

DEFINITY[®] System's
Little
Instruction
Book

for advanced administration

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555-233-757
Issue 2
November 2000

Checklist for adding a new phone user

Use this checklist to ensure each user's information is complete and accurate for all of your company's applications.

Add new user information to your:

- ☐ switch (specify location, if you have more than one)
- ☐ voice messaging system
- ☐ special groups:
 - coverage path groups
 - hunt groups
 - pick-up groups
 - other groups:
- ☐ call management system (CMS, BCMS)
- ☐ other company databases:
- ☐ _____
- ☐ _____

Checklist for removing a user

You may need to delete a user's messages from your messaging system before you remove the user from your switch. To keep the mailbox, set the station port to 'X' when the user leaves.

Delete user information from your:

- ☐ switch (specify location, if you have more than one)
- ☐ voice messaging system
- ☐ special groups: (use **list usage ext** to find all references to this user)
 - coverage path groups
 - hunt groups
 - pick-up groups
 - other groups:
- ☐ call management system (CMS, BCMS)
- ☐ other company databases:
- ☐ _____
- ☐ _____

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Special Thanks to

Kim Santich — Customer Champion; Steven Gaipa — Marketing; Rick Thompson — DEFINITY User Group; Doug Schneider, Marcia Bubeck, Barry Bunch, Dan Selvig, and Pat Dolphin — DEFINITY Helpline; Dave Bancroft, Pam Terry, and R. D. Wood — Technical Service Center; Sherilyn McDaniel, Norma Kugler, and Dorothy Quintana — Avaya Switch Administrators

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Contents

Contents	v
Welcome	ix
■ Why another instruction book?	ix
■ We wrote this book for you!	ix
■ What information is in this book?	x
■ How to use this book	xi
■ Security concerns	xiii
■ Trademarks and service marks	xiv
■ Related books	xiv
■ Tell us what you think!	xv
■ How to get this book on the web	xv
■ How to order more copies	xvi
■ How to get help	xvii
Managing trunks	1
■ Understanding trunks	1
■ Adding trunk groups	4
Setting up night service	9
■ Setting up night service for hunt groups	10
■ Setting up night station service	11
■ Setting up trunk group night service	13
■ Setting trunk answer from any station	15
■ How do night service types interact?	17

Managing announcements	19
■ What is an announcement?	19
■ Adding announcements	21
■ Recording announcements	23
■ Deleting announcements	25
■ Backing up your announcements	26
 Managing hunt groups	 27
■ What are hunt groups?	27
■ Setting up hunt groups	28
Setting up a queue	31
Adding hunt group announcements	33
■ Call distribution methods	35
 Managing vectors and VDNs	 37
■ What are vectors?	38
Writing vectors	38
Allowing callers to leave a message	43
Inserting a step	47
Deleting a step	48
Diagnosing a vector problem	49
■ Vector Directory Numbers	50

Using reports	53
■ Using report scheduler	53
Setting printer parameters	53
Scheduling and printing reports	55
Listing scheduled reports	56
Changing scheduled reports	57
Removing scheduled reports	58
■ Analyzing report data	59
■ Using attendant reports	59
Measuring attendant group traffic	60
Measuring individual attendant performance	61
Measuring attendant group performance	61
■ Trunk group reports	62
Summary of trunk group activity	62
Hourly trunk group activity	63
Out-of-service trunks	64
Current trunk group status	65
Least used trunks	65
■ Measuring call center performance	66
What should I measure?	66
How many people can use switch reports?	67
Viewing hunt group reports	68
■ Using security reports	69

Understanding call centers	71
■ What is a call center?	71
■ Planning a call center	72
Setting up the call flow	73
Testing the system	75
Monitoring your call center	76
Viewing system capacity	77
■ Understanding Automatic Call Distribution	77
Enhancing an ACD system	78
Selecting a call management system	79
 Glossary	 83
 Index	 91
 Helpful Avaya Customer Catalogs	 97

Welcome

Why another instruction book?

You've told us that you want more step-by-step instructions on administration tasks for your DEFINITY system. Here they are! This book contains instructions for completing tasks that were not covered in *DEFINITY System's Little Instruction Book for basic administration*. Some steps may vary a bit between the different versions of DEFINITY, but the instructions provided will help you through the most basic operations.

We wrote this book for you!

Use this book if you are a DEFINITY system administrator. Mark it up, make notes in it, and use it daily. If you are a new administrator taking over the position from someone else or if you simply want to refresh your memory, this book is for you.

What information is in this book?

The *Little Instruction Book for advanced administration* is divided into sections to help you find information about advanced topics.

Managing trunks describes the different types of trunks and how to add a trunk group.

Setting up night service explains how to set up night service and explains how different types of night service work together.

Managing announcements explains how to add, record, change, delete, and back up announcements.

Managing hunt groups describes how to set up hunt groups. It explains how calls to a hunt group are handled and shows you different call distribution methods.

Managing vectors and VDNs provides an overview of vectors and Vector Directory Numbers (VDN). It gives you basic instructions for writing simple vectors.

Using reports describes how to generate, list, print, and schedule some of the basic reports on your DEFINITY system. It also explains when to use some common reports and how to interpret the report information.

Understanding call centers gives an overview of call centers. It shows how to set up a simple inbound call center and lists things to consider as you plan and design your center.

How to use this book

Become familiar with the following terms, procedures, and conventions. They help you use this book with your telephone system and its software.

- To “move” to a certain field, you can use the TAB key, arrows, or the RETURN key.
- A “screen” is a screen form displayed on the terminal monitor.
- In this book we always use the term phone; other Avaya books may refer to phones as voice terminals.
- If you use terminal emulation software, you need to determine which keys correspond to ENTER, RETURN, CANCEL, HELP, NEXT PAGE, etc.
- Commands are printed in bold face as follows: **command**.
- Keys and buttons are printed as follows: KEY.
- Screen displays are printed in constant width as follows:
screen display.
- Variables are printed in bold face italics as follows:
variable.
- We show complete commands in this book, but you can always use an abbreviated version of the command. For example, **list configuration station** can be entered as **list config sta**.

- We show commands and screens from the newest DEFINITY telephone system and refer to the most recently released books. Please substitute the appropriate commands for your system (if necessary) and refer to the manuals you have on hand.
- If you need help constructing a command or completing a field entry, remember to use HELP.
 - When you press HELP at any point on the command line, a list of available commands appears.
 - When you press HELP with your cursor in a field on a screen, a list of valid entries for that field appears.
- The status line or message line is near the bottom of your monitor display. This is where the system displays messages for you. Check the message line to see how the system responds to your input. Write down the message if you need to call our helpline.
- When a procedure requires you to press ENTER to save your changes, the screen you were working on clears and the cursor returns to the command prompt. The message line shows “command successfully completed” to indicate that the system accepted your changes.

You may see the following icons in this book:



Tip:

Draws attention to information that you may find helpful.



NOTE:

Draws attention to information.



CAUTION:

Denotes possible harm to software, possible loss of data, or possible service interruptions.



SECURITY ALERT:

Indicates when system administration may leave your system open to toll fraud.

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Related books

DEFINITY System's Little Instruction Book for basic administration and *DEFINITY System's Little Instruction Book for basic diagnostics* are companions of this book. We suggest you use them often.

The *DEFINITY ECS Administrator's Guide* explains system features and interactions in detail. Please note that prior to April 1997, this same information was in two separate books: the *DEFINITY Implementation* and the *DEFINITY Feature Description* books.

We also refer to *DEFINITY ECS Overview*, *DEFINITY ECS Reports*, and *Avaya Security Handbook*.

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Managing trunks

This section provides an overview of trunks and tells you how to add trunk groups to your system

Understanding trunks

Trunks carry phone signals from one place to another. For example, one type of trunk carries phone signals from your switch to the central office (CO).

Groups of trunks perform specific functions. Use the following table to help determine which types of trunk groups your company uses.

trunk group	description
Access	Use access trunks to connect satellite switches to the main switch in Electronic Tandem Networks (ETN). Access trunks do not carry traveling class marks (TCM) and thus allow satellite callers unrestricted access to out-dial trunks on the main switch.
APLT	Advanced Private Line Termination (APLT) trunks are used in private networks. APLT trunks allow inband ANI.

trunk group	description
CAMA	Centralized Automatic Message Accounting (CAMA) trunks route emergency calls to the local community's Enhanced 911 systems.
CO	Central Office (CO) trunks typically connect your switch to the local central office, but they can also connect adjuncts such as external paging systems and data modules.
CPE	Customer Premise Equipment (CPE) trunks connect adjuncts, such as pagers and announcement or music sources, to the switch.
DID	Direct inward dialing (DID) trunks connect incoming calls directly to internal extensions without going through an attendant or some other central point.
DIOD	Direct inward and outward dialing (DIOD) trunks connect incoming and outgoing calls directly to your switch.
DMI-BOS	Digital multiplexed interface bit-oriented signaling (DMI-BOS) trunks connect a switch to a host computer, or one switch to another switch.
FX	Foreign exchange (FX) trunks connect calls to a non-local central office as if it were a local central office. Use FX trunks to reduce long distance charges if your organization averages a high volume of long-distance calls to a specific area code.

trunk group	description
ISDN	<p>Integrated Services Digital Network (ISDN) trunks allow voice, data, video, and signaling information to be sent with calls.</p> <p>There are two types of ISDN trunks:</p> <p>ISDN-Basic Rate Interface (ISDN-BRI) connect telephones, personal computers, and other desktop devices to the switch.</p> <p>ISDN-Primary Rate Interface (ISDN-PRI) connect equipment such as switches to the network, and acts as an interface between equipment such as switches and computers.</p>
RLT	<p>Release-link trunks (RLT) use Centralized Attendant Service (CAS) to connect remote switches to attendants who are at a central location.</p>
Tandem	<p>Tandem trunks are a type of tie trunk used for large networks.</p>
Tie	<p>Tie trunks connect a switch to a CO, or two switches together in a private network.</p>
WATS	<p>Wide Area Telecommunications Service (WATS) trunks allow calls to certain areas for a flat-rate charge. Use WATS trunks to reduce long-distance bills when your company places many calls to a specific geographical area in North America.</p>

Adding trunk groups

Occasionally, your company's phone requirements change and you need to add new trunk groups to your system. For example, maybe your company is expanding and you must have additional two-way access between your switch and your local phone company or CO. After doing some research, you decide that you need to add another CO trunk.

Once you decide that you want to add a new trunk, contact your vendor. Depending on the type of trunk you want to add, the vendor may be your local phone company, a long distance provider, or some other service provider.

