Upgrading to Accelar 2.0 Software

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NORTEL NETWORKS™

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Contents

Introduction

This document includes procedures for installing the Bay Networks® Accelar™ Software Release 2.0. Currently released components include:

- Boot Monitor Software Version 2.0 (accboot2.0.0)
- Run-Time Software Version 2.0 (acc2.0.0)
- Device Manager Version 2.0 (for Windows 95/98/NT: dm_200.exe; for UNIX: dm_2.0.0.tar.Z)
- VLAN Manager Version 2.0 (for Windows 95/98/NT: dm_200.exe; for UNIX: dm_2.0.0.tar.Z)

Accelar 1000 Series routing switches have two software images that reside in flash memory: the boot monitor image and the run-time image.

- The boot monitor image is low-level code that initializes the devices on the Silicon Switch Fabric (SSF) module and starts the boot process.
- The run-time image is the code that executes initializing the I/O modules and provides full routing switch functionality.

The procedures for upgrading the flash firmware in an Accelar 1000 Series routing switch include three upgrade options:

- From version 1.3.x (version 1.3.0, 1.3.1 or 1.3.2) to version 2.0 firmware
- From version 1.1.6 (or 1.1.x) to version 2.0 firmware.
- From version 1.0 to version 2.0 firmware

The following sections are included:

Prerequisites

To upgrade the flash images, you will need the following:

- The new version 2.0 run-time and boot monitor image files
- A TFTP server
- A network connection to the TFTP server
- A direct console connection (9600 baud, 8 data bits, no parity, and 1 stop bit) or a Telnet connection

Note: Bay Networks recommends a direct console connection when performing the upgrade procedure because this type of connection is *required* if it becomes necessary to reverse the upgrade procedure.

Flash Memory Overview

The boot monitor image is stored in a reserved area in flash memory that cannot be accessed directly. The boot monitor image is updated by executing a boot monitor updater that in turn updates the boot monitor image.

The run-time image is stored in flash memory in an area that is accessible using the command line interface (CLI).

Note: Upgrading flash memory requires rebooting the switch and will disrupt network operation. The upgrade procedure should be performed during network downtime.

The Accelar 1000 Series routing switch has 4 MB of flash memory for images. Typical sizes for the various files mentioned in this document are as follows:

- A run-time image is less than 2.0 MB.
- A boot monitor updater is less than 100K.
- The log file is 128K.

Flash Memory Upgrade to Version 2.0

This procedure assumes that you will be updating both the boot monitor image and the run-time image in flash memory to version 2.0. Be sure to read and understand the procedure below *before* attempting to upgrade the software.

The procedures for upgrading from version 1.3.x (1.3.0, 1.3.1, and 1.3.2) or from version 1.1.6 or 1.0 are basically the same, except for the resulting screens. Examples include upgrades from all the above versions.

Note: Before beginning any upgrade procedure, whenever possible, it is good practice to back up your configuration files, as well as the current run-time and boot image to another location, using TFTP or PCMCIA.

Warning: It is *very important* that you follow these instructions to simplify the downgrading of the software to a pre-upgrade state, should that be necessary. Bay Networks recommends that you also review the procedure for reverting to a pre-upgrade state prior to starting the software upgrade. For information, refer to "Downgrade Procedures" on page 26.

To upgrade flash memory:

1. **Remove the redundant SSF module (Accelar 1200 chassis only).**

   For Accelar 1200 chassis with redundant SSF modules, the upgrade should be focused on one SSF module at a time to avoid confusion. If present, the standby SSF module should be removed from the chassis. The flash memory update procedure will need to be repeated on the second SSF module to ensure that the flash image versions are synchronized.

   The upgrade procedure requires rebooting the SSF module. If the redundant SSF module is not removed, rebooting the active SSF module will cause SSF modules to swap active and standby roles, adding complication to the upgrade process.

2. **Log in to the run-time CLI.**

   The update procedure can be performed at the local console or through a Telnet connection. The console port on the SSF module is a serial DTE device operating at 9600 bps, 8 data bits, no parity, and 1 stop bit.

Note: The console port is the preferred method because you must be at the console to downgrade the software to a pre-upgrade version if necessary.

At the CLI Login: prompt, enter the password for read-write or read-write-all access privileges.

```
*******************************
* Bay Networks,Inc.           *
* Copyright (c) 1996-1998     *
* All Rights Reserved         *
* Accelar 1200                *
* Software Release 1.3.0      *
*******************************
Login: ***
Password: ***
Bay>
```

3. **Copy the version 2.0 run-time image into flash memory.**

   The version 2.0 run-time image is loaded into the Accelar switch via a TFTP copy operation initiated at the Accelar CLI.

   Before attempting a TFTP copy operation, it is useful to verify that the TFTP server is reachable and responding. This verification can be done using the *ping* command, initiated at the CLI prompt. In the following example, the TFTP server has an address of 10.10.20.100:

   ```
   Bay> ping 10.10.20.100
   10.10.20.100 is alive
   Bay>
   ```

   The run-time CLI *copy* command allows copying files to and from flash memory, PCMCIA cards, and TFTP servers. To copy the new run-time image file from the TFTP server to flash memory, use the *copy* command as shown below, specifying the TFTP server's TCP/IP address and the path to the new run-time image file as follows:

   ```
   Bay> copy tftp flash
   Enter source tftp server address [0.0.0.0]: 10.10.20.100
   Enter source file []: /tftpboot/acc2.0
   programming flash:3 ... xxxxxx bytes
   verifying flash:3 ... done
   tftp result: success
   Bay>
   ```

   The run-time image is a large file and can take about 1 minute to download. The run-time CLI *copy* command works silently and does not indicate the progress of the TFTP copy.

Note: Some Windows-based TFTP servers do not support long file names even though long file names are displayed. If your TFTP server does not support long file names, you may experience TFTP failures. You can rename the image files without affecting the upgrade process.

4. Rearrange files in flash memory.

To simplify the upgrade and downgrade process, the new run-time image should be moved to the first file position in the flash file system. The files are rearranged in flash memory using the *copy*, *delete*, and *squeeze* commands as follows:

a. From version 1.3.x (1.3.0, 1.3.1, or 1.3.2):

The run-time image file size of version 2.0 is larger than 1.7 MB, and the run-time image for version 1.3.x is approximately 1.3 MB; therefore, using the *copy*, *delete*, and *squeeze* commands is not the preferred choice because of insufficient space in the flash memory.

Skip this step and proceed to step 5. Then select the new run-time image as the primary choice for booting the switch as described in step 6.

b. From version 1.1.6:

In this step, the current (version 1.1.6) run-time image (flash:1) and the log file (flash:2) will be copied to the end of flash memory; the version 2.0 run-time image will remain as file three (flash:3).

```
Accelar -1200# dir
FN Name                    Flags    Length
-- ----                    -----    ------
1 acc1.1.6                 XZN      1000433
2 syslog                    LN       131072
3 acc2.0                   XZN      1770352
        --                 ------
3   files   bytes used=   3119338 free=1174966

Accelar -1200# copy fl:1 flash
Accelar -1200# copy fl:2 flash
```

Now delete files 1 and 2, and squeeze the flash file system. Doing so renumbers the files so that the version 2.0 run-time image is now the first file in flash (flash:1), the version 1.1.6 run-time image is the second file (flash:2), and the system log file is the third file (flash:3). The *delete* command marks a file for deletion; the *squeeze* command actually deletes the files and compresses the file system, renumbering the files in the process.

```
Bay> delete flash:1
Bay> delete flash:2
Bay> squeeze flash
recovering deleted file space ... success
Bay> directory flash
FN Name                    Flags    Length
-- ----                    -----    ------
1 acc2.0                   XZN      1770352
2 acc1.1.6                 XZN      1000433
3 syslog                    LN       131072
--                         ------
3   files  bytes used=   3119338 free=1174966
```

c. From version 1.0:

```
Bay> dir
Device: flash
------
File 1: /export/acura3/projects/first/rel1.0/rel1.0.0/main/hw/accelar.st
Version: rel1.0/rel1.0.0/main on Fri Jan 9 11:28:28 PST
Length: 895550 EntryPoint: 0x10000 Flags: XZ (0x300) CRC: 0x6e79

File 2: /export/acura3/projects/first/rel1.0/rel1.0.1.b2/boot/403_EVB/
openbios/flash/flsXZ
Version: rel1.0/rel1.0.1.b2/boot/403_EVB/openbios/flash
Length: 85370 EntryPoint: 0x10c7c Flags: XZ (0x300) CRC: 0x54c3

File 3: Thu Jan 28 23:35:19 PST 1999
Version: /projects/first/rel2.0/rel2.0.0/main/hw/acc2.0.st on Thu
Jan 28 23:35:19 PST 1999
Length: 1770157 EntryPoint: 0x10000 Flags: XZ (0x700) CRC: 0x56fd

Files: 3 BlocksUsed: 46 BytesUsed: 3014656 BlocksFree: 18 BytesFree:
1179648

Accelar-1200# copy fl:1 flash
Accelar-1200# copy fl:2 flash
```

