Installing the Nokia Flexi EDGE BTS SW Release EP1 at the BSC and NetAct

Contents

1 Overview of installing the Nokia Flexi EDGE BTS SW release EP1 at the BSC and NetAct

Purpose

This is an overview of how to install the Nokia Flexi EDGE Base Station software (BTS SW) at the Base Station Controller (BSC) and NetAct.

Before you start

Note that all the file names and file extensions serve as examples only. For correct BTS SW file names and file extensions, see the *Release Note* (DN06102666).

At the BSC, base stations (BTSs) are seen as BCFs. A BTS represents only one sector. This principle is followed in these instructions.

The MML commands are presented in `Courier font`. The user-definable parts in the MML commands are presented in ***`Bold and Italics`***.

Steps

1. **To install the BTS SW package at the BSC, follow the instructions below in this order, unless otherwise indicated.**
   a. *Starting an MML session at the BSC*
   b. *Checking the existing BTS SW*
   c. *Copying the BTS SW from magneto-optical disks to the BSC hard disks*
   d. *Creating the BTS SW*
   e. *Modifying the status of the old BTS SW*
   f. *Monitoring the download and activation of the BTS SW*
   g. *Downloading the BTS SW to the BCF*
   h. *Activating the BTS SW*
   i. *Rearranging the BTS SW*

j. *Activating the old BTS SW*

k. *Checking the created BTS SW*

2. To install the BTS SW with NetAct OSS4.1, follow the instructions below in this order, unless otherwise indicated.

a. *Loading and creating the BTS SW package*

b. *Background downloading the BTS SW package*

c. *Background downloading and activating the BTS SW package*

3. To download the new BTS SW, follow the instructions below.

- *Downloading the new BTS SW package from Flexi EDGE BTS Manager*

2 Installing the BTS SW package at the BSC

2.1 Starting an MML session at the BSC

Steps

1. **Enter username: *<Username*.**
2. **Enter password: *<Password*.**

2.2 Checking the existing BTS SW

Steps

1. **List the existing BTS SW packages and their locations with the MML command:**

   ```
   ZEWL;
   ```

2. **Select the first /BCF_PACK/PACK_X_ directory that is not listed.**

   Remember that the BTS SW will be located there.

   Pack_X is a sub-directory of the /BCF_PACK directory. In these instructions, ***PACK_1*** is used as an example directory.

3. **Verify that *PACK_1* is empty with the following MML command:**

   ```
   ZIWX::WS,NODEF:BCF_PACK,PACK_1:%,%,;
   ```

If no files are listed when this command is given, the directory ***PACK_1*** can be used. Otherwise, you must delete the files listed or choose another directory.

4. **If there are too many files in the directory, delete the extra files with the following MML command:**

   ZIWD::WS,NODEF:BCF_PACK,***PACK_1:file_name, file_extension,;***

   where file_name is the name of the file you are deleting and file_extension is the extension of that file.

5. **To delete both source and backup files, give the following MML command:**

   ZIWD::WSB,NODEF:BCF_PACK,***PACK_1:file_name, file_extension;***

   You can only delete files if there are no BCFs attached to the package.

2.3 Copying the BTS SW from NOLS to the BSC

2.3.1 Downloading files from NOLS to the PC

Before you start

Customers who have NOLS contracts with Nokia can download the BTS SW from NOLS.

Steps

1. **Create a directory on your PC where you can download and extract BTS SW files.**

2. **Go to NOLS homepage at http://www.online.nokia.com with your browser and log in by using your NOLS username and password.**

3. **Follow the following path to locate Flexi EDGE BTS SW: Care – Software Delivery – Base Stations – Nokia Flexi EDGE Base Station.**

4. **Select the correct Release, Change Delivery or New functionality tab depending on the SW version you are looking for.**

5. **Click the correct SW title.**

6. **Select Software and Document files and choose Download.**

7. **Choose NOLS Logout.**

8. **Open the zip file(s) and extract them.**

2.3.2 Copying the BTS SW from the PC to the BSC hard disks with disk(s)/ tape

Before you start

If the BSC is not connected to the LAN (Local Area Network), BTS SW files can be transferred to the BSC by using disk(s) or tape depending on which device is used at the BSC.

Steps

1. **Copy and convert files from the PC to disk(s)/tape with the DOSDX-program.**

2. **Define the directory where the BTS SW files are copied from and the source drive, using the following MML command:**

   ZIWY:S:SYSTEM=***<bsc>***,UNIT=OMU,PATH=/,DRIVE=**<device-index>**;

   In this case, it is assumed that the BTS SW is in the root directory of the delivery diskette.

3. **Define the destination drive (hard disk of the BSC) and the destination directory where the BTS SW files are copied to, using the following MML command:**

   ZIWY:S:SYSTEM=***<bsc>***,UNIT=OMU,PATH=/BCF_PACK/***PACK_1***, DRIVE=WDU-SB;

4. **Copy the BTS SW, using the following MML command:**

   ZIBC;

5. **Repeat step 3 for each disk if more than one used.**

```
ZIBC;
```

2.3.3 Copying the BTS SW from PC to BSC with FTP

Before you start

The BSC must be connected to the same LAN (Local Area Network) as the PC with the downloaded files.

