protocol: unk 4 • Protocol: Ubmit Reset Cancel
	Stop Voice System	
	the Site 4 DS1 configurat field to " 72 " to enable all 4040 card. All other field when complete.	tion (Refer to step 1 in Section 3.4). Set the " Enabled Channels " the channels for Trunk 1, Trunk 2, and Trunk 3 on the NMS AG ds may be left at the default setting. Then click the " Submit " button
	Αναγα	Avaya Interactive Response Administration Web Pages
	Help Log out	
	Backup/Restore Backup/Restore Backup History Default Backup Piles Backup History Default Backup Parameter Restore Configuration Management Alarm Administration Alarms Dialout Configurations CDH Scheduling Feature Licensing License Configurations JDBC Administration VXML Log Administration VXML Log Administration VXML Log Administration VXML Log Administration VXML Log System Stop Voice System Stop Voice System Stop Voice System Stop Voice System Stop Voice System Soutch Interfaces Voice equipment Display Equipment Display Passwords Channels to Groups Phone Number Display Passwords Channel Services Channel Services Channel Services Channel Services Channel State Channel Services Channel Services Channel Services Channel State Channel Services Channel Services	are Here: Configuration Management>Switch Interfaces>Digital Interfaces>Assign Assign Card 1 : Loop Start T1 e: Only parameters with * can be different for each trunk rame Type: ESF * ne Code: E82S * c Code: 11111111 * gth: 0 ck Trunk: 1 * ck Source: NETWORK * ck Mode: STANDALONE * ck Fallback Trunk: none * Enabled?: no * untry and Region: United States * bled Channels: 72 (0 to 128)
	Speech and DPR Administr Disnlay Status	ubmit Reset Cancel Help

Step	Description					
11.	Avaya IR confirms the assignment of " Trunk 3 " for the NMS AG 4040 " Card 1 ".					
	AVAYA	Avaya Interactive Response Administration Web Pages				
	Help Log out					
	Backup/Restore Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management	Cardl_Trunk3_Protocol = L00P The country for all cards assigned to the Loop Start Tl protocol is: United States (usa) Assign succeeded. Please stop and restart the voice system to activate the change.				

4.4. Activating the Digital Interface Configuration

Step	Description	
1.	To activate the configu Voice System " under t	ration changes, stop and then restart the voice system. Click on " Stop he " System Control " section to stop the voice system.
	AVAYA	Avaya Interactive Response Administration Web Pages
	Help Log out	
	ASG Security Administration ASG Security Login Administration Backup/Restore Backup Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarm Administration Alarms Dialout Configurations CDH Scheduling Feature Licensing License Configurations JDBC Administration Message Administration VXML Log Administration System Control Renumber Voice Channel Report Voice System Stop Voice System Switch Interfaces Digital Interfaces	You are Here: Configuration Management>System Control>Stop Voice System Stop Voice System Wait Time in Seconds: 180 Submit Reset Help

Step	Description	
2.	Click on the "Submit"	button. Avaya IR confirms the voice system has completely stopped.
	AVAYA	Avaya Interactive Response Administration Web Pages
	Help Log out	
	Backup/Restore Backup Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarm Administration Alarms Dialout Configurations ODH Scheduling Feature Licensing License Configurations JDBC Administration Wessage Administration Wessage Administration Wessage Administration Wessage Administration System Control Renumber Voice Channel Report Voice System Start Voice System Start Voice System Switch Interfaces Digital Interfaces Digital Interfaces Voice over IP Voice Equipment Environment State	The Voice System is now stopping Initiating request to clear all calls in the next 180 seconds. Channel 104 already in state F003. Channel 105 already in state F005. Channel 107 already in state F005. Channel 96 changed to state F005. Channel 96 changed to state F005. Channel 98 changed to state F005. Channel 98 changed to state F005. Channel 99 changed to state F005. Channel 100 changed to state F005. Channel 100 changed to state F005. Channel 101 changed to state F005. Channel 102 changed to state F005. Channel 103 changed to state F005. Channel 103 changed to state F005. Channel 104 state F005. Channel 105 changed to state F005. Channel 106 changed to state F005. Channel 107 changed to state F005. Board 7 changed to state F005. Orderly idling of system succeeded The Voice System has completely stopped, use the "Start Voice System" choice from the System Control menu to restart the Voice System
3.	To restart the voice sys section. Click on the "	stem, click on "Start Voice System" under the "System Control" Submit" button.
	Αναγα	Avaya Interactive Response Administration Web Pages
	Help Log out	
	ASG Security Administration ASG Security Login Admini Backup /Restore Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarm Administration Alarms Dialout Configurations CDH Scheduling Feature Licensing License Configurations JDBC Administration Message Administration WEXSAGE Administration VXML Log Administration System Control Renumber Voice System Sta Start Voice System Stop Voice System	You are Here: Configuration Management>System Control>Start Voice System Start Voice System Click on Submit to start the voice system. Submit Help

