EMC® Data Domain® Operating System

Version 6.0

Initial Configuration Guide

302-003-055

REV 02

EMC²

CONTENTS

Preface

As part of an effort to improve its product lines, EMC periodically releases revisions of its software and hardware. Therefore, some functions described in this document might not be supported by all versions of the software or hardware currently in use. The product release notes provide the most up-to-date information on product features, software updates, software compatibility guides, and information about EMC products, licensing, and service.

Contact your EMC technical support professional if a product does not function properly or does not function as described in this document.

Note

This document was accurate at publication time. Go to the EMC Online Support Site to make sure that you are using the latest version of this document.

Purpose

This guide explains how to perform the post-installation initial configuration of an EMC Data Domain system.

This preface includes descriptions of related documentation, conventions, audience, and contact information.

Audience

This guide is intended for use by system administrators who are responsible for performing the post-installation initial configuration of an EMC Data Domain system.

Related documents

The *EMC Data Domain Installation and Setup Guide*, which is shipped with your particular Data Domain system, provides instructions for installing your Data Domain system, enabling data transfer, powering on the controller, and enabling administrative communication. After you have completed these tasks, the *EMC Data Domain Initial Configuration Guide* provides additional information about configuring your system.

The following Data Domain system documentation provides additional information about the use of your system and can be found on the EMC Online Support Site:

- *EMC Data Domain Operating System Release Notes* for your DD OS version

- *EMC Data Domain Operating System Administration Guide*

- *EMC Data Domain Operating System Command Reference Guide*

- *EMC Data Domain Hardware Guide*

- *EMC Data Domain Expansion Shelf Hardware Guide*
  (There is a guide for each of the shelf models: the ES20 and ES30.)

- *EMC Data Domain Boost for OpenStorage Administration Guide*

Special notice conventions used in this document

EMC uses the following conventions for special notices:

> **NOTICE**

Identifies content that warns of potential business or data loss.

Note

Contains information that is incidental, but not essential, to the topic.

Typographical conventions

EMC uses the following type style conventions in this document:

Table 1 Typography in This Publication

Bold	Indicates interface element names, such as names of windows, dialog boxes, buttons, fields, tab names, key names, and menu paths (what you usually select)
Italic	Highlights publication titles referenced in text
`Monospace`	Indicates system information, such as: • System code • System output, such as an error message or script • Pathnames, filenames, prompts, and syntax • Commands and options
Monospace italic	Highlights a variable name that must be replaced with a variable value
`Monospace bold`	Indicates text for user input
[ ]	Indicates optional values
|	Indicates alternate selections - the bar means "or"
{ }	Indicates content that you must specify, such as x or y or z
...	Indicates nonessential information omitted from the example

Contacting Data Domain

To resolve issues with Data Domain products, contact your contracted support provider, or see the EMC Online Support Site.

Your comments

Your suggestions will help us continue to improve the accuracy, organization, and overall quality of the user publications. Send your opinions of this document to: mailto:DPAD.Doc.Feedback@emc.com.

Revision history

Table 2 Revision history

Date	Document part number/Revision number	Software version	Description
October 2016	302-003-055/Rev 02	6.0	Revised publication for release 6.0. Updated to include new licensing instructions and to remove enablement of high availability (HA) from the initial configuration workflow.

CHAPTER 1

Before Beginning Configuration

Refer to the applicable installation guide for your Data Domain system. You will perform the configuration procedures in this guide when you have successfully completed system installation.

Choosing the Configuration Method

The initial login begins the CLI setup process during installation. A prompt asks whether you to select graphical user interface (GUI) configuration or command-line interface (CLI configuration).

Note

The wizard can vary based on the state of the system.

There are three different scenarios that might affect what you see in the CLI wizard, depending on which of the following you have:

- A new system
- A system you are performing recovery on
- An installed system that you want to make changes to
  Although the wizard is primarily used during the initial setup, you can also make changes by rerunning the wizard.

Procedure

1. Answer **yes** or **no** to the following prompt:

   ```
   Do you want to configure system using GUI wizard (yes|no) [no]
   ```

   If you answer **yes**, see

   - If you answer **yes**, the script terminates after basic networking is configured with the following message:

     ```
     To complete this configuration in the Enterprise Manager,
     please set your web browser address to
     http://<hostname_or_IP>/ then go to Maintenance -> More Tasks -
     > Launch Configuration Wizard.
     ```

   - No: Complete the CLI wizard steps as described in this chapter.

CHAPTER 2

Using the CLI Configuration Wizard

Using the CLI Configuration Wizard

Procedure

1. If you want to use the CLI wizard to configure your Data Domain system, answer **no** to the following prompt:

```
Do you want to configure system using GUI wizard (yes|no) [no]
```

Answering **no** will run the CLI wizard.

License configuration

Refer to the applicable EMC Data Domain Operating System Release Notes for the most up-to-date information on product features, software updates, software compatibility guides, and information about EMC products, licensing, and service.

Configuring the network

Procedure

1. Enter **yes** to configure the system for network connectivity.

```
Network Configuration
Configure Network at this time (yes|no) [no]:
yes
```

2. Enter **yes** to configure DHCP (Dynamic Host Configuration Protocol) to obtain network parameters (such as, the host name, domain name, and IP addresses) dynamically from a DHCP server. Or enter **no** to configure the parameters manually.

```
Use DHCP
Use DHCP for hostname, domainname, default gateway
and DNS servers? (At least one interface needs to
be configured using DHCP)  (yes|no|?)
```

3. Enter a fully qualified domain name (FQDN) for the host name; for example, **str01.yourcompany.com**. Or accept the host name, if the system was able to discover it.

```
Enter the hostname for this system
(fully-qualified domain name)[]:
```

4. Enter the DNS (Domain Name System) domain name; for example, **yourcompany.com**. Or accept the domain name, if the system was able to discover it.

```
Domainname
Enter your DNS domainname []:
```

5. Enable and configure each Ethernet interface. Accept or decline DHCP for each interface. If the port does not use DHCP to discover network parameters automatically, enter the information manually.

```
Ethernet port eth0a
Enable Ethernet port eth0a (yes|no|?) [yes]:
no

Ethernet port eth0b
Enable Ethernet port eth0b (yes|no|?) [no]:
yes

Use DHCP on Ethernet port eth0b (yes|no|?) [no]:
```

```
Enter the IP address for eth0b [192.168.10.185]:

Enter the netmask for eth0b [255.255.255.0]:
```

6. Enter the IP address of the default routing gateway. Or accept the default gateway, if the system was able to discover it.

```
Default Gateway
Enter the default gateway IP address:
192.168.10.1
```