Note that the TCP/IP feature must be activated in the BSC before you can use these instructions. The BSC IP address must be known by the user when using the FTP program.

Steps

1. **Copy the BTS SW files from PC to BSC hard disk directory in binary mode by using the FTP program.**

   Destination directory at the BSC is /BCF_PACK/PACK_1.

2.4 Copying the BTS SW from magneto-optical disks to the BSC hard disks

Steps

1. **Define the directory where the BTS SW files are copied from and the source drive, using the following MML command:**

   ```
   ZIWY:S:SYSTEM=<bsc>,UNIT=OMU,PATH=/,DRIVE=FDU-N0;
   ```

   In this case it is assumed that the BTS SW is in the root directory of the delivery diskette.

2. **Define the destination drive (hard disk of the BSC) and the destination directory where the BTS SW files are copied to, using the following MML command:**

   ```
   ZIWY:D:SYSTEM=<bsc>,UNIT=OMU,PATH=/BCF_PACK/PACK_1,
   DRIVE=WDU-SB;
   ```

3. **Copy the BTS SW, using the following MML command:**

```
ZIBC;
```

2.5 Creating the BTS SW

Steps

1. **To create the BTS SW that was just copied in section *Copying the BTS SW from magneto-optical disks to the BSC hard disks*, give the following MML command:**

   ```
   ZEWC:BTSSWxxxx:MF=BTS_1001,EXT=085,SDIR=PACK_1;
   ```

   The elements of this MML command stand for the following:
   - ***BTSSWxxxx*** is the name you give to the BTS SW.
   - ***BTS_1001*** (or equivalent) is the name of the master file on the diskette.
   - ***085*** (or equivalent) is the extension part of the master file name on the diskette.
   - ***PACK_1*** is the sub-directory that the package was copied to in section *Copying the BTS SW from magneto-optical disks to the BSC hard disks*.

Further information

You can also check the content of the BTS SW with the following MML command:

```
ZEWP:ID=<bts_SW_name>;
```

For correct BTS SW file names,see the *Release Note*.

2.6 Modifying the status of the old BTS SW

Before you start

There can be up to two BTS SW packages in the BCF flash memory. The BTS SW packages are identified with the states 'New', 'Fallback' and 'Backup'. The BTS SW that is activated (see section *Activating the BTS SW*) is the default BTS SW that is downloaded to the BCF after a BCF restart.

Nokia recommends that the following BTS SW statuses are used:

- 'New' should contain no BTS SW
- 'Backup' should contain the default BTS SW
- 'Fallback' should contain another BTS SW if one exists.

If this is already the case, go to section *Downloading the BTS SW to the BCF*. If not, follow the instructions below.

Steps

1. **To display the BTS SW packages that are attached to the BCF, give the following MML command:**

   ZEWO:***<bcf_number>;***

   <bcf_number>; is the site-specific BCF number

2. **Interchange the statuses of the Backup (*BU*) and New (*NW*) BTS SW with the following MML command:**

   ZEWH:***<bcf_number>:***ST1=***BU,***ST2=***NW;***

   The old BTS SW is now the default package with the 'Backup' status.

3. **Detach the BTS SW from the 'New' status and release this position for the new BTS SW with the MML command:**

   ZEWE:***<bcf_number>:NW;***

4. **You can now use the 'New' status.**

2.7 Monitoring the download and activation of the BTS SW

Purpose

You can monitor BTS software download and activation by starting a remote terminal session from the BSC.

Steps

1. **Start a remote service terminal session from the BSC to the BCF with the following MML command:**

```
ZDDS;
```

2. **Create a service terminal application if it does not exist yet, and enable it with the service terminal command:**

```
00-MAN> ZLE:X,RPHASESX.IMG

00-MAN> X
```

3. **Monitor the BCF with the following service terminal command:**

```
00-RPH> DC:<bcf_number>
```

If you need to exit the remote service terminal session, press `Ctrl + C` to exit monitoring the BCF and type `ZE` to exit the remote service terminal session.

The elements in the MML command in Step 3 stand for the following:

- D stands for monitoring
- C stands for continuously
- ***<bcf_number>*** is the site-specific BCF number

2.8 Downloading the BTS SW to the BCF

Before you start

When you download the BTS SW to the BCF, the BCF must be operational. The BTS SW is downloaded as background operation.

Steps

1. **If the BCF is operational, start background downloading the BTS SW with the following MML command:**

```
ZEWA:<bcf_number>:NW:BTSSWxxxx;
```

Expected outcome

After downloading the BTS SW, the BSC gives an automatic command to store the BTS SW in the flash memory of the base station.

BTSSWxxxx is now one of the three BCF-specific BTS SW packages.