Step	Description						
4.	Avaya IR confirms the voice system has completed Voice System startup.						
	Αναγα	Avaya Interactive Response Administration Web Pages					
	Help Log out						
	ASG Security Administration ASG Security Login Admini Backup/Restore Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarms Dialout Configuration CDH Scheduling Feature Licensing License Configurations IDBC Administration	Attempting to install RM driver RM driver has been installed successfully. Inittab rebuild not needed. The Voice System is starting The Voice System is initializing cards Startup of the Voice System is complete					

4.5. Assigning Phone Numbers

For Digital Loop Start channels, each channel must be assigned a phone number that matches the assigned station extension and corresponding port address in Avaya Communication Manager. This does not apply to the ISDN-PRI channels.

Step	Description						
1.	To assign phone numbers to Digital Loop Start channels, click on " Phone Number " under the " Voice Equipment " section. Click on the " Assign " link to continue.						
	AVAYA Avaya Interactive Response Administration Web Pages						
	telp Log out						
	ackup/Restore Backup Backup Scheduling Delete Backup Files Backup Harry Default Backup Plansgement Alarms Dialout Configuration CDH Scheduling Feature Licension JOBC Administration Nessage Administration System Configuration System Control Renumber Voice Channel Report Voice System Stat Voice System Stat Voice System Suite Interfaces Digital State System Stat Voice System Stat Voice System Stat Voice System Stat Voice System Digital Interfaces Digital Interfaces Digital Interfaces Digital Interfaces Poice System State Voice System State Voice System State Voice System State State State State State State Channels to Groups Channels to Groups Channels To Groups Channels To Groups						

Step	Description	
2.	Enter the extension ra fields and the channel " Submit " button. Note: Phone Number	ange for the Site 2 Digital Loop Start channels in the " Phone Number " I range in the " Channel Number " fields as shown below. Click the range must be the same length as the Channel Number range.
	AVAYA	Avaya Interactive Response Administration Web Pages
	Help Log out	
	Backup/Restore Backup Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarms Dialout Configuration CDH Scheduling Feature Licensing License Configurations JDBC Administration Message Administration YXML Log Administration System Control Renumber Voice Channel	You are Here: Configuration Management>Voice Equipment>Phone Number Assign Phone Number to a Channel Phone Number: 4322750 to 4322773 Channel Number: 24 voir H.323 MultiVantage Station Password: Submit Reset Cancel Help
3.	Avaya IR confirms th range.	e assignment of the phone number to each channel for the submitted
	AVAYA	Avaya Interactive Response Administration Web Pages
	Help Log out	
	Backup/Restore Backup Backup Scheduling Delete Backup Files Backup Hictory	Assigned phone numbers 4322750:4322773 to channels 24-47
	Packus History	