When you talk to your vendor, they'll want to know what kind of service you want to add. In our example, request CO service.

The vendor should confirm the type of signal you want and provide you with a circuit identification number for the new trunk. Be sure to record any vendor-specific ID numbers or specifications in case you ever have any problems with this trunk.



Tip:

Remember to keep records of any changes you make to the system for future reference.

Once you've ordered your new service and have gathered all the information associated with the new trunk, you need to configure the system to recognize the new trunk group.

To add a new trunk-group:

1. Type **add trunk-group next** and press RETURN.

The Trunk Group screen appears.

The system assigns the next available trunk group number to this group. In our example, we are adding trunk group 5.

```

                                TRUNK GROUP
Group Number: 5                Group Type: co        CDR Reports: y
Group Name: outside calls      COR: 1              TN: 1          TAC:647
Direction: two-way            Outgoing Display? n
Dial Access: n                Busy Threshold: 99        Night Service: 1234
Queue Length: 0               Country: 1                Incoming Destination: ____
Comm Type: voice              Auth Code? n              Digit Absorbtion List: ____
Prefix-1?: y                  Trunk Flash? n            Toll Restricted? y

TRUNK PARAMETERS
    Trunk Type: loop start
Outgoing Dial type: tone
Trunk Termination: rc
    Auto Guard?: n            Call Still Held? n        Disconnect Timing(msec): 500
    Analog Loss Group:        Sig Bit Inversion: none
                                Digital Loss Group:
                                Trunk Gain: high
Disconnect Supervision - In? y Out? n
Answer Supervision Timeout: 10    Receive Answer Supervision? n
    
```

Trunk Group screen

2. In the Group Type field, enter the type of trunk you want to add.

In our example, enter **co**, which is also the default.

If you select a different trunk type, such as DID, the system changes the screen to show only those fields that apply to the type of trunk-group you are adding.

3. Type a name to identify this trunk group in the Group Name field.

In our example, we used **outside calls**.

4. In the TAC field, type the code you want to use to access the new trunk group.

In our example, we used **647**.

5. In the Direction field, indicate the call-flow direction.

For our example, leave the default of **two-way**.

6. If you want to direct calls to a night extension, type the extension number in the Night Service field.

In our example, direct night calls to extension **1234**.

7. In the Comm Type field, enter the type of communication that you want the new trunk to use.

In our example, enter **voice**.

8. In the Trunk Type field, type **loop start**.

This field tells the system how the calls on this trunk will be sent or received. Your vendor should know what trunk type you can use to complete this field.

9. Use NEXT PAGE to go to the Group Member Assignments page.

Different fields appear on this screen depending on the configuration of your switch.

Managing trunks

Adding trunk groups

7

TRUNK GROUP						
Administered Members (min/max): xxx/yyy						
Total Administered Members: xxx						
GROUP MEMBER ASSIGNMENTS						
Port	Code Sfx	Name	Night	Mode	Type	Ans Delay
1: 1B1501			5211			
2: 1B1523			5212			
3: 1B1601			5213			
4: 1B1623			5214			
5: 1B1701			5215			
6:						
7:						
8:						
9:						
10:						
11:						
12:						
13:						
14:						
15:						

Trunk Group screen (group member assignments page)

- In the Port field, type the port number of the physical connection for each member you are adding to the trunk group.
- In the Name field, type the circuit ID or telephone number for each member.

This information is very helpful for tracking your system or troubleshooting problems, but the fields need to be updated whenever the information changes.

- Press ENTER to save your changes.

Managing trunks
Adding trunk groups

8

Setting up night service

You can use night service to direct calls to an alternate location when the primary answering group is not available. For example, you can administer night service so that anyone in your marketing department can answer incoming calls when the attendant is at lunch or has left for the day.

Once you administer night service to route calls, your end-users merely press a button on the console or a feature button on their phones to toggle between normal coverage and night service.

There are five types of night service:

- Hunt group night service — directs hunt group calls to a night service destination
- Night station night service — directs all incoming trunk calls to a night service destination
- Night console night service — directs all attendant calls to a Night or Day/Night console
- Trunk group night service — directs incoming calls to individual trunk groups to a night service destination
- Trunk answer from any station (TAAS) — directs incoming attendant calls and signals a bell or buzzer to alert other employees that they can answer the calls

Setting up night service for hunt groups

You can administer hunt group night service if you want to direct hunt group calls to a night service destination.

Let's say your helpline on hunt group 3 does not answer calls after 6:00 p.m. (18:00). When customers call after hours, you would like them to hear an announcement that asks them to try their call again in the morning.

To set up night service for your helpline, you need to record the announcement (in our example, the announcement is on extension 1234) and then modify the hunt group to send calls to this extension.

To administer hunt group night service:

1. Type **change hunt-group 3** and press RETURN.

The Hunt Group screen appears for hunt group 3.

```

                                HUNT GROUP

Group Number: 3                      ACD: n
Group Name: Accounting                Queue: y
Group Extension: 2011                 Vector: n
Group Type: ucd-mia                   Coverage Path: 1
      TN: 1                          Night Service Destination: 1234
      COR: 1                          MM Early Answer: n
Security Code: _____
ISDN Caller Display: _____

Queue Length: 4
Calls Warning Threshold: _____ Port: _____
Time Warning Threshold: _____ Port: _____
```

Hunt Group screen

2. Enter **1234** in the Night Service Destination field.

The destination can be an extension, a recorded announcement extension, a vector directory number, a hunt group extension, or **attd** if you want to direct calls to the attendant.

3. Press ENTER to save your changes.

Once you modify the hunt group, you also need to assign a hunt-ns feature button to a hunt group phone, so that the users in the hunt group can activate and deactivate night service.

Setting up night station service

You can use night station service if you want to direct incoming trunk calls, DID-LDN (direct inward dialing-listed directory number) calls, or internal calls to the attendant (dialed '0' calls) to a night service destination.

Let's say your attendant, who answers extension (List Directory Number or LDN) 8100, usually goes home at 6:00 p.m. When customers call extension 8100 after hours, you would like them to hear an announcement that asks them to try their call again in the morning.

To set up night station service, you need to record the announcement (in our example, it is recorded at announcement extension 1234).



Tip:

All trunk groups that are routed through the attendant direct to this night service destination unless you assign trunk group night service to the individual trunk group. See [“Setting up trunk group night service”](#) on page 13.

To set up night station service:

- 1. Type **change listed-directory-numbers** and press RETURN.

The Listed Directory Number screen appears.

LISTED DIRECTORY NUMBERS

Ext	Name	TN
1: 8100	attendant 8100	
2:		
3:		
4:		
5:		
6:		
7:		
8:		
9:		
10:		

Night Destination: 1234

Listed Directory Numbers screen

- 2. Enter **1234** in the Night Destination field.

The destination can be an extension, a recorded announcement extension, a vector directory number, or a hunt group extension.

- 3. Press ENTER to save your changes.
- 4. Type **change console-parameters** and press RETURN.

The Console Parameters screen appears.

- 5. In the DID-LDN Only to LDN Night Extension field, type **n**.
- 6. Press ENTER to save your changes.

After you set up night station service, have the attendant use the night console button to activate and deactivate night service.

CONSOLE PARAMETERS

Attendant Group Name:	OPERATOR	
COS:	1	COR: 1
Calls in Queue Warning:	5	Attendant Lockout? y
CAS:	none	
		Night Service Act. Ext.:1234
IAS (Branch)?	n	IAS Tie Trunk Group No.:
IAS Att. Access Code:		Alternate FRL Station:
Backup Alerting?	n	DID-LDN Only to LDN Night Ext? n

Console Parameters screen

Setting up trunk group night service

You can use trunk group night service if you want to direct individual trunk groups to night service. The system redirects calls to the trunk group to the group's night service destination.

Trunk group night service overrides night station service. For example, let's say you administer trunk group night service, and then your attendant activates night station service. In this case, calls to the trunk group use the trunk night service destination, rather than the station night service destination.

Setting up night service

Setting up trunk group night service

14

Let's direct night calls for trunk group 2 to extension 1245.

To set trunk group night service:

1. Type **change trunk-group 2** and press RETURN.

The Trunk Group screen appears.

```

                                TRUNK GROUP
Group Number: 2                Group Type: co                CDR Reports: y
Group Name: outside calls      COR: 1                      TN: 1          TAC:647
Direction: two-way            Outgoing Display? n
Dial Access: n                Busy Threshold: 99                Night Service: 1245
Queue Length: 0               Country: 1                Incoming Destination: ____
Comm Type: voice              Auth Code? n            Digit Absorbtion List: ____
Prefix-1?: y                  Trunk Flash? n          Toll Restricted? y

TRUNK PARAMETERS
    Trunk Type: loop start
Outgoing Dial type: tone
Trunk Termination: rc          Disconnect Timing(msec): 500
    Auto Guard?: n            Call Still Held? n      Sig Bit Inversion: none
Analog Loss Group:            Digital Loss Group:
                                Trunk Gain: high
Disconnect Supervision - In? y Out? n
Answer Supervision Timeout: 10 Receive Answer Supervision? n
    
```

Trunk Group screen

2. Enter **1245** in the Night Service field.

The destination can be a night service extension, a recorded announcement extension, a vector directory number, a hunt group extension, a terminating extension group, or **att**d if you want to direct the call to the attendant.

3. Press ENTER to save your changes.

Setting trunk answer from any station

There may be situations where you want everyone to be able to answer calls when the attendant is away. Use trunk answer any station (TAAS) to configure the system so that it notifies everyone when calls are ringing. Then, you can give users the trunk answer any station feature access code so they can answer these calls.

When the system is in night service mode, attendant calls redirect to an alerting device such as a bell or a buzzer. This lets other people in the office know when they should answer the phone.



NOTE:

If no one answers the call, the call will not redirect to night service.

Let's define a feature access code (we'll use 71) and configure the alerting device for trunk answer any station.

To set the feature access code for TAAS:

1. Type **change feature-access-codes** and press RETURN.
The Feature Access Code screen appears.
2. In the Trunk Answer Any Station Access Code field, enter **71**.
3. Press ENTER to save your changes.

Once you set the feature access code, determine where the external alerting device is connected to the switch (we'll use port 01A0702).

To set up external alerting:

1. Type **change console-parameters** and press RETURN.

The Console Parameters screen appears.

2. In the EXT Alert Port (TAAS) field, enter **01A0702**.

Use the port address assigned to the external alerting device.