Allow some time for the BTS SW to be saved in the flash memory before giving the activation command. You can see when this procedure is completed by monitoring the BTS SW download. To monitor the procedure, start a remote terminal session from the BSC as instructed in *Monitoring the download and activation of the BTS SW.*

The screen should look like in the example printout below. Note that the number of files as well as the file names and file extensions serve as examples only. For correct file names and file extensions, see the *Release Note*.

```
BCF  TRX   OPERATION    PHASE              FILE           STAT    TIME
-------------------------------------------------------------------------
 040        SITE RESET   DL COMPLETED       ............   10765   09:52:00
 040        SITE RESET   BTS OMU STARTED    ............   00000   10:15:41
 040        SITE RESET   DOWNLOAD STARTED   ............   00000   10:15:41
 040        SITE RESET   DOWNLOADING MF     BTS_1001.085   00000   10:15:42
 040        SITE RESET   DOWNLOADING AF     SM1_1000.085   00000   10:15:43
 040        SITE RESET   DOWNLOADING AF     SM2_1000.085   00000   10:20:11
 040        SITE RESET   DOWNLOADING AF     SM3_1000.085   00000   10:21:46
 040        SITE RESET   DOWNLOADING AF     SM4_1000.085   00000   10:23:33
 040        SITE RESET   DOWNLOADING AF     SM5_1000.085   00000   10:27:29
 040        SITE RESET   DOWNLOADING AF     SM6_1000.085   00000   10:30:21
 040        SITE RESET   DOWNLOADING AF     SM7_1000.085   00000   10:32:14
 040        SITE RESET   DOWNLOADING AF     TM1_1000.085   00000   10:32:52
 040        SITE RESET   DOWNLOADING AF     RM1_1000.085   00000   10:35:21
 040        SITE RESET   DOWNLOADING AF     CFG_1001.085   00000   10:36:05
 040        SITE RESET   DL COMPLETED       ............   00000   10:36:06
 040        SITE RESET   BTS OMU STARTED    ............   00000   10:38:03
 040        SITE RESET   DOWNLOAD STARTED   ............   00000   10:38:03
 040        SITE RESET   BUILD IN FLASH     ............   00000   10:38:04
 040        SITE RESET   DL COMPLETED       ............   00000   10:38:04
 040        SITE RESET   CONF REQ RECEIVED  ............   00000   10:38:20
 040        SITE RESET   CONF DATA SENT     ............   00000   10:38:21
 040        SITE RESET   CONF COMPLETED     ............   00000   10:38:22
 040        SITE RESET   OPERAT COMPLETED   ............   00000   10:38:23
```

Unexpected outcome

If the BCF is in reset, the BTS SW background downloading cannot take place.

If the BCF is in reset, or if it is reset before the new BTS SW is activated (see section *Activating the BTS SW*), the old BTS SW is downloaded, as it is still the default BTS SW.

2.9 Activating the BTS SW

Before you start

Caution

Activating the BTS SW may temporarily disrupt any transmission Hub traffic passing through the BTS site, if the BTS SW package includes changed Transmission SW.

Steps

1. Activate the BTS SW with the following MML command:

ZEWV:***<bcf_number>:NW;***

Expected outcome

You can see when this procedure is completed by monitoring the BTS SW activation process between the BSC and the BCF with BTS SW background downloading. To monitor the procedure, start a remote terminal session from the BSC as instructed in *Monitoring the download and activation of the BTS SW.*

The screen should look like in the example printout below.

```
040        BACKGRD DL   OPERAT COMPLETED   ............   00000   13:14:12
040        SITE RESET   RESET REQ SENT     ............   00000   13:18:40
040        SITE RESET   BTS OMU STARTED    ............   00000   13:20:33
040        SITE RESET   DOWNLOAD STARTED   ............   00000   13:20:34
040        SITE RESET   BUILD IN FLASH     ............   00000   13:20:34
040        SITE RESET   DL COMPLETED       ............   00000   13:20:35
040        SITE RESET   CONF REQ RECEIVED  ............   00000   13:20:48
040        SITE RESET   CONF DATA SENT     ............   00000   13:20:49
040        SITE RESET   CONF COMPLETED     ............   00000   13:20:53
040        SITE RESET   OPERAT COMPLETED   ............   00000   13:20:53
```

The new BTS SW is now the default BTS SW with the status 'New' (***NW***) at the BSC.

The BCF is reset and initialised with the new BTS SW.

Further information

If necessary, you can always fall back from the new BTS SW to the old BTS SW.

2.10 Rearranging the BTS SW

Before you start

Note that you can also check the content of the BTS SW using the following MML command:

```
ZEWP:ID=<bts_SW_name>;
```

To rearrange the BTS SW packages, Nokia recommends to follow the procedure below.

Steps

1. **Swap the BTS SW packages that have the 'Backup' and 'Fallback' statuses with the following MML command:**

   ```
   ZEWH:<bcf_number>;ST1=BU,ST2=FB;
   ```

2. **Swap the BTS SW packages that have the 'Backup' and 'New' statuses with the following MML command:**

   ```
   ZEWH:<bcf_number>;ST1=BU,ST2=NW;
   ```

   Now the default BTS SW has the 'Backup' status.

3. **Detach the BTS SW with the 'New' status with the following MML command:**

   ```
   ZEWE:<bcf_number>;NW;
   ```

4. **Display the BTS SW packages that are attached to the BCF with the following MML command:**

   ```
   ZEWO:<bcf_number>;
   ```

Expected outcome

```
BCF NUMBER  STATUS  BUILD-ID     VERSION  SUBDIR   STATE
-----------------------------------------------------------

BCF-0047     NW     EP1_RELEASE  1.0-0   /PACK_6  DEFAULT
             BU
             FB
```

Further information

An alternative way of using BSC commands is to use the roll SW utility that is available at the Nokia NetAct OSS4.1.

