Operations Alert Bulletin
Configuring GQAMs as BFS QAMs for Separable Security Host Set-Tops

Background

Some customers are now choosing to configure GQAMs as BFS QAMs in their networks. In this configuration, if you are doing a software upgrade of your Separable Security (SSC) host set-tops with PowerKEY® Multi-Stream CableCARD™ Modules, (M-Card™ modules), the software may not successfully download from the BFS GQAM to the SSC host set-tops. To ensure the BFS GQAM successfully downloads software to the host set-tops, it is recommended that your GQAMs operate at software version 4.0.15 (or later) and you change the bootloader carousel program number to 260. A software change in GQAM 4.0.15 generates the correct packet length for the program number 260 and allows the upgrade to successfully complete.

Note: This bulletin also applies to RNCS sites.

Recommendation

This recommendation requires all three steps be followed for the BFS GQAMs to operate correctly:

- Running GQAM software version 4.0.15 or later
- Changing the program number
- Tearing down and restarting the 199 session

Important: Since the operator is tearing down and restarting the 199 session, it is recommended that this procedure be completed during a maintenance window.

The procedures for implementing this solution vary slightly depending on your network configuration.

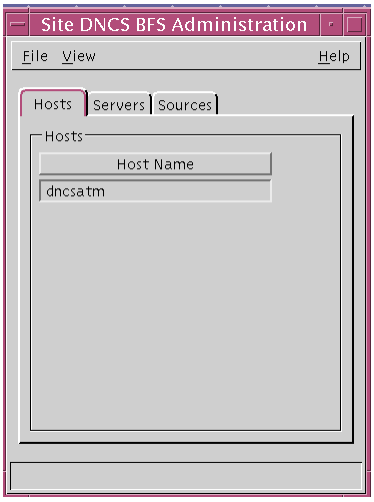
- For sites using a Direct ASI configuration, go to ***Changing the Program Number in a Direct ASI Configuration*** (on page 2).
- For sites using a BFS BIG configuration, go to ***Changing the Program Number in a BFS BIG Configuration*** (on page 4).

  Important: For RNCS sites, each BFS GQAM requires this solution.

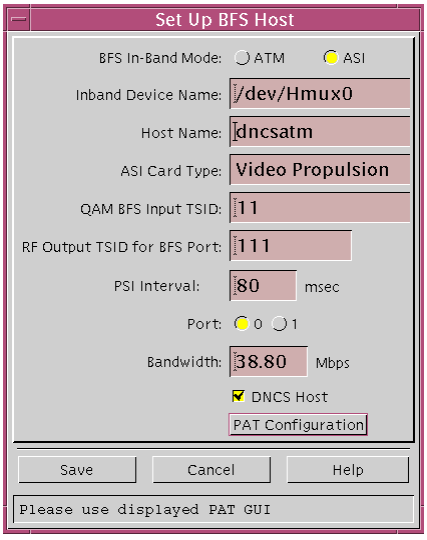
Changing the Program Number in a Direct ASI Configuration

1. On the DNCS Administrative Console, go to the Application Interface Module tab and click **BFS Admin**. Did the BFS Admin Sites window open?
   - If **yes**, go to step 2.
   - If **no**, go to step 3.
2. Highlight the Site name and then click **File** and **Select**. The Site DNCS BFS Administration window opens.

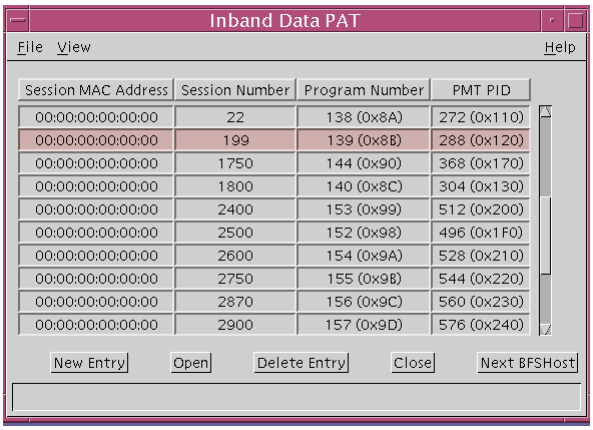
   Note: For an RNCS site, each GQAM configured as a BFS QAM should be highlighted.