7. Enter the IPv6 address of the default routing gateway or accept the IPv6 address of the default gateway if the system was able to discover it. If IPv6 is not in use, leave the field empty, and press **Enter** to continue.

```
IPV6 Default Gateway
Enter the ipv6 default gateway IP address:
```

8. Enter up to three DNS servers to use for resolving host names to IP addresses. Use a comma-separated or space-separated list. Enter a space for no DNS servers. Or accept the IP addresses of the DNS servers, if the system was able to discover them.

```
DNS Servers
Enter the DNS Server list (zero, one, two or three IP addresses):
192.168.10.1
```

9. A summary of the network settings is displayed. You can accept the settings (**Save**), reject the settings and exit to the CLI (**Cancel**), or return to the beginning of the current section and change the settings (**Retry**). Entering **Retry** displays your previous responses for each prompt. Press **Return** to accept the displayed value or enter a new one.

```
Pending Network Settings
Hostname          ddbeta1.dallasrdc.com
Domain name       dallasrdc.com
Default Gateway   192.168.10.1
DNS Server List   192.168.10.1
Port        Enabled     Cable    DHCP    IP Address      Netmask or Prefix Length
-----       -------     -----    ----    --------------  ------------------------
eth0a       no          no       n/a     n/a             n/a
eth0b       no          no       n/a     n/a             n/a
eth0c       no          no       n/a     n/a             n/a
eth0d       no          no       n/a     n/a             n/a
ethMa       yes         yes      no      192.168.10.181  255.255.255.0
ethMb       no          no       n/a     n/a             n/a
ethMc       no          no       n/a     n/a             n/a
ethMd       no          no       n/a     n/a             n/a
ethMe       no          no       n/a     n/a             n/a
ethMf       no          no       n/a     n/a             n/a
-----       -------     -----    ----    --------------  ------------------------
Do you want to save these settings (Save|Cancel|Retry):
```

Configuring the file system

Procedure

1. Enter **yes** to configure file system parameters. If the system has data-bearing disks in the chassis, a file system will already be present.

```
Filesystem Configuration
Configure filesystem at this time (yes|no) [no]:
yes
```

2. The next few questions relate to adding expansion shelves to the newly installed unit. Answer **no** to the following question. For systems that do not have expansion shelves, such as the DD2200, you will not see these entries.

```
Configure storage at this time (yes|no) [yes]:
no
```

3. Enable the file system. These parameters should retain their default settings unless the person configuring the system has advanced knowledge of the implications.

```
Enable filesystem at this time (yes|no) [yes]:
yes
Please wait.............
The filesystem is now enabled.
```

4. Choose whether to allow the restorer to replicate to and from restorers with the old compression type 1.

The default setting is **no**.

```
Global compression type
Will this restorer replicate to/from restorers with the old
global compression type "1"? (yes|no|?) [no]:
```

5. Indicate which local compression type the filesystem will use.

The default setting is **gz**.

```
Local compression type
What local compression type will this filesystem use? (none|lz|gz|
gzfast) [gz]:
```

6. Indicate which marker type the file system will use.

The default setting is **auto**.

```
Marker type
What marker type will this filesystem use? (none|nw1|cv1|tsm1|tsm2|
eti1|hpdp1|besr1|ssrt1|ism1|auto) [auto]:
```

7. Save the settings.

```
Pending Filesystem Settings
Global Compression Type          9 (no change)
Local Compression Type           gz
Marker type                      auto

Do you want to save these settings (Save|Cancel|Retry):
```

Configuring system parameters

Procedure

1. Enter **yes** to configure system parameters.

```
System Configuration
Configure System at this time (yes|no) [no]:
yes
```

2. Add a client host from which you will administer the Data Domain system. The default NFS options are: rw, no_root_squash, no_all_squash, and secure. You can later use the commands `adminaccess add` and `nfs add /ddvar` to add other administrative hosts.

```
Admin host
Enter a hostname for administrative access to the restorer:
ddbeta7
```

3. Enter an email address so that someone at your site receives email for system alerts and autosupport reports, for example, `jsmith@yourcompany.com`. By default, the Data Domain system email lists include an address for the Data Domain support group. You can later use the Data Domain system commands `alerts` and `autosupport` to add more addresses.

```
Admin Email
Enter an email address or group alias that will receive email from
the restorer:
jsmith@yourcompany.com
```

4. Enter a location description for ease of identifying the physical machine. For example, `bldg4-rack10`. The alerts and autosupport reports display the location.

```
System Location
Enter a physical location, to better identify this system:
bldg4-rack10
```

5. Enter the name of a local SMTP (mail) server for Data Domain system emails. If the server is an Exchange server, be sure that SMTP is enabled.

```
SMTP Server
Enter the hostname of a mail (SMTP) server to relay email alerts.
[mail]:
mail.yourcompany.com
```

6. Enter your time zone. The default time zone for each Data Domain system is the factory time zone. For a complete list of time zones, see the appendix.

```
Timezone Name
Enter your timezone name. [US/Pacific]:
```

7. (optional step) To allow the Data Domain system to use one or more Network Time Protocol (NTP) servers, you can enter IP addresses or server names. The default is to enable NTP and to use multicast. Be aware that the local time must be within a +/- 10000s variance to avoid a coredump of the NTP daemon on the Data Domain system.

Note

Adjusting the time on a DD system is outside of the scope of the wizard. If you need to adjust the time, do so before configuring the NTP service.

```
Configure NTP
Enable Network Time Service? (yes|no)|?) [yes]:
Use multicast for NTP? (yes|no) [yes]:
no
Enter the NTP Server list:
123.456.78.9
```

8. A listing of your network settings appears. You can accept the settings (`Save`), reject the settings and exit to the command line (`Cancel`), or return to the beginning of the current section and change settings (`Retry`). A Retry shows your previous choice for each prompt. Press `Return` to accept the displayed value, or enter a new value.

```
Pending System Settings

Admin host          ddbeta7
Admin email         jsmith@yourcompany.com
System location     bldg4-rack10
SMTP server         mail.yourcompany.com
Timezone name       US/Pacific
NTP servers         123.456.78.9
---------------     --------------------
Do you want to save these settings (Save|Cancel|Retry):
```

Configuring the CIFS protocol

A single Data Domain system can receive backups from both CIFS and NFS clients only if separate directories or MTrees are used for each protocol.

Do not mix CIFS and NFS data in the same directory.

For more information about MTrees, see the *EMC Data Domain Operating System Administration Guide*.