2.11 Activating the old BTS SW

Before you start

Caution

Activating the BTS SW may temporarily disrupt any transmission Hub traffic passing through the BTS site, if the BTS SW package includes changed Transmission SW.

Steps

1. **If, for any reason, you need to activate the old BTS SW version (the fallback BTS SW), give the following MML command:**

   ZEWV:***<bcf_number>:FB***

   Expected outcome

   The BTS SW activates the BCF specified in the command (***<bcf_number>***) with the 'Fallback' (***FB***) status.

Further information

Two BTS SW packages can be stored in the flash memory of the base station. The old BTS SW version can also be stored in the flash memory. When the old BTS SW version is activated, no BTS SW downloading from the BSC is needed. The base station is initialised with the old BTS SW in the flash memory.

2.12 Checking the created BTS SW

Steps

1. **Check the BTS SW packages attached to the specified BCF (*<bcf_number>*) with the following MML command:**

```
ZEWO:<bcf_number>;
```

2. To check the contents of the BTS SW that was created in section *Creating the BTS SW*, give the following MML command:

```
ZEWP:MF=BTS_1001,EXT=085,SDIR=PACK_1;
```

Further information

The elements of the MML command in step 2. stand for the following:

- ***BTS_1001*** is the name of the master file on the magneto-optical disk.
- ***085*** is the extension part of the master file name on the magneto-optical disk.
- ***PACK_1*** is the sub-directory that the BTS SW was copied to in section *Copying the BTS SW from magneto-optical disks to the BSC hard disks*.

3 Installing the BTS SW package with NetAct OSS4.1

3.1 Loading and creating the BTS SW package

Before you start

When you load and create the BTS SW, the BCF must be operational.

Steps

1. **Copy the BS software to the following directory in the Tier3 server of NetAct.**

   `/var/opt/nokiaoss/shared/admin/swmgmt/swtemp`

2. **Select the NE Type as BCF and subtype as Flexi Edge from the Software Manager UI.**

3. **Click the SW Archive tab.**

4. **Select the SW Package group as “BS Software (Flexi Edge)”.**

5. **Click the 'Import new SW Package' button.**

   The 'Import Software' window is displayed.

6. **Select the files you want to import and provide the name of the SW package.**

   Give the name in capital letters.

7. **Click OK.**

   Expected outcome

The software is imported with the name given.