Now delete files 1 and 2, and squeeze the flash file system. Doing so renumbers the files so that the version 2.0 run-time image is now the first file in flash (flash:1), the version 1.0 run-time image is the second file (flash:2), and the system log file is the third file (flash:3). The *delete* command marks a file for deletion; the *squeeze* command actually deletes the files and compresses the file system, renumbering the files in the process.

```
Bay> delete flash:1
Bay> delete flash:2
Bay> squeeze flash
recovering deleted file space ... success
Bay> directory flash
File 1: Thu Jan 28 23:35:19 PST 1999
Version: /projects/first/rel2.0/rel2.0.0/main/hw/acc2.0.st on Thu
Jan 28 23:35:19 PST 1999
Length: 1770157 EntryPoint: 0x10000 Flags: XZ (0x700) CRC: 0x56fd

File 2: /export/acura3/projects/first/rel1.0/rel1.0.0/main/hw/accelar.st
Version: rel1.0/rel1.0.0/main on Fri Jan 9 11:28:28 PST
Length: 895550 EntryPoint: 0x10000 Flags: XZ (0x300) CRC: 0x6e79

File 3: /export/acura3/projects/first/rel1.0/rel1.0.1.b2/boot/ 403_EVB/
openbios/flash/flsXZ
Version: rel1.0/rel1.0.1.b2/boot/403_EVB/openbios/flash
Length: 85370 EntryPoint: 0x10c7c Flags: XZ (0x300) CRC: 0x54c3

Files: 3 BlocksUsed: 46 BytesUsed: 3014656 BlocksFree: 18 BytesFree:
1179648
```

5. **Back up or save the current configuration file.**

   a. **From version 1.3.x:**

   The version 1.3.x (1.3.0, 1.3.1, or 1.3.2) configuration file can be used by the version 2.0 run-time image, but the version 1.3.x run-time image will not read version 2.0 configuration files. For this reason, you should copy the current version 1.3.x configuration file to flash memory in case you must revert to the version 1.3.x run-time image.

   - Version 1.3.0:

```
Device: flash
FN Name                              Flags    Length
-- ----                              -----  ------
1  acc1.3.0                             XZN   1362252
2  syslog                                LN    131072
3  acc2.0.                              XZN   1770352
--                                         ------
     3   files                       bytes used= 3443713 free=739865
```

   Before backing up the current configuration, change the primary boot choice to flash:<accl.3.0>, which is the version 1.3.0 run-time image.This selection will then be saved in the configuration you copy to the flash file system.

```
Accelar 1200#> config sys set boot primary flash:acc1.3.0
Accelar 1200#> save
Accelar 1200#> copy config flash
  programming flash:4 ... 4376 bytes
```

- Version 1.3.1:

```
Device: flash
FN Name                              Flags    Length
-- ----                              -----  ------
1  acc1.3.1                           XZN   1377511
2  syslog                              LN    131072
3  acc2.0                             XZN   1770352
--                                       ------
3   files                         bytes used= 3458972 free=724606
```

Before backing up the current configuration, change the primary boot choice to flash:acc1.3.1, which is the version 1.3.1 run-time image. This selection will then be saved in the configuration you copy to the flash file system.

```
Accelar 1200#> config sys set boot primary flash:acc1.3.1
Accelar 1200#> save
Accelar 1200#> copy config flash
 programming flash:4 ... 4376 bytes
```

- Version1.3.2:

```
Device: flash
FN Name                               Flags    Length
-- ----                              -----    ------
1 acc1.3.2                            XZN      1382209
2 syslog                               LN       131072
3 acc2.0                              XZN      1770352
--                                        ------
3   files                         bytes used=   3465223 free=719908
```

Before backing up the current configuration, change the primary boot choice to flash:acc1.3.2, which is the version 1.3.2 run-time image. This selection will then be saved in the configuration you copy to the flash file system.

```
Bay> config sys set boot primary flash:acc1.3.2
Bay> save
Bay> copy config flash
programming flash:4 ... 4376 bytes
```

b. From version 1.1.6:

The version 1.1.6 configuration file can be used by the version 2.0 run-time image, but the version 1.1.6 run-time image will not read version 2.0 configuration files. For this reason, you should copy the current version 1.1.6 configuration file to flash memory in case you must revert to the version 1.1.6 run-time image.

Before backing up the current configuration, change the primary boot choice to flash:<accl.1.6>, which is the version 1.1.6 run-time image. This selection will then be saved in the configuration you copy to the flash file system.

```
Bay> sys set primary flash:<accl.1.6>
Bay> save
Bay> copy config flash
programming flash:4 ... 4376 bytes
```

c. From version 1.0.0:

The version 1.0.0 configuration file can be used by the version 2.0 run-time image. The version 2.0 configuration cannot be run by the version 1.0.0 runtime image. For this reason, save the version 1.0.0 configuration in nonvolatile random access memory (NVRAM) before upgrading the switch to version 2.0.

```
Bay>save
```

6. Set primary boot choice to version 2.0 run-time.

a. From version 1.3.X (1.3.0, 1.3.1, or 1.3.2):

After downloading the 2.0 run-time image using TFTP, change the primary boot choice to `flash:<acc2.0>`, which is the name of this version 2.0 run-time image.

Use the following commands for versions 1.3.0, 1.3.1, or 1.3.2:

```
 # config sys set boot primary fl:<num>
```

where `num` refers to the file position in the flash system for version 2.0 run-time image.

or

```
# config sys set boot primary fl:<filename>
```

where `filename` refers to the file name of the version 2.0 run-time image in the flash system.

```
# save (primary boot choice is saved)
```

To verify the primary boot set configuration, use the following command:

```
# show sys info
```

(shows the primary boot source in system device information)

- Version 1.3.0:

```
Device: flash
FN Name                              Flags    Length
-- ----                              -----    ------
1  acc1.3.0                            XZN   1362252
2  syslog                               LN    131072
3  acc2.0                              XZN   1770352
4  config                               CN      5988
--                                              ------
4   files                      bytes used=  3449251 free=743877
```

Set the primary boot choice of file name or to the file position in the flash system for version 2.0 run-time image.

```
# config sys set boot primary fl:acc2.0
```

or

```
# config sys set boot primary fl:3

# save
```

- Version 1.3.1:

```
Accelar-1100# dir
Device: flash
FN Name                              Flags    Length
-- ----                              -----    ------
1  acc1.3.1                            XZN   1377511
2  syslog                               LN    131072
3  acc2.0                              XZN   1770333
4  config                               CN      5088
--                                              ------
4   files                      bytes used=  3515793 free=678335
```

Set the primary boot choice of file name or to the file position in the flash system for version 2.0 run-time image.

```
# config sys set boot primary fl:acc2.0
```

or

```
# config sys set boot primary fl:3

# save
```

- Version 1.3.2

```
Accelar-1200# dir
Device: flash
FN Name                              Flags    Length
-- ----                              -----    ------
1  acc1.3.2                            XZN   1382209
2  syslog                               LN    131072
3  acc2.0                              XZN   1779262
4  config                               CN      5088
--                                              ------
4   files                      bytes used=  3557854 free=636450
```

Set the primary boot choice of file name or to the file position in the flash system for version 2.0 run-time image.

```
# config sys set boot primary fl:acc2.0.
```

or

```
# config sys set boot primary fl:3

# save
```

b. From version 1.1.6:

Set the primary boot choice to the first file in the flash file system; that is, the version 2.0 run-time image.

```
 FN Name                                    Flags    Length
 -- ----                                    -----    ------
     1  acc2.0                               XZN     1770352
     2  acc1.1.6                             XZN     1000443
     3  syslog                                LN      131072
     --                                               ------
    3   files                      bytes used=    3119338 free=1174966

Bay> sys set primary flash:1
Bay> save
Bay>
```

c. From version 1.0.0:

Set the primary boot choice to the first file in the flash file system; that is, the version 2.0 run-time image.

```
Bay> directory flash

File 1: Thu Jan 28 23:35:19 PST 1999
Version: /projects/first/rel2.0/rel2.0.0/main/hw/acc2.0.st on Thu
Jan 28 23:35:19 PST 1999
Length: 1770157 EntryPoint: 0x10000 Flags: XZ (0x700) CRC: 0x56fd
File 2: /export/acura3/projects/first/rel1.0/rel1.0.0/main/hw
/accelar.st
Version: rel1.0/rel1.0.0/main on Fri Jan  9 11:28:28 PST
Length: 895550 EntryPoint: 0x10000 Flags: XZ (0x300) CRC: 0x6e79

File 3: /export/acura3/projects/first/rel1.0/rel1.0.1.b2/boot/
403_EVB
/openbios/flash/flsXZ
Version: rel1.0/rel1.0.1.b2/boot/403_EVB/openbios/flash
Length: 85370 EntryPoint: 0x10c7c Flags: XZ (0x300) CRC: 0x54c3

Files: 3 BlocksUsed: 46 BytesUsed: 3014656 BlocksFree: 18 BytesFree:
1179648

Bay> sys set primary flash:1
Bay> save
Bay>
```

7. Copy version 1.x.x boot monitor updater to flash memory.

a. From version 1.3.x (1.3.0, 1.3.1, or 1.3.2):

The version 1.3.x boot monitor (for run-time version 1.3.x) updater is a required file, should a downgrade to version 1.3.x be necessary. The example below shows version 1.3.0. For version 1.3.1, substitute accboot1.3.1; for version 1.3.2, substitute accboot1.3.2.

```
Bay> copy tftp flash
Enter source tftp server address [10.10.20.100]: 10.10.20.100
Enter source file [acc1.3.0]: accboot1.3.0
programming flash:5 ... 85543 bytes
verifying flash:5 ... done
tftp result: success
Bay>
```

b. From version 1.1.1:

Copy the version 1.1.1 boot monitor updater to flash memory. The version 1.1.1 boot monitor updater is a required file, should a downgrade to version 1.1.6 be necessary.

```
Bay> copy tftp flash
Enter source tftp server address [10.10.20.100]: 10.10.20.100
Enter source file [acc1.3.0]: accboot1.1.1gz
programming flash:5 ... 85543 bytes
verifying flash:5 ... done
tftp result: success
Bay
```

c. From version 1.0:

Because a downgrade to version 1.0.0 from version 2.0 is not supported, there is no need to copy the version 1.0 boot monitor updater to the flash memory.

8. Upgrade the boot monitor.

Warning: This step reboots the routing switch and will disrupt network operation.

The boot monitor upgrade process involves running a boot monitor updater image (an executable) from the TFTP server. This updater image will load the new boot monitor into the NVRAM of your Accelar switch.

You may upgrade your boot monitor by invoking the boot monitor updater image located on your TFTP server by means of the *boot tftp* command.

The syntax of this command is:

```
'boot tftp ip <tftp_server> file <image_file>,
```

where:

`<tftp_server>` is the IP address of the TFTP server.

`<image_file>` is the file to download and execute (in that order) on the TFTP server.

Note: If you are performing the upgrade when connected to the switch with a Telnet connection, you will lose connectivity after the boot command executes. Additionally, when the boot monitor is updated and the switch boots with the version 2.0 run-time image, the banners will not be visible with Telnet, but they will appear instead on the local console (if attached). You will be able to reestablish the Telnet connection to complete the upgrade when the switch is fully booted in a few minutes.

```
Bay> boot tftp ip 10.10.20.100 file /tftpboot/accboot2.0
tftp result: success
```

If you invoked the boot net command by a Telnet session, your connection will be dropped at this point. When the upgrade process completes in a few seconds, the switch will reboot into the new run-time image, retaining your previous switch configuration. When this reboot is complete, typically in a couple of minutes, you should be able to reestablish your Telnet session with the Accelar switch.

If you invoked the boot net command from the local console, then you will see upgrade and boot messages similar to the following:

a. Upgrade from version 1.3.x:

The method for upgrading from version 1.3.0, 1.3.1, or 1.3.2 to version 2.0 is same.

The following output has details for upgrading from version 1.3.2 to version 2.0.

```
Accelar1200# boot tftp ip 10.10.20.100 file /home/testlab/release/
rel2.0/accboot2.0

################ ACCELAR CPU BOOT FLASH Update ################

File ACCBOOT.ROM found in loaded image

Boot Monitor Version v2.0

Image size: text 136332 data 27112 bss 11264
Number of flash sectors to be programmed: 3
New FLASH image is the same as existing FLASH
```

```
Press any key to reboot

Accelar Monitor v2.0

CPU: 60Mhz PPC 403GCX Type 2 Rev 1 in Slot 4
DRAM: 32M
Chassis: 1200
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 1 is occupied

Press any key to stop autoboot
Checking system DRAM
Bank 5 (DRAM): 16 MB Addr: 0x01000000
Bank 7 (DRAM): 16 MB Addr: 0x00000000
Installed DRAM: 32 MB
Checking DRAM between 0x80000000 and 0x82000000
82000000
System DRAM Check complete
User Selected Boot Sources
 Primary   = flash:acc2.0
 Secondary = flash:1
 Tertiary  = net
 Config    = nvram
Booting from [flash:acc2.0] on-board flash memory
Configuration from [nvram] ...
Unzipping file acc2.0
Details /export/home2/projects/first/rel2.0/rel2.0.0/main/hw/
acc2.0.st on Fri Feb 26 18:39:59 PST 1999
from 0x760000b0 to 0x80010000 1794101 to 8836978 bytes
Attaching network interface nicEvb0... done.
Null 0.0.0.0 inet address for interface nicEvb.
Attaching network interface lo0... done.

Accelar System Software Release 2.0
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[000 00:00:00:633] INFO: Code=0x0 Task=rcStart: System boot
[000 00:00:00:900] INFO: Code=0x0 Task=rcStart: Accelar System
Software Release 2.0
[000 00:00:01:166] INFO: Code=0x0 Task=rcStart: System log
 file flash:syslog:1:99
[03/01/1999 11:21:50] INFO: Code=0x0 Task=rcStart: Card
Inserted: Slot#=1, Serial#=20E2W, Version=v4.0
```

```
** Loading configuration from nvram **

Initializing card in slot #1 ... OK
[03/01/1999 11:21:54] INFO: Code=0x0 Task=rcStart: System is ready

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 * Software Release 2.0       *
 ******************************

 Login: rwa
 Password: ***

 Accelar-1200# show sys sw info

 System Software Info :

 Details        : rel2.0/rel2.0.0/main/hw/acc2.0.st
 on Fri Feb 26 18:39:59 PST 1999
 LastBootSource : flash:acc2.0
 Boot Monitor   : v2.0
 Runtime Config : nvram

 Device: flash
 FN Name                              Flags    Length
 -- ----                              -----    ------
 1  acc2.0                             XZN   1794277
 2  syslog                              LN    131072
 3  accboot1.3.2                       XZN     88703
 4  acc1.3.2                           XZN   1382209
 5  config                              CN      5388
 --                                             ------
 5   files                      bytes used=  3604480 free=589648
```

The following output has details for upgrading from version 1.3.1 to version 2.0.

```
Accelar-1100# boot tftp ip 10.10.20.100 file /home/testlab/release
/rel2.0/accboot2.0
tftp result: success
[000 00:25:23:050] INFO: Code=0x0 Task=tShell: System reset

Accelar Monitor v1.3.1

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 3 is occupied
```

```
Power supply 2 not present

running boot script at 0x8000f004

monitor> boot dram:0x80f4ea20
Booting from [dram] System Memory
Configuration from [nvram] ...
Unzipping file accboot2.0
Details /projects/first/rel2.0/current/boot/403_EVB/openbios/flash/
accboot2.0.0.
b6 on Mon Dec 28 12:57:14 PST 1998
from 0x804000b0 to 0x80010038 88819 to 576992 bytes

################ ACCELAR CPU BOOT FLASH Update #################

File ACCBOOT.ROM found in loaded image

Boot Monitor Version v2.0

Image size: text 136332 data 27112 bss 11264
Number of flash sectors to be programmed: 3

     WARNING: You are about to re-program your Boot Monitor FLASH
              image. Do NOT turn off power or press reset
              until this procedure is completed. Otherwise
              the card may be permanently damaged!!!
Do you wish to continue? (y or n)y

Erase of 3 sectors completed
-Verifying new FLASH Image...
196608 matches, 0 mismatches

Update complete!

Press any key to reboot

After the boot monitor is upgraded, the routing switch will
automatically reboot and load the version 2.0 run-time image.

Accelar Monitor v2.0

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 3 is occupied
Power supply 2 not present

running boot script at 0x8000f004
```

```
monitor> dir
Device: flash
FN Name                              Flags    Length
-- ----                              -----    ------
1  acc1.3.1                            XZN   1377511
2  accboot1.3.1                        XZN     88687
3  syslog                               LN    131072
4  config                               CN      5088
5  acc2.0                              XZN   1770333
--                                             ------
5   files                      bytes used=  3604480 free=589824

monitor> boot fl:5
Checking system DRAM
Bank 7 (DRAM): 16 MB Addr: 0x00000000
Installed DRAM: 16 MB
Checking DRAM between 0x80000000 and 0x81000000
81000000
System DRAM Check complete
Booting from [flash:5] on-board flash memory
Configuration from [nvram] ...
Unzipping file acc2.0
Details /projects/first/rel2.0/rel2.0.0/main/hw/
acc2.0.st on Thu Jan 28 23:35:19 PST 1999
from 0x761b00b0 to 0x80010000 1770157 to 8763222 bytes
Attaching network interface nicEvb0... done.
Null 0.0.0.0 inet address for interface nicEvb.
Attaching network interface lo0... done.

Accelar System Software Release 2.0
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[000 00:00:00:366] INFO: Code=0x0 Task=rcStart: System boot
[000 00:00:00:633] INFO: Code=0x0 Task=rcStart: Accelar
System Software Release 2.0
[000 00:00:00:900] INFO: Code=0x0 Task=rcStart: System log
file flash:syslog:0:15

** Loading configuration from nvram **

Initializing card in slot #3 ... OK
[000 00:00:09:883] INFO: Code=0x0 Task=rcStart: System is
ready

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* Accelar 1100                *
* Software Release 2.0        *
*******************************
Login: rwa
Password: ***
```