Procedure

1. Enter **yes** to configure the CIFS protocol.

```
CIFS Configuration
Configure CIFS at this time (yes|no) [no]:
```

2. Select the authentication method.

Note

If you choose **Active Directory** as the authentication method, you can stop the procedure after Step 2 since a domain administrator with sufficient credentials must join the system to the domain.

```
Authentication Method
        Which authentication method will this system use?
(Workgroup|Active-Directory) [Active-Directory]: Workgroup
```

3. Enter the workgroup name.

```
Workgroup
        Enter workgroup name
        [workgroup]:
```

4. Answer **yes** if a share is to be created.

```
Create Share
        Do you want to create share? (yes|no) [no]: yes
```

5. Enter the share name.

```
Share Name
        Enter share name
        : CustomerShare
```

6. Enter the share path.

```
Share Path
        Enter share path
        : /backup
```

Note

A valid path must be supplied or the share creation will fail with the following error when you attempt to save at the settings:

```
cifs_add_share failed with error **** Path must begin with /data or /backup
or /ddvar.
```

7. Enter the list of clients that are allowed access to the share and press Return.

   A listing of your settings appears.
   You can accept the settings (`Save`), reject the settings and exit to the command line (`Cancel`), or return to the beginning of the current section and change settings (`Retry`).

   Entering `Retry` shows your previous choice for each prompt.

   Press Return to accept the displayed value or enter a new value.

```
Share Clients
        Enter client list to share path
        [*]:

Pending CIFS Settings
Auth Method   Workgroup
Workgroup     <workgroup name>
Share name    <share name>
Share path    /backup
Client list   *
        Do you want to save these settings (Save|Cancel|Retry):
```

Configuring the NFS protocol

A single Data Domain system can receive backups from both CIFS and NFS clients only if separate directories or MTrees are used for each protocol.

Do not mix CIFS and NFS data in the same directory.

For more information about MTrees, see the *EMC Data Domain Operating System Administration Guide*.

1. Enter **yes** to configure the NFS protocol.

```
NFS Configuration
Configure NFS at this time (yes|no) [no]:
yes
```

2. Enter a host name to allow client access to the default NFS export.

```
Backup Server List
        Enter the Backup Server list (NFS clients of /backup)
        [*]: host.customer.com

Pending NFS Settings
Backup Server List
    host.customer.com
        Do you want to save these settings (Save|Cancel|Retry):
Save
```

Configuring VTL

Follow these steps to configure VTL. Ranges for all of the values you are to enter are shown, such as 1 - 32 characters for the name of the VTL.

For more information about VTL, see the *EMC Data Domain Operating System Administration Guide*.

Procedure

1. Create a VTL by entering an appropriate name.

2. Enter the library's emulation (changer) model: L180, RESTORER-L180, TS3500, or DDVTL.

   Two other models, the i2000 and TS3200 are supported, but these models must be set up using either the DD System Manager or the `vtl` command.
   See the *EMC Data Domain Command Reference Guide* for more information about the `vtl` command.

3. Enter the number of slots and the number of CAPs (Cartridge Access Ports).

4. Enter the drive model and the number of drives. The model options are IBM-LTO-1, IBM-LTO-2, or IBM-LTO-3.

   The drives HP-LTO-3, HP-LTO-4, and IBM-LTO-4 are also supported, but you must add them using either the DD System Manager or the command `vtl drive add`.

5. Define the tape parameters: barcode and capacity.

   The eight-character barcode must start with six numeric or uppercase alphabetic characters (from the set {0-9, A-Z}) and end in a two-character code for the supported tape type; for example, A99000LA. For tape capacity, enter **0** so the value will be derived from the barcode.

   Table 3 Tape Codes, Capacities, and Types

Tape Code	Tape Capacity in GiB	Tape Type
L1	100	LTO-1
L2	200	LTO-2
L3	400	LTO-3
L4	800	LTO-4
LA	50	LTO-1
LB	30	LTO-1
LC	10	LTO-1

6. Enter a descriptive name for a VTL access group.

   VTL Access groups define logical groupings, which include initiators and targets. An access group is logically equivalent to LUN masking.

7. Select **yes** at the next prompt to add VTL initiators to the previously created group. You must know the initiator's name to enter it; for example: **pe2950_hba_zone_01**. After the initial configuration, assign an alias to an initiator using the `vtl initiator set alias` command.

8. Continue to add initiators until all are included in the access group.

   After adding initiators, the pending settings for the configured VTL are displayed.
   ```
   Pending Settings
   Library name     Knights
   Changer model    TS3500
   ```

```
Slots           100
CAPs            1
Drive Model     IBM-LTO-3
Drives          2
Barcode         A99000LA
Capacity        0 (if 0, will be derived from barcode)
Group name      RoundTable
Initiators
-----------------
pe2950_hba_zone_01
-----------------
```

9. Review and save your settings.

Configuring DD Boost

For initial setup, you are prompted to enter your EMC DD Boost user name, which can be any EMC DD Boost user name. This name is used for EMC DD Boost authentication only. When prompted, save your settings.

You should see the following screen:

```
DDBOOST Configuration
        Configure DDBOOST at this time (yes|no) [no]: yes

DDBOOST User Name
        Enter DDBOOST user name
        : boost_test

Privilege
        Enter user privilege (user|admin) [admin]:

DDBOOST user password
        Enter password of new user to be created:


Confirm DDBOOST user password
        Enter password of new user again:


Storageunit
        Enter the name of storageunit to be created
        [StorageUnit1]: boost_test

Pending DDBOOST Settings
Create new user       boost_test
Privilege             admin
Set as DDBOOST user   boost_test
Create Storageunit    boost_test
        Do you want to save these settings (Save|Cancel|Retry):
```

After initial configuration, you typically create new storage units, display existing storage units, and set storage unit options using the Data Domain System Manager (GUI), which is described in the *EMC Data Domain Operating System Administration Guide*, or the ddboost command options, which are described in the *EMC Data Domain Operating System Command Reference Guide*.

Configuring Secure Multitenancy

SMT configuration is an advanced topic.

When configuring SMT, you should see the following SMT Configuration screen:

```
SMT Configuration
        Configure SMT at this time (yes|no) [no]: yes

Enable SMT
        Enable SMT? (yes|no) [yes]: yes

Pending SMT Settings
SMT Enable Status   enabled
        Do you want to save these settings (Save|Cancel|Retry): save

SMT enabled.
Run 'smt tenant-unit setup' to add tenant-units.


Configuration complete.
```

For more information on SMT and provisioning Tenant Units, see the *EMC Data Domain Operating System Administration Guide* and the *EMC Data Domain Operating System Command Reference*.