Step	Description	
4.	Repeat step 1 to enter the e " Phone Number " fields, the Click the " Submit " button	extension range for the Site 4 Digital Loop Start channels in the he channel range in the " Channel Number " fields as shown below.
	Note: Phone Number range	e must be the same length as the Channel Number range.
	AVAYA	Avaya Interactive Response Administration Web Pages
	Help Log out Backup/Restore Backup Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarm Administration CDH Scheduling Feature Licensing License Configurations JDBC Administration Message Administration YXML Log Administration System Control Renumber Voice Channel Report Voice System Sta	are Here: Configuration Management>Voice Equipment>Phone Number>Assign Assign Phone Number to a Channel ne Number: 4324750 to 4324773 nnel Number: 48 to 71 P H.323 MultiVantage Station Password: to to thmit Reset Cancel Help
5.	Avaya IR confirms the assirange.	gnment of the phone number to each channel for the submitted
	Αναγα	Avaya Interactive Response Administration Web Pages
	Help Log out	
	Backup/Restore Ass: Backup Backup Scheduling Delete Backup Files	gned phone numbers 4324750:4324773 to channels 48-71

5. Verification Steps

Perform the following steps to test and verify the Avaya IR Digital Interface Configuration.



Step	Description							
2.	To terminate a call to Avaya IR, an application must be assigned to the Avaya IR channels. Click on " Channel Services " under the " Voice Services " section. The resulting Web administration page is shown below. Click on the " Assign Selected " button without selecting any channels. This will bring up the " Assign Services to Channels " Web page.							
	AVAYA Avaya Interactive Response Administration Web Pages							
	Help Log out				Administration wet	Pages		
	ASG Security Administration ASG Security Login Admini Backup/Restore Backup	Admin You are Here: Configuration Management>Voice Services>Channel Services						
	Backup Scheduling Delete Backup Files Backup History Default Backup Parameter	Channel Services						
	Restore Configuration Management Alarm Administration	Select Chan	Service/URI -	Type unassigned	Startup Service/URI -	Type unassigned		
	Dialout Configuration		-	unassigned		unassigned		
	Feature Licensing License Configurations		-	unassigned		unassigned		
	JDBC Administration Message Administration		-	unassigned		unassigned		
	VXML Log Administration System Control	5	з	unassigned	3 .	unassigned		
	Renumber Voice Channel Report Voice System Sta	6	a.	unassigned	8-	unassigned		
	Start Voice System	7	-	unassigned	§-	unassigned		
	Digital Interfaces	8	-	unassigned	8 	unassigned		
	Voice Equipment	9	a.	unassigned	-	unassigned		
	Equipment State Channels to Groups Phone Number	< Prev	Channel Range: (0-9) 🔽	Next > Display 10	🚩 channels.		
	Display Passwords Voice Services Channel Services	Select All	Assign Sele	cted	Unassign Selected	Refresh		
3.	Select "chantst" for the	e "Service" a	and "Startup	Service " f	ields as the test app	lication, and		
	enter the channel range complete the administration	" 24-72 " in t ation.	he "To Cha	n(s)" field.	Click on the "Subr	nit" button to		
	Note: The " chantst " is by default on the Avaya	s one of the T a IR system f	Fransaction A For testing pu	Assembler S irposes.	Script (TAS) applica	ations installed		
	AVAYA			A	/aya Interactive R Administration Web	esponse Pages		
	Help Log out							
	ASG Security Administration ASG Security Login Admini Backup/Restore Backup Backup Scheduling	You are Here: Config Channels	guration Managemen	t>Voice Services>C	hannel Services>Assign Services	to.		
	Delete Backup Files Backup History Default Backup Parameter Restore	Assign	Services to	Channels				
	Configuration Management Alarm Administration	Assign: T	AS Service 🛛 🖌					
	Alarms Dialout Configuration	Service: C	hantst 💌					
	CDH Scheduling Feature Licensing	Startup Service: cl	hantst 💌					
	JDBC Administration Message Administration		1-72					
	VXML Log Administration System Control	Submit	Reset Car	icel Help				