3. Press ENTER to save your changes.

```
CONSOLE PARAMETERS

Attendant Group Name: Operator
COS: 0 COR: 0
Calls in Queue Warning: 5 Attendant Lockout? y
EXT Alert Port (TAAS): 01A0702
CAS: none

IAS (Branch)? n Night Service Act. Ext.:
IAS Att. Access Code: IAS Tie Trunk Group No.:
Backup Alerting? n Alternate FRL Station:
DID-LDN Only to LDN Night Ext? n
```

Console Parameters screen

How do night service types interact?

Let's look at an example of how several types of night service might be used in one company.

Assume that you already administered the following night service settings:

- night station night service redirects to extension 3000 and DID-LDN only to LDN Night Ext is set to n
- EXT Alert Port (TAAS) field is not defined
- Trunk group 4 redirects to extension 2000

Let's look at how calls for this company are directed after hours:

call type	directs to
An LDN call on a DID trunk	extension 3000
A call on trunk group 4	extension 2000
An internal call to '0'	extension 3000
A call that redirects to the attendant through a coverage path.	the attendant queue

Setting up night service

How do night service types interact?

Managing announcements

This section explains how to use announcements effectively, and how to add, change, delete, and back up your announcements.

What is an announcement?

An announcement is the recorded message a caller hears while the call is in a queue. An announcement is often used in conjunction with music. Announcements are recorded on special circuit packs (TN750, TN750B or TN750C) on your DEFINITY system.

Three types of announcements are:

- delay announcement — explains the reason for the delay and encourages the caller to wait
- forced announcement — explains an emergency or service problem. Use when you anticipate a large number of calls about a specific issue.
- information announcement — gives the caller instructions on how to proceed, information about the number called, or information that the caller wants

Announcements are most effective when they are:

- short, courteous, and to-the-point
- spaced close together when a caller on hold hears silence
- spaced farther apart when music or ringing is played on hold
- played for calls waiting in queue

Magic on Hold is a package of professionally-recorded music available from Avaya. Contact your Avaya representative for more information.

Adding announcements

You need to tell the switch you want an announcement before you can record it on a special announcement circuit pack. You assign an extension for the announcement so the switch can identify the announcement. This extension cannot be in use and must conform to your dial plan.



Tip:

Use **change announcement** to administer an announcement extension. See DEFINITY ECS Administrator's Guide for more information.

You can use TN750, TN750B, and TN750C announcement circuit packs to record announcements on your switch. You can have only one TN750 or TN750B per system, but you can use one TN750B with many TN750Cs. The TN750Cs each have built-in memory. This means you can don't have to save from the TN750C to backup tape or system memory, but you can copy the announcements to another circuit pack.



CAUTION:

Do not copy, save, or restore announcements from a TN750C to a TN750 or TN750B. It may corrupt the announcement.

Let's say we have calls coming into unassigned DID extensions. Let's record a general message to tell these callers to dial the company's main number.

We'll assign the announcement to extension 1234, and use the integrated announcement circuit pack located on 01B18.



Tip:

Use **display integrated-annc-boards** to find the cabinet, carrier, and slot addresses of your announcement circuit packs. The Integrated Announcement Board screen lists the location and the type, as well as showing the number of recordings and number of seconds (at 32Kb per second) left on each circuit pack.

Our example explains how to add an integrated announcement, but other types of announcements are available. See *DEFINITY ECS Administrator's Guide* for more information about other announcement types.

To add an announcement extension 1234:

1. Type **change announcements** and press RETURN.

The Announcements/Audio Sources screen appears.

2. In the Ext field, type **1234**.
3. In the Type field, type **integrated**.

ANNOUNCEMENTS/AUDIO SOURCES										
	Ext.	Type	COR	TN	Name	Q	QLen	Pro	Rate	Port
1:	1234_	integrated	1_	1_	unassigned DID	n	N/A	n	32	01B18
2:	_____	_____	1_	1_	_____	n				
3:	_____	_____	1_	1_	_____	n				
4:	_____	_____	1_	1_	_____	n				
5:	_____	_____	1_	1_	_____	n				
6:	_____	_____	1_	1_	_____	n				
7:	_____	_____	1_	1_	_____	n				
8:	_____	_____	1_	1_	_____	n				
9:	_____	_____	1_	1_	_____	n				
10:	_____	_____	1_	1_	_____	n				
11:	_____	_____	1_	1_	_____	n				

Announcements/Audio Sources screen

4. In the Name field, type **unassigned DID**.

5. In the Pro (protected) field, type **n**.

If you enter **n**, users with console permissions can change the announcement. If you enter **y**, the announcement cannot be changed.

6. In the Port field, type **01B18**.

7. Press ENTER to save your work.

Recording announcements

You can record announcements using any phone or console whose COS (class of service) provides console permissions. You can use **display cos** to review COS permissions.

You also need the announcement feature access code for your system. Use **display feature-access-codes** to find the announcement access code.

The announcement extension must be set up before you record. Use **list station data-module** to determine the announcement extension.

In our example, use your 8410D phone to record the announcement for the unassigned DIDs to extension 1234. Our announcement access code is *56.

To record the announcement:

1. Dial the announcement access code.

In our example, we'll dial ***56**. You hear dial tone.

2. Dial the announcement extension.

In our example, we'll dial **1234**. You hear dial tone.

3. Dial **1** to begin recording.
4. Record the message.
5. Hang up the phone to end recording.



The announcement records the sound of the receiver returning to the phone. Hang up gently, press the drop button, or depress the switch hook with your finger.

You have to wait 15 seconds before you can dial the extension **1234** to listen to your announcement.

If you record an announcement and later you want to re-record your announcement, you have to first delete the original message.

Deleting announcements

Let's delete the unassigned DID announcement assigned to extension 1234.

We know that the announcement access code is *56. Use any console or phone with console permissions to delete the announcement from the announcement circuit pack.

To delete the announcement, use a phone with console permissions to complete the following steps:

1. Dial the announcement access code.

In our example, we'll dial *56. You hear dial tone.

2. Dial the announcement extension.

In our example, we'll dial 1234. You hear dial tone.

3. Dial 3 to delete the announcement from the announcement circuit pack.
4. Hang up the phone.

You also need to remove the information from the system. To remove the information, use your system administration terminal to complete the following steps:

1. Type **change announcements** and press RETURN.

The Announcements/Audio Sources form appears.

2. Delete the information in the Ext and Type fields.
3. Press ENTER to save your work.

Backing up your announcements

Make sure you back up your announcements recorded on TN750 and TN750B circuit packs. The system loses announcements stored on these circuit packs if power is shut down or the circuit pack is removed. The TN750C circuit pack has on-board FLASH memory so you do not have to back it up. You may want to back up the TN750C to another TN750C circuit pack or tape for extra security.

You need to administer the data module that is built into the TN750 circuit pack before you save your announcements. Use **add data-module next** to access the Announcement Data Module form and set up the data module. See *DEFINITY ECS Administrator's Guide* for more information.

To backup announcements on TN750 or TN750B circuit packs:

1. Type **save announcements** and press RETURN to save the changes.

This process can take up to 40 minutes. You cannot administer your system while it is saving announcements.



NOTE:

If you have both TN750B and TN750C circuit packs, save the announcements from the TN750B slot.

See *DEFINITY ECS Administrator's Guide* for more information about saving announcements.

Managing hunt groups

This section shows you how to set up hunt groups. It explains how calls to a hunt group are handled and shows you different call distribution methods.

What are hunt groups?

A hunt group is a group of extensions that receive calls according to the call distribution method you choose. When a call is made to a certain phone number, the system connects the call to an extension in the group.

Use hunt groups when you want more than one person to be able to answer calls to the same number. For example, set up a hunt group for:

- a benefits department within your company
- a travel reservations service

Setting up hunt groups

Let's set up a hunt group for an internal helpline. Before making changes to the switch, we'll decide:

- the phone number for the hunt group
- the number of people answering calls
- the way calls are answered

Our dial plan allows 4-digit internal numbers that begin with 1. The number 1200 is not in use. So, we'll set up a helpline hunt group so anyone within the company can call extension 1200 for help with a phone.

We will assign 3 people (agents) and their extensions to our helpline. We want calls to go to the first available person.

To set up our helpline hunt group:

1. Type **add hunt-group next** and press RETURN.

The Hunt Group screen appears. The Group Number field is automatically filled in with the next hunt group number.

2. In the Group Name field, type the name of the group.

In our example, type **internal helpline**.

3. In the Group Extension field, type the phone number.

We'll type **1200**.

```

                                HUNT GROUP

Group Number: 5                      ACD? n
Group Name: internal helpline        Queue? n
Group Extension: 1200                Vector? n
Group Type: ucd-loa                  Coverage Path:
      TN: 1                          Night Service Destination:
      COR: 1                         MM Early Answer? n
Security Code: _____
ISDN Caller Display: _____
```

Hunt Group screen

4. In the Group Type field, type the code for the call distribution method you choose.

We'll type **ucd-loa** so a call goes to the agent with the lowest percentage of work time since login.



NOTE:

The COS for all hunt groups defaults to 1. Therefore, any changes to COS 1 on the Class of Service screen changes the COS for all your hunt groups. A COS field does not appear on the Hunt Group screen.

5. Press NEXT PAGE to find the Group Member Assignments page.

HUNT GROUP

Group Number: 5

Group Extension: 1200

Group Type: ucd-loa

Member Range Allowed: 1 - 999

Administered Members (min/max): 1 / 9

Total Administered Members: 3

GROUP MEMBER ASSIGNMENTS	
Ext	Name
1: 1011	14:
2: 1012	15:
3: 1013	16:
4:	17:
5:	18:
6:	19:
7:	20:
8:	21:
9:	22:
10:	23:
11:	24:
12:	25:
13:	26:

At End of Member List

Hunt Group screen

6. In the Ext field, type the extensions of the agents you want in the hunt group.

We'll type **1011**, **1012**, and **1013**.



Tip:

For a ddc group type (also known as “hot seat” selection), the call is sent to the extension listed in the first Ext field. The system uses this form to determine the hunting sequence. See “[Call distribution methods](#)” on [page 35](#) for more information.

7. Press ENTER to save your work.

The Name fields are display-only and do not appear until the next time you access this hunt group.

To make changes to a hunt group:

1. Type **change hunt-group *n*** and press RETURN, where *n* is the number of the hunt group.
2. Change the necessary fields.
3. Press ENTER to save your changes.



Tip:

Type **list member hunt group** to see a list of logged-in members of a hunt group by group number. For splits and skills, the login ID, name, and different fields for EAS and Advocate appear on the list.

Setting up a queue

You can tell your switch how to handle a hunt-group call when it cannot be answered right away. The call waits in a “queue.”