3. Click on the **Hosts** tab and double-click the host name **dncsatm**. The Set Up BFS Host window opens.

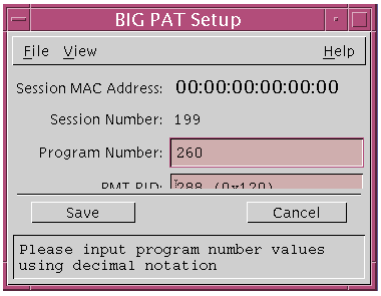


4 Click **Pat Configuration** to open the Inband Data PAT window.



5 Highlight session number **199** and select **File** and **Open**.

6 Type **260** in the **Program Number** field and click **Save** to change the program number.



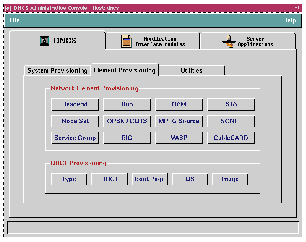
7 Are you an RNCS site?

- If **yes**:
  - Close all windows.
  - Repeat steps 1-6 for each GQAM that is being configured as a BFS GQAM.
  - Go to ***Checking the BFS Sessions on the BFS QAM or BFS GQAM*** (on page 6).
- If **no**, close the window and go to ***Checking the BFS Sessions on the BFS QAM or BFS GQAM*** (on page 6).

Changing the Program Number in a BFS BIG Configuration

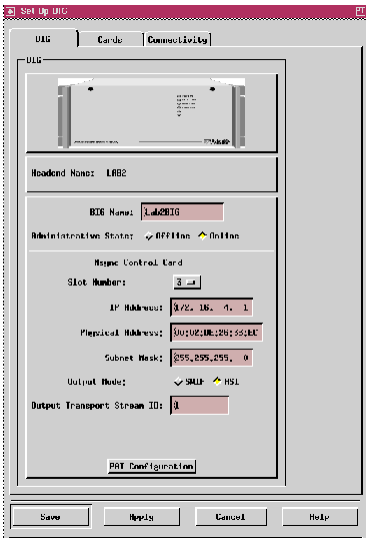
1 On the DNCS Administrative Console, go to the DNCS tab and then to the Element Provisioning tab.

Note: The Element Provisioning tab is labelled Network Element Provisioning tab in SR 2.7/3.7/4.2.



2 Click **BIG** and the BIG List window opens.

3 Highlight the BIG row and then click **File** and **Open**. The Set Up BIG window opens.



4 Click **PAT Configuration**.

5 Highlight session 199 and then select **File** and **Open**.

6 Type **260** in the **Program Number** field and click **Save** to change the program number.

7 Are you an RNCS site?

- If **yes**:
  - Close all windows.
  - Repeat steps 1-6 for each GQAM that is being configured as a BFS GQAM.
  - Go to ***Checking the BFS Sessions on the BFS QAM or BFS GQAM*** (on page 6).
- If **no**, go to ***Checking the BFS Sessions on the BFS QAM or BFS GQAM*** (on page 6).

Checking the BFS Sessions on the BFS QAM or BFS GQAM

Complete the following steps to check and record the number of pre-upgrade BFS sessions.

1 Choose one of the following options to check the number of BFS sessions:

- Press the **Options** button on the front panel of the BFS QAM until the Session Count total appears.
- Type **/dvs/dncs/bin/auditQam -query <IPAddr> <output port number>** and press **Enter**.

  Example: /dvs/dncs/bin/auditQam -query 172.16.1.101 3

  Notes:

  – <IPAddr> is the IP address of the data QAM or GQAM.

  – The output port number for a QAM is 2.

