Installing Con-nect SNADS in Batch Mode

This chapter describes step by step how to install Con-nect SNADS for execution in batch mode using the EntireX Broker Services LU6.2 API (refered to in this section as the LU6.2 API).

It covers the following topics:

- Overview
- Installation Steps for Batch Mode

Note:
The LU6.2 API uses the Natural VIEW COMMUNICATE-LU62.

Overview

Before you begin the installation process, you need the following information:

- The LU name which the VTAM system programmer assigned to the local and adjacent systems (See step 5).
- The VTAM log mode name which is used for APPC sessions to the adjacent systems (See step5).

Installation Steps for Batch Mode

1. Load the Con-nect SNADS programs from data set CSL *nnn*.INPL

The CSL *nnn*.INPL data set contains a number of Natural programs which supplement the Con-nect system program in the SYSCNT2 application. The Natural utility program INPL must be used to load the contents of the data set into the appropriate Natural system file. Objects are loaded only into the SYSCNT2 system libraries.

2. Relink your Natural nucleus (or nuclei) to satisfy the requirements for NATPARMs

Note:
If you change the DBID or FNR of a Con-nect system file, you have to re-execute this and the next step.

Certain requirements must be satisfied when generating the Natural nucleus (or nuclei) which will be used by the "end user" and "server programs" applications of Con-nect SNADS. The requirements for the "end user" application are less stringent than the requirements for the "server programs" application.

Following are the requirements for the Con-nect SNADS "end user" application:

- The environment must include a fully operational Con-nect system Version 3.4.1.
- The environment must contain a valid reference to a Con-nect spool file. The spool file identifier number is 223. This reference can be specified in the Natural parameter module with a NTLFILE macro call, or dynamically with the Natural keyword LFILE.

Note:
Do not use Adabas passwords or ciphering for either the Con-nect spool file or the Con-nect system file.

- The Con-nect SNADS system programs must be loaded into the appropriate Natural system file.

Following are the requirements for the Con-nect SNADS "server programs" application:

- All of the requirements for the "end user" application also apply to the "server programs" application.
- The statement NTDB PROCESS, 148 must be added to the Natural parameter module.
- The Natural PROCESS auxiliary buffer, ASIZE, must reflect the requirements of Software AG’s XCOM Communication Module. The recommended value is 28.
- The Natural system keywords listed below must be set as follows:

Natural Keyword	**Required Setting**
WH	ON
MADIO	0
MAXCL	0
AUTO	OFF
ETID (see note below)	Blank

Note:
The setting ETID=‘ ’ (blank) is recommended but not required. However, if the Natural keyword ETID is set to blank, and if more than one instance of a Con-nect SNADS server program becomes active at one time with more than one of those instances using the same Natural user ID, Adabas will not issue an error message.

3. Define local node for each Con-nect system file serviced

Con-nect SNADS uses spool file method routines for transferring data from the Con-nect system file (for local node data) to the Con-nect spool file (for external node data) and vice versa. Thus, a local node for the spool file method must be defined.

- Select the System Maintenance function from the Con-nect Administration Menu.
- Invoke the External Mail Nodes function on the "Administration - System Maintenance" screen. The "Administration - External Mail Nodes" screen is displayed.

Warning:
The following sub-step must be completed before you begin step 4.

- Select the Define Local Node function and, if you have not already done so, define a name for your spool file in the "Define Local Node" field and press ENTER. You are then prompted to define a local node for the transport service, although it is not required for Con-nect SNADS. Define a name in the "Define Local Node" field and press ENTER. For further information, see the *Con-nect Administration* documentation, section *System Maintenance*, sub-section *Define Local Node*.

By default, Con-nect SNADS uses the name you enter in the "Define Local Node" field for the spool file method as the Distribution Group Name (DGN) when mapping local Con-nect user identifiers to the SNADS Distribution User Names (DUNs).

4. Define control information for nodes (system files) - SNADS Initialization

You must define the control information for all SNADS Distribution Service Units (DSUs) that will be serviced from the current Con-nect spool file as local SNADS nodes.

To define Con-nect system files as nodes in the SNADS network, perform the following steps:

- Select the System Maintenance function from the Con-nect Administration - Main Menu.
- Invoke the External Mail Nodes function to display the "Administration - External Mail Nodes" screen.
- Select the Maintain Mail Nodes function and mark "F Snads" in the resulting Maintain Mail Node window.
- Invoke the Initialization function from the SNADS Administration Menu. The "Control Maintenance" screen is displayed.

- On the "Control Maintenance" screen, specify the DSUN (RGN and REN) of the Con-nect system file. In this context, a "Con-nect System" is the system file.
- Specify the Natural PROCESS ID for the desired LU6.2 API nucleus in the "NPR Node" field.