Let's tell the switch that up to 10 calls can wait in the queue, but that you want to be notified if a call waits for more than 30 seconds.

You also want the switch to send a warning when 5 or more calls are waiting in the queue. This warning flashes queue-status buttons on phones that have a status button for this hunt group. When the buttons flash, everyone answering these calls can see that the helpline calls need more attention.

To set up our helpline queue:

1. Type **change hunt-group *n*** and press RETURN, where *n* is the number of the hunt group to change.

In our example, type **change hunt-group 5**.

The Hunt Group form appears.

```

                                HUNT GROUP
Group Number: 5                      ACD? n
Group Name: internal helpline        Queue? y
Group Extension: 1200                Vector? n
Group Type: ucd-loa                  Coverage Path:
      TN: 1                      Night Service Destination:
      COR: 1                      MM Early Answer? n
Security Code: —
ISDN Caller Display: —————
Queue Length: 10
Calls Warning Threshold: 5           Calls Warning Port:
Time Warning Threshold: 30          Time Warning Port:
```

Hunt Group screen

- 2. In the Queue field, type **y**.
- 3. In the Queue Length field, type the maximum number of calls that you want to wait in the queue.

In our example, type **10**.

- 4. In the Calls Warning Threshold field, type the maximum number of calls that can be in the queue before the system flashes the queue status buttons.

In our example, type **5**.

- 5. In the Time Warning Threshold fields, type the maximum number of seconds you want a call to wait in the queue before the system flashes the queue status buttons.

In our example, type **30**.

- 6. Press ENTER to save your changes.

Adding hunt group announcements

You can add recorded announcements to your hunt group queue. Use announcements to encourage callers to stay on the line or to provide callers with information. You can define how long a call remains in the queue before the caller hears an announcement.

See [“Recording announcements” on page 23](#) for information on how to record an announcement.

Let's add an announcement to our internal helpline. We want the caller to hear an announcement after 20 seconds in the queue, after approximately 4 or 5 rings. Our announcement is already recorded and assigned to extension 1234.



Tip:

*You can use **display announcements** to find the extensions of your recorded announcements.*

To add an announcement to our helpline queue:

1. Type **change hunt-group *n*** and press RETURN, where *n* is the number of the hunt group to change.

In our example, type **change hunt-group 5**.

The Hunt Group form appears.

2. Press NEXT PAGE to find the First Announcement Extension field.

HUNT GROUP

Message Center: _____
AUDIX Extension: _____
Message Center AUDIX Name: _____
Primary? _____
Calling Party Number to INTUITY AUDIX? _____
LWC Reception: _____
AUDIX Name: _____
Messaging Server Name: _____

First Announcement Extension: 1234 Delay (sec): 20
Second Announcement Extension: _____ Delay (sec): ____
Recurring? _

Hunt Group screen

3. In the First Announcement Extension field, type the extension of the announcement you want callers to hear.

In our example, type **1234**.

4. In the First Announcement Delay (sec) field, type the number of seconds you want the caller to wait before hearing the first announcement.

In our example, type **20**.



Tip:

If you set the delay announcement interval to 0, calls automatically connect to the announcement before they are queued, follow coverage, or connect to an available agent. This is called a "forced first announcement."

5. Press ENTER to save your work.

You can use the same announcement for more than one hunt group. See *DEFINITY ECS Administrator's Guide* for more information on announcements and hunt groups.

Call distribution methods

You have more call distribution choices if your company acquires ACD (Automatic Call Distribution) or EAS (Expert Agent Selection).

ACD and EAS allow you to distribute calls according to the work loads and skill levels of your agents in each hunt group. You can track call handling and monitor the efficiency of your agents. When you assign ACD to a hunt group, the group is called a “split.” When you assign EAS, the group is called a “skill.”

The following table shows 6 types of call distribution methods and the software required for each method.

Method	The system hunts for...	I need...
Direct Department Calling- (DDC)	the first agent administered in the hunt group. If the first agent is busy, it goes to the second agent, and so forth. This “hot seat” method puts a heavy call load on the first few agents.	no extra software (you cannot use this method if you have EAS enabled)
Circular (circ)	the next available agent in a chain.	no extra software
Uniform Call Distribution- Most Idle Agent (UCD-MIA)	the available agent who has been idle the longest since their last call.	no extra software
Uniform Call Distribution- Least Occupied Agent (UCD-LOA)	the available agent with the lowest percentage of work time since login.	ACD, EAS, and CentreVu Advocate
Expert Agent Distribution- Most Idle Agent (EAD-MIA)	the available agent with the highest skill level who has been idle the longest since their last call.	EAS
Expert Agent Distribution- Least Occupied Agent (EAD-LOA)	the available agent with the highest skill level and the lowest percentage of work time since login.	EAS and CentreVu Advocate

Managing hunt groups
Call distribution methods

36

Managing vectors and VDNs

This section provides an introduction to vectors and Vector Directory Numbers (VDN). It gives you basic instructions for writing simple vectors.

SECURITY ALERT:

Vector fraud is one of the most common types of toll fraud because vectors route calls based on the class of restriction (COR) assigned to the VDN. Refer to Avaya Security Handbook or your Avaya representative for more information.

This section references announcements, hunt groups, queues, splits, and skills, which are covered in detail in other sections of this book. You can also find information about these topics in the *DEFINITY ECS Administrator's Guide* and *DEFINITY ECS Call Vectoring/Expert Agent Selection (EAS) Guide*.

What are vectors?

A vector is a series of commands that you design to tell the system how to handle incoming calls. A vector can contain up to 32 steps and allows customized and personalized call routing and treatment. Use call vectoring to:

- play multiple announcements
- route calls to internal and external destinations
- collect and respond to dialed information



Tip:

The vector follows the commands in each step in order. The vector “reads” the step and follows the command if the conditions are correct. If the command cannot be followed, the vector skips the step and reads the next step.

Your system can handle calls based on a number of conditions, including the number of calls in a queue, how long a call has been waiting, the time of day, day of the week, and changes in call traffic or staffing conditions.

Writing vectors

Writing vectors is easy, but we recommend that you set up and test your vectors before you use them across the system.

We'll write a vector to handle calls to our main number. It is the first vector so we'll use number 1.



Tip:

*Type **list vector** to see a list of existing vectors. Type **list usage vector** to see where each vector is used throughout the switch. Type **list usage digit string** to see all the vectors, vector tables, and Best Service Routing (BSR) plans that use a specific dial string).*

To write a vector:

1. Type **change vector 1** and press RETURN.

The Call Vector screen appears.

The vector number field on the left side of the screen is filled in automatically.

```

                                CALL VECTOR
                                Name: main number calls
Number: 1                      Lock? n
Multimedia? n                  Basic? y  EAS? n  G3V4 Enhanced? n  ANI/II-Digits? n  ASAI Routing? n
Prompting? y  LAI? n  G3V4 Adv Route? n  CINFO? n  BSR? n
01
02
03
04
05
```

Call Vector screen

2. Type a description for the vector in the Name field.

In our example, type **main number calls**.



Tip:

*The information in the heading of the Call Vector screen is display only. Use **display system-parameters customer-options** to see the features that are turned on in your switch.*

3. Type your vector steps in the numbered column on the left of the screen.



Tip:

When you type in your vector steps, the switch automatically completes some of the vector step information for you. For example, if you type “q” in a vector step field, the switch fills in “queue-to.” Also, additional fields appear when you complete a field and press TAB. This makes it very easy to type in your vector steps.

Now that vector 1 is set up, let’s add a vector step to it to tell the switch how to handle the calls to our main number.

Putting a call in a queue

Write a vector so that calls that come into the main business number redirect to a queue.

We’ll use a vector-controlled hunt group for the main number queue. This hunt group was set up as main split 47. When calls first arrive, all calls to our main number should be queued as “pri 1” for low priority.

To queue calls, write the following vector (step 2). (Please note, we started our example on step 2 because step 1 is used later in this chapter.)

CALL VECTOR

Number: 1

Name: main number calls

Multimedia? n

Lock? n

Basic? y

EAS? n

G3V4 Enhanced? n

ANI/II-Digits? n

ASAI Routing? n

Prompting? y

LAI? n

G3V4 Adv Route? n

CINFO? n

BSR? n

01

02

03

04

05

queue-to main split 47 pri 1

Call Vector screen



Tip:

Remember, the switch automatically fills in some of the information when you type your vector step and press TAB.

Playing an announcement

Write a vector to play an announcement for callers in a queue. Use the announcement to ask callers to wait. You need to record the announcement before the vector can use it. For more information see [“Adding announcements” on page 21](#).

Let's play our announcement 4001, asking the caller to wait, then play music for 60 seconds, then repeat the announcement and music until the call is answered. The **goto** command creates the loop to repeat the announcement and the music. **Unconditionally** means under all conditions.



Tip:

Rather than loop your vectors directly back to the announcement step, go to the previous queue-to step. This way, if for some reason the call does not queue the first time, the switch can attempt to queue the call again. If the call successfully queued the first time through, it merely skips the queue-to step and plays the announcement. The system cannot queue a call more than once in the exact same priority level.

To play and repeat an announcement, write this vector
(steps 3-5):

CALL VECTOR

Number: 1

Name: main number calls

Multimedia? n

Lock? n

Basic? y

EAS? n

G3V4 Enhanced? n

ANI/II-Digits? n

ASAI Routing? n

Prompting? y

LAI? n

G3V4 Adv Route? n

CINFO? n

BSR? n

1.

2. queue-to main split 47 pri 1

3. announcement 4001 ("All agents are busy, please wait...")

4. wait-time 60 secs hearing music

5. goto step 2 if unconditionally

6.

Call Vector screen

Routing based on time of day

Write a vector for calls that come in after your office closes.

Assume that your business is open 7 days a week, from 8:00 a.m. to 5:00 p.m. When calls come in after business hours, you want to play your announcement 4002, which states that the office is closed and asks callers to call back during normal hours. The call is disconnected after the announcement is played.

For after-hours treatment, write this vector (steps 1, 6, 7):

1. goto step 7 if time-of-day is all 17:00 to all 8:00

2. queue-to main split 47 pri 1

3. announcement 4001 (All agents are busy, please wait...)

4. wait-time 60 secs hearing music

5. goto step 2 if unconditionally

6. stop

7. disconnect after announcement 4002 ("We're sorry, our office is closed...")

8.

Call Vector screen

If the **goto** command in step 5 fails, the switch will go to the next step. The **stop** in step 6 prevents callers from incorrectly hearing the "office is closed" announcement in step 7. **Stop** keeps the call in the state it was in before the command failed. In this case, if step 5 fails, the call remains in step 4 and the caller continues to hear music.