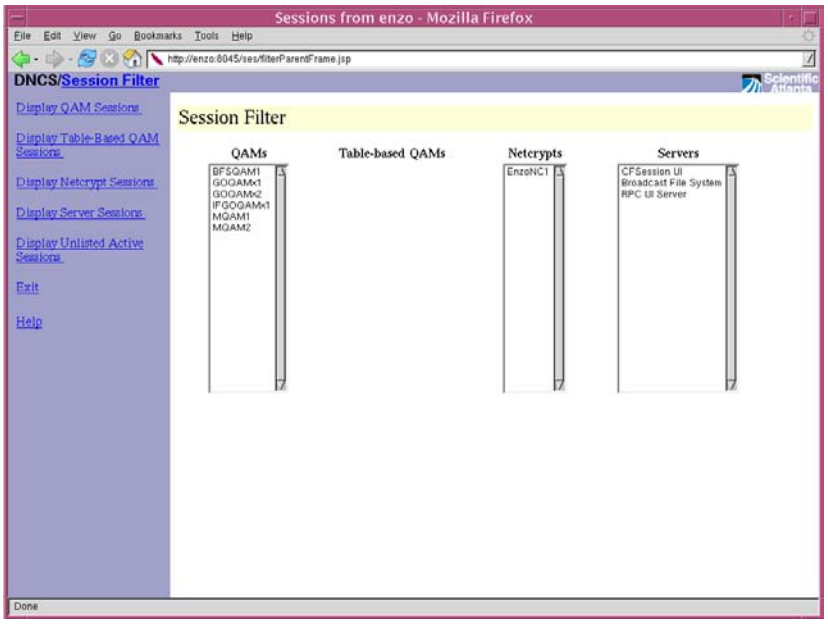
  – The output port numbers for a GQAM range from 1 to 16.

2 Record the **Session Count** total in the space provided. _____

3 Go to ***Tearing Down and Restarting Session 199*** (on page 7).

Tearing Down and Restarting Session 199

1 On the DNCS tab, click **Utilities** tab, and then click **Session List**. The Session Filter window opens.



2 In the Session Filter window, select **BFSQAM** in the **QAMs** column.

3 In the left-hand menu, click **Display QAM Sessions**. The Session Data Summary window opens.

4 In the **Select** column, check the box for **Session ID 00:00:00:00:00:00 199.**

5 In the left-hand menu, click **Teardown Selected Sessions**. The session is deleted from the list.

6 In the left-hand menu, click **Exit All Session Screens**.

7 On the DNCS Control Window, highlight the **osm** process.

8 Select **Process** and **Stop Process** and wait for the osm session to display red.

9 Select **Process** and then select **Start Process**.

10 Wait approximately 5 minutes to allow all session listed below session 199 to rebuild on the BFS GQAM or BFS QAM.

11 After 5 minutes, go to the Session Data Summary window. Is the 199 session restarted?

- If **yes**, then repeat these procedures for any remote sessions or RNCS BFS bootloader sessions.

  Note: The bootloader session typically displays as session 199.

- If **no**, contact Cisco Services for assistance.

12 Go to ***Verifying the Number of Recovered BFS Sessions*** (on page 8) to confirm the session count total is equal to the number of sessions you previously recorded.

Verifying the Number of Recovered BFS Sessions

Complete the following steps to check the number of post-upgrade BFS sessions.

1 Choose one of the following options to check the number of BFS sessions:

- Press the **Options** button on the front panel of the BFS QAM until the **Session Count** total appears.
- Type **/dvs/dncs/bin/auditQam -query <IPAddr> <output port number>** and press **Enter**.

  Example: /dvs/dncs/bin/auditQam -query 172.16.1.101 3

  Notes:

  – <IPAddr> is the IP address of the data QAM or GQAM.

  – The output port number for a QAM is 2.

  – The output port numbers for a GQAM range from 1 to 16.