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Step	Description	
4.	Repeat step 2 to assig "*DNIS_SVC" for th "0-22" (channel 23 is to complete the admir	n DNIS Service application to the ISDN-PRI channels. Select e " Service " and " Startup Service " fields and enter the channel range the d-channel) in the " To Chan(s) " field. Click on the " Submit " button histration.
	Αναγα	Avaya Interactive Response Administration Web Pages
	Help Log out	
	ASG Security Administration ASG Security Login Admini Backup/Restore Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management	You are Here: Configuration Management>Voice Services>Channel Services>Assign Services to Channels Assign Services to Channels Assign: TAS Service
	Alarm Administration Alarms Dialout Configuration CDH Scheduling Feature Licensing License Configurations JDBC Administration Message Administration VXML Log Administration System Control	Service: *DNIS_SVC v Startup Service: *DNIS_SVC v To Chan(s): 0-22 Submit Reset Cancel Help
5.	To assign a DNIS nur Services" section. Cl	nber or range of numbers, click on " Number Services " under the " Voice ick on the " Assign New " button.
	Αναγα	Avaya Interactive Response Administration Web Pages
	Help Log out ASG Security Administration ASG Security Login Admini Backup/Restore Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore	You are Here: Configuration Management>Voice Services>Number Services
	Configuration Management Alarm Administration Alarms Dialout Configuration CDH Scheduling Feature Licensing License Configurations JDBC Administration Message Administration YKML Log Administration System Control Renumber Voice Channel Report Voice System Sta Start Voice System Switch Interfaces Digital Interfaces Voice over IP Voice Equipment Disnlay Equipment	Select From To From To Service / URI Type 4322780 4322780 any any http://10.1.1.3:8080/ICapp/Start VXML
	Equipment State Channels to Groups Phone Number Display Passwords Voice Services Channel Services Number Services Feature Packages	Select All Assign New Unassign Selected Refresh Help

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Step	Description							
6.	Enter the DNIS numbric In the "Calling Numbric Calling party via the I application. Click on below)	er (Example: " 4320770 ") or DNIS range in the " Called Numbers " field. bers " field, enter " any " so that the Avaya IR accepts any incoming SDN-PRI T-1. Select " chantst " for the " Service Name " field as the test the " Submit " button to complete the administration. (output shown						
	Αναγα	Avaya Interactive Response Administration Web Pages						
	Help Log out							
	ASG Security Administration ASG Security Login Admini Backup/Restore Backup Backup Files Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarms Dialout Configuration CDH Scheduling Feature Licensing License Configurations JDBC Administration Message Administration VXML Log Administration System Control Renumber Voice Channel	You are Here: Configuration Management>Voice Services>Number Services>Assign Number Services Assign: TAS Service Called Numbers: 4320770 to Calling Numbers: any to Service Name: chantst Submit Reset Cancel Help						
	AVAYA Avaya Interactive Response Administration Web Pages							
	Help Log out							
	ASG Security Administration ASG Security Login Admini Backup/Restore Backup Scheduling Delete Backup Files Backup History Default Backup Parameter Restore Configuration Management Alarm Administration Alarms Dialout Configuration CDH Scheduling Feature Licensing License Configurations	You are Here: Configuration Management>Voice Services>Number Services Image: Called Numbers Calling Numbers Select From To Service / URI Type 4322780 4322780 any any http://10.1.1.3:8080/ICapp/Start VXML 4320770 4320770 any any chantst TAS						