CHAPTER 3

Using the GUI Wizard

Launching the GUI Configuration Wizard

Procedure

1. Answer `yes` or `no` to the following prompt:

```
Do you want to configure system using GUI wizard (yes|no) [no]
```

- If you answer `yes,` the script terminates after basic networking is configured with the following message:

```
To complete this configuration in the Enterprise Manager,
please set your web browser address to
http://<hostname_or_IP>/ then go to Maintenance -> More Tasks -
> Launch Configuration Wizard.
```

- No: Complete the CLI wizard steps as described in this chapter.

When the installation is complete, a serial or network connection to the Data Domain exists. If the connection is a network connection, you can use the Data Domain System Manager GUI for setup.

Run the `net show settings` command to verify the IP address for the management network interface. Open the link to the IP address; the Data Domain System Manager provides access to the System Manager Configuration Wizard.

CHAPTER 4

After Initial Configuration

Rebooting a Data Domain system

After you have completed the initial system configuration, you will see a prompt to reboot your system, if the time zone has been changed. The reboot is mandatory before the time zone will be changed.

For any other setting changes, a reboot is *suggested* as a best practice.

Procedure

1. At the command line, enter `system reboot` followed by **yes** to reboot the system.

```
# system reboot

The 'system reboot' command reboots the system. File access is
interrupted during the reboot.
Are you sure? (yes|no|?) [no]:
yes

ok, proceeding.
The system is going down for reboot.
```

CHAPTER 5

Data Domain System Manager Configuration Wizard

Getting started with the DD System Manager Configuration Wizard

The Data Domain System Manager (DD System Manager) Configuration Wizard is a GUI-based wizard that you can use any time after your initial configuration using either the long or the short form of the CLI Configuration Wizard.

Procedure

1. If this is the first time you have accessed DD System Manager, open a web browser, and enter your Data Domain system's IP address in the browser's address text box. (If you have previously done this, go to step 3.)

2. When you see the login screen, enter your user name and password, and select **Login**.

Note

If you enter an incorrect password 4 consecutive times, the system locks out the specified username for 120 seconds. The login count and lockout period are configurable and might be different on your system. See the *EMC Data Domain Operating System Administration Guide* and the *EMC Data Domain Operating System Command Reference Guide* for how to set these values.

---

3. Select the DD system that you want to configure from the list of systems on the left.

4. Select **Maintenance** › **System** › **More Tasks** › **Launch Configuration Wizard**.

5. In the Configuration Wizard dialog, the configuration modules are listed on the left. When one of the modules is selected, details are shown on the right. You can configure, or not configure, any module. However, you must start at the first module *License* and either configure or skip every module in order, ending with *VTL Protocol*

Figure 1 DD System Manager Configuration Wizard
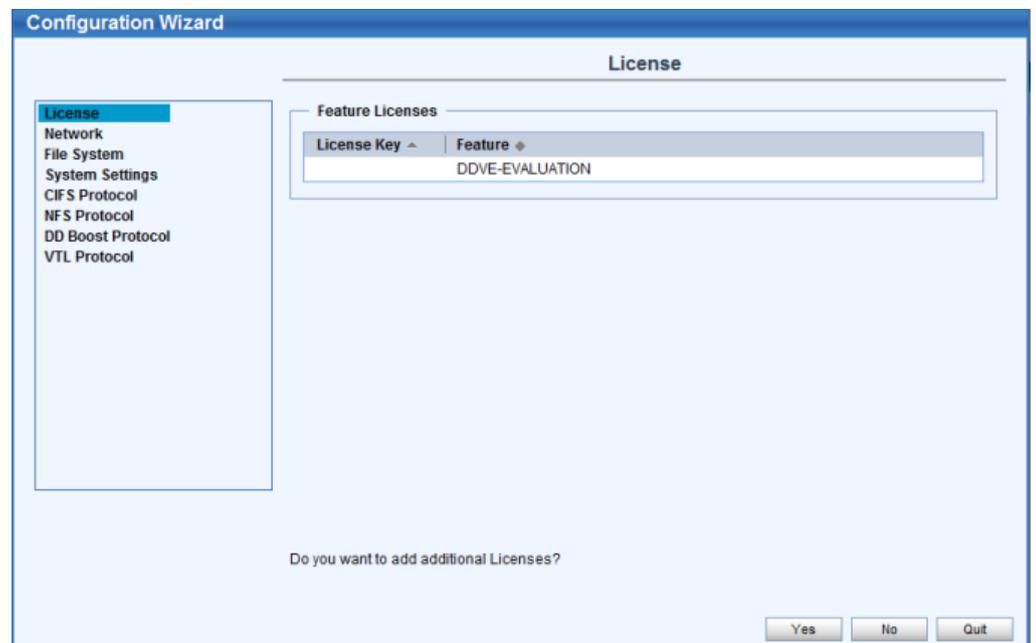
6. You can now go through the modules using the **Yes, No, Next,** and **Back** buttons.

Using the DD System Manager Configuration Wizard

The DD System Manager Configuration Wizard lets you configure Licenses, the Network, the File System, System Settings, and the CIFS, NFS, DD Boost and VTL Protocols by going through a series of pages. At any time, you can use the **Quit** button to exit the wizard. For *help* on any page, select the question mark.

Note

The DD System Manager Configuration Wizard does not support setting up HA. HA configuration must be performed using the CLI.

Procedure

1. **License:** If you want to add a license, click **Browse** to select a license, then click **Apply**.

2. **Network:** Enter as follows:

   a. **General:** Either use a DHCP (Dynamic Host Control Protocol) server to automatically provide these settings, or manually enter the host name, domain name, and gateway IP address.

   b. **Interfaces:** Either use a DHCP server to automatically configure the interfaces, or manually provide the IP addresses and netmasks for each interface. If an interface is disabled, its settings cannot be changed.

   c. **DNS:** Either use a DHCP server to automatically obtain IP addresses for DNS (Domain Name System) servers, or manually add or delete IP addresses.

3. **File System (DD Extended Retention and non-DD Extended Retention versions):** Enter as follows:

   For *non-Data Domain Extended Retention* systems, enable the file system after creation.

   For *Data Domain Extended Retention* systems:

   a. Select whether to create a file system that supports Data Movement features and very large capacity. Be sure you want to create this kind of file system because it cannot be undone.

   b. Configure Enclosures shows the available storage for the Retention Tier. Select one or more available storage IDs and choose **Retention** as the tier configuration. Select the **Add to Tier** button, and select **Next.**

   c. Select the size of the first Retention Unit.

   d. Select **Enable the file system after creation**.