The following output has details for upgrading from version 1.3.0 to version 2.0.

```
Accelar-1100# boot tftp ip 10.10.20.100 file /bnw/home/testlab/
release/rel2.0/accboot2.0
tftp result: success
[001 17:09:33:456] INFO: Code=0x0 Task=tShell: System reset

Accelar Monitor v2.0

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 1 is occupied
Slot 3 is occupied
Power supply 2 not present

running boot script at 0x8000f004

monitor> boot dram:0x80c76c48
Booting from [dram] System Memory
Configuration from [nvram] ...
Unzipping file accboot2.0
Details /projects/first/rel2.0/current/boot/403_EVB/openbios
/flash/accboot2.0 on Mon Dec 28 12:57:14 PST 1998
from 0x80a000b0 to 0x80010038 88819 to 576992 bytes

################ ACCELAR CPU BOOT FLASH Update #################

File ACCBOOT.ROM found in loaded image

Boot Monitor Version v2.0

Image size: text 136332 data 27112 bss 11264
Number of flash sectors to be programmed: 3
New FLASH image is the same as existing FLASH

Press any key to reboot

Accelar Monitor v2.0

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 1 is occupied
Slot 3 is occupied
Power supply 2 not present
```

```
Press any key to stop autoboot
Checking system DRAM
Bank 7 (DRAM): 16 MB Addr: 0x00000000
Installed DRAM: 16 MB
Checking DRAM between 0x80000000 and 0x81000000
81000000
System DRAM Check complete
User Selected Boot Sources
 Primary   = flash:acc2.0
 Secondary = flash:1
 Tertiary  = net
 Config    = nvram
Booting from [flash:acc2.0] on-board flash memory
Configuration from [nvram] ...
Unzipping file acc2.0
Details /export/home2/projects/first/rel2.0/rel2.0.0/
main/hw/acc2.0.st  on Thu Feb 25 21:11:33 PST 1999
from 0x760000b0 to 0x80010000 1793364 to 8834258 bytes
Attaching network interface nicEvb0... done.
Null 0.0.0.0 inet address for interface nicEvb.
Attaching network interface lo0... done.

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[000 00:00:00:366] INFO: Code=0x0 Task=rcStart: System boot
[000 00:00:00:633] INFO: Code=0x0 Task=rcStart: Accelar
 System Software Release 2.0
[000 00:00:00:900] INFO: Code=0x0 Task=rcStart: System log
 file flash:syslog:0:107
[000 00:00:07:600] INFO: Code=0x0 Task=rcStart: Card
Inserted: Slot#=1, Serial#=0002, Version=v5.0

** Loading configuration from nvram **

Initializing card in slot #1 ... OK
Initializing card in slot #3 ... OK
[000 00:00:11:800] INFO: Code=0x0 Task=rcStart: System is
ready

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* Accelar 1100                *
* Software Release 2.0        *
*******************************

Login: rwa
Password: ***
```

b. Upgrade from version 1.1.6:

```
################ ACCELAR CPU BOOT FLASH Update #################

File ACCBOOT.ROM found in loaded image

Boot Monitor Version v2.0

Image size: text 136332 data 27112 bss 11264
Number of flash sectors to be programmed: 3

     WARNING: You are about to re-program your Boot Monitor FLASH
              image. Do NOT turn off power or press reset
              until this procedure is completed. Otherwise
              the card may be permanently damaged!!!

Do you wish to continue? (y or n)y

Erase of 3 sectors completed
-Verifying new FLASH Image...
196608 matches, 0 mismatches

Update complete!

Press any key to reboot

Accelar Monitor v2.0

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 3 is occupied
Power supply 2 not present

Press any key to stop autoboot
Checking system DRAM
Bank 7 (DRAM): 16 MB Addr: 0x00000000
Installed DRAM: 16 MB
Checking DRAM between 0x80000000 and 0x81000000
81000000
System DRAM Check complete
User Selected Boot Sources
 Primary   = flash:acc2.0
 Secondary = flash:1
 Tertiary  = net
 Config    = nvram
Booting from [flash:acc2.0] on-board flash memory
Configuration from [nvram] ...
Unzipping file acc2.0
Details /projects/first/rel2.0/rel2.0.0/main/hw/
acc2.0.st on Fri Jan 22 12:33:51 PST 1999
from 0x761500b0 to 0x80010000 1770176 to 8762518 bytes
```

```
Attaching network interface nicEvb0... done.
Null 0.0.0.0 inet address for interface nicEvb.
Attaching network interface lo0... done.

Accelar System Software Release 2.0
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[000 00:00:00:366] INFO: Code=0x0 Task=rcStart: System boot
[000 00:00:00:633] INFO: Code=0x0 Task=rcStart: Accelar
System Software Release 2.0
[000 00:00:00:900] INFO: Code=0x0 Task=rcStart: System log
 file flash:syslog:0:104

** Loading configuration from nvram **

Initializing card in slot #3 ... OK
[000 00:00:09:883] INFO: Code=0x0 Task=rcStart: System is
ready

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* Accelar 1100                *
* Software Release 2.0        *
*******************************

Login: rwa
Password: ***
```

c. Upgrade from version 1.0.0:

```
Accelar Monitor v1.0.0

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 3 is occupied
Power supply 2 not present

running boot script at 0x8000f004
monitor> boot dram 0x80b0c5d8
Booting from [dram] System Memory...
Configuration from [nvram] ...
Unzipping file accboot2.0
Details /projects/first/rel2.0/current/boot/403_EVB/openbios
/flash/accboot2.0 on Mon Dec 28 12:57:14 PST 1998
from 0x762c00b0 to 0x80010038 88819 to 576992 bytes
```

```
################ ACCELAR CPU BOOT FLASH Update #################

File ACCBOOT.ROM found in loaded image

Boot Monitor Version v2.0

Image size: text 136332 data 27112 bss 11264
Number of flash sectors to be programmed: 3
New FLASH image is the same as existing FLASH

Press any key to reboot

Accelar Monitor v2.0

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 3 is occupied
Power supply 2 not present

Press any key to stop autoboot
Checking system DRAM
Bank 7 (DRAM): 16 MB Addr: 0x00000000
Installed DRAM: 16 MB
Checking DRAM between 0x80000000 and 0x81000000
81000000
System DRAM Check complete
User Selected Boot Sources
 Primary   = flash:1
 Secondary = flash:1
 Tertiary  = net
 Config    = nvram
Booting from [flash:1] on-board flash memory
Configuration from [nvram] ...
Unzipping file acc2.0
Details /projects/first/rel2.0/rel2.0.0/main/hw/
acc2.0.st on Thu Jan28 23:35:19 PST 1999
from 0x761000b0 to 0x80010000 1770157 to 8763222 bytes
Attaching network interface nicEvb0... done.
Null 0.0.0.0 inet address for interface nicEvb.
Attaching network interface lo0... done.


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[000 00:00:00:366] INFO: Code=0x0 Task=rcStart:
System boot
[000 00:00:00:633] INFO: Code=0x0 Task=rcStart: Accelar
 System Software Release2.0
[000 00:00:00:900] INFO: Code=0x0 Task=rcStart: System
 log file flash:system log file:0:4
```

```
** Loading configuration from nvram **

Initializing card in slot #3 ... OK
[000 00:00:09:883] INFO: Code=0x0 Task=rcStart: System is ready

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* Accelar 1100                *
* Software Release 2.0        *
*******************************

Login: rwa
Password: ***
```

9. Verify routing switch operation.

After performing the boot monitor upgrade, the Accelar switch should reboot into the version 2.0 run-time image and use the configuration stored in NVRAM.