Step	Description								
7	Click on "Display Equip	ment	" und	er th	e "Voice	Equipment	" section	Vie	w and verify that
<i>/•</i>	all assigned channels ("C	H A N	") for	• tha l	Main Off	Equipment	Site $2(2)$	1 17	7) and Site $A(A8)$
	(1) and using the channels (Charty) for the Wall Office ($0 = 25$), site 2 ($24 = 47$) and s 71) locations are in the " Inserv " (in-service) state (Only the enabled channels are d							and Sile 4 (40-	
	(1) locations are in the 1	nserv	(111-	-serv	ice) state.	(Only the e	enabled ci	lanne	els are displayed.)
	AVAVA Avaya Interactive Response							onse	
	FUEIJE					Administra	tion Web	Pag	es
	Help Log out								
	ASG Security Administration ASG Security Login Administr	CARD	1 9	STATE: JAME:	Inserv AG20	CLASS: Digital OPTIONS: stands	NMS(Tl) alone clocki	0. ing, no	.S.INDEX: 1 otdm
	Backup/Restore Backup	CADD	TDINK	UNCTIO	ON: NMS	SEDUTCE-NAME	DHONE	CDOUD	ODTS DDOTOCOL
	Backup Scheduling Delete Backup Files	1	1	0	0 Inserv	*DNIS_SVC	-		talk PRIB
	Backup History Default Backup Parameters	1	1	1	1 Inserv 2 Inserv	*DNIS_SVC *DNIS_SVC	-	1	talk PRIB talk PRIB
	Restore Configuration Management	1	1	3 4	3 Inserv 4 Inserv	*DNIS_SVC *DNIS_SVC	-	1	talk PRIB talk PRIB
	Alarm Administration	1	1	5	5 Inserv	*DNIS_SVC		1	talk PRIB
	Dialout Configuration	1	1	7	7 Inserv	*DNIS_SVC *DNIS_SVC	2	1	talk PRIB
	Feature Licensing	1	1	8 9	8 Inserv 9 Inserv	*DNIS_SVC *DNIS SVC	_	1	talk PRIB talk PRIB
	JDBC Administration	1	1	10	10 Inserv	*DNIS_SVC	2	1	talk PRIB
	Message Administration VXML Log Administration	1	1	12	12 Inserv	*DNIS_SVC	12-11	i	talk PRIB
	System Control Renumber Voice Channels	1	1	13 14	13 Inserv 14 Inserv	*DNIS_SVC *DNIS_SVC	-	1	talk PRIB talk PRIB
	Report Voice System Status	1	1	15	15 Inserv	*DNIS_SVC		1	talk PRIB
	Stop Voice System	1	1	17	17 Inserv	*DNIS_SVC	-	1	talk PRIB
	Digital Interfaces	1	1	18 19	18 Inserv 19 Inserv	*DNIS_SVC *DNIS_SVC	2	1	talk PRIB talk PRIB
	Voice over IP Voice Equipment	1	1	20	20 Inserv	*DNIS_SVC	1211	1	talk PRIB
	Display Equipment	1	1	22	22 Inserv 22 Inserv	*DNIS_SVC *DNIS_SVC	-	1	talk PRIB
	Channels to Groups	1	1 2	23 24	23 Inserv 24 Inserv	- chantst	- 4322750	1 2	talk PRID talk LOOP
	Display Passwords	ī	2	25	25 Inserv	chantst	4322751	2	talk LOOP
	Voice Services Channel Services	1	2	25	25 Inserv 27 Inserv	chantst	4322752	2	talk LOOP talk LOOP
	Number Services Feature Packages	1	2	28 29	28 Inserv 29 Inserv	chantst chantst	4322754 4322755	2	talk LOOP talk LOOP
	ASAI Administration Speech and DPR Administration	1	2	30	30 Inserv	chantst	4322756	2	talk LOOP
	Display Status	1	2	32	32 Inserv 32 Inserv	chantst	4322758	2	talk LOOP
	Universal Call ID Administrat	1	2 2	33 34	33 Inserv 34 Inserv	chantst chantst	4322759 4322760	2	talk LOOP talk LOOP
	Call Data Handling Reports	1	2	35	35 Inserv	chantst	4322761	2	talk LOOP
	Message Log Report VXML Log Report	1	2	37	37 Inserv	chantst	4322763	2	talk LOOP
	VXML Performance Log Repor	1	2 2	38 39	38 Inserv 39 Inserv	chantst chantst	4322764 4322765	2	talk LOOP talk LOOP
		1	2	40	40 Inserv	chantst	4322766	2	talk LOOP
		1	2	42	42 Inserv	chantst	4322768	2	talk LOOP
		1	2 2	43 44	43 Inserv 44 Inserv	chantst chantst	4322769 4322770	2	talk LOOP talk LOOP
		1	2	45	45 Inserv	chantst	4322771	2	talk LOOP
		1	2	40	46 Inserv 47 Inserv	chantst	4322773	2	talk LOOP
		1	3	48 49	48 Inserv 49 Inserv	chantst chantst	4324750 4324751	4	talk LOOP talk LOOP
		1	3	50	50 Inserv	chantst	4324752	4	talk LOOP
		1	3	52	52 Inserv	chantst	4324754	4	talk LOOP
		1	3	53 54	53 Inserv 54 Inserv	chantst chantst	4324755 4324756	4	talk LOOP talk LOOP
		1	3	55	55 Inserv	chantst	4324757	4	talk LOOP
		1	3	57	57 Inserv	chantst	4324759	4	talk LOOP
		1 1	3	58 59	58 Inserv 59 Inserv	chantst chantst	4324760 4324761	4 4	talk LOOP talk LOOP
		1	3	60	60 Inserv	chantst shantst	4324762	4	talk LOOP
		1	3	62	62 Inserv	chantst	4324764	4	talk LOOP
		1	3	63 64	63 Inserv 64 Inserv	chantst chantst	4324765 4324766	4 4	talk LOOP talk LOOP
		1	3	65	65 Inserv	chantst	4324767	4	talk LOOP
		1	3	67	67 Inserv	chantst	4324769	4	talk LOOP
		1 1	3	68 69	68 Inserv 69 Inserv	chantst chantst	4324770 4324771	4 4	talk LOOP talk LOOP
	4	1	з	70	70 Inserv	chantst	4324772	4	talk LOOP