4. **System Settings:** Set up the following to ensure that autosupport (ASUPs) and alert emails from your system are sent to EMC Data Domain.

   a. **Administrator:** Enter a password and email address for the Administrator. Check or uncheck the items that the administrator is to receive at this address.

   b. **Email/Location:** Enter the mail server used to send outgoing alert and ASUPs to recipients. Recipients are subscribers to *groups*. A group named *default* is created with the email address of two subscribers: the administrator and autosupport-alert@autosupport.datadomain.com. Verify that the **Send Alert Notification Emails to Data Domain** is selected. Verify that the **Send Vendor Support Notification**

Emails to Data Domain is selected. The Location field is simply for your information, only.

Note

You currently cannot set up ConnectEMC using the Data Domain System Manager Configuration Wizard.

c. **Summary**: Review the summary carefully. The default address for alerts and autosupport emails is `autosupport-alert@autosupport.datadomain.com`. The Vendor email is listed as Sending. The vendor email address, which cannot be changed, is `onalert@emc.com`. A detailed autosupport is scheduled to run "daily" at "0600" and is sent to dd_proserv@emc.com, 192.168.10.212 ==› onalert@emc.com. An alert summary is scheduled to run "daily" at "0800" and is sent to dd_proserv@emc.com, 192.168.10.212 ==› onalert@emc.com.

5. **CIFS Protocol**: Enter as follows:

   a. **Authentication**: Workgroup: Enter the CIFS server name, if not using the default. Active Directory: Enter the full Realm Name for the system and a Domain Joining Credential user name and password. Optionally, enter the Organizational Unit name, if not using the default.

   b. **Share**: Enter the share name and directory path. Enter the client name, if not using the default.

   c. **Summary**: Review the summary carefully.

6. **NFS Protocol**: Enter as follows:

   a. **Export**: Enter a pathname for the export. Enter the NFS client server name to be added to `/backup`, if not using an existing client. Select NFS options for the client. These clients receive the default permissions, which are:

      • Read and write permissions

      • Root squashing turned off

      • Mapping of all user requests to the anonymous UID/GID turned off

      • Secure

   b. **Summary**: Review the summary carefully.

7. **DD Boost Protocol**: Enter as follows:

   a. **Settings**: You can set Kerberos as the authentication method for Boost clients by clicking **Configure** near Kerberos Mode; you then see a list of allowed clients and the authentication mode they use.

   b. **Storage Unit**: Optionally, change the Storage Unit name. Either select an existing user or create a new user by entering a user name, password, and minimum management role, which can be:

      • *backup (backup-operator)*: In addition to *user* privileges, lets you create snapshots, import and export tapes to a VTL, and move tapes within a VTL.

      • *None (none)*: Intended only for EMC DD Boost authentication, so you cannot monitor or configure a Data Domain system.

      • *security (security)*: In addition to *user* privileges, lets you set up security-officer configurations and manage other security-officer operators.

- *sysadmin (admin)*: Lets you configure and monitor the entire Data Domain system.

- *user (user)*: Lets you monitor Data Domain systems and perform the `fastcopy` operation.

c. **Fibre Channel**: If DD Boost is to be supported over Fibre Channel (FC), select the option to configure it. Enter a unique name for the Access Group. (Duplicate access groups are not supported.) Select one or more initiators. Optionally, replace the initiator by entering a new one. The devices to be used are listed.

d. **Summary**: Review the summary carefully.

8. **VTL Protocol**: Enter as follows:

a. **Library**: Enter the library name, number of drives, drive model, number of slots and CAPs, changer model name, starting barcode, and, optionally, tape capacity.

b. **Access Group**: Enter a unique name for the Access Group. (Duplicate access groups are not supported.) Select one or more initiators. Optionally, replace the initiator name by entering a new one. The devices (drives and changer) to be used are listed.

c. **Summary**: Review the summary carefully.

9. After completing the wizard:

a. If you changed the date, time, or time zone, reboot the Data Domain system, as follows:

- If it is not already selected, select the Data Domain system to be rebooted.

- Select **Maintenance** › **System** › **More Tasks** › **Reboot System**.

- Select **OK** at the Reboot System confirmation dialog.

b. Complete the post-configuration tasks in Post-Configuration Setup on page 31.

CHAPTER 6

Post-Configuration Setup

After the initial configuration, perform these post-configuration tasks, as appropriate for your installation.

Verifying network connectivity

After you have completed your core setup and rebooted your system (if needed), you should verify your network connectivity.

Note

For Data Domain high availability (HA) systems, SSH keys created on the active node take 30 seconds to one minute to propagate to the standby node.

Procedure

1. From a system with an ssh client network accessible to the DD systems, type:

   ```
   # ssh sysadmin@hostname
   ```

   Note

   If the Data Domain system is not accessible, the *Data Domain Operating System Offline Diagnostics Suite User's Guide* provides details about troubleshooting when the Data Domain system is offline.

2. From the DD OS CLI, ping the default gateway by typing:

   ```
   # ping gateway_ip_address
   ```

Setting up, testing, and getting autosupports

A Data Domain system sends out two emails each day: an autosupport email and an alert summary email. In addition, if an alert event occurs, an alert event email is generated. The autosupport email contains device state and configuration items. The alert summary email contains current alerts, alerts history, and log messaging. The alert event email contains alert notifications as they occur.

By default, the email lists, which are comma-separated, space-separated, or both, include addresses for Data Domain support staff. To add an email address to any email list, use the `autosupport add` or `alerts add` commands.

Procedure

1. To add addresses to the autosupport email list, enter:

   ```
   # autosupport add asup-detailed emails test@test.com
   Autosupport email:
   autosupport@autosupport.datadomain.com
   east1dd510a@datadomain.com
   test@test.com
   ```

2. To add addresses to the alert summary email list, enter:

   ```
   # autosupport add alerts-summary emails test@test.com
   Alerts summary email:
   autosupport@autosupport.datadomain.com
   east1dd510a@datadomain.com
   test@test.com
   ```

3. To add addresses to the alert event email list, enter:

   ```
   # alerts notify-list add emails test@test.com
   Alerts email:
   autosupport-alert@autosupport.datadomain.com
   east1dd510a@datadomain.com
   test@test.com
   ```

4. Create further support lists, as needed.

5. Customer external mail relays must be configured to allow emails generated by the Data Domain system to exit the network from which it is currently attached. To test that external mail relays allow this, enter:

```
# autosupport test email jsmith@yourcompany.com
OK: Message sent.
```

If the result is `OK: message sent`, then the mail has been forwarded outside of the current network and should be working. If an error message is generated, ask the client to verify mail relay settings. In the field, the best way to confirm this is to add yourself to the test line and verify that the test email arrives at your email-enabled mobile device.

