File System Navigation and Management

Foreword

The file system represents the underlying platform on which VRP operates, and where system files are stored within the physical storage devices of the product. The capability to navigate and manage this file system is necessary to ensure effective management of the configuration files, VRP software upgrades and ensure that the physical devices contained within each product are well maintained.

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Objectives

Upon completion of this section, trainees will be able to:

● Successfully navigate the device file system

● Manipulate the file system files and folders.

● Manage Huawei router and switch storage devices.

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Viewing the File System

Function	Command
Change directory	cd
View current directory	pwd
View content of directory	dir
View file content	more

```
<Quidway>dir
Directory of flash:/
  Idx    Attr     Size(Byte)   Date         Time       FileName
   0     drw-         -        Apr 10 2016 09:30:35    src
   1     -rw-        28        Apr 10 2016 09:31:38    private-data.txt
   2     -rw-       120        Apr 10 2016 09:32:38    wzbk1.cfg
32,004 KB total (31,995 KB free)
```

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Manipulating the File System

Function	Command
Make directory	mkdir
Remove directory	rmdir

```
<Quidway>mkdir test
Info: Create directory flash:/test......Done.
<Quidway>dir
Directory of flash:/
  Idx    Attr       Size(Byte)  Date        Time        FileName
   0     drw-           -        Apr 10 2016 09:30:35    src
   1     -rw-          28        Apr 10 2016 09:31:38    private-data.txt
   2     -rw-         120        Apr 10 2016 09:32:38    wzbk1.cfg
   3     drw-           -        Apr 10 2016 09:53:11    test
32,004 KB total (31,995 KB free)
```

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Manipulating the File System

Function	Command
Copy file	copy
Move file	move
Rename file	rename

```
<Quidway>rename test huawei
Rename flash:/test to flash:/huawei ?[Y/N]:y
Info: Rename file flash:/test to flash:/huawei ......Done.
<Quidway>dir
Directory of flash:/
  Idx    Attr      Size(Byte)   Date        Time       FileName
   0     drw-          -        Apr 10 2016 09:30:35   src
   1     -rw-         28        Apr 10 2016 09:31:38   private-data.txt
   2     -rw-        120        Apr 10 2016 09:32:38   wzbk1.cfg
   3     drw-          -        Apr 10 2016 09:53:11   huawei

32,004 KB total (31,995 KB free)
```
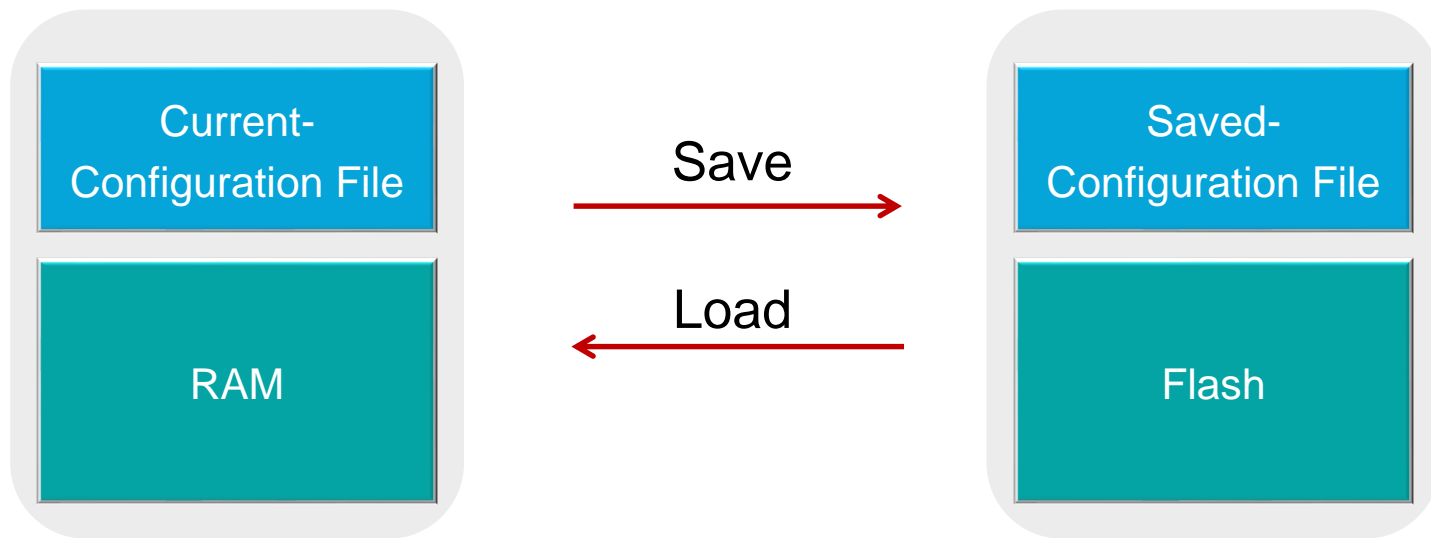
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Manipulating the File System