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Step	Description
8.	From the Avaya Communication Manager SAT terminal, enter the command " status signaling-group <i>y</i> ", where <i>y</i> is the assigned signaling-group number (step 2 in Section 3.2) for the d-channel associated with the Main Office to Avaya IR ISDN-PRI T-1. Verify that the " Group State " and " Level 3 State " fields display " in-service ".
	status signaling-group 12 STATUS SIGNALING GROUP
	Group ID: 12 Group Type: isdn-pri Signaling Type: facility associated signaling Group State: in-service Active NCA-TSC Count: 0 Active CA-TSC Count: 0
	Primary D-Channel
	Port: 01A1224 Level 3 State: in-service
	Secondary D-Channel
	Port: Level 3 State: no-link
9.	Enter the command " status trunk <i>z</i> ", where <i>z</i> is the assigned trunk group number (step 3 in Section 3.2) for the Main Office to Avaya IR ISDN-PRI T-1. Verify that the " Service State " fields display " in-service/idle " for each trunk group " Member ".
	status trunk 12 Page 1
	TRUNK GROUP STATUS
	Member Port Service State Mtce Connected Ports Busy
	0012/00101A1201in-service/idleno0012/00201A1202in-service/idleno0012/00301A1203in-service/idleno0012/00401A1204in-service/idleno0012/00501A1205in-service/idleno0012/00601A1206in-service/idleno0012/00701A1207in-service/idleno0012/00801A1208in-service/idleno0012/00901A1209in-service/idleno0012/01001A1210in-service/idleno0012/01101A1211in-service/idleno0012/01201A1212in-service/idleno0012/01301A1213in-service/idleno0012/01401A1214in-service/idleno
	press CANCEL to quit press NEXT PAGE to continue