CAUTION:

Add a stop vector step only after calls are routed to a queue. If a stop vector is executed for a call NOT in queue, the call is dropped.

Allowing callers to leave a message

Write a vector that allows callers to leave messages. This type of vector uses a hunt group called a messaging split. For our example, we send after-hours calls to the voice mailbox at extension 2000 and use messaging split 99.

Once the vector routes a call to the mailbox, the caller hears a greeting (that was recorded with the voice mail for mailbox 2000) that tells them they can leave a message.

To let callers leave messages, write this vector (step 7).

```
1. goto step 7 if time-of-day is all 17:00 to all 8:00
2. queue-to main split 47 pri 1
3. announcement 4001 (All agents are busy, please wait...)
4. wait-time 60 secs hearing music
5. goto step 2 if unconditionally
6. stop
```

7. messaging split 99 for extension 2000

```
8.
```

Call Vector screen

Redirecting calls during an emergency or holiday

You can provide a quick way for a supervisor or agent to redirect calls during an emergency or holiday. Use a special mailbox where you can easily change announcements. This vector is also an alternative to making sure all agents log out before leaving their phones.

In our example, no agents are normally logged in to split 10. We'll use split 10 for an emergency. We preset buttons on our agents' phones so people with these phones can log in at the touch of a button.

To quickly redirect calls:

1. Create a special mailbox with the appropriate announcement such as “We are unable to answer your call at this time” or “Today is a holiday, please call back tomorrow.”

In our example, we recorded the mailbox greeting for extension 2001.

2. Insert the following bold vector steps (steps 1, 10, 11):

01. goto step 10 if staffed agents split 10 > 0

```
02. goto step 8 if time-of-day is all 17:00 to all 8:00
03. queue-to main split 47 pri 1
04. announcement 4001 ("All agents are busy, please wait...")
05. wait-time 60 secs hearing music
06. goto step 3 if unconditionally
07. stop
08. messaging split 99 for extension 2000
09. stop
```

10. messaging split 99 for extension 2001

11. stop

When there is an emergency, fire drill, or holiday, the supervisor or agent logs into this split.

When an agent logs into split 10, the system looks at vector step 1, sees that more than 0 people are logged into split 10, and sends calls to step 10 (which sends to messaging split 99).

When your business returns to normal and the agent logs out of split 10, call handling returns to normal.

Giving callers additional choices

You can give your callers a list of options when they call. Your vector tells the switch to play an announcement that contains the choices. The switch collects the digits the caller dials in response to the announcement and routes the call accordingly.

We'll create a vector that plays an announcement, then lets callers dial an extension or wait in the queue for an attendant.

Please note, the following example of this "auto attendant" vector is a new vector and is not built on the vector we used in the previous examples.

To let callers connect to an extension, write this kind of vector:

Number: 20
Multimedia? n
Basic? y
Prompting? y

EAS? n
LAI? n

G3V4 Enhanced? n
G3V4 Adv Route? n

ANI/II-Digits? n
CINFO? n

Lock? n
ASAI Routing? n
BSR? n

1. wait-time 0 seconds hearing music

2. collect 4 digits after announcement 4004 (You have reached our company. Please dial a 4-digit extension or wait for the attendant.)

3. route-to digits with coverage y

4. route-to number 0 with cov n if unconditionally

5. stop

Call Vector screen

Inserting a step

It is easy to change a vector step and not have to retype the entire vector. Let's add announcement 4005 between step 3 and step 4 in vector 20.

To insert a new vector step in vector 20:

1. Type **change vector 20** and press RETURN.

The call vector screen appears.

2. Press EDIT.
3. Type **i** followed by a space and the number of the step you want to add.

In our example, type **i 4**.

4. Type the new vector step.

We'll type **announcement 4005 (Please wait...)**.

5. Press ENTER to save your changes.



Tip:

When you insert a new vector step, the system automatically renumbers the rest of the vector steps and all references to the vector steps. The switch inserts a "" when the numbering needs more attention.*

Deleting a step

To delete vector step 5 from vector 20:

1. Type **change vector 20** and press RETURN.

The call vector screen appears.

2. Press EDIT.
3. Type **d** followed by a space and the number of the step you want to delete.

In our example, type **d 5**.



*You can delete a range of vector steps. For example, to delete steps 2 through 5, type **d 2-5** and press ENTER.*

4. Press ENTER to save your changes.



*When you delete a vector step, the system automatically renumbers the rest of the vector steps and all references to the vector steps. The switch inserts a * when the numbering needs more attention.*

Diagnosing a vector problem

If there is a problem with a vector, the switch records the error as a vector event. Vector events occur for a number of reasons including problems with a trunk, full queue slots, or the vector reaching the maximum 1000 steps allowed.

Use **display events** to access the Event Report screen and see the event record. Use the event record to see why the vector failed.

To view the Event Report:

1. Type **display events** and press RETURN.

The Event Report screen appears.

```

                                EVENT REPORT
The following option control which events will be displayed.
EVENT CATEGORY
    Category: Vector
REPORT PERIOD
    Interval: _a   From: __/__/__:__ To: __/__/__:__
SEARCH OPTIONS
    Vector Number: ____
    Event Type: ____
```

Event Report screen

2. To see all current vector events, press RETURN

OR

Indicate the events that you want to see by completing the Report Period and Search Option fields. See *DEFINITY ECS Call Vectoring/Expert Agent Selection (EAS) Guide* for more information.

3. Press ENTER to view the report.

The Event Report (detail) screen appears.

EVENTS REPORT						
Event Type	Event Description	Event Data 1	Event Data 2	First Occur	Last Occur	Event Cnt
20	Call not queued	12/5	B	09/28/13:43	09/28/13:43	21
541	Not a messaging split	Split 89	4C	09/28/13:43	09/28/13:43	136

Event Report screen (detail)

Look at the information in the Event Data field to diagnose the vector event. In this example, there was a problem with:

- Vector 12, step 5
- Split 89

Vector Directory Numbers

A Vector Directory Number (VDN) is an extension that directs an incoming call to a specific vector. This number is a “soft” extension number not assigned to an equipment location. VDNs must follow your dial plan.

Let’s create VDN 5011 for our sales department. A call into 5011 routes to vector 11. This vector plays an announcement and queues calls to the sales department.



SECURITY ALERT:

Vector fraud is one of the most common types of toll fraud because vectors route calls based on the class of restriction (COR) assigned to the VDN. Refer to Avaya Security Handbook or your Avaya representative for more information.

To add a VDN:

1. Type **add VDN 5011** and press RETURN.

You enter the VDN extension you want to add. The Vector Directory Number screen appears.

```
VECTOR DIRECTORY NUMBER  
  
Extension: 5011  
Name: Sales Department  
Vector Number: 11  
  
Allow VDN Override? n  
COR: 1  
TN: 1  
Measured: both
```

Vector Directory Number screen

2. Type a description for this VDN in the Name field.

In our example, type **Sales Department**.

The information in the VDN Name field appears on a display phone. This allows the agent to recognize the nature of the call and respond accordingly.

3. Enter the vector number.

In our example, type **11**.

4. In the Measured field, indicate how you want to measure calls to this VDN.

In our example, type **both** (for CMS and BCMS).



Tip:

*BCMS must be enabled to use “both.” Use **display system-parameters customer-options** to see if BCMS is enabled. See DEFINITY ECS Administrator’s Guide for more information.*

5. Press ENTER to save your changes.

To see the VDNs already associated with your vectors:

1. Type **list VDN** and press RETURN.

The Vector Directory Numbers screen appears.

VECTOR DIRECTORY NUMBERS									
Name	Ext	VDN Ovrd	COR	TN	Vec Num	Meas	Orig Annc	Event Notif Adj	Skills 1st 2nd 3rd
Tech Support	5000	y	59	1	234	none	301		
Customer Serv.	5001	n	1	1	1	none	302		
New Orders	5002	y	23	1	5	none	303		

Vector Directory Numbers screen

Each VDN maps to one vector. Several VDNs can map to the same vector.

Using reports

This section explains how to generate, display, list, and print some of the basic reports on your DEFINITY system, and provides instructions for scheduling reports.

This section also contains information on how and when to use the system monitoring reports. It explains how to interpret some of the information displayed in the reports.

Using report scheduler

Use report scheduler to print reports automatically. Because printing reports requires significant switch processor resources, it is a good idea to print reports during off-peak hours.

Setting printer parameters

Report scheduler prints to the system printer connected to your switch.

There are two ways to connect the system printer:

- Use a data module extension to connect to a printer outside of the switch room.
- Use the EIA port to connect directly to the printer.

Some of the defaults for the system printer are set when the system is installed. If you make any changes to your system configuration, you may need to change the system parameters for the reports to print accurately.

Let's set the parameters for the EIA port. (Note that G3R cabinets do not have EIA ports.)

To set system parameters:

1. Type **change system-parameters features** and press RETURN.

The Feature-Related System Parameters screen appears.

2. In the System Printer Extension field, type **eia**.



NOTE:

If you're connecting to a data module instead of EIA, type the extension for the data module.

3. In the Lines Per Page field, type the number of lines per page.

For our example, leave the default of **60** in this field.

4. In the EIA Device Bit Rate field, type **9600**.



NOTE:

If you are connecting to a data module instead of EIA, the data module controls the speed.

5. Press ENTER to save your changes.




Tip:

Check frequently to ensure that the system printer has enough paper. Reports lost to printer failure cannot be recovered.

For more information, refer to *DEFINITY ECS Reports*.

- **immediate** — prints the report immediately
- **scheduled** — enables you to specify the day and time you want the report to print on a daily or weekly basis
- **deferred** — enables you to print the report once for the date and time you specify

- 3. For scheduled and deferred reports, complete the Print Time field to indicate the time you want the report to print.

 **NOTE:**
You can schedule reports in 15-minute intervals. If a deferred report does not print within 4 hours of the scheduled time, it is canceled and you must reschedule it. If scheduled reports do not print within 4 hours, they print at the next scheduled time.

- 4. In the Days of the Week field, type **y** for each day of the week the report should print.
- 5. Press ENTER to save your changes.

Listing scheduled reports

You can list all of the scheduled reports and the time and day they are scheduled to print.

To list scheduled reports:

- 1. Type **list report-scheduler** and press RETURN.

The Report Scheduler screen appears.