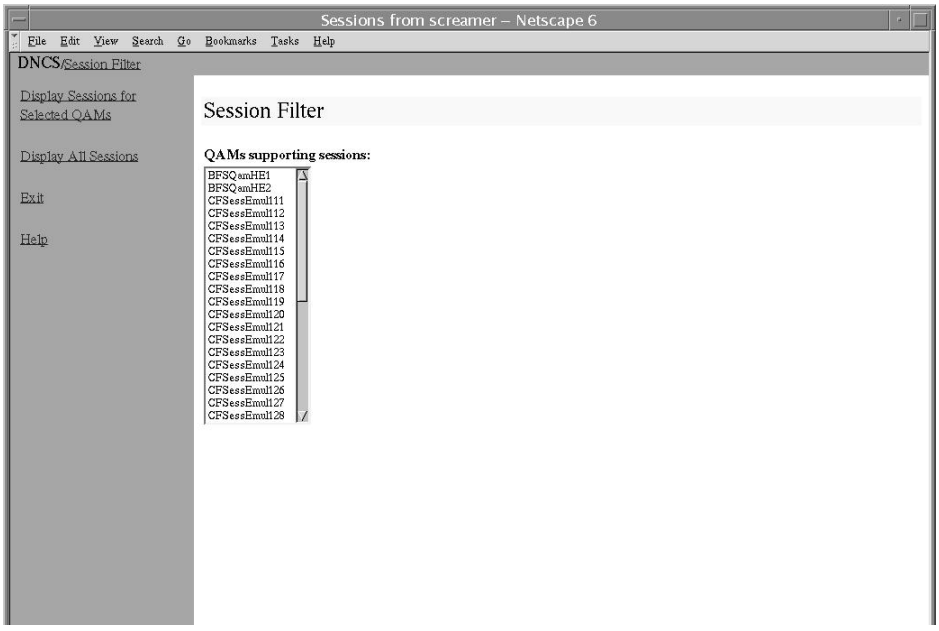
2 Does the **Session Count** total equal the number of sessions you recorded in the ***Checking the BFS Sessions on the BFS QAM or BFS GQAM*** (on page 6) procedure?

- If **yes**, then the system recovered all of the BFS sessions. Skip the remainder of this section, and go to ***Verify Communication Between Devices*** (on page 11).
- If **no**, go to ***Tear Down BFS and OSM Processes*** (on page 9).

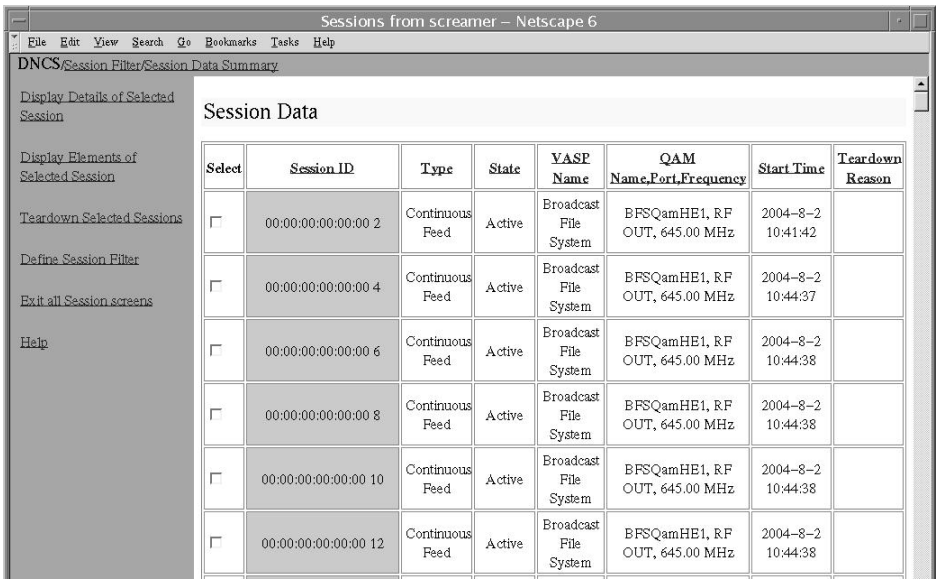
Tear Down BFS and OSM Processes

Complete the following steps to tear down the BFS and OSM sessions in order to return the BFS session count to the expected number of sessions.