At this point, you should log in to your switch through either the local console or a Telnet connection and verify that your switch is configured and operating properly in the new version 2.0 environment.

The version 2.0 run-time image has three levels of access (read-only, read-write, and read-write-all). Both a user name and a password must be specified. The default user name and password for read-write access is “rw.”

```
*******************************
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* Accelar 1100                *
* Software Release 2.0        *
*******************************
Login: rw
Password: **
```

If you upgraded from version 1.3.x and the routing switch is not operating properly, use the version 1.3.x downgrade procedure described below.

If you upgraded from version 1.1.6 and the routing switch is not operating properly, use the version 1.1.6 downgrade procedure described below.

You cannot downgrade to version 1.0.0. In case of problems, call Bay Networks Technical Support Center.

Note: You must be at the routing switch console to downgrade the software to version 1.3.x or version 1.1.6.

For version 1.0.0 upgrades, perform step 10 to convert the file system. No difference exists in the formats of the version 1.3.x and version 1.1.6 file systems. No separate procedure is required.

10. Convert to version 2.0 file system (1.0.0 upgrades only).

Warning: Before completing this step, you should verify that the routing switch is operating properly with the version 2.0 software. After the file system is converted to the version 2.0 format, the version 1.0 run-time image will not load. The procedure to get a version1.0 run-time image on a routing switch with a version 2.0 file system requires local console access and that the flash memory be completely erased.

The flash file system has been enhanced in version 2.0, so the existing files must be upgraded to the new format. The version 2.0 firmware supports both file numbers and file names in the flash file system, whereas version 1.0 only supported file numbers. In the sample directory below, the 'N' flag indicates that the file has been updated to the new file naming format.

```
Bay> dir
Device: flash
------
File 1: Thu Jan 28 23:35:19 PST 1999
Version: /projects/first/rel2.0/rel2.0.0/main/hw/acc2.0.st
 on Thu Jan 28 23:35:19 PST 1999
Length: 1770157 EntryPoint: 0x10000 Flags: XZ (0x700) CRC: 0x56fd

File 2: /export/acura3/projects/first/rel1.0/rel1.0.0/main/
hw/accelar.st
Version: rel1.0/rel1.0.0/main on Fri Jan  9 11:28:28 PST
Length: 895550 EntryPoint: 0x10000 Flags: XZ (0x300) CRC: 0x6e79

File 3: /export/acura3/projects/first/rel1.0/rel1.0.1.b2/boot/
403_EVB/openbios/flash/flsXZ
Version: rel1.0/rel1.0.1.b2/boot/403_EVB/openbios/flash
Length: 85370 EntryPoint: 0x10c7c Flags: XZ (0x300) CRC: 0x54c3

File 4: system log file
Version: 1.0
Length: 130896 EntryPoint: 0x0 Flags: L (0x102) CRC: 0x0
blocks: 256 used: 1,0 free: 254,256
```

```
Files: 4 BlocksUsed: 48 BytesUsed: 3145728 BlocksFree:
16 BytesFree: 1048576
```

To convert all files in flash memory (or PCMCIA) to the version 2.0 file system format, use the *recover* command (from version 1.0 only).

```
Accelar-1100# recover flash
recovering files ... success
Accelar-1100# save flash
[000 00:13:14:566] INFO: Code=0x0 Task=tShell:
Save to selected device ... done.

Accelar-1100# dir
Device: flash
FN Name                              Flags    Length
-- ----                              -----    ------

1 acc2.0                              XZN    1770333
2 accelar.st                          XZN     895726
3 syslog                               LN     131072
4 config                               CN       5988
--                                             ------
4   files                      bytes used=  1773088 free=2070512
```

11. Repeat the upgrade process for the second SSF module.

By following the steps above, the flash images have been updated on one SSF module. For an Accelar 1200 chassis with redundant SSF modules, the process should be repeated on the second SSF module to ensure that the flash image versions are synchronized.

Downgrade Procedures

This section contains downgrade procedures from version 2.0 software to versions 1.3.2, 1.3.1, 1.3.0, and 1.1.1. You cannot downgrade to version 1.0.0. The method for downgrading from version 2.0 is same for versions 1.3.0, 1.3.1, and 1.3.2. All three versions are included to illustrate the difference in output screens.

Note: The downgrade procedure must be performed at the local routing switch console.

Downgrade to Version 1.3.2

To downgrade from version 2.0 to version 1.3.2:

1. **Log in to the version 2.0 run-time CLI.**

   The version 2.0 run-time CLI has three levels of access (read-only, read-write, and read-write-all). Both a user name and a password must be specified. The default user name and password for read-write access is "rw."

```
*******************************
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* Accelar 1200                 *
* Software Release 2.0         *
*******************************

Login: rwa
Password: ***

Accelar-1200# dir
Device: flash
FN Name                              Flags    Length
-- ----                              -----    ------
1  acc1.3.2                            XZN   1382209
2  syslog                               LN    131072
3  acc2.0                              XZN   1779262
4  config                               CN      5088
5  accboot1.3.2                        XZN     88703
 ------------                                 ------
  5 files                       bytes used=  3735552 free=458576
```

2. **Copy the version 1.3.2 config to NVRAM.**

   During the upgrade procedure, the version 1.3.2 configuration with primary boot choice of flash:4 was saved to flash memory. In the directory listing shown, the saved configuration is flash:4. Copy the configuration to NVRAM:

```
Accelar-1200# copy flash:4 nvram
nvram configuration updated
Accelar-1200#save
Accelar-1200#
```

3. **Boot the switch with version 1.3.2 boot monitor updater in the flash memory.**

Note: You *must* perform this step at the routing switch local console because you must confirm downgrading the boot monitor image and press a key to reset the routing switch.

During the upgrade procedure, the version 1.3.2 boot monitor updater was copied to flash memory. In the directory listing above, it is flash:5. Boot from flash:5 to downgrade to the version 1.3.2 boot monitor:

```
Accelar-1200# boot flash:5

Booting from [flash:5] on-board flash memory
Configuration from [nvram] ...
Unzipping file accboot1.3.2
Details /projects/first/rel1.3/rel1.3.2.b5/boot/403_EVB/openbios/flash
/accboot1.3.2 on Thu Jan 14 11:52:13 PST 1999
from 0x760000b0 to 0x80010038 88527 to 576992 bytes

################ ACCELAR CPU BOOT FLASH Update #################

File ACCBOOT.ROM found in loaded image

Boot Monitor Version v1.3.2

Image size: text 136052 data 27040 bss 11256
Number of flash sectors to be programmed: 3

     WARNING: You are about to re-program your Boot Monitor FLASH
              image.  Do NOT turn off power or press reset
              until this procedure is completed. Otherwise
              the card may be permanently damaged!!!

Do you wish to continue? (y or n)y

Erase of 3 sectors completed
-Verifying new FLASH Image...
196608 matches, 0 mismatches

Update complete!

Press any key to reboot

Accelar Monitor v1.3.2

CPU: 60Mhz PPC 403GCX Type 2 Rev 1 in Slot 5
DRAM: 32M
Chassis: 1200
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 2 is occupied
Power supply 2 not present

Press any key to stop autoboot
monitor> boot fl:1
Checking system DRAM
Bank 5 (DRAM): 16 MB Addr: 0x01000000
Bank 7 (DRAM): 16 MB Addr: 0x00000000
Installed DRAM: 32 MB
```

```
Checking DRAM between 0x80000000 and 0x82000000
82000000
System DRAM Check complete
Booting from [flash:1] on-board flash memory
Configuration from [nvram] ...
Unzipping file acc1.3.2
Details /projects/first/rel1.3/rel1.3.2/main/hw/acc1.3.2.st on Fri
Jan 15 10:27:
41 PST 1999
from 0x760200b0 to 0x80010000 1382033 to 7021790 bytes
Attaching network interface nicEvb0... done.
Attaching network interface lo0... done.

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[000 00:00:00:616] INFO: Code=0x0 Task=rcStart: System boot
[000 00:00:00:883] INFO: Code=0x0 Task=rcStart: Accelar System
Software Release1.3.2
[000 00:00:01:150] INFO: Code=0x0 Task=rcStart: System log file
flash:syslog:0:3
8
[02/08/1999 15:49:21] INFO: Code=0x0 Task=rcStart: Card Inserted:
Slot#=2, Seria
l#=20E2W, Version=v4.0

** Loading configuration from nvram **

Initializing card in slot #2 ... OK
[02/08/1999 15:49:28] INFO: Code=0x0 Task=rcStart: System is ready

*******************************
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* All Rights Reserved         *
* Accelar 1200                *
* Software Release 1.3.2      *
*******************************

Login:
```

4. Confirm routing switch operation.

After rebooting the routing switch, you will be running the same configuration and run-time software run prior to performing the version 2.0 upgrade. The flash file system will have additional files and the primary boot choice may be different, but the switch will be operating the same way prior to upgrading the software.