REPORT SCHEDULER						
Job Id	Days(smtwtfs)	Time	User	Status	Type	
	Command					
1	nynynyn	23:00	johnston	waiting	scheduled	
	list measurements attendant positions					
4	nnnnynn	23:45	johnston	waiting	scheduled	
	list measurements attendant-group					

Report Scheduler screen

Changing scheduled reports

It is easy to reschedule the time and day a report prints. As an example, let's change the time on job ID 12 so that it prints at 10:00 p.m. (22:00).

To change the report scheduler for job ID 12:

1. Type **list report-scheduler** and press RETURN.
The Report Scheduler screen appears.
2. Locate the job ID for the report you want to change.
In our example the job ID is 12.
3. Type **change report-scheduler 12** and press RETURN.
The Report Scheduler screen appears.
4. In the Print Time field, type **22:00**.
5. Press ENTER to save your changes.

Removing scheduled reports

As your needs change, you may want to remove certain reports from the report scheduler. The following example removes Job 12 from the report scheduler.



Tip:

*You can use **list report-scheduler** to determine which reports you want to remove.*

To remove job 12 from the report scheduler:

1. Type **remove report-scheduler 12** and press RETURN.
The Report Scheduler screen appears.
2. Press ENTER to remove the report.



NOTE:

If you want to print a different report, you must remove the old report from the report scheduler, and then add the new report.

Analyzing report data

Most of the information displayed in these reports is measured in CCS (centum call seconds). CCS equals the amount of call traffic it takes to keep one piece of traffic-sensitive equipment busy for 0.6 minutes. To convert CCS to minutes, use the following equation:

$$\text{minutes} = \text{the number of CCS} / 0.6$$

For more information, refer to *DEFINITY ECS Reports*.

Using attendant reports

Attendant group reports enable you to assess the quality of service provided to anyone who calls your attendant. Monitor these reports to ensure that attendant groups are adequately staffed. There are three attendant reports:

- Attendant Group Measurements report — measures attendant group traffic
- Attendant Positions Report — measures individual attendant performance
- Attendant Group Performance report — measures attendant group performance

The system automatically gathers the information for these reports, so you can use them to view attendant information at any time.

Measuring attendant group traffic

The Attendant Group Measurements report provides peak hour traffic measurements for any attendant group. It displays a summary of attendant group activity for yesterday's peak, today's peak, and the last hour.

To display the Attendant Group Measurements report:

1. Type **list measurements attendant group** and press RETURN.

The Attendant Group Measurements screen appears.

Switch Name: Cust_Switch_Name										Date: 4:40 pm MON APR 15, 1998			
ATTENDANT GROUP MEASUREMENTS													
Grp	Meas	-	-	-	-	Calls	-	-	-	-	Time	Time	Speed
Siz	Hour	Ans	Abnd	Qued	H-Abd	Held	Avail	Talk	Held	Abnd	Ans(sec)		
2	1000	1000	0	0	0	0	200	80	0	0	0	YEST	PEAK
2	1100	1006	0	0	0	0	212	76	0	0	0	TODAY	PEAK
2	1500	1007	0	0	0	0	224	64	0	0	1	LAST	HOUR

Attendant Group Measurements screen

There are several ways to determine if traffic flow is optimal. For example:

- If the Time Abandon field approximately equals the average delay, the attendant group is staffed appropriately.
- If the number of calls in the Abandon (Abnd) field is high, according to your company standards, you may need to schedule additional attendants during peak hours.

For information on how to calculate the average answering delay, and what the data in the fields represent, refer to *DEFINITY ECS Reports*.

Measuring individual attendant performance

The Attendant Positions Report provides peak individual attendant position measurements. It displays a summary of each attendant's activity for yesterday's peak, today's peak, and the last hour. This report enables you to assess personnel performance and to identify when additional attendant training is necessary.

To display the Attendant Positions report:

1. Type **list measurements attendant positions** and press RETURN.

The Attendant Positions Measurements screen appears.

Measuring attendant group performance

The Attendant Group Performance report displays the average speed of calls answered for each hour of a 24-hour period, for either yesterday or today.

To display today's Attendant Group Performance report:

1. Type **list performance attendant-group today** and press RETURN.

The Attendant Speed of Answer screen appears.

Trunk group reports

Trunk Group Reports can help you detect traffic flow problems such as out-of-service trunks, load balance, or peak-hour blocking.



Tip:

*If a trunk appears to have intermittent service, use **list testcalls summary** to determine whether a specific trunk member is not functioning.*

If you suspect a trunk is having problems, use Automatic Circuit Assurance (ACA) to monitor the trunk group. Refer to *DEFINITY System's Little Instruction Book for basic diagnostics* for more information about ACA.

Summary of trunk group activity

The Trunk Group Summary report displays traffic measurements for all trunk groups except for personal central office line groups. The Trunk Group Summary report displays traffic measurements for yesterday's peak, today's peak, or the last hour.

To display the Trunk Group Summary report for the last hour:

1. Type **list measurements trunk-group summary last-hour** and press RETURN.

The Trunk Group Summary Report screen appears.

Use this report to determine general traffic flow. For more detailed information about a particular trunk group, see [“Hourly trunk group activity” on page 63](#).

The Trunk Group Summary report allows you to determine measurement data such as the trunk group's total usage, the total number of calls, and trunk blockage.

If a trunk is out of service, see [“Out-of-service trunks” on page 64](#). It is best to make adjustments to a trunk group only when all of the trunks are functioning.

For more information on interpreting the reports, refer to *DEFINITY ECS Reports*.

Hourly trunk group activity

Trunk Group Hourly reports are used in conjunction with the Trunk Group Summary report to locate trunk problems. For example, if the Traffic Group Summary report indicates a traffic flow problem, run the hourly report to help you locate the problem.

When you run this report, you first specify the trunk group you want to monitor on the Trunk Group Measurement screen. Once you select the trunk group you want to gather data on, the system starts collecting information on the trunk group activity. The Trunk Group Hourly report can display up to 24 hours of information. For example, if you started data collection on Thursday at noon (12:00) you would have 24-hours of data by noon (12:00) on Friday.

To monitor trunk group 12 for the next hour:

1. Type **change meas-selection trunk-group** and press RETURN.

The Trunk Group Measurement Selection screen appears.

2. Move to a measurement field and type **12**.
3. Press ENTER to save your changes.

The system records the activity of trunk group 12 for the next hour.

4. Type **list measurements trunk-group hourly 12** and press RETURN.

The Trunk Group Hourly report displays data from the previous hour.

Out-of-service trunks

The Trunk Outage Measurements report lists the trunks that were out-of-service during a selected period of time. This report may include up to five out-of-service trunks and lists how many times each trunk was out during the specified time. The system records trunk-outage data for the last hour, current day, and previous day.

To display the Trunk Outage Measurements report for yesterday:

1. Type **list measurements outage-trunk yesterday** and press RETURN.

If there are no outages, the form is blank.

The Trunk Outage Measurements report samples trunk activity once per hour. Therefore, if the report covers several hours, but indicates only a small number of outages, a trunk member may be providing intermittent service.

Current trunk group status

The Trunk Group Status report displays a current view of the load on various trunk groups by showing the number of calls waiting for service. This report shows data for 60 trunk groups at a time, but you can start the display at any number you want. For example, let's display trunk groups 5 and up.

To display the Trunk Group Status report:

1. Type **monitor traffic trunk-groups 5** and press RETURN.

The Trunk Group Status report displays trunk groups 5 through 64.

This report shows only administered trunk groups.

2. Press CANCEL to return to the prompt.

Least used trunks

The Trunks Lightly Used Measurements report lists the five trunk members with the lowest number of calls carried for each trunk group. The system shows trunk lightly-used data for the last hour, current day, or previous day. Let's display this report for today.

To display the Trunks Lightly Used Measurements report for today:

1. Type **list measurements lightly-used-trunk today** and press RETURN.

If the trunk member in the Calls Carried field has an unusually low number of calls compared to other trunk members, use Facility Test Calls to determine how a specific trunk member is functioning. To monitor a particular trunk group, use Automatic Circuit Assurance (ACA). Refer to *DEFINITY System's Little Instruction Book for basic diagnostics* for more information.

Measuring call center performance

Standard switch reports on DEFINITY ECS provide valuable data about your center's operation.

What should I measure?

Focus on three things:

- How many calls are answered?
- How fast are calls answered?
- How cost-effective is the system?

DEFINITY ECS has three hunt group reports that give you information about agents, hunt groups, trunks, and trunk groups to help you answer these questions. The reports are:

- Hunt Group Measurements
- Hunt Group Performance
- Hunt Group Status

The table below shows you how to monitor the performance of your call center by using these reports. To use the table, pick what you want to measure from the column headings. As you read down the column, each row shows the fields on a particular hunt group report — if any — that measure that aspect of call center performance.

Reports	How many calls are answered?	How fast?	Cost-effective?
Hunt Group Measurements	Calls Ans/Aban.	Speed Ans (sec)	Total Usage Time Available
Hunt Group Performance		Speed Ans (sec)	
Hunt Group Status		LCIQ	

For detailed information on these reports, see *DEFINITY ECS Reports*.

How many people can use switch reports?

The number of switch administrators and super-users who can log in simultaneously to view switch reports varies with the type of switch you have:

csi	si	r
1	3	7

A scheduled report counts as a login. Therefore, you should schedule reports to print during off-hours.

Viewing hunt group reports

These procedures tell you how to display or print switch hunt group reports.

Viewing Hunt Group Measurements reports

The Hunt Group Measurements report displays call data for each hunt group in your system. You can print this report for yesterday's peak, today's peak, or the last hour.

A peak hour is the hour that during which the greatest usage of agent time occurred. Use this report to determine the time of day with the most traffic or to measure traffic during the previous hour.

Let's print the Hunt Group Measurements report for today's peak:

1. Type **list measurements hunt-group today-peak print** and press RETURN.

Viewing Hunt Group Performance reports

The Hunt Group Performance report gives both the slowest hourly average speed of answer for each hunt group and the daily average. You can run the report for today or yesterday. This report can help you quickly find times during the day when your staffing is too low.

To display a Hunt Group Performance report for yesterday:

1. Type **list performance hunt-group yesterday** and press RETURN.

Viewing Hunt Group Status reports

The Hunt Group Status report displays a current view of your hunt groups. This report shows 32 hunt groups at a time. To display higher-numbered hunt groups, type the number of the first hunt group to be displayed. For example, let's display hunt groups 2 and higher.

To display the Hunt Group Status report:

1. Type **monitor traffic hunt-groups 2** and press RETURN.

The Hunt Group Status report displays hunt groups 2 through 33.

2. Press CANCEL to return to the prompt.

This report shows all hunt groups in the range, even if you have not administered them.