Step	Description
10.	Enter the command "status station v ", where v is the assigned station (step 2 in Section 3.3) for the Site 2 to Avaya IR Digital Loop Start T-1. Verify that the "Service State" field should display "in-service/on-hook". Repeat command to verify each station/channel.
	status station 4322750 Page 1 of 3
	GENERAL STATUSAdministered Type: DSIFDService State: in-service/on-hookConnected Type: N/AExtension: 4322750Port: 02A0401Parameter Download: not-applicableCall Parked? noSAC Activated? noRing Cut Off Act? noCF Destination Ext:Active Coverage Option: 11
	EC500 Status: N/A Off-PBX Service State: N/A Message Waiting: Connected Ports:
	User Cntrl Restr: none HOSPITALITY STATUS Group Cntrl Restr: none Awaken at: User DND: not activated Group DND: not activated Room Status: non-guest room
11.	Enter the command " status station <i>t</i> ", where <i>t</i> is the assigned station (step 2 in Section 3.4) for the Site 4 to Avaya IR Digital Loop Start T-1. Verify that the " Service State " field should display " in-service/on-hook ". Repeat command to verify each station/channel.
12.	Log into the Avaya IR system using a Terminal Emulator Application with a terminal type of 615 and appropriate login credentials. At the prompt, type " sysmon " to run the " System Monitor – Voice Channels " application that provides real-time monitoring service. Place an incoming call using the DNIS number assigned in step 5 (4320770). Verify that Avaya IR answers the call within the (0 to 22) channel range, and by the " chantst " voice application.
	System Monitor - Voice Channels
	Caller Dialed Channel Today Service Status Input Digits
	0 1 *On Hook 1 1 chantst Talking 2 0 *ON Hook 3 0 *On Hook 4 0 *On Hook 5 0 *On Hook 6 0 *On Hook 7 0 *On Hook 8 0 *On Hook 9 0 *On Hook 10 0 *On Hook