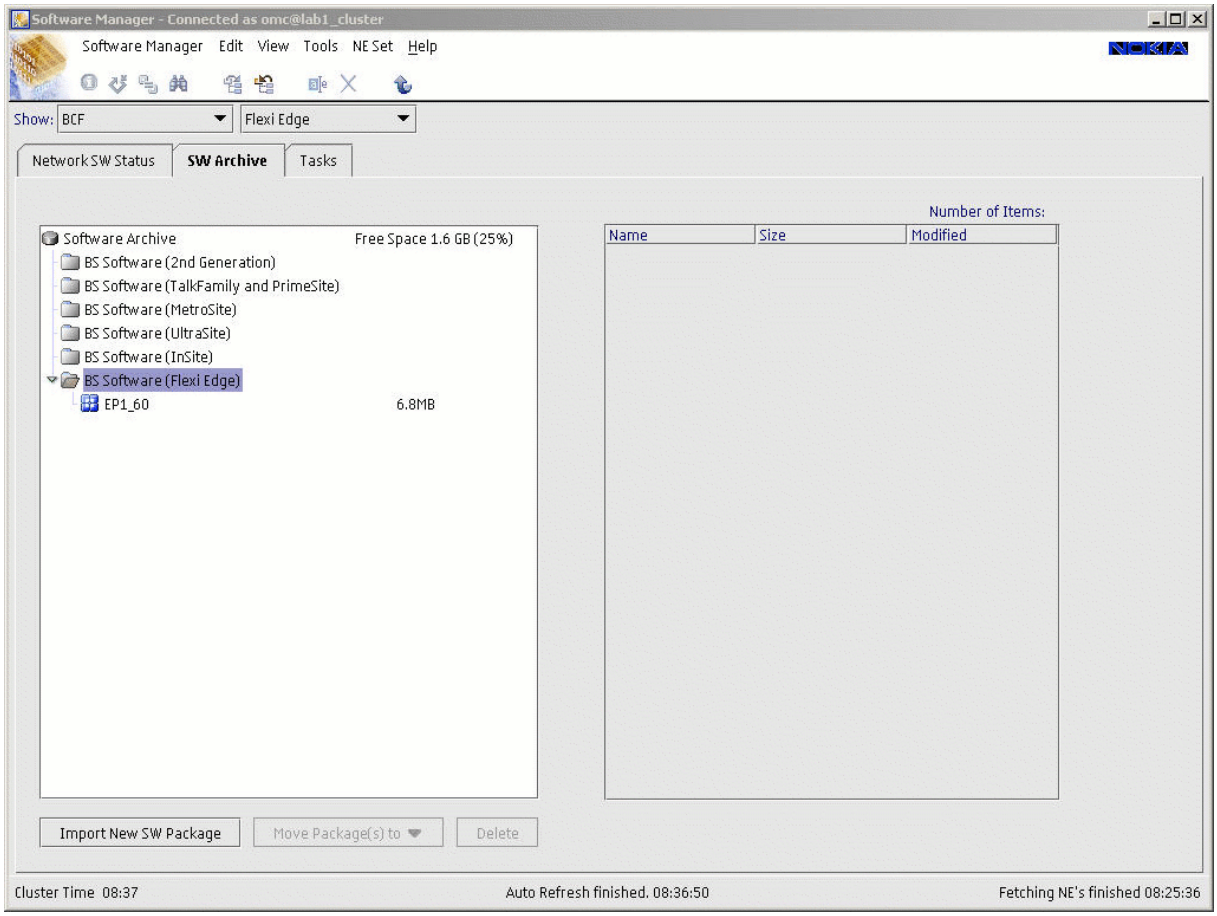

Figure 1. The SW Archive tab

3.2 Background downloading the BTS SW package

Before you start

Steps

1. **Launch the application Software Manager from the NetAct start page.**

2. **Select the NE Type as BCF and subtype as Flexi Edge from the Software Manager UI.**

   You can view the parent Network Elements (NE) in the Parent View for the selected NE.

3. **Select the parent BSC of the selected BCF displayed in the Parent View.**

4. **In the Network Elements table select the BCF network element check box.**

5. **Select the New Task tab.**
   a. Select the “download” task from the Task Type menu.
   b. Choose SW Type as “SW” and select the correct SW Package from the drop down menu.
   c. Schedule the download task to be started immediately.

   Or

   To run the download with a schedule, click the 'Schedule' button.