Downgrade to Version 1.3.1

To downgrade from version 2.0 to version 1.3.1:

1. **Log in to the version 2.0 run-time CLI.**

   The version 2.0 run-time CLI has three levels of access (read-only, read-write, and read-write-all). Both a user name and a password must be specified. The default user name and password for read-write access is “rw.”

```
*******************************
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* All Rights Reserved          *
* Accelar 1100                 *
* Software Release 2.0         *
*******************************

Login: rwa
Password: ***

Accelar-1100# dir
Device: flash
FN Name                              Flags    Length
-- ----                              -----    ------
1  acc1.3.1                            XZN   1377511
2  syslog                               LN    131072
3  acc2.0                              XZN   1770333
4  config                               CN      5088
5  accboot1.3.1                        XZN     88687
--                                             ------
5   files                       bytes used=  3604480 free=589648
```

2. **Copy the version 1.3.1 config to NVRAM.**

   During the upgrade procedure, the version 1.3.1 configuration with primary boot choice of flash:4 was saved to flash memory. In the directory listing above, the saved configuration is flash:4. Copy the configuration to NVRAM:

```
Accelar-1200# copy flash:4 nvram
nvram configuration updated
Accelar-1200#save
Accelar-1200#
```

3. **Boot the switch with version 1.3.1 boot monitor updater in the flash memory.**

Note: You *must* perform this step at the routing switch local console because you must confirm downgrading the boot monitor image and press a key to reset the routing switch.

During the upgrade procedure, the version 1.3.1 boot monitor updater was copied to flash memory. In the directory listing shown, it is flash:5. Boot from flash:5 to downgrade to the version 1.31 boot monitor:

```
Accelar-1200# boot flash:5

[000 01:40:05:666] INFO: Code=0x0 Task=tShell: System reset

Accelar Monitor v2.0

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 3 is occupied
Power supply 2 not present

running boot script at 0x8000f004

monitor> boot flash:5
Booting from [flash:5] on-board flash memory
Configuration from [nvram] ...
Unzipping file accboot1.3.1
Details /projects/first/rel1.3/rel1.3.1/boot/403_EVB/openbios/
flash/accboot1.3.1  on Fri Nov 20 13:52:44 PST 1998
from 0x761600b0 to 0x80010038 88511 to 576992 bytes

################ ACCELAR CPU BOOT FLASH Update #################

File ACCBOOT.ROM found in loaded image

Boot Monitor Version v1.3.1

Image size: text 135996 data 27040 bss 11256
Number of flash sectors to be programmed: 3

     WARNING: You are about to re-program your Boot Monitor FLASH
              image.  Do NOT turn off power or press reset
              until this procedure is completed.  Otherwise
              the card may be permanently damaged!!!

Do you wish to continue? (y or n)y
```

```
Erase of 3 sectors completed
-Verifying new FLASH Image...
196608 matches, 0 mismatches

Update complete!

Press any key to reboot

Accelar Monitor v1.3.1

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 3 is occupied
Power supply 2 not present

Press any key to stop autoboot
Checking system DRAM
Bank 7 (DRAM): 16 MB Addr: 0x00000000
Installed DRAM: 16 MB
Checking DRAM between 0x80000000 and 0x81000000
81000000
System DRAM Check complete
User Selected Boot Sources
 Primary   = flash:1
 Secondary = flash:1
 Tertiary  = net
 Config    = nvram
Booting from [flash:1] on-board flash memory
Configuration from [nvram] ...
Unzipping file acc1.3.1
Details /projects/first/rel1.3/rel1.3.1/main/hw/acc1.3.1.st on
Fri Nov 20 14:49:45 PST 1998
from 0x760000b0 to 0x80010000 1377335 to 7013190 bytes
Attaching network interface nicEvb0... done.
Null 0.0.0.0 inet address for interface nicEvb.
Attaching network interface lo0... done.

Accelar System Software Release 1.3.1
Copyright (c) 1996-1998 Bay Networks, Inc.

[000 00:00:00:350] INFO: Code=0x0 Task=rcStart: System boot
[000 00:00:00:616] INFO: Code=0x0 Task=rcStart: Accelar System
 Software Release1.3.1
[000 00:00:00:883] INFO: Code=0x0 Task=rcStart: System log file
 flash:syslog:0:25
```

```
** Loading configuration from nvram **

Initializing card in slot #3 ... OK
[000 00:00:13:033] INFO: Code=0x0 Task=rcStart: System is ready

******************************
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* All Rights Reserved        *
* Accelar 1100               *
* Software Release 1.3.1     *
******************************

Login:
```

4. **Confirm routing switch operation.**

   After rebooting the routing switch, you will be running the same configuration and run-time software run prior to performing the version1.3.1 upgrade. The flash file system will have additional files and the primary boot choice may be different, but the switch will be operating the same way prior to upgrading the software.

Downgrade to Version 1.3.0

To downgrade from version 2.0 to version 1.3.0:

1. **Log in to the version 2.0 run-time CLI.**

   The version 2.0 run-time CLI has three levels of access (read-only, read-write, and read-write-all). Both a user name and a password must be specified. The default user name and password for read-write access is “rw.”

```
******************************
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* Copyright (c) 1996-1998    *
* All Rights Reserved        *
* Accelar 1100               *
* Software Release 1.3.0     *
******************************
```

```
Login: rwa
Password: ***

Accelar-1100# dir
Device: flash
FN Name                              Flags    Length
-- ----                              -----    ------
1  acc1.3.0                            XZN   1362252
2  syslog                               LN    131072
3  acc2.0                              XZN   1770352
4  config                               CN      5988
5  accboot1.3.0                        XZN     88693
--                                             ------
5   files                       bytes used=  3538944 free=655184
```

2. **Copy the version 1.3.0 config to NVRAM.**

   During the upgrade procedure, the version 1.3.0 configuration with primary boot choice of flash:4 was saved to flash memory. In the directory listing shown, the saved configuration is flash:4. Copy the configuration to NVRAM:

```
Accelar-1200# copy flash:4 nvram
nvram configuration updated
Accelar-1200#save
Accelar-1200#
```

3. **Boot the switch with version 1.3.0 boot monitor updater in the flash memory.**

Note: You *must* perform this step at the routing switch local console because you must confirm downgrading the boot monitor image and press a key to reset the routing switch.