Des						
Plac	ce an inco	ming cal	ll using the	e "Group Extension" ((4322590) assigned for	Site 2 (step
Sect	tion 3.3).	Verify t	that Avaya	IR answers the call w	ithin the (24 to 47) cha	nnel range, a
bv t	he " chan t	tst" voic	e applicati	on.		C ·
	Г		Sy	stem Monitor - Voice	Channels	
		Calls V	/oice	Service	Caller	Diale
	Channel	Today S	Service	Status	Input	Digit
	24	1		*ON Hook		
	25	1 c	chantst	Talking		
	26	0		*ON Hook		
	27	0		*On Hook		
	28	0		*On Hook		
	29	0		*On Hook		
	30	0		*On Hook		
	31	0		*On Hook		
	32	0		*On Hook		
	33	0		*On Hook		
		0		*On Hook		
	34 35	0		*On Hook		
Plac	ce an inco		ll using the	*On Hook	(4324590) assigned for	Site 4 (step
Place Section by t	34 35 ce an inco tion 3.4). he "chant	ming cal Verify t tst" voice Calls V Today S	Il using the that Avaya the applicati Sy Joice Service	*On Hook e "Group Extension" (a IR answers the call w on. ***********************************	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a ^{Diale}
Place Sections for the section of th	$\begin{bmatrix} 34\\ 35 \end{bmatrix}$ ce an incontion 3.4). the "chantel [Channel 42]	ming cal Verify t tst" voice Calls V Today S	ll using the that Avaya re applicati ^{Sy} Joice Service	*On Hook e "Group Extension" (a IR answers the call w ion. stem Monitor - Voice Service Status *On Hook	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a Diale Digit
Plac Sect by t	$ \begin{array}{r} 34\\35\\ \hline \text{ce an incontion 3.4).}\\ \text{he "chantel}\\ \hline \begin{array}{r} 42\\43\\\hline \end{array} $	ming cal Verify t tst" voice Calls V Today S	ll using the that Avaya re applicati ^{Joice} Service	*On Hook e "Group Extension" (a IR answers the call w on. extem Monitor - Voice Service Status *On Hook *On Hook	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a Diale Digit
Place Sectory to the sectory of the	$ \begin{array}{r} 34\\35\\ \hline \text{ce an incontion 3.4).}\\ \text{he "chantel}\\ \hline \begin{array}{r} 42\\43\\44\\\end{array} \end{array} $	ming cal Verify t tst" voice Calls V Today S	ll using the that Avaya re applicati ^{Joice} Service	*On Hook e "Group Extension" (a IR answers the call w on. extem Monitor - Voice Service Status *On Hook *On Hook *On Hook *On Hook	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a Diale Digit
Place Sectory t	$ \begin{array}{r} 34\\35\\ \hline \text{ce an incontion 3.4).}\\ \text{he "chantel}\\ \hline \begin{array}{r} 42\\43\\44\\45\\\end{array} \end{array} $	ming cal Verify t tst" voice Calls V Today S	ll using the that Avaya re applicati Joice Service	*On Hook e "Group Extension" (a IR answers the call w on. extem Monitor - Voice Service Status *On Hook *On Hook *On Hook *On Hook *On Hook	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a Diale Digit
Place Sectory to the sectory of the	34 35 ce an inco tion 3.4). he "chantel (Channel 42 43 44 45 46	Calls V Today S	ll using the that Avaya re applicati ^{Joice} Service	*On Hook e "Group Extension" (a IR answers the call w on. extem Monitor - Voice Service Status *On Hook *On Hook *On Hook *On Hook *On Hook *On Hook *On Hook *On Hook	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a Diale Digit
Place Sectory to the sectory of the	34 35 ce an inco tion 3.4). he "chantel (Channel 42 43 44 45 46 47	Calls V Today S	ll using the that Avaya re applicati ^{Joice} Service	*On Hook e "Group Extension" (a IR answers the call w on. extem Monitor - Voice Service Status *On Hook *On Hook *On Hook *On Hook *On Hook *On Hook *On Hook *On Hook *On Hook *On Hook	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a Diale Digit
Place Sectory to the sectory of the	34 35 ce an inco tion 3.4). he "chantel (Channel 42 43 44 45 46 47 48	Calls V Today S 0 0 0 0 0 0 0 0 0 0	ll using the that Avaya re applicati ^{Joice} Service	*On Hook e "Group Extension" (a IR answers the call w on. extem Monitor - Voice Service Status *On Hook *On Hook	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a Diale Digit
Place Sectory to the sectory of the	34 35 ce an inco tion 3.4). he "chantel (Channel 42 43 44 45 46 47 48 49	Calls V Today S 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ll using the that Avaya re applicati Joice Service	*On Hook e "Group Extension" (a IR answers the call w on. extem Monitor - Voice Service Status *On Hook *On Hook	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a Diale Digit
Place Sectory to the sectory of the	34 35 ce an inco tion 3.4). he "chantel (Channel 42 43 44 45 46 47 48 49 50	Calls V Today S 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ll using the that Avaya re applicati Joice Service Service	*On Hook e "Group Extension" (a IR answers the call w on. extem Monitor - Voice Service Status *On Hook *On Hook	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a Diale Digit
Place Sectory to the sectory of the	34 35 ce an incor tion 3.4). he "chantel (Channel 42 43 44 45 46 47 48 49 50 51	Calls V Today S 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ll using the that Avaya re applicati Joice Service	*On Hook e "Group Extension" (a IR answers the call w on. extem Monitor - Voice Service Status *On Hook *On Hook	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a Diale Digit
Place Sectory to the sectory of the	34 35 ce an incor tion 3.4). he "chantel (Channel 42 43 44 45 46 47 48 49 50 51 52	Calls V Today S 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ll using the that Avaya re applicati Joice Service	*On Hook e "Group Extension" (a IR answers the call w on. extem Monitor - Voice Service Status *On Hook *On Hook	(4324590) assigned for ithin the (48 to 71) cha Channels Caller Input	Site 4 (step nnel range, a Diale Digit

6. Conclusion

These Application Notes described the steps for configuring ISDN-PRI and Digital Loop Start T-1 interfaces on an Avaya IR system that supports multiple trunk parameter administration with a single quad-port T-1 telephony card. Administration details were shown on both Avaya Communication Manager and Avaya IR products including steps that verified their configuration.

7. References

Product documentation for Avaya products may be found at http://support.avaya.com.

- 1. "Avaya Interactive Response (IR), Release 2.0, Documentation CD-ROM", Issue 1.0, April 2006, Comcode: 700397003
- 2. "Avaya Interactive Response, Release 2.0, Security", Issue 1.0, April 2006
- 3. *"Administrator Guide for Avaya Communication Manager"*, Issue 2, February 2006, Document ID 03-300509.
- 4. "*AG 4040 Installation and Developer's Manual*", NMS Communications Corporation, P/N 9000-62337-14.

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