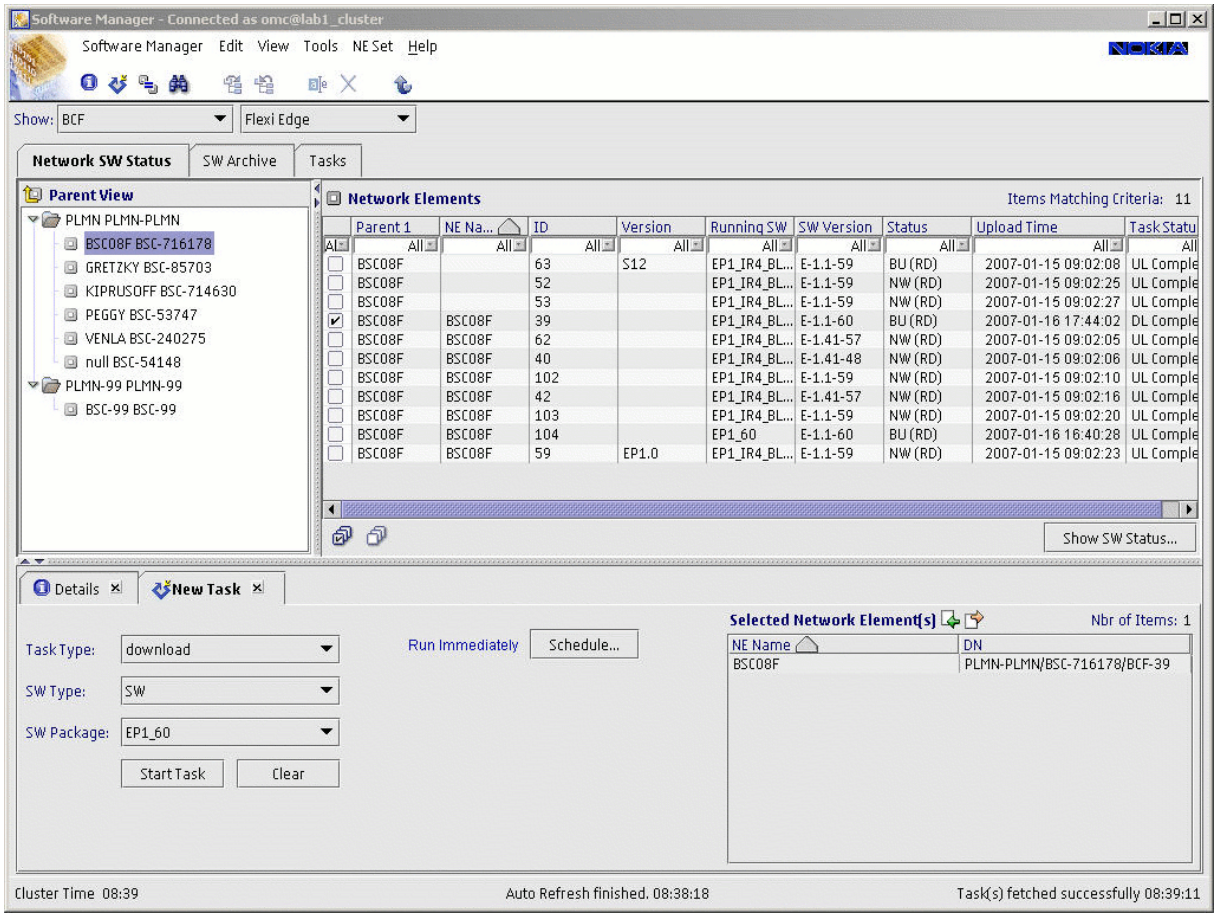

Figure 2. Network SW Status tab

6. Click the Tasks tab.

7. Check that the Task status is moving from Waiting to Ongoing and to Completed.

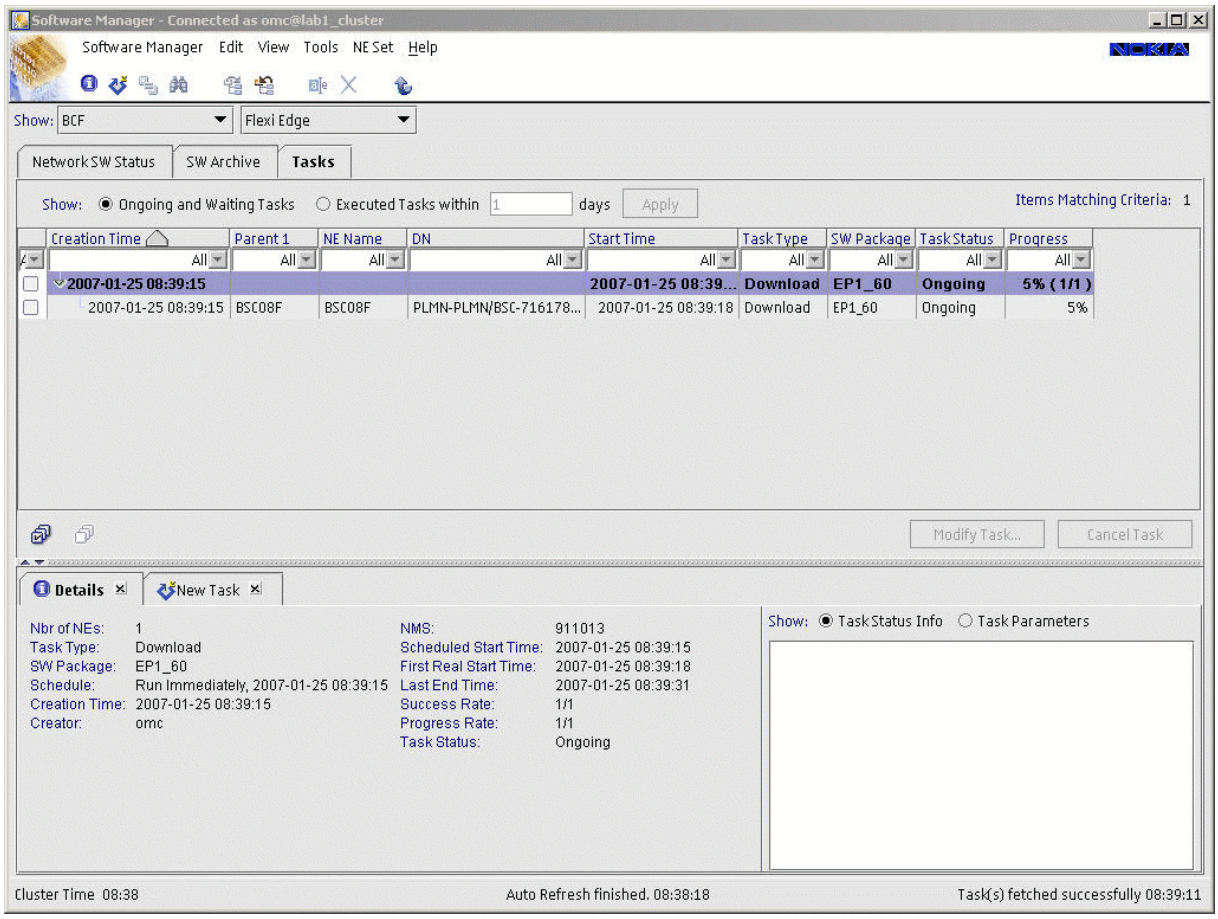

Figure 3. Tasks tab

3.3 Background downloading and activating the BTS SW package

Steps

1. Activate the BTS SW package.

Follow the steps as in section *Background downloading the BTS SW package* . Instead of “download” task in step 5, choose the “download_activation” as task type.