6. To get an autosupport file off of a Data Domain system, there are two methods. In order of preference, they are:

- Using an `autosupport send` command where the Implementation Specialist is the recipient using the following command:

```
# autosupport send example_user@emc.com
```

- By logging into the /ddvar/support directory and retrieving it from that location.

The first method is preferred because, as part of the normal installation and testing process above, autosupports must be sent to autosupport@autosupport.datadomain.com. After that is done, sending an additional autosupport takes moments. The other two methods are included in case it is impossible to get the autosupports relaying out of the customer environment to the Data Domain support staff.

Setting up ConnectEMC

ConnectEMC is a secure alternative to sending alert and ASUP information in text form.

Procedure

1. To set up the administrator email, enter:

```
# config set admin-email dd_admin1@emc.com
The Admin Email is: dd_admin1@emc.com
```

2. To register the Data Domain system to the ESRS-gateway (EMC Secure Remote Support), enter:

```
# support connectemc device register 10.25.246.70 esrs-gateway
111.111.11.111
Device registered to ESRS gateway.
```

3. To enable the sending of autosupports, enter:

```
# support notification enable all
Enabled sending autosupport and alerts to EMC.
```

4. To test that ConnectEMC is enabled, enter:

```
# support connectemc test
ConnectEMC is enabled. Disable before testing.
```

5. To set the notification method to ConnectEMC, enter:

```
# support notification method set connectemc
Support notification method set to "connectemc".
```

6. To show the notification setup, enter:

```
# support notification show all
Notification    Status    Destination
------------    -------    -----------------------
```

```
alerts         enabled   ftp://111.111.11.111:11
autosupport    enabled   ftp://111.111.11.111:11
------------   -------   -----------------------
```

7. To show the notification setup, enter:

```
# support connectemc config show
ConnectEMC configuration:
        ESRS gateway IP/hostname:        esrs-
gateway.datadomain.com
        Registered device IP(s)          10.25.246.70
```

8. To disable ConnectEMC to test the configuration after enablement, enter:

```
# support notification method set email
Support notification method set to "email".

# support connectemc test
Sending a test event...
```

9. To re-enable ConnectEMC, enter:

```
# support notification method set connectemc
Support notification method set to "connectemc".
```

Configuring security and firewalls (NFS and CIFS access)

The firewall should be configured so that only required and trusted clients have access to the Data Domain system.

Note

The net filter firewall functionality provides additional options for controlling network access to the Data Domain system. The *Data Domain Operating System Administration Guide* and the *Data Domain Operating System Command Reference Guide* provide more information about the net filter.

By default, anonymous users from known CIFS clients have access to the Data Domain system.

For security purposes, change this option from disabled (the default) to enabled:

```
# cifs option set restrict-anonymous enabled
```

The following tables show the TCP and UDP ports used by the Data Domain system for inbound and outbound traffic, and what service makes use of them.

Table 4 Ports used by Data Domain systems for inbound traffic

Port	Service	Note
TCP 21	FTP	Used only if FTP is enabled (run `adminaccess show` on Data Domain system to determine).
TCP 22	SSH	Used only if SSH is enabled (run `adminaccess show` on Data Domain system to determine).
TCP 23	Telnet	Used only if Telnet is enabled (run `adminaccess show` on Data Domain system to determine).
TCP 80	HTTP	Used only if HTTP is enabled (run `adminaccess show` on Data Domain system to determine).

Table 4 Ports used by Data Domain systems for inbound traffic (continued)

Port	Service	Note
TCP 111	DDBOOST/ NFS (portmapper)	Used to assign a random port for the mountd service used by NFS and DD Boost. Mountd service port can be statically assigned.
UDP 111	DDBOOST/ NFS (portmapper)	Used to assign a random port for the mountd service used by NFS and DD Boost. Mountd service port can be statically assigned.
UPD 123	NTP	Used only if NTP is enabled (run `ntp status` on Data Domain system to determine).
UDP 137	CIFS (NetBIOS name service)	Used by CIFS for NetBIOS name resolution.
UPD 138	CIFS (NetBIOS datagram service)	Used by CIFS for NetBIOS datagram service.
TCP 139	CIFS (NetBIOS session service)	Used by CIFS for session information.
UDP 161	SNMP (query)	Used only if SNMP is enabled (run `snmp status` on Data Domain system to determine).
TCP 389	LDAP	LDAP server listens on this port for any LDAP client request; by default it uses TCP.
TCP 443	HTTPS	Used only if HTTPS is enabled (run `adminaccess show` on Data Domain system to determine).
TCP 445	CIFS (Microsoft-DS)	Main port used by CIFS for data transfer.
TCP 464	Active Directory	"Kerberos change/set password" – required to join an Active Directory domain.
TCP 2049	DD Boost/NFS	Main port used by NFS – can be modified using the `nfs set server-port`, which requires SE mode.
TCP 2051	Replication/DD Boost/Optimized Duplication	Used only if replication is configured (run `replication show config` on Data Domain system to determine).This port can be modified using `replication modify`.
TCP 2052	NFS Mountd/DD Boost/Optimized Duplication	Main port used by NFS MOUNTD.
TCP 3008	RSS	Required when Data Domain system has an Archive Tier.
TCP 3009	SMS (system management)	Used for managing a system remotely using Data Domain System Manager. This port cannot be modified. This port is used only on Data Domain systems running DD OS 4.7.x or later. This port will also need to be opened if you plan to configure replication from within the Data Domain System Manager, as the replication partner needs to be added to the Data Domain System Manager.

Table 4 Ports used by Data Domain systems for inbound traffic (continued)

Port	Service	Note
TCP 5001	iPerf	Used, by default, by iPerf. To change the port requires the `-p` option from `se iperf` or the `port` option from `net iperf`. The remote side must listen on the new port.
TCP 10000	NDMP	Used by NDMP.