Note:
Specifying a time interval in the "Retry Delay" field is not needed since the queues are initiated with a batch task.

For more information about the "Control Maintenance" screen, refer to the *Con-nect Administration* documentation, section *Maintaining Con-nect SNADS* , sub-section *Control Maintenance*.

5. Create one or multiple outbound queues for the storing of Distribution Interchange Units (DIUs) intended for other nodes

Note:
This and the following three steps define the path messages take from Con-nect to other nodes. If changes are made in your SNA network, you may have to re-execute this step.

At least one outbound queue must be created for each adjacent node in the SNADS network. When an outbound queue is created, the attributes of the LU6.2 link between the EntireX Broker Services and the adjacent SNADS node must be defined. To create an outbound queue, perform the following steps:

- Select the Queue Maintenance function from the SNADS Administration Menu. The "Queue Maintenance" screen is displayed. Press PF4 to add a queue. The "Queue Info" screen is displayed.
- In the "Queue Info" screen, enter the following:

  In the "Queue ID" field, enter a one-to-eight character name to be used as the queue ID.

  In the "Connection ID" field, enter the fully qualified LU name used by the VTAM system programmer to define the adjacent node in the SNA network.

  In the "Mode-Name" field, enter the VTAM log mode name that the VTAM system programmer setup for APPC sessions to that node.

  Press PF5 (Confirm) to add the new outbound queue.

Note:
The status of the "Reset" field must be either I (Inactive) if the queue is to be processed regularly or H (held) if regular processing is to be suspended. Specifying a time interval in the "Time Interval" field is not necessary since the queues are activated with a Natural task.

For more information about the "Queue Info" screen, refer to the *Con-nect Administration* documentation, section *Configuring Con-nect SNADS* , sub-section *Outbound Queues*.

6. Set the "Reset", and "Input" statuses for the outbound queue

When you initially test Con-nect SNADS, the input status of the outbound queue must be set to active, and the reset status to inactive. To set the input and reset statuses of the outbound queue, perform the following steps:

- Select the Queue Maintenance function from the SNADS Administration Menu to display the "Queue Maintenance" screen.
- Enter MO (modify) in the "Cmd" column for the outbound queue and press ENTER. The "Queue Info" screen is displayed. Modify the following fields:

  In the "Reset Status" field, enter I (inactive).

  In the "Input Status" field, enter A (active).

  Mark the "Reset" field with any character and press PF5.

For more information about the "Queue Maintenance" screen, refer to the *Con-nect Administration* documentation, section *Maintaining Con-nect SNADS*, sub-section *Queue Maintenance*.

7. Create a dummy queue for the demon process

An additional queue must be defined which will be used to start the Con-nect SNADS "demon" process. When you create the dummy queue, define the attributes of the fully qualified LU name assigned to the LU6.2 API. To create the dummy queue, perform the following steps:

- Select the Queue Maintenance function from the SNADS Administration Menu. The "Queue Maintenance" screen is displayed. Press PF4 to add a queue. The "Queue Info" screen is displayed.
- In the this screen, perform the following steps:

  In the "Queue ID" field, enter "***DMY**" as the name to be used as the queue ID.

  In the "Connection ID" field, enter the fully qualified LU name used by the VTAM system programmer to define the LU6.2 API to the SNA Network.

  In the "Mode-Name" field, enter the VTAM log mode name that will be used for the APPC connections allocated by the adjacent nodes.

  Press PF5 (Confirm) to add the new outbound queue.

8. Define the JCL server task procedures

The "server tasks" consist of two different JCL procedures, the "input handler" and the "queue server", which run simultaneously. At least one input handler and queue server must be set up.

- The input handler is used as an interface to the LU6.2 API and initiates the demon process. When the demon process is initiated, it listens for transaction requests from remote SNADS partner nodes. When a request is caught, the demon process executes the DS_RECEIVE program. The input handler procedure consists of the execution of the Natural nucleus in batch mode. The following is an example of a JCL input handler procedure:

  ```
  //CMSYNIN DD *
  LOGON SYSCNT2
  X-FDEM
  FIN
  /*
  ```

  To stop the input handler procedure you must set the status of the dummy queue to H (hold).

- The queue server processes the inbound queue and the outbound queues. A queue server can be specified to handle one or a multiple of queues. The following is an example of a JCL queue server procedure:

```
//CMSYNIN DD *
LOGON SYSCNT2
X-FSCHED 2
***INB**
*
/END/
FIN
/*
```

  where "2" is the length of time (in minutes) between subsequent processing of the specified queues.

Whenever you want to process the inbound queue, that queue must be specified as "***INB**", whereas the outbound queues can be specified with a name or a wildcard.