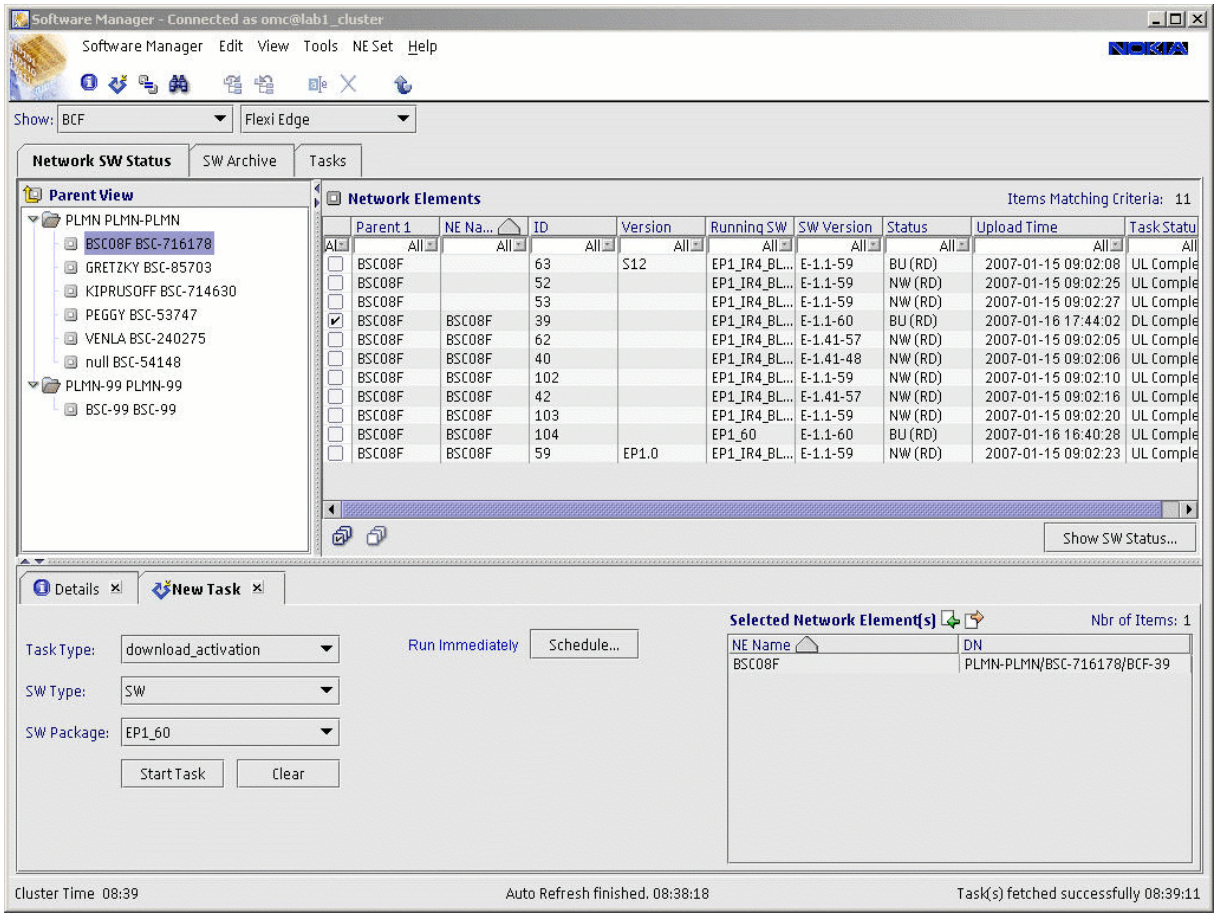

Figure 4. The download_activation task is being created

4 Downloading the new BTS SW package from Nokia Flexi EDGE BTS Manager

Before you start

You should download a new software package from Nokia Flexi EDGE BTS Manager only when there is no Abis connection or when the BCF object at the BSC does not have an active BTS software package. If the BCF object at the BSC has a default software package, it overrides the locally downloaded BTS software. You can check this with the following MML command, which should show no default software package:

```
ZEWO:<bcf number>;
```

For instructions on firewall settings, see *Installing Nokia Flexi EDGE BTS Manager from NOLS*. For instructions on the IP address settings, see *Changing IP address settings with Windows XP*.

