• (now C.1.19.1.1, now C.1.19.1.5) added an optional subfield for V.25bis destination dial address and calling identification number

• (now C.1.19.1.3, now C.1.19.1.5) changed FRPVC DSAP and SSAP from canonical to noncanonical format

• (now C.1.19.1.7, now C.1.19.1.8) corrected the wording of the address length field in subfields X′46A5′ and X′46A6′ for X.25

* The following revisions were made based on review comments to Document Number SV40-1010-02/DLUR-9 (APPN DLUR Architecture Reference Version 1.3). These changes are indicated by an asterisk (*) throughout the text.

* • (5.6.3, new 5.6.3.3) added -RSP(REQDACTPU) DLUR processing

* • (8.1.3, 8.1.4, 12.1.2, 12.1.4, new 13.1.3, new C.1.4, new C.1.5, new C.1.12, new C.1.30.1, new C.1.30.2) updated the DLUR name substitution processing

1. Upon receipt of some indication that a DLUR-supported PU requires activation (represented in flow 0), the DLUR node determines the DLUS node to be contacted on behalf of this PU (see 5.3, "DLUR-Initiated CP-SVR Pipe Activation" on page 5-2). In this case, at ENa the DLUS name was erroneously predefined as NNe. ENa allocates a conwinner conversation between its Send_Encap_Msg_TP and the Receive_Encap_Msg_TP (X'22F0F0F6') at NNe. Since no session using the CPSVRMGR mode between ENa and NNe already exists, ENa initiates the normal APPN flow sequence to bring up such a session. This begins with ENa sending a Locate Find Cdinit request to its network node server. The LU target of the session is the CP name of the DLUS node=NNe in this case.
2. The NNS(DLUR) issues either a broadcast or directed search for the CP_LU of the DLUS=NNe.
3. NNe responds to the search request with a Locate Found reply.
4. The NNS(DLUR) uses the information in the Locate reply to calculate a route to NNe and passes this back to ENa in the form of an RSCV.
5. ENa issues a CPSVRMGR BIND to NNe.
6. NNe provides a BIND response.
7. Following the RSP(BIND), ENa sends an FMH5 Attach to initiate the Receive_Encap_Msg_TP at NNe.
8. Once the Attach has been sent, ENa must send a REQACTPU to NNe. This will indicate to NNe that an ACTPU is requested on behalf of some local or downstream PU. Before the REQACTPU is sent, however, ENa must generate an FQPCID for this PU. This CV X'60'. will be used to uniquely identify the SSCP-PU sessions when more than one exists on a given CP-SVR pipe. A FID2 Encapsulation GDS variable (X'1500') is built, including within it the FID2 PIU, XID image, PU TG CV, DL CAP CV, and FQPCID. The GDS variable is then sent on the conwinner CPSVRMGR session to NNe.
9. When the DLUR component of NNe receives the FID2 Encapsulation GDS variable, it removes the encapsulation headers and examines the information within the variable. At this point, NNe finds a DLUR/S capabilities mismatch (DLUR-DLUR pipe) and deactivates the CP-SVR pipe. This is begun by sending an UNBIND on the conloser session to its partner ENa, including sense data X'088E 0009' in CV X'35'.
10. ENa sends a RSP(UNBIND) to the other DLUR for its conwinner session. The CP-SVR pipe is now deactivated. For more details on CP-SVR pipe deactivation see 5.6, "CP-SVR Pipe Deactivation" on page 5-20.

5.6.3 Abnormal SSCP-PU/SSCP-LU Session Deactivation (DLUR-Initiated)

(For DLUS-initiated SSCP-PU and SSCP-LU session deactivation, see 6.4, "SSCP-PU/SSCP-LU Session Deactivation (DLUS-Initiated)" on page 6-33)

A DLUR with a downstream PU (DSPU) has a mechanism (REQACTPU) to communicate to its DLUS a request to start an SSCP-PU session to that downstream PU. There must be a similar mechanism available to the DLUR to signal to the SSCP that the DLUR has lost its connection with the PU, so that the SSCP can terminate the SSCP-PU session (and SSCP-LU session(s) if any).