During the upgrade procedure, the version 1.3.0 boot monitor updater was copied to flash memory. In the directory listing shown, it is flash:5. Boot from flash:5 to downgrade to the version 1.3.0 boot monitor:

```
Accelar-1100# boot fl:5
[000 00:10:10:833] INFO: Code=0x0 Task=tShell: System reset

Accelar Monitor v2.0

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 3 is occupied
Power supply 2 not present
```

```
running boot script at 0x8000f004

monitor> boot flash:5
Booting from [flash:5] on-board flash memory
Configuration from [nvram] ...
Unzipping file accboot1.3.0
Details /projects/first/rel1.3/current/boot/403_EVB/openbios/flash
/accboot1.3.0 on Wed Sep 23 10:56:51 PDT 1998
from 0x761500b0 to 0x80010038 88517 to 576992 bytes

############### ACCELAR CPU BOOT FLASH Update ################

File ACCBOOT.ROM found in loaded image

Boot Monitor Version v1.3.0

Image size: text 135988 data 27088 bss 11256
Number of flash sectors to be programmed: 3

     WARNING: You are about to re-program your Boot Monitor FLASH
              image. Do NOT turn off power or press reset
              until this procedure is completed. Otherwise
              the card may be permanently damaged!!!

Do you wish to continue? (y or n)y

Erase of 3 sectors completed
-Verifying new FLASH Image...
196608 matches, 0 mismatches
Update complete!

Press any key to reboot

Accelar Monitor v1.3.0

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 3 is occupied
Power supply 2 not present

Press any key to stop autoboot
Checking system DRAM
Bank 7 (DRAM): 16 MB Addr: 0x00000000
Installed DRAM: 16 MB
Checking DRAM between 0x80000000 and 0x81000000
81000000
System DRAM Check complete
Using default boot choices
Booting from [flash:1] on-board flash memory
Configuration from [nvram] ...
Unzipping file acc1.3.0
```

```
Details /export/home2/projects/first/rel1.3/rel1.3.0/main/hw/
acc1.3.0.st on Wed Sep 23 13:00:12 PDT 1998
from 0x760000b0 to 0x80010000 1362076 to 7239610 bytes
Attaching network interface nicEvb0... done.
Null 0.0.0.0 inet address for interface nicEvb.
Attaching network interface lo0... done.

Accelar System Software Release 1.3.0
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[000 00:00:00:350] INFO: Code=0x0 Task=rcStart: System boot
[000 00:00:00:616] INFO: Code=0x0 Task=rcStart: Accelar System
Software Release1.3.0
[000 00:00:00:883] INFO: Code=0x0 Task=rcStart: System log file
flash:syslog:0:88

** Using factory default system configuration **

Initializing card in slot #3 ... OK
[000 00:00:13:050] INFO: Code=0x0 Task=rcStart: System is ready

*******************************
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* All Rights Reserved         *
* Accelar 1100                *
* Software Release 1.3.0      *
*******************************
Login:
```

4. **Confirm routing switch operation.**

   After rebooting the routing switch, you will be running the same configuration and run-time software run prior to performing the version 2.0 upgrade. The flash file system will have additional files and the primary boot choice may be different, but the switch will be operating the same way prior to upgrading the software.

Downgrade Procedure to Version 1.1.6

To downgrade from version 2.0 to version 1.1.6:

Note: The downgrade procedure *must* be performed at the local routing switch console.

1. **Log in to the version 2.0 run-time CLI.**

```
******************************
* Bay Networks,Inc.           *
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* All Rights Reserved         *
* Accelar 1100                *
* Software Release 2.0        *
******************************

Login: rwa
Password: ***

Accelar-1100# dir
Device: flash
FN Name                            Flags    Length
-- ----                            -----    ------
1  acc1.1.6                          XZN   1000443
2  syslog                             LN    131072
3  acc2.0                            XZN   1770352
4  config                             CN      4588
5  accboot1.1.0                      XZN     87338
--                                          ------
5   files                     bytes used=  3211264 free=983040
```

2. **Copy the version 1.1.6 config to NVRAM.**

   During the upgrade procedure, the version 1.1.6 configuration with primary boot choice of flash:2 was saved to flash memory. You can use the *directory* command to locate the file. In the directory listing above, the saved configuration is flash:4. Copy the configuration to NVRAM:

```
Accelar-1100# c opy flash:4 nvram
nvram configuration updated
Accelar-1100#save
Accelar-1100#
```

3. **Boot the switch with version 1.1.6 boot monitor updater in the flash memory.**

Note: You *must* perform this step at the routing switch local console because you must confirm downgrading the boot monitor image and press a key to reset the routing switch.

During the upgrade procedure, the version 1.1.6 boot monitor updater was copied to flash memory. In the directory listing shown, it is flash:5. Boot from flash:5 to downgrade to the version 1.1.6 boot monitor:

```
Accelar-1200# boot flash:5

[000 00:12:48:766] INFO: Code=0x0 Task=tShell: System reset

Accelar Monitor v2.0

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 3 is occupied
Power supply 2 not present

running boot script at 0x8000f004

monitor> boot flash:5
Booting from [flash:5] on-board flash memory
Configuration from [nvram] ...
Unzipping file accboot1.1.0
Details /projects/first/rel1.1/rel1.1.0/boot/403_EVB/openbios/flash
/accboot1.1.0  on Mon Apr 20 14:18:16 PDT 1998
from 0x761000b0 to 0x80010038 87162 to 576992 bytes
```

```
################ ACCELAR CPU BOOT FLASH Update ################

File ACCBOOT.ROM found in loaded image

Boot Monitor Version v1.1.0

Image size: text 132980 data 26848 bss 11240
Number of flash sectors to be programmed: 3

     WARNING: You are about to re-program your Boot Monitor FLASH
              image.  Do NOT turn off power or press reset
              until this procedure is completed.  Otherwise
              the card may be permanently damaged!!!

Do you wish to continue? (y or n)y

Erase of 3 sectors completed
-Verifying new FLASH Image...
196608 matches, 0 mismatches

Update complete!

Press any key to reboot

Accelar Monitor v1.1.0

CPU: 60Mhz PPC 403GCX Type 3 Rev 2 in Slot 4
DRAM: 16M
Chassis: 1100
Reason for Last Reset: PWR/BUTTON/SOFT
Slot 3 is occupied
Power supply 2 not present

Press any key to stop autoboot
Checking system DRAM
Bank 7 (DRAM): 16 MB Addr: 0x00000000
Installed DRAM: 16 MB
Checking DRAM between 0x80000000 and 0x81000000
81000000
System DRAM Check complete
User Selected Boot Sources
 Primary   = flash:1
 Secondary = flash:1
 Tertiary  = net
 Config    = nvram
Booting from [flash:1] on-board flash memory
Configuration from [nvram] ...
Unzipping file acc1.1.6
Details /projects/first/rel1.1/rel1.1.6/main/hw/acc.st on Thu
Jul 30 18:48:58 PDT 1998
from 0x760000b0 to 0x80010000 1000267 to 5274502 bytes
Attaching network interface nicEvb0... done.
Null 0.0.0.0 inet address for interface nicEvb.
```

```
Attaching network interface lo0... done.

Accelar System Software Release 1.1.6
Copyright (c) 1996-1998 Bay Networks, Inc.

[0:00:00.333] INFO: Code=0x0 Task=rcStart: Accelar System
Software Release 1.1.6
[0:00:00.366] INFO: Code=0x0 Task=rcStart: System log file
 flash:syslog:1:19

** Loading configuration from nvram **

Initializing card in slot #3 ... OK

The system is ready.

******************************
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* Copyright (c) 1996-1998    *
* All Rights Reserved        *
* Accelar 1100               *
* Software Release 1.1.6     *
******************************

Login:
```

4. **Confirm routing switch operation.**

   After rebooting the routing switch, you will be running the same configuration and run-time software run prior to performing the version 2.0 upgrade. The flash file system will have additional files and the primary boot choice may be different, but the switch will be operating the same way prior to upgrading the software.

Note: The downgrade procedure from version 2.0 to version 1.0.0 is not supported.

Installing Device Manager 2.0

This section contains the procedures for installing the BayFrameSwitch Management Software on a Windows or UNIX platform.The DM/VM Management software is available on the Bay Networks support World Wide Web site at:

http://support.baynetworks.com/software/routingswitches/ accelar_1000.html

Installation on Windows

The minimum system requirements for installing Device Manager on Microsoft® Windows NT® and Windows® 95 or 98 are:

- 75 MHz Pentium or 100 MHz 486 processor
- 16 MB DRAM
- 8 MB space on hard drive

Install the management software on a Windows platform as follows:

1. **Click the Windows Start button and select Run.**

   The Run dialog box opens.

2. **In the Open field, type E:\DM-Windows\dm_20.exe and click OK.**

   In the example, E: is the CDROM drive. Change the drive ID accordingly.

3. **Follow instructions appearing on the screen to complete installation.**

Note: To install the Device Management software for Windows, you must specify the destination directory folder as dm on a drive. For example: `d:\dm` where dm is a directory folder on D drive and the device management software will be installed in the directory folder dm. The d: drive is used as an example. Change the drive ID accordingly.

4. **To run the BayFrameSwitch Management Software, click the Windows Start button and then click Programs.**
5. **From the Programs menu, select BayFrameSwitch Device Manager.**

   This directory also contains the BayFrameSwitch Management Software in compressed format. The file dm_20.exe contains the management software.

Installation on UNIX

The minimum system requirements for installing Device Manager on a UNIX platform are:

- SPARC workstation running the Solaris 2.5.x (or higher) Operating System with 12 MB space on the hard disk, 4 MB available in a temporary directory, and 8 MB free in the directory where you want the DM/VM management software to be installed
- HP workstation running the HP/UX 10.20 Operating System with 18 MB space on the hard disk, 4 MB available in a temporary directory, and 14 MB free in the directory where you want the DM/VM management software to be installed
- AIX workstation running the AIX 4.1 Operating System with 18 MB space on hard disk, 4 MB available in a temporary directory, and 14 MB free in the directory where you want the DM/VM management software to be installed
- 32 MB DRAM

If you obtained the software via the Bay Networks Web site, you will need the following two files:

- `install_dmvm` found under the "Script for installing DM Solaris, HP/UX & AIX using .Z file(v2.0)" link.
- `dm_2.0.tar.Z` found under the "Device Manager Solaris & HP/UX & AIX v2.0 (compressed)" link.

