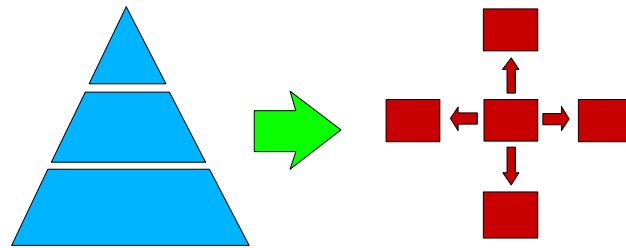


LOGMODE And COS Resolution In Mixed APPN/Subarea Networks



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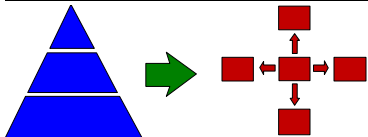
Overview Of LOGMODE & COS Resolution

■ Subarea Networks

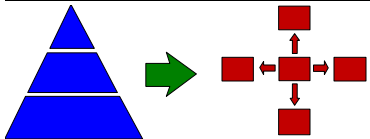