1. On the DNCS Control window, highlight the **osm** process**.**
2. Click **Process** and then select **Stop Process**. In a few minutes, the indicator for the osm process changes from green to red.
3. Highlight the **bfsServer** process.
4. Click **Process** and then select **Stop Process**. In a few minutes, the indicator for the bfsServer process changes from green to red.
5. On the DNCS Administrative Console, select the **DNCS** tab and go to **Utilities**.
6. Click **Session List**. The Session Filter window opens.



7 Select the BFS QAM from the Session Filter list and then click **Display Sessions for Selected QAMs**. The Session Data window opens.



8 In the **Select** column, check the box associated with each BFS/OSM session.

9 Click **Teardown Selected Sessions**. The system tears down the BFS and OSM sessions.

10 On the DNCS Control window, highlight the **bfsServer** process.

11 Click **Process** and then select **Start Process**. In a few minutes, the indicator for the bfsServer process changes from red to green.

12 After the indicator for the bfsServer process has turned green, highlight the **osm** process.

13 Click **Process** and then select **Start Process**. In a few minutes, the indicator for the osm process changes from red to green.

14 Press the **Options** button on the front panel of the BFS QAM until the **Session Count** total appears.

15 Wait about 10 minutes for the system to rebuild the sessions.

16 Does the **Session Count** total now equal the number of sessions you recorded in the ***Checking the BFS Sessions on the BFS QAM or BFS GQAM*** (on page 6) procedure?

- If **yes**, go to ***Verify Communication Between Devices*** (on page 11). The system has recovered all of the BFS sessions.
- If **no**, call Cisco Services for assistance.

Verify Communication Between Devices

1. Perform a slow-and-fast boot on a test DHCT as follows:
   a. Boot a DHCT.

      Note: Do not press the power button.

   b. Access the Power On Self Test and Boot Status Diagnostic Screen on the DHCT and verify that all parameters, except UNcfg, display **Ready**.

      Note: UNcfg displays **Broadcast**.

   c. Wait 5 minutes.

   d. Press the power button on the DHCT. The DHCT powers on.

   e. Access the Power On Self Test and Boot Status Diagnostic Screen on the DHCT.

   f. Do all of the parameters, including UNcfg, display **Ready**?
      - If **yes**, ping the DHCT.
      - If **no**, contact Cisco Services.
2. Did the DHCT receive the ping?
   - If **yes**, stage at least one new DHCT to the system operator's specifications.
   - If **no**, contact Cisco Services.
3. Did the newly staged DHCT successfully load the current client release software?
   - If **yes**, verify that the DHCT received at least 33 EMMs and its Entitlement Agent.
   - If **no**, contact Cisco Services.
4. Did the DHCT receive at least 33 EMMs and its Entitlement Agent?
   - If **yes**, go to step 5.
   - If **no**, contact Cisco Services.
5. Does the IPG display 7 days of valid and accurate data?
   - If **yes**, verify that the IPG supports multiple languages.
   - If **no**, contact Cisco Services.
6. Does the IPG support multiple languages?
   - If **yes**, verify that the PPV barkers appear correctly on the PPV channels.
   - If **no**, contact Cisco Services.
7. Do the PPV barkers appear on the PPV channels correctly?
   - If **yes**, verify that test DHCTs can purchase a VOD event.
   - If **no**, contact Cisco Services.

8 Did the test DHCTs purchase a VOD event?

- If **yes**, verify that third-party applications load properly.
- If **no**, contact Cisco Services.

9 Do third-party applications load properly?

- If **yes**, you have successfully verified the stability of the DBDS.
- If **no**, contact Cisco Services.

About This Bulletin

Audience

This document is written for system operators who use the DNCS. Our engineers may also find this document to be useful.

Document Version

This is the second release of this document.

For Information

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.

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