Function	Command
Delete or permanently delete file	**delete /unreserved**
Recover file	undelete
Permanently clear the recycle bin	reset recycle-bin

```
<Quidway>delete /unreserved flash:/wzbk1.cfg
<Quidway>dir
Directory of flash:/
  Idx    Attr      Size(Byte)   Date         Time        FileName
    0    drw-         -         Apr 10 2016 09:30:35      src
    1    -rw-         28        Apr 10 2016 09:31:38      private-data.txt
    2    drw-         -         Apr 10 2016 09:53:11      huawei

32,004 KB total (30,995 KB free)
```

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Configuration File Management System

- Current configuration loaded from saved configuration in system flash memory at system startup.

Viewing Configuration Files

Command	Function
display current-configuration	View the current configuration
display saved-configuration	View the saved configuration

```
<Huawei>display current-configuration
#
sysname Huawei
……
#
return
<Huawei>display saved-configuration
#
sysname Huawei
……
#
return
```

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Saving the Configuration File

Command	Function
Save	Save the current configuration

```
<Huawei>save
The current configuration will be written to the device.
Are you sure to continue?[Y/N]y
It will take several minutes to save configuration file, please
   wait..............
   Configuration file had been saved successfully
   Note: The configuration file will take effect after being activated
```

Viewing the Startup Parameters

Command	Function
display startup	View the current startup parameters

```
<Huawei>display startup
MainBoard:
  Configured startup system software:      flash:/ar2220.cc
  Startup system software:                 flash:/ar2220.cc
  Next startup system software:            NULL
  Startup saved-configuration file:        flash:/vrpcfg.zip
  Next startup saved-configuration file:   flash:/vrpcfg.zip
  Startup paf file:                        NULL
  Next startup paf file:                   NULL
  Startup license file:                    NULL
  Next startup license file:               NULL
  Startup patch package:                   NULL
  Next startup patch package:              NULL
```

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Changing the Startup Parameters

Command	Function
startup saved-configuration	Specify saved configuration file to load at startup

```
<Huawei>startup saved-configuration flash:/huawei.zip
Info: Succeeded in setting the configuration for booting system.
<Huawei>display startup
MainBoard:
  Configured startup system software:      flash:/ar2220.cc
  Startup system software:                 flash:/ar2220.cc
  Next startup system software:            NULL
  Startup saved-configuration file:        flash:/vrpcfg.zip
  Next startup saved-configuration file:   flash:/huawei.zip
  Startup paf file:                        NULL
  Next startup paf file:                   NULL
  Startup license file:                    NULL
  Next startup license file:               NULL
  Startup patch package:                   NULL
   Next startup patch package:              NULL
```

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Comparing Configuration Files

Command	Function
compare configuration	Compare configuration files

```
<Huawei>compare configuration
====== Current configuration line 36 ======
 ip address 10.1.1.1 255.255.255.0
#
interface GigabitEthernet0/0/2
#
interface GigabitEthernet0/0/3
#
interface NULL0
 ====== Configuration file line 37 ======
interface GigabitEthernet0/0/2
#
interface GigabitEthernet0/0/3
#
interface NULL0
```

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Clearing the Configuration File

Command	Function
reset saved-configuration	Erase saved configuration file

```
<Huawei>reset saved-configuration
Warning: This will delete the configuration in the flash memory.
The device configurations will be erased to reconfigure. Are you
soure? [Y/N]:y
Info: Clear the configuration in the device successfully.
```

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Storage Device Types

- SDRAM

- Flash

- NVRAM

- SD Card

- USB

```
<Huawei>display version

……

SDRAM Memory Size    : 1024    M bytes

Flash Memory Size    : 512      M bytes

NVRAM Memory Size    : 512     K bytes

……
```

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Erasing Storage Devices

```
<Huawei>format flash:
All data(include configuration and system startup file) on flash:
will be lost, proceed with format? (y/n)[n]:


<Huawei>format sd1:
All data(include configuration and system startup file) on sd1: will
be lost, proceed with format? (y/n)[n]:
```

● Care should be taken when using the *format* commands, as data will be lost.

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Repairing the Storage Device

```
<Huawei>fixdisk flash:

Fixdisk flash: will take long time if needed

%Fixdisk flash: completed.

<Huawei>fixdisk sd1:

sd1:/  - disk check in progress.............sd1:/  - Volume is OK

total # of clusters:  481,869

# of free clusters:  455,777

# of bad clusters:

total free space:  1,780 Mb

.............. max contiguous free space:  1,789,952,000 bytes

# of files:  22

......

%Fixdisk sd1: completed.
```

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Summary

- What does the *d* in the *drwx* attribute of the file system represent?

- How can a configuration file stored within the file system of a device be implemented for use by the device?

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Thank you

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