Table 5 Ports used by Data Domain systems for outbound traffic

Port	Service	Note
TCP 20	FTP	Used only if FTP is enabled (run `adminaccess show` on Data Domain system to determine).
TCP 25	SMTP	Used only if FTP is enabled (run `adminaccess show` on Data Domain system to determine).
UDP/TCP 53	DNS	Used to perform DNS lookups when DNS is configured (run `net show dns` on Data Domain system to review DNS configuration).
TCP 80	HTTP	Used to upload log files to EMC Data Domain support using `support upload`.
TCP 443	HTTPS	Used to upload the Support Bundle (SUB).
UDP 123	NTP	Used to synchronize to a time server.
UDP 162	SNMP (trap)	Used to send SNMP traps to an SNMP host. Use to see destination hosts and `snmp status` to display service status. `snmp show trap-hosts`
UDP 514	Syslog	Used to send syslog messages, if enabled. Use `log host show` to display destination hosts and service status.
TCP 2051	Replication/DD Boost/Optimized Duplication	Used only if replication is configured (run `replication show config` on Data Domain system to determine).
TCP 3009	SMS (system management)	Used for managing a system remotely using Data Domain System Manager. This port cannot be modified. This port is used only on Data Domain systems running DD OS 4.7.x or later. This port will also need to be opened if you plan to configure replication from within the Data Domain System Manager, as the replication partner needs to be added to the Data Domain System Manager.
TCP 5001	iPerf	Used, by default, by iPerf. To change the port requires the `-p` option from `se iperf` or the `port` option from `net iperf`. The remote side must listen on the new port.

Table 5 Ports used by Data Domain systems for outbound traffic (continued)

Port	Service	Note
TCP 27000	Avamar client communications with Avamar server	Avamar client network hosts.
TCP 27000	Avamar server communications with Replicator target server (Avamar proprietary communication)	Required if server is used as replication source.
TCP 28001	Avamar client communications with administrator server	Avamar clients required.
TCP 28002	Administrator server communications with Avamar client	Optional for browsing clients and cancelling backups from Avamar Administrator management console.
TCP 29000	Avamar client Secure Sockets Layer (SSL) communications with Avamar server	Avamar clients required.
TCP 29000	Avamar server SSL communications with Replicator target server	Required if server is replication source.

APPENDIX A

Additional Configuration Procedures

This chapter describes some additional configuration procedures that are performed after initial configuration with the Configuration Wizard is complete.

Configuring SOL for IPMI

You can use the Intelligent Platform Management Interface (IPMI) to power up, power down, or power cycle a Data Domain system in a remote location from a host Data Domain system, if both systems support this standard.

The Serial-Over-LAN (SOL) feature of IPMI lets you view the serial output of a remote system's boot sequence. See the *EMC Data Domain Operating System Command Reference Guide* for how to configure SOL for IPMI.

Optional configuration procedures

At this point, you can perform the following tasks, or you can do them later on.

For more information, see the *EMC Data Domain Operating System Administration Guide*.

- Add users
- Enable FTP, FTPS, SCP, and Telnet for data access
- Add remote hosts that can use FTP or Telnet
- Add email addresses to receive system reports

APPENDIX B

Time Zones

This appendix covers the following topics:

Time zones overview

Time zones are used to establish your location when you initially configure your system.

Locate your time zone using the following tables.

A time zone can consist of two entries separated by a slash (/). The first entry can be a continent, nation, or region, such as Africa, the Pacific, or the United States. The second entry is the city closest to you within that area.

A time zone, and some miscellaneous entries such as GMT, Cuba, and Japan, can also be a single entry.

Examples of time zones include:

- Indiana/Indianapolis
- GMT+5
- Stockholm
- Pacific
- EasterIsland
- Japan

Africa

Table 6 African time zones

Abidjan	Accra	Addis_Ababa	Algiers	Asmara
Asmera	Bamako	Bangui	Banjul	Bissau
Blantyre	Brazzaville	Bujumbura	Cairo	Casablanca
Ceuta	Conakry	Dakar	Dar_es_Salaam	Djibouti
Douala	El_Aaiun	Freetown	Gaborone	Harare
Johannesburg	Juba	Kampala	Khartoum	Kigali
Kinshasa	Lagos	Libreville	Lome	Luanda
Lubumbashi	Lusaka	Malabo	Maputo	Maseru
Mbabane	Mogadishu	Monrovia	Nairobi	Ndjamena
Niamey	Nouakchott	Ouagadougou	Porto-Novo	Sao_Tome
Timbuktu	Tripoli	Tunis	Windhoek	

America

Table 7 American time zones

Adak	Anchorage	Anguilla	Antigua	Araguaina
Argentina/ Buenos_Aires	Argentina/ Catamarca	Argentina/ ComoRivadavia	Argentina/ Cordoba	Argentina/Jujuy
Argentina/ La_Rioja	Argentina/Mendoza	Argentina/ Rio_Gallegos	Argentina/Salta	Argentina/ San_Juan
Argentina/ San_Luis	Argentina/Tucuman	Argentina/Ushuaia	Aruba	Asuncion
Atikokan	Atka	Bahia	Bahia_Banderas	Barbados
Belem	Belize	Blanc-Sablon	Boa_Vista	Bogota
Boise	Buenos_Aires	Cambridge_Bay	Campo_Grande	Cancun
Caracas	Catamarca	Cayenne	Cayman	Chicago
Chihuahua	Coral_Harbour	Cordoba	Costa_Rica	Creston
Cuiaba	Curacao	Danmarkshavn	Dawson	Dawson_Creek
Denver	Detroit	Dominica	Edmonton	Eirunepe
El_Salvador	Ensenada	Fort_Wayne	Fortaleza	Glace_Bay
Godthab	Goose_Bay	Grand_Turk	Grenada	Guadeloupe
Guatemala	Guayaquil	Guyana	Halifax	Havana
Hermosillo	Indiana/ Indianapolis	Indiana/Knox	Indiana/ Marengo	Indiana/ Petersburg
Indiana/ Tell_City	Indiana/Vevay	Indiana/Vincennes	Indiana/ Winamac	Indianapolis
Inuvik	Iqaluit	Jamaica	Jujuy	Juneau
Kentucky/ Louisville	Kentucky/ Monticello	Knox_IN	Kralendijk	La_Paz
Lima	Los_Angeles	Louisville	Lower_Princes	Maceio
Managua	Manaus	Marigot	Martinique	Matamoros
Mazatlan	Mendoza	Menominee	Merida	Metlakatla
Mexico_City	Miquelon	Moncton	Monterrey	Montevideo
Montreal	Montserrat	Nassau	New_York	Nipigon
Nome	Noronha	North_Dakota/ Beulah	North_Dakota/ Center	North_Dakota/ New_Salem
Ojinaga	Panama	Pangnirtung	Paramaribo	Phoenix
Port-au-Prince	Port_of_Spain	Porto_Acre	Porto_Velho	Puerto_Rico

Table 7 American time zones (continued)

Rainy_River	Rankin_Inlet	Recife	Regina	Resolute
Rio_Branco	Rosario	Santa_Isabel	Santarem	Santiago
Santo_Domingo	Sao_Paulo	Scoresbysund	Shiprock	Sitka
St_Barthelemy	St_Johns	St_Kitts	St_Lucia	St_Thomas
St_Vincent	Swift_Current	Tegucigalpa	Thule	Thunder_Bay
Tijuana	Toronto	Tortola	Vancouver	Virgin
Whitehorse	Winnipeg	Yakutat	Yellowknife	