Installation Instructions for Solaris, HP/UX, and AIX Platforms

Place these two files (`dm_2.0.tar.Z` and `install_dmvm`) into a temporary directory on your Solaris, HP/UX, or AIX workstation. Use the following steps to prepare the software for installation:

1. **Log in as *root* or *su* to the root account.**
2. **Change directory (cd) into the directory where you placed the two files.**
3. **Execute the following command:**

   ```
   # chmod 755 ./install_dmvm
   ```

4. **Proceed to the "Running the Install Script" instructions.**

Running the Install Script

If installing from the CD-ROM, these instructions assume that you have mounted the CD-ROM drive onto the */cdrom* directory. For instructions on mounting the Cd-ROM drive, refer to your system's operating system user guide.

1. **Create a directory on the host's hard disk where you want the DM/VM software to reside, using the command:**

   ```
   % mkdir /opt/BayFS
   ```

   The location can be anywhere you choose. Typically, third party software is installed under the */opt* directory. Depending on how your system is configured, you may need to be the root user to have write permission to the */opt* directory. If you do not have root access, you can install the software under */usr/local/BayFS*.

2. **If installing from the CD-ROM, change directory into the** *dm-unix* **directory on the CD-ROM. If you obtained the compressed software file from the World Wide Web, change directory into the directory where you placed the file.**

   For example:

   ```
   % cd /cdrom/dm-unix
   ```

   -or-

   ```
   % cd /var/tmp/dmvm
   ```

3. **Execute the** *install_dmvm* **script by providing the version of the software you want to install and target directory where you have decided to install the DM/VM software.**

   ```
   install_dmvm <filename> <target_directory>
   ```

   where:

   `filename` is the name of Device Manager file, omitting the ".tar.Z" extension.

   `target_directory` is the name of the directory where DM is to be installed (Directory created in step 1).

For example:

```
% install_dmvm dm_2.0 /opt/BayFS
```

where:

`dm_2.0` is the name of the dm tar file, i.e., dm_2.0.tar.Z.

`/opt/BayFS` is the target directory where dm_2.0 will be installed.

4. **After installation, the software user's environment must be set correctly. Assuming you installed the software into the */opt/BayFS/dm_2.0* directory, set the DMPATH variable using one of the following instructions:**

   a. **If you use the C-shell, add the following to your .cshrc:**

   ```
   % setenv DMPATH /opt/BayFS/dm_2.0
   ```

   b. **If you use the Bourne shell or Korn shell, add the following to your .profile:**

   ```
   $ DMPATH=/opt/BayFS/dm_2.0; export DMPATH
   ```

Note: If you installed into a different directory, substitute the directory where you installed the software for */opt/BayFS/dm_2.0*. After modifying the appropriate file, you must source the file for the changes to take effect.

Manual Installation Procedure

If you have difficulty installing the DM/VM Management Software using the installation script provided, you can manually install the software using the following procedure.

To manually install the software:

1. **Insert the Accelar Series 1000 Software 2.0 (Windows 98/95/NT, Solaris, HP-UX, and AIX) CD into the CD-ROM drive.**
2. **Log in as the *root user* or *su* to root and mount the CD onto the */cdrom* directory. If you are unfamiliar with this procedure, refer to the system's administration guide specific to your operating system.**

   a. **For Solaris systems, change directory to */cdrom/cdrom0/dm-unix.***

   b. **For HP-UX systems, change directory to */cdrom/dm-unix.***

   c. **For AIX systems, change directory to */cdrom/dm-unix.***

3. **Copy the software into /tmp with the following command:**

   ```
   # cp dm_2.0.tar.Z  /tmp/dm_2.0.tar.Z
   ```

4. **Change directory into the directory where you want the DM/VM Management Software to be installed. The software will be loaded automatically into a subdirectory called** *dm_2.0.*

   For example, if you want to install the software into the */opt/BayFS/dm_2.0* directory, change directory to */opt/BayFS*.

5. **Uncompress and untar the software with the following command:**

   ```
   # zcat /tmp/dm_2.0.tar.Z | tar xvf -
   ```

6. **Once installed, change directory into the dm_2.0 directory and execute:**

   ```
   # ./standalone_setup
   ```

7. **After installation, the DM/VM software user's environment must be set correctly. Assuming you installed the software into the** */opt/BayFS/dm_2.0* **directory, set the DMPATH variable using one of the following instructions:**

   a. **If you use the C-shell, add the following to your .cshrc:**

      ```
      % setenv DMPATH /opt/BayFS/dm_2.0
      ```

   b. **If you use the Bourne shell or Korn shell, add the following to your .profile:**

      ```
      $ DMPATH=/opt/BayFS/dm_2.0; export DMPATH
      ```

Note: If you installed into a different directory, substitute the directory where you installed the software for */opt/BayFS/dm_2.0*. After modifying the appropriate file, you must source the file for the changes to take effect.

8. **For launching Accelar Device Manager (dm) to manage an operational switch:**

   ```
   % dm a.b.c.d
   ```

   where `a.b.c.d` is the IP address of the Accelar device.

Installing DM/VM into HP OpenView (Optional)

To install DM/VM into HP OpenView, the following are the prerequisites:

- HP OpenView must be installed.
- DM/VM Management Software must be installed.
- You must be logged on as root.

To integrate Accelar Management Software into HP OpenView:

1. **Go to the directory where the DM/VM Management Software is installed.**

   ```
   # cd /opt/BayFS/dm_2.0
   ```

2. **As the root user, start Device Manager and point it to an operational Accelar or BayStack 310 or BayStack 450 device (for example,** *dm <a.b.c.d>* **where a.b.c.d is the IP address of the Accelar device or the name of the device if your network is running a name service).**

   ```
   # dm 132.32.1.5
   ```

Note: You *must* launch “dm” against an Accelar or BayStack 450 device or a BayStack 310 device to activate the appropriate menus for step 3.

3. **From Device Manager, click Help from the menu bar and select the “Run HP OpenView Install on Console” option.**

   This step will copy the Accelar, BayStack 450, and BayStack 310 specific icons and MIB files to the standard HP OpenView software directories. When this task is completed, a list of commands will be shown on the console. Manually execute the commands as root to complete the installation process.

   Table 1 contains a brief description of each command.

Table 1. List of Commands

Command	Description
`ovw -fields`	Updates the fields database.
`ovstop netmon`	Stops network monitor to allow the database to update.
`ovtopofix`	Updates topology database.
`ovstart netmon`	Restarts network monitor.
`ovw`	Starts HP OpenView.

4. **After HP OpenView is started, load the Accelar, BayStack 450, and/or BayStack 310 specific MIBs by selecting the "Options->Load MIBs" option.**

   Load the files located in these directories:

   - */var/opt/OV/share/snmp_mibs/Vendor/BayNetworks/Accelar*

     and/or

   - */var/opt/OV/share/snmp_mibs/Vendor/BayNetworks/BayStack*

How to Get Help

For assistance, if you purchased a Bay Networks service program, call one of the following Bay Networks Technical Solutions Centers:

Technical Solutions Center	Telephone Number	Fax Number
Billerica, MA	800-2LANWAN	978-916-3514
Santa Clara, CA	800-2LANWAN	408-495-1188
Valbonne, France	33-4-92-96-69-68	33-4-92-96-69-98
Sydney, Australia	61-2-9927-8800	61-2-9927-8811
Tokyo, Japan	81-3-5402-0180	81-3-5402-0173

Related Publications

For information about the contents and features of software release 2.0, refer to the following publications on the Accelar documentation CD:

- *Release Notes for the Accelar 1000 Series Products Software Release 2.0* (Bay Networks part number 896-01081-E)
- *Networking Concepts for the Accelar 1000 Series Routing Switch* (Bay Networks part number 205588-A)
- *Reference for Accelar Management Software Switching Operations* (Bay Networks part number 205586-A)
- *Reference for Accelar Management Software Routing Operations* (Bay Networks part number 205587-A)
- *Reference for the Accelar 1000 Series Command Line Interface* (Bay Networks part number 202086-B)

For information about installing hardware and startup configuration, refer to:

- *Installing the Accelar 1000 Series Chassis* (Bay Networks part number 893-01051-D)