Steps

1. Go the BTS SW pull-down menu and select SW Update...

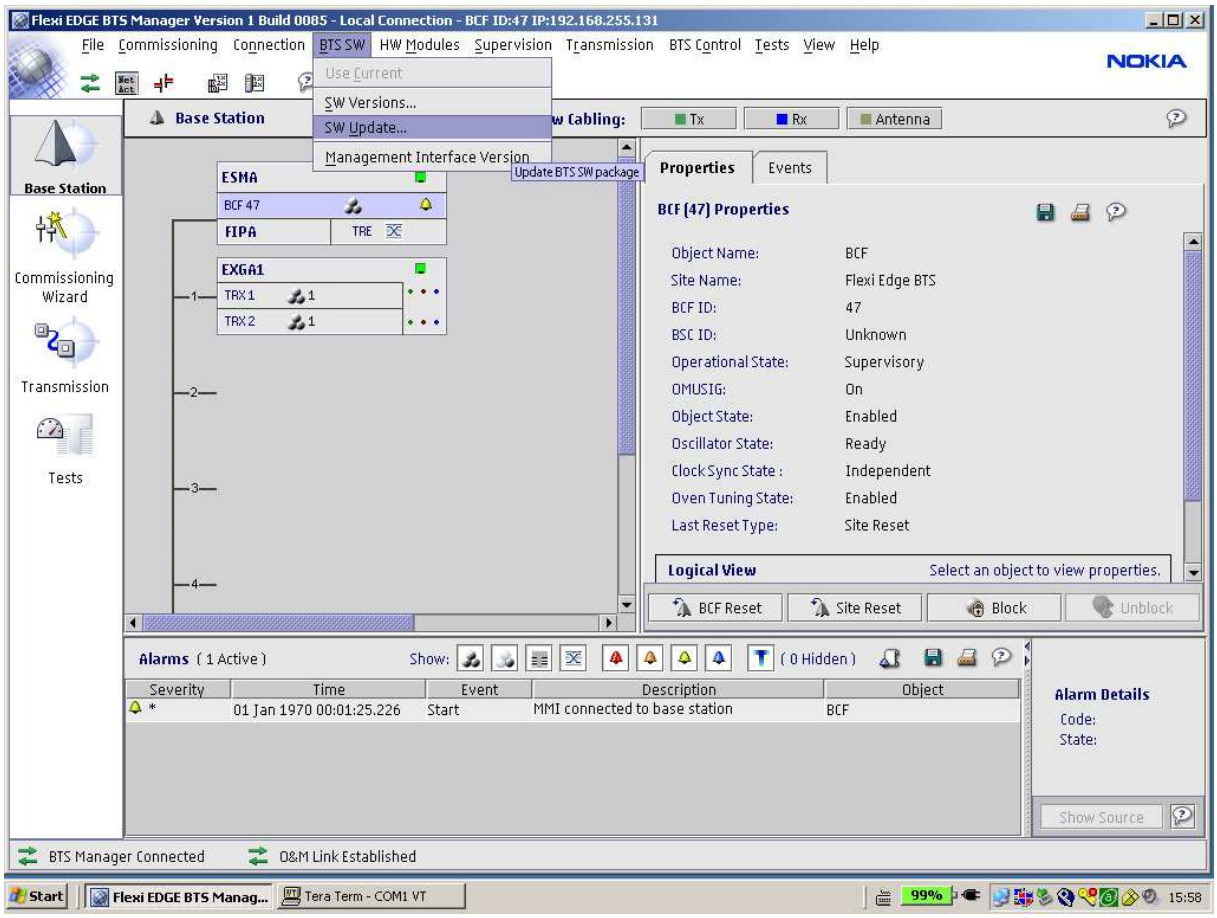

Figure 5. SW Update

2. Select the correct Master file name by clicking the Master File button.

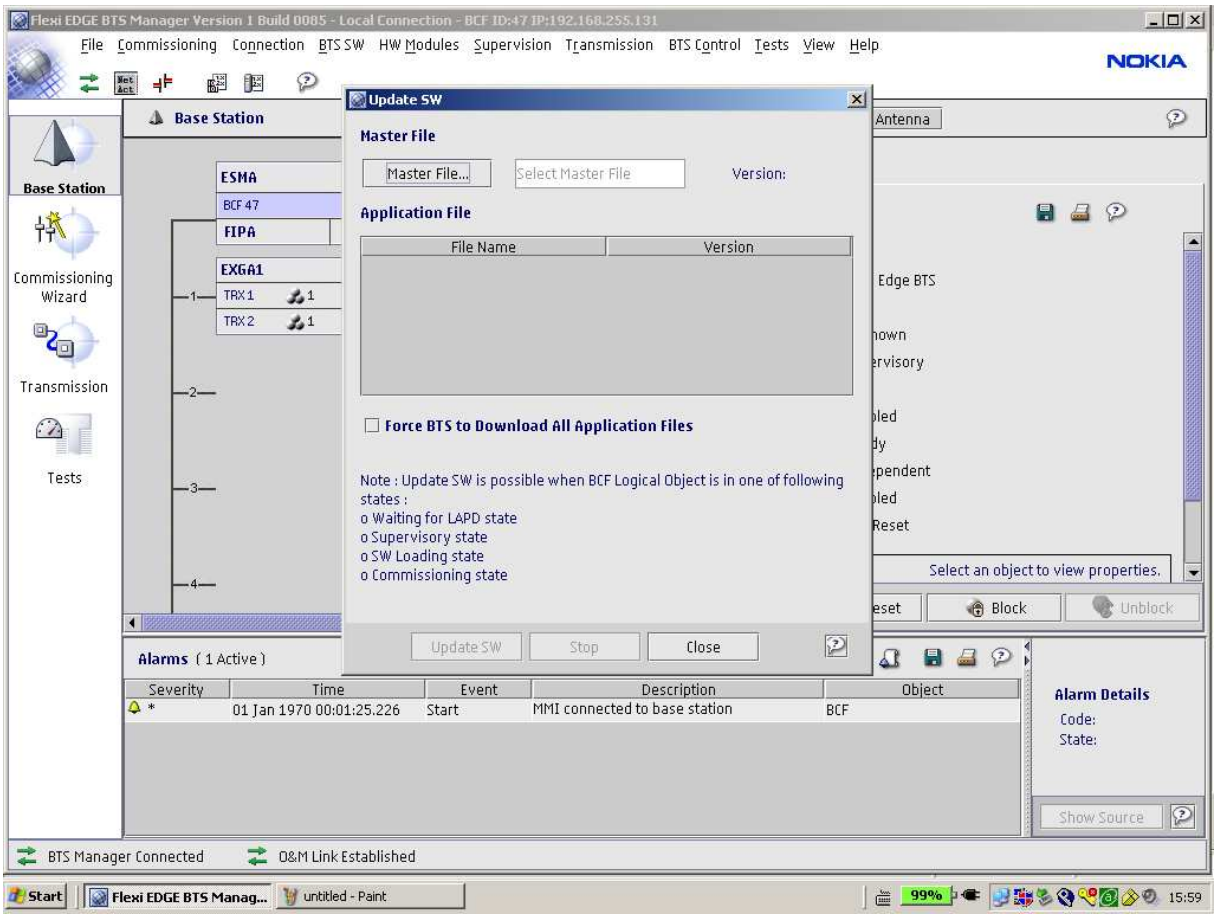

Figure 6. Selecting Master File

3. Click the Update SW button.

Expected outcome

The new master file and all application files have been downloaded to the BTS.

4. Reset the BTS.

Expected outcome

The site begins operating with the new BTS software.