This mechanism shall be a new RU, REQDACTPU, to be sent on the SSCP-PU session by the DLUR to request to the SSCP that it take down the SSCP-PU session as well as any associated SSCP-LU sessions. Since the DLUR will no longer have a connection to the downstream device, it will have to respond to the DACTPU sent by the SSCP in response to the REQDACTPU. Once the SSCP-PU session has been deactivated, the DLUS can decide, using normal deactivation rules, whether or not to deacti-

vate the CP-SVR pipe. There are three different deactivation scenarios, each identified with different cause value in the REQDACTPU RU:

- Cause X'00': downstream PU outage
- Cause X'01': receipt of REQDISCONT(normal) from downstream PU
- Cause X'02': receipt of REQDISCONT(immediate) from downstream PU

* These scenarios assume a positive response to REQDACTPU - additional processing is included at
* 5.6.3.3, "-RSP(REQDACTPU) DLUR Processing" on page 5-54 to handle the situation where the DLUR
* receives a negative response to REQDACTPU.

5.6.3.1 Downstream PU Outage

In this scenario the DLUR BF detects a loss of connectivity with the downstream PU (there are several possible failures, e.g., polling timeouts and link failures to name two). This situation corresponds in the subarea BF to an INOPERATIVE condition.

Optionally, the DLUR can try to recover the downstream connection and, failing that, send the REQDACTPU or it can send the REQDACTPU right away.

1. There are active sessions between SSCP1 and PU2 and SSCP1 and LUa. These are the only active SSCP-PU and SSCP-LU sessions using the CP-SVR pipe between VTAM1 and ENa.
2.
3. ENa receives a REQDISCONT from PU2.
4. The DLUR node sends an FMH5 Attach to initiate the Receive_Encap_Msg_TP at the DLUS node.
5. To signal to SSCP1 that its SSCP-PU session with PU2 should be deactivated, ENa builds a REQDACTPU with a cause value of X′02′, encapsulates it, and forwards it to VTAM1 on its CP-SVR pipe.
6. VTAM1 de-encapsulates the REQDACTPU and forwards it to SSCP1.
7. SSCP1 responds to the REQDACTPU positively, passing the RSP(REQDACTPU) on to VTAM1.
8. The DLUS node sends an FMH5 Attach to initiate the Receive_Encap_Msg_TP at the DLUR node.
9. VTAM1 encapsulates the RSP(REQDACTPU) and forwards it to ENa.
10. ENa then converts the REQDISCONT into a positive RSP(REQDISCONT) and forwards it to PU2.
11. SSCP1 builds a DACTPU and passes it on to VTAM1.
12. The DLUS node sends an FMH5 Attach to initiate the Receive_Encap_Msg_TP at the DLUR node.
13. VTAM1 encapsulates the DACTPU and forwards it to ENa.
14. VTAM1 builds a RSP(DACTPU) and forwards it to SSCP1, not waiting for the response to return from the PU.
15. ENa de-encapsulates the DACTPU and forwards it to PU2.
16. VTAM1 determines that there are now no active or pending SSCP-PU sessions on its CP-SVR pipe to ENa, so it sends an UNBIND to ENa on VTAM1′s conwinner session to begin deactivation of the pipe.
17. VTAM1 also sends an UNBIND on its conloser session to ENa.
18. PU2 deactivates the SSCP-PU and associated SSCP-LU session. It converts the DACTPU into a positive RSP(DACTPU) and returns it to ENa.
19. ENa initiates DLC deactivation to PU2, and discards the RSP(DACTPU) since the CP-SVR pipe is in the process of being deactivated.
20. The DLUR node sends a RSP(UNBIND) to the DLUS for the conwinner session and another RSP(UNBIND) for the conloser session. For more details on CP-SVR pipe deactivation see 5.6, “CP-SVR Pipe Deactivation” on page 5-20.

5.6.3.3 -RSP(REQDACTPU) DLUR Processing

When the DLUR receives a negative response to REQDACTPU, regardless of the cause type, it will reset the PU and its associated LUs. This may include:

- resetting the LU-LU sessions, creating and sending SESSENDs
- resetting the SSCP-LU sessions
- resetting the SSCP-PU session
- deactivating the DLC if there was no outage

* All of the -RSP(REQDACTPU) cases will be handled as the +RSP(REQDACTPU) downstream PU
* outage case (see 5.6.3.1, “Downstream PU Outage” on page 5-46), i.e., no DACTLUs or DACTPUs will
* be built and sent to the downstream devices.