For more information on interpreting any of these reports, refer to *DEFINITY ECS Reports*.

Using security reports

Security Violation Notification lets you know when someone may be trying to break into the system. Refer to *DEFINITY System's Little Instruction Book for basic administration* for information on how to set Security Violation Notification.

Using reports
Using security reports

70

Understanding call centers

This section introduces you to inbound call centers. It shows how to set up a simple inbound call center and lists things to consider as you plan and design your center.

What is a call center?

A call center is a way of organizing people and equipment to achieve particular business goals. For example, you can use a call center to make several people accessible through one number or to handle multiple calls simultaneously. Call centers work by organizing staff (called agents) with specific functions or expertise into hunt groups.

Call centers use some of the features covered in other chapters of this book: hunt groups, announcements, vectors, and VDNs. In this section, we'll show you how these features work together in a call center.

Planning a call center

Good planning is crucial to setting up an effective call center. Before you administer any part of your call center on DEFINITY ECS, you should have a plan that is thorough and specific. Your call center plan should identify:

- the purpose of the call center — what the call center has to do to be successful
- expected call volume — the number of calls you expect per day, per week, and per month
- type of calls — whether the call center should answer internal or external calls or both
- agent functions — the major agent functions
- necessary resources — the resources you must add to the system, such as trunk groups and phones

Once you develop a plan for the call center, organize agents according to their functions. These agent groups will be your hunt groups.

Setting up the call flow

Decide how you want your system to handle calls and what you want callers to experience. You may find it helpful to list the possible situations a call may encounter. Set up the call flow by adding hunt groups, setting up queues, adding announcements, and writing vectors. Refer to earlier sections of this book for details on completing these tasks.

Let's set up an example call flow. We'll set up a hunt group so that the work load is evenly distributed and up to 2 calls wait in a queue.

1. Type **add hunt-group next** and press RETURN.

The Hunt Group screen appears. In our example, the next available hunt group is number 2.

2. In the Group Type field, type **ucd-mia**.

This directs the call to the most idle agent — the agent who has waited the longest since handling a call to the hunt group.

3. In the Queue field, type **y**.
4. In the Queue Length field, type **2**.
5. In the Vector field, type **y**.
6. Complete the rest of the Hunt Group screen.
7. Press ENTER to save your changes.

Now that we've created a hunt group, let's write a simple vector that plays announcement 2340. This announcement asks callers to stay on the line. If a call isn't answered in 1 minute, the vector sends the call to voice mail (extension 2000).

Write this vector:

```
CALL VECTOR
Number: 1          Name: sales hunt group
Multimedia? n                      Lock? n
Basic? y   EAS? n   G3V4 Enhanced? n  ANI/II-Digits? n  ASAI Routing? n
Prompting? y  LAI? n   G3V4 Adv Route? n      CINFO? n      BSR? n
01 queue-to split 2 pri m
02 announcement 2340 ("You have reached...")
03 wait-time 60 sec hearing music
06 messaging split 99 for extension 2000
```



Tip:

*Vectors are an optional feature. To see if your company has vectoring, use **display system-parameters customer-options**.*

To make this vector work correctly, you need to create the announcement at extension 2340 and assign a voice mailbox to extension 2000.

Testing the system

Before your new call center goes live, test the system to make sure it works the way you expect it to work.

- With agents available, call each outside number you've created for the call center. Does an agent in the appropriate hunt group answer?
- With only one agent available in a hunt group, make several calls at once to that hunt group. Now that several calls are in queue, call again and listen to the treatment your call receives in queue. If you've administered an announcement, do you hear it? Does it play when it's supposed to? If there's a music source, does it play when it's supposed to? Do queue warning lamps flash when they're supposed to?
- With all agents in Aux Work, call the hunt group. Does the call follow the intended path?

Monitoring your call center

This step never ends. Monitor your call center's performance regularly so you can solve problems quickly and adjust to changing conditions.

It's critical that you monitor a new call center closely for the first month. Use the hunt group and trunk reports described in [“Using reports” on page 53](#) to track your system. If you underestimated call volume and trunk capacity, or overestimated agent productivity, you need to change your system immediately.

In addition, perform a traffic analysis when your call center begins operation. Work with your Avaya representative and your local network provider. A traffic analysis gives you a comprehensive picture of the demands on your system and how well the system is performing.

For example, trunk reports tell you how often your trunks reach 100% occupancy. Your network provider may be able to tell you how many callers are getting a busy signal from the CO when all of your incoming trunks are in use. You need both pieces of information to determine the total demand that your system needs to meet.

If your business is growing, regular traffic analysis is crucial. Use traffic analysis to project future demands on your system and plan expansions accordingly.

Viewing system capacity

The capacities of your system depend on the type of switch you have, the software you're using, and your contract with Avaya. Use the System Capacity screen to view the maximum capacities of your system and your current level of usage. Remember, however, that the capacities you've purchased from Avaya may be lower than the maximums shown on the switch.

For example, to find out how many hunt groups your DEFINITY ECS can support:

1. Type **display capacity** and press RETURN.

The System Capacity screen appears.

2. Go to the page that shows capacities for Hunt Groups, Splits, or Skills.

This screen shows the system limits for hunt groups and how much of this capacity is currently used.

Understanding Automatic Call Distribution

Automatic Call Distribution (ACD) is a DEFINITY feature used in many call centers. ACD gives you greater flexibility to control call flow and to measure the performance of agents.

ACD systems operate differently from non-ACD systems, and they can be much more complex. ACD systems can also be more powerful because they allow you to use features and products that are not available in non-ACD systems.

Enhancing an ACD system

First, all call center management systems (such as Avaya's Basic Call Management System (BCMS), BCMSVu, and the sophisticated CentreVu[®] Call Management System) require ACD. These management systems give you the ability to measure more aspects of your center's operation, and in more detail, than is possible with standard DEFINITY reports. For a comparison of these systems, see ["Selecting a call management system"](#) on [page 79](#).

Call vectoring greatly enhances the flexibility of a call center, and most vectoring functions require ACD. Vectoring is a simple programming language that allows you to custom design every aspect of call processing. For more information on call vectoring, see ["What are vectors?"](#) on [page 38](#).

Together, ACD and vectoring allow you to use Expert Agent Selection (EAS). For a variety of reasons, you may want certain agents to handle specific types of calls. For example, you may want only your most experienced agents to handle your most important customers. You may have multilingual agents who can serve callers in a variety of languages.

EAS allows you to classify agents according to their specific skills and then to rank them by ability or experience within each skill. DEFINITY ECS uses these classifications to match each call with the best available agent. For more information on call vectoring and EAS, see *DEFINITY ECS Administrator's Guide* and *DEFINITY ECS Call Vectoring/Expert Agent Selection (EAS) Guide*.

Selecting a call management system

Avaya provides management systems for the call centers that need more detailed and flexible reporting. These applications are optional. Contact your Avaya representative for more information.

Basic Call
Management System
(BCMS)

BCMS runs on the switch. With BCMS, you can print reports to a printer connected to your terminal, or schedule reports to print on the system printer.

BCMS Vu

BCMS Vu software runs on a PC with Windows 95 or Windows NT. BCMS Vu takes BCMS data and stores it on a PC. Users can run real-time and historical reports and export data to other applications such as spreadsheets.

VuStats

VuStats runs on the switch. An administrator, split supervisor, or agent uses VuStats to view BCMS data on a display telephone.

CentreVu CMS

CentreVu CMS is a large, multi-faceted reporting system that runs on a Sun SPARC server or Sun Enterprise workstation. CentreVu CMS can measure more aspects of switch performance and produce a greater variety of reports than any of the other 3 products. CMS also allows streamlined ACD administration.

Use the following criteria to help you choose a call management system.

How many people need to monitor splits simultaneously?	more than 3	use CentreVu CMS, VuStats, or BCMS Vu
	3 or fewer	use standard switch reports or BCMS
How long do you need to store report data?	more than 7 days	use CentreVu CMS or BCMS Vu
	7 days	use BCMS (summary report)
	1 day	use standard switch reports (up to 24 hours), VuStats, or BCMS (24-hour detail)
What ACD elements do you need to monitor?	work code or stroke count data, individual trunks, vectors	use CentreVu CMS
	agents, trunk groups, splits/skills, VDNs	use CentreVu CMS, BCMS Vu, BCMS, or VuStats
	trunk group or hunt group data only	use standard switch reports

Use the following criteria to help you choose a reporting system. If the following scenarios do not describe your needs, standard switch reports or BCMS are probably adequate.

Do small inefficiencies or lapses in service cause big loss of profits?	Use CentreVu CMS or BCMS Vu. Both systems have exception alerting to notify you of problems immediately.
Do you frequently generate special reports for clients or senior management?	Use CentreVu CMS or BCMS Vu. Both systems allow custom report development, though CentreVu CMS allows maximum flexibility in those reports. In addition, CentreVu CMS allows you to create forecasts of call volume and needed staffing.
Do you need an electronic wallboard to display status for your center?	Use CentreVu CMS or BCMS Vu. Both systems allow wallboard display of report data.

Where to get more information

DEFINITY ECS Administrator's Guide has more details about BCMS, BCMS Vu, VuStats, and CentreVu CMS. For more complete information, see:

- DEFINITY ECS Basic Call Management System Operations
- BCMS Vu Software User Guide
- CentreVu Call Management System Administration

Understanding call centers	
<i>Understanding Automatic Call Distribution</i>	<i>82</i>

Glossary

A

Abbreviated Dialing

A feature that allows callers to place calls by dialing just one or two digits.

access code

A dial code used to activate or cancel a feature or access an outgoing trunk.

analog phone

A phone that receives acoustic voice signals and sends analog electrical signals along the phone line.

ARS partitioning

A feature that allows you to route calls differently for different groups of users.

attendant

A person at a console who provides personalized service for incoming callers and voice-services users by performing switching and signaling operations.

attendant console

The workstation used by an attendant. The attendant console allows the attendant to originate a call, answer an incoming call, transfer a call to another extension or trunk, put a call on hold, and remove a call from hold. Attendants using the console can also manage and monitor some system operations.

Audio Information Exchange (AUDIX)

A fully-integrated voice-mail system. Can be used with a variety of communications systems to provide call-history data, such as subscriber identification and reason for redirection.

Automatic Alternate Routing (AAR)

A feature that routes calls to alternate routes when facilities are unavailable.

Automatic Call Distribution (ACD)

A feature that gives users more flexibility in routing calls to hunt group agents. ACD also allows external measurement systems such as BCMS and CentreVu[®] CMS to be used.