Antarctica

Table 8 Antarctic time zones

Casey	Davis	DumontDUrville	Macquarie	Mawson
McMurdo	Palmer	Rothera	South_Pole	Syowa
Troll	Vostok			

Asia

Table 9 Asian time zones

Aden	Almaty	Amman	Anadyr	Aqtau
Aqtobe	Ashgabat	Ashkhabad	Baghdad	Bahrain
Baku	Bangkok	Beijing	Beirut	Bishkek
Brunei	Calcutta	Chita	Choibalsan	Chongqing
Chungking	Colombo	Dacca	Damascus	Dhaka
Dili	Dubai	Dushanbe	Gaza	Harbin
Hebron	Ho_Chi_Minh	Hong_Kong	Hovd	Irkutsk
Istanbul	Jakarta	Jayapura	Jerusalem	Kabul
Kamchatka	Karachi	Kashgar	Kathmandu	Katmandu
Khandyga	Kolkata	Krasnoyarsk	Kuala_Lumpur	Kuching
Kuwait	Macao	Macau	Magadan	Makassar
Manila	Muscat	Nicosia	Novokuznetsk	Novosibirsk
Omsk	Oral	Phnom_Penh	Pontianak	Pyongyang
Qatar	Qyzylorda	Rangoon	Riyadh	Saigon
Sakhalin	Samarkand	Seoul	Shanghai	Singapore

Table 9 Asian time zones (continued)

Srednekolymsk	Taipei	Tashkent	Tbilisi	Tehran
Tel_Aviv	Thimbu	Thimphu	Tokyo	Ujung_Pandang
Ulaanbaatar	Ulan_Bator	Urumqi	Ust-Nera	Vientiane
Vladivostok	Yakutsk	Yekaterinburg	Yerevan	

Atlantic

Table 10 Atlantic time zones

Azores	Bermuda	Canary	Cape_Verde	Faeroe
Faroe	Jan_Mayen	Madeira	Reykjavik	South_Georgia
St_Helena	Stanley			

Australia

Table 11 Australian time zones

ACT	Adelaide	Brisbane	Broken_Hill	Canberra
Currie	Darwin	Eucla	Hobart	LHI
Lindeman	Lord Howe	Melbourne	NSW	North
Perth	Queensland	South	Sydney	Tasmania
Victoria	West	Yancowinna		

Brazil

Table 12 Brazilian time zones

Acre	DeNoronha	East	West

Canada

Table 13 Canadian time zones

Atlantic	Central	East-Saskatchewan	Eastern
Mountain	Newfoundland	Pacific	Saskatchewan
Yukon			

Chile

Table 14 Chilean time zone

Continental	EasterIsland

Etc

Table 15 Etc time zones

GMT	GMT+0	GMT+1	GMT+2	GMT+3
GMT+4	GMT+5	GMT+6	GMT+7	GMT+8
GMT+9	GMT+10	GMT+11	GMT+12	GMT0
GMT-0	GMT-1	GMT-2	GMT-3	GMT-4
GMT-5	GMT-6	GMT-7	GMT-8	GMT-9
GMT-10	GMT-11	GMT-12	GMT-13	GMT-14
Greenwich	UCT	Universal	UTC	Zulu

Europe

Table 16 European time zones

Amsterdam	Andorra	Athens	Belfast	Belgrade
Berlin	Bratislava	Brussels	Bucharest	Budapest
Busingen	Chisinau	Copenhagen	Dublin	Gibraltar
Guernsey	Helsinki	Isle_of_Man	Istanbul	Jersey
Kaliningrad	Kiev	Lisbon	Ljubljana	London
Luxembourg	Madrid	Malta	Mariehamn	Minsk
Monaco	Moscow	Nicosia	Oslo	Paris

Table 16 European time zones (continued)

Podgorica	Prague	Riga	Rome	Samara
San_Marino	Sarajevo	Simferopol	Skopje	Sofia
Stockholm	Tallinn	Tirane	Tiraspol	Uzhgorod
Vaduz	Vatican	Vienna	Vilnius	Volgograd
Warsaw	Zagreb	Zaporozhye	Zurich	

GMT

Table 17 GMT time zones

GMT	GMT+1	GMT+2	GMT+3	GMT+4
GMT+5	GMT+6	GMT+7	GMT+8	GMT+9
GMT+10	GMT+11	GMT+12	GMT+13	GMT-1
GMT-2	GMT-3	GMT-4	GMT-5	GMT-6
GMT-7	GMT-8	GMT-9	GMT-10	GMT-11
GMT-12				

Indian (Indian Ocean)

Table 18 Indian (Indian Ocean) time zones

Antananarivo	Chagos	Christmas	Cocos	Comoro
Kerguelen	Mahe	Maldives	Mauritius	Mayotte
Reunion				

Mexico

Table 19 Mexican time zones

BajaNorte	BajaSur	General

Miscellaneous

Table 20 Miscellaneous time zones

Arctic/ Longyearbyen	CET	CST6CDT	Cuba	EET
Egypt	Eire	EST	EST5EDT	Factory
GB	GB-Eire	Greenwich	Hongkong	HST
Iceland	Iran	Israel	Jamaica	Japan
Kwajalein	Libya	MET	MST	MST7MDT
Navajo	NZ	NZ-CHAT	Poland	Portugal
PRC	PST8PDT	ROC	ROK	Singapore
Turkey	UCT	Universal	UTC	WET
W-SU	Zulu			

Pacific

Table 21 Pacific time zones

Apia	Auckland	Chatham	Chuuk	Easter
Efate	Enderbury	Fakaofo	Fiji	Funafuti
Galapagos	Gambier	Guadalcanal	Guam	Honolulu
Johnston	Kiritimati	Kosrae	Kwajalein	Majuro
Marquesas	Midway	Nauru	Niue	Norfolk
Noumea	Pago_Pago	Palau	Pitcairn	Pohnpei
Ponape	Port_Moresby	Rarotonga	Saipan	Samoa
Tahiti	Tarawa	Tongatapu	Truk	Wake
Wallis	Yap			

US (United States)

Table 22 US (United States) time zones

Alaska	Aleutian	Arizona	Central	East-Indiana
Eastern	Hawaii	Indiana-Starke	Michigan	Mountain
Pacific	Pacific-New	Samoa		

Aliases

GMT=Greenwich, UCT, UTC, Universal, Zulu CET=MET (Middle European Time)
Eastern=Jamaica Mountain=Navajo

Time Zones