If you want to specify the outbound queues with a wildcard, you can either:

- enter an asterisk (*) so that all outbound queues are processed, or
- enter the first couple of letters of a queue’s name followed by an asterisk (*) so that only those outbound queues whose names begin with the specified letters are processed.

To stop the queue server procedure you must set the statuses of all queues, specified within the procedure, to H (hold).

9. Define routing specifications for all other nodes with which you intend to communicate

You must define a routing entry for each node in the network with which you wish to communicate. The routing entry determines how the SNADS DIUs are to be routed to a particular node.

To define routing specifications, perform the following steps:

- Select the Routing Entry Maintenance function from the SNADS Administration Menu to display the "Routing Entry Maintenance" screen. Press PF4 to add a routing entry.

  The following must specified in the "Routing Entry" screen:

  In the "Recipient Node" field, enter the DSUN (RGN and REN) for each node.

  In the "Next Queue" field, enter the name of a defined outbound queue. See step 6.

  Press PF5 (Confirm) to add the new routing entry.

For more information about the "Routing Entry" screen, refer to the *Con-nect Administration* documentation, section *Maintaining Con-nect SNADS* , sub-section *Routing Entry Maintenance* .

10. Add a Mail Node, type F (SNADS), for sending purposes

You must define an external mail node in Con-nect for sending mail.

To define an external mail node, perform the following steps:

- Select the System Maintenance function in the Con-nect Administration - Main Menu.
- From the "Administration - System Maintenance" screen, invoke the External Mail Nodes function to display the "Administration - External Mail Nodes" screen. Specify the node name in the "Mail Node/Type" field (this node name will be used in the "Addressee" field in the Con-nect "Send" screen), and select the Add Mail Node function. Press ENTER.
- In the "Node Type" field specify F for SNADS.
- Enter the RGN (Group) and REN (Element) for each external SNADS node (i.e. Addressee) to form the DSUN (Node) portion of the SNADS address.

When an object (document or memo) is sent to this addressee, the value you entered for the DSUN (RGN and REN) is automatically provided by the system. The user must supply the DUN (DGN and DEN) for a specific user in order to complete the SNADS address.

11. Test the installation of Con-nect SNADS

When testing, use the following settings for all queues:

Input Status: A

Output Status: I

Reset Status: I

This guarantees that the queue servers will be activated only when they are started from the "Queue Maintenance" screen.

If you try to start a queue server when either the outbound or inbound queue is in the "hold" status, the queue server task will immediately exit without processing any information.

If you are unsuccessful in sending messages between nodes with the Con-nect queues set to either "event" or "timer" status, use the following procedure to manually step through the process of sending and receiving a Distribution Interchange Unit (DIU):

- Initialize the node. A routing entry, inbound queue, and one outbound queue must be defined to the node.

- Start the input handler procedure. This activates the demon process so that it listens for transmission requests from remote SNADS partners.
- Send a mail item from Con-nect. Then check the inbound queue to see if the DIU is there.
- Start the queue server procedure for the inbound queue (***INB**). This activates the "router", which should route the DIU to the outbound queue. Since the outbound queue is inactive, the DIU should remain in the outbound queue.
- Check to see if the DIU was routed to the outbound queue.
- Check the log records. The log records can be accessed using the Log Information Maintenance function in the SNADS Administration Menu. A list of log records written by the SNADS driver programs are displayed. If the router was executed, log records indicating successful or unsuccessful routing are displayed. The exact format of these records is not available; however, you can verify whether or not tasks have been executed. Typically, a message, e.g. "routing error", which corresponds to a particular log record indicates that an error occurred. Up to this point, LU6.2 has not been involved. The following steps allow you to test sending a DIU to another SNADS node.
- Start the queue server process for the respective outbound queue.
- Check the log records. The log records are accessed from the Log Information Maintenance function in the SNADS Administration Menu. If the DIU was successfully sent, records from the DS_SEND program (X-FON000) are displayed.
- Check for log records which were created when a status request was received from the target node. Records from the DS_RECEIVE program (X-FIN000) should be displayed.
- Check to see whether the DIU is delivered to the recipient node (the Inbasket, if Con-nect is the recipient node). In addition, there should be a "status" DIU generated and routed for delivery to the sender at the origin node.
- If you are still experiencing problems, the following commands and functions can be useful for debugging purposes:

  VTAM Operator Console Commands

  LU6.2 API Operator Commands

  Con-nect SNADS Administration Functions

  The following functions are offered in the Con-nect SNADS Administration Menu:

  Control Maintenance - Provides the correlation between a DSUN and a system file (DBID and FNR).

  Messages Awaiting Confirmation of Delivery - Displays the number of undelivered DIUs sent from Con-nect.

  Log Information Maintenance - Provides debugging information that can be helpful to Software AG in resolving any problems you are experiencing with Con-nect SNADS.