Automatic Circuit Assurance (ACA)

A feature that tracks calls of unusual duration to facilitate troubleshooting.

Automatic Route Selection (ARS)

A feature that allows the system to automatically choose the least-cost route for toll calls.

B

barrier code

A security code used with Remote Access to prevent unauthorized access.

bridge (bridging)

The appearance of a phone's extension at one or more other phones.

bridged appearance

A call appearance on a phone that matches a call appearance on another phone for the duration of a call.

C

call appearance

For the phone or attendant console, a button labeled with an extension and used to place outgoing calls, receive incoming calls, or hold calls. Lights next to the button show the status of the call appearance.

Call Detail Recording (CDR)

A feature that records call data.

Call Vectoring

A feature that allows users to provide flexible, customized call handling by writing a series of instructions in a simple programming language.

carrier

An enclosed shelf containing vertical slots that hold circuit packs.

centum call seconds (CCS)

CCS is a unit for measuring call traffic. One CCS equals 100 seconds. Call traffic for a facility, such as a hunt group or phone, is scanned every 100 seconds. If the facility is busy, it is assumed to have been busy for the entire scan interval. There are 3600 seconds per hour, so a facility that is busy for an entire hour will be measured as being busy for 36 CCS.

central office (CO)

The location of phone switching equipment that provides local phone service and access to toll facilities for long-distance calling.

circuit

A channel or transmission path between two or more points.

Class of Restriction (COR)

A feature that defines call-origination and call-termination restrictions.

Class of Service (COS)

A feature that determines whether users can activate certain features.

coverage answer group

A group of phones that ring simultaneously when a call is redirected to it.

coverage path

The order in which calls are redirected to alternate phones.

coverage point

An extension designated as an alternate phone in a coverage path.

D

data module

A digital interface device between the switch and data equipment.

Direct Department Calling (DDC)

A method for distributing hunt group calls to agents. The switch searches through all the hunt group extensions in order, starting with the first extension. As soon as the switch finds an available extension, it connects the call. Compare to Uniform Call Distribution (UCD).

E

Expert Agent Selection (EAS)

A feature allowing incoming calls to be routed to specialized groups of agents within a larger pool of agents.

extension

A number by which calls are routed through a communications system.

external call

A connection between a communications system user and a party on the public network or on another communications system in a private network.

F

facility

A telecommunications transmission pathway and associated equipment.

feature access code (FAC)

A code users dial to access a system feature.

feature button

A button on a phone or attendant console used to access a specific feature.

H

hunt group

A group of extensions that all can receive calls directed to a single phone number. When a call arrives at the group number, the switch searches (“hunts”) for an available extension in the group and connects the call to that extension.

I

internal call

A connection between two users on the same phone system.

M

major alarm

An indication of a component failure that requires immediate attention.

minor alarm

An indication of a component failure that could affect customer service.

multiappearance phone

A phone equipped with several call-appearance buttons allowing the user to handle more than one call on that same extension at the same time.

P

pickup group

A group of individuals authorized to answer any call directed to an extension within the group.

port carrier

A carrier in a cabinet containing port circuit packs, power units, and service circuits. Also called a port cabinet.

primary extension

The main extension associated with the physical phone or data terminal.

principal

A phone that has its primary extension bridged on one or more other phones.

public network

The network that can be openly accessed by all customers for local and long-distance calling.

R

redirection criteria

Information administered for each phone's coverage path that determines when an incoming call is redirected to coverage.

S

skill

An attribute assigned to an agent in a system using Expert Agent Selection. An agent's skill indicates a specialty in which the agent is proficient.

split

An ACD hunt group.

system administrator

The person who maintains overall customer responsibility for system administration.

system printer

An optional printer that may be used to print scheduled reports via the report scheduler.

system report

A report that provides historical traffic information for internally measured splits.

T

trunk

A dedicated telecommunications channel between 2 phone systems or COs.

trunk group

Telecommunications channels assigned as a group for certain functions that can be used interchangeably between two communications systems or COs.

U

Uniform Call Distribution (UCD)

A method for distributing hunt group calls to agents by comparing agents' workloads. DEFINITY ECS can deliver each new call to the most idle agent (the available agent who has been idle the longest since their last hunt group call) or to the least occupied agent (the agent who has spent the least amount of time on hunt group calls in their current shift). Compare to Direct Department Calling (DDC).

Uniform Dial Plan (UDP)

A feature that allows a unique 4- or 5-digit number assignment for each point in a multiswitch system.

V

Vector

A set of call handling instructions for DEFINITY ECS, that can direct the switch to queue calls, play announcements, play music, route calls to voice messaging, as well as many other things.

Index

A

- ACD, enhancing, 78
- adding
 - announcements, 21
 - hunt group announcements, 33
 - hunt groups, 28
 - trunk groups, 4
 - vector directory numbers, 50
- announcements
 - adding, 21
 - backing up, 26
 - definition, 19
 - deleting, 25
 - hunt group, 33
 - list of options, 46
 - recording, 23
 - types, 19
 - vector, 41
- assigning hunt group agents, 30
- attendant group measurements
 - report, 60
- attendant group performance, 61
- attendant positions measurement
 - report, 61
- attendant reports, overview, 59
- automatic call distribution (ACD), 35, 77

B

- backing up, announcements, 26
- Basic Call Management System (BCMS), 79
- BCMS Vu, 79
- books
 - how to order more copies, xvi

- buttons
 - help, xii

C

- call center
 - automatic call distribution (ACD), 77
 - call flow, 73
 - creating, 73
 - definition, 71
 - management systems, 79
 - measuring agent performance, 77
 - measuring performance, 76
 - planning, 72
 - system capacity, 77
 - testing, 75
- call center management system, 78
 - selecting, 80
- call distribution, 35
- CAMA trunks, 2
- CentreVu CMS, 79
- centum call seconds, 59
- CO trunks, 2
- commands
 - add hunt-group next, 28
 - add trunk-group, 5
 - add VDN, 51
 - change announcements, 22, 25
 - change console-parameters, 12, 16
 - change hunt-group, 10, 31, 33
 - change listed-directory-numbers, 12
 - change meas-selection trunk-group, 64
 - change system-parameters
 - features, 54
 - change trunk-group, 14
 - change vector, 39, 47, 48
 - display announcements, 33
 - display capacity, 77
 - display integrated-annc-boards, 22
 - display system-parameters
 - customer-options, 39
 - list measurements attendant group, 60

commands, (continued)
 list measurements attendant
 positions, 61
 list measurements
 lightly-used-trunk, 65
 list measurements outage-trunk
 yesterday, 64
 list measurements trunk-group
 hourly, 64
 list measurements trunk-group
 summary, 62
 list member hunt group, 31
 list performance attendant-group
 today, 61
 list report-scheduler, 56, 58
 list testcalls summary, 62
 list usage digit string, 38
 list usage vector, 38
 list VDN, 52
 list vector, 38
 monitor traffic trunk-group, 65
 remove report-scheduler, 58
 save announcements, 26
CPE trunks, 2
creating, call center, 73

D

deleting a step, vectors, 48
deleting announcements, 25
DID trunks, 2
DIOD trunks, 2
directory numbers, vectors, 50
display events, 49
DMI-BOS trunks, 2

E

expert agent selection (EAS), 35
extended service agreement, xvii

F

FX trunks, 2

G

g, 38

H

help
 buttons, xii
 numbers to call, xvii
hunt group night service, 10
hunt groups
 adding, 28
 announcements, 33
 assigning agents, 30
 definition, 27

I

inserting a step, vectors, 47
ISDN-BRI trunks, 3
ISDN-PRI trunks, 3

L

list of options, vectors, 46
listing scheduled reports, 56

M

management systems, call center, [79](#)
measuring agent performance, call
center, [77](#)
message line, [xii](#)
message, vector, [43](#)

N

night service
 hunt group, [10](#)
 interactions, [17](#)
 night station, [11](#)
 trunk group, [13](#)
 types, [9](#)
night station service, [11](#)

O

out-of-service trunks, report, [64](#)

P

performance, attendant group, [61](#)
planning, call center, [72](#)
printer parameters, setting, [53](#)
printing reports, [55](#)

Q

queue, setting up, [31](#)
queueing calls, [40](#)

R

recording announcements, [23](#)
redirecting calls, vectors, [44](#)
removing scheduled reports, [58](#)
report
 attendant group measurements, [60](#)
 attendant positions measurement, [61](#)
 attendant speed of answer, [61](#)
 least used trunks, [65](#)
 out-of-service trunks, [64](#)
 trunk group status, [65](#)
 trunk group summary, [62](#)
reports
 listing scheduled, [56](#)
 printing, [55](#)
 scheduling, [55](#)
RLT trunks, [3](#)

S

scheduled reports, removing, [58](#)
scheduling reports, [55](#)
screens, [xii](#)
 Announcements/Audio Sources, [23](#)
 Attendant Group Measurements, [60](#)
 Call Vector, [40](#), [42](#), [43](#), [44](#)
 Console Parameters, [16](#)
 Event Report, [49](#), [50](#)
 Hunt Group, [10](#), [30](#), [32](#), [34](#)
 Listed Directory Numbers, [12](#)
 Report Scheduler, [55](#), [56](#)
 Trunk Group, [5](#), [14](#)
 Vector Directory Numbers, [52](#)
security
 concerns, [xiii](#)
service agreement, extended, [xvii](#)
setting up a queue, [31](#)
setting, printer parameters, [53](#)
status line, [xii](#)
system capacity, call center, [77](#)

T

- tandem trunks, 3
- testing, call center, 75
- tie trunks, 3
- time of day, vector, 42
- toll fraud, xiii
- trunk group
 - adding, 4
 - least used report, 65
 - night service, 13
 - reports, 62
 - status report, 65
 - summary report, 62
- trunks
 - CAMA, 2
 - CO, 2
 - CPE, 2
 - DID, 2
 - DIOD, 2
 - DMI-BOS, 2
 - FX, 2
 - ISDN-BRI, 3
 - ISDN-PRI, 3
 - RLT, 3
 - tandem, 3
 - tie, 3
 - WATS, 3
- trunks, out-of-service report, 64

V

- vector directory numbers (VDN), 50
- vectors
 - announcements, 41
 - definition, 38
 - deleting a step, 48
 - inserting a step, 47
 - list of options, 46
 - message, 43
 - queueing calls, 40
 - redirecting calls, 44
 - time of day routing, 42
 - writing, 38
- voice terminals, *see* phones
- VuStats, 79

W

- WATS trunks, 3
- writing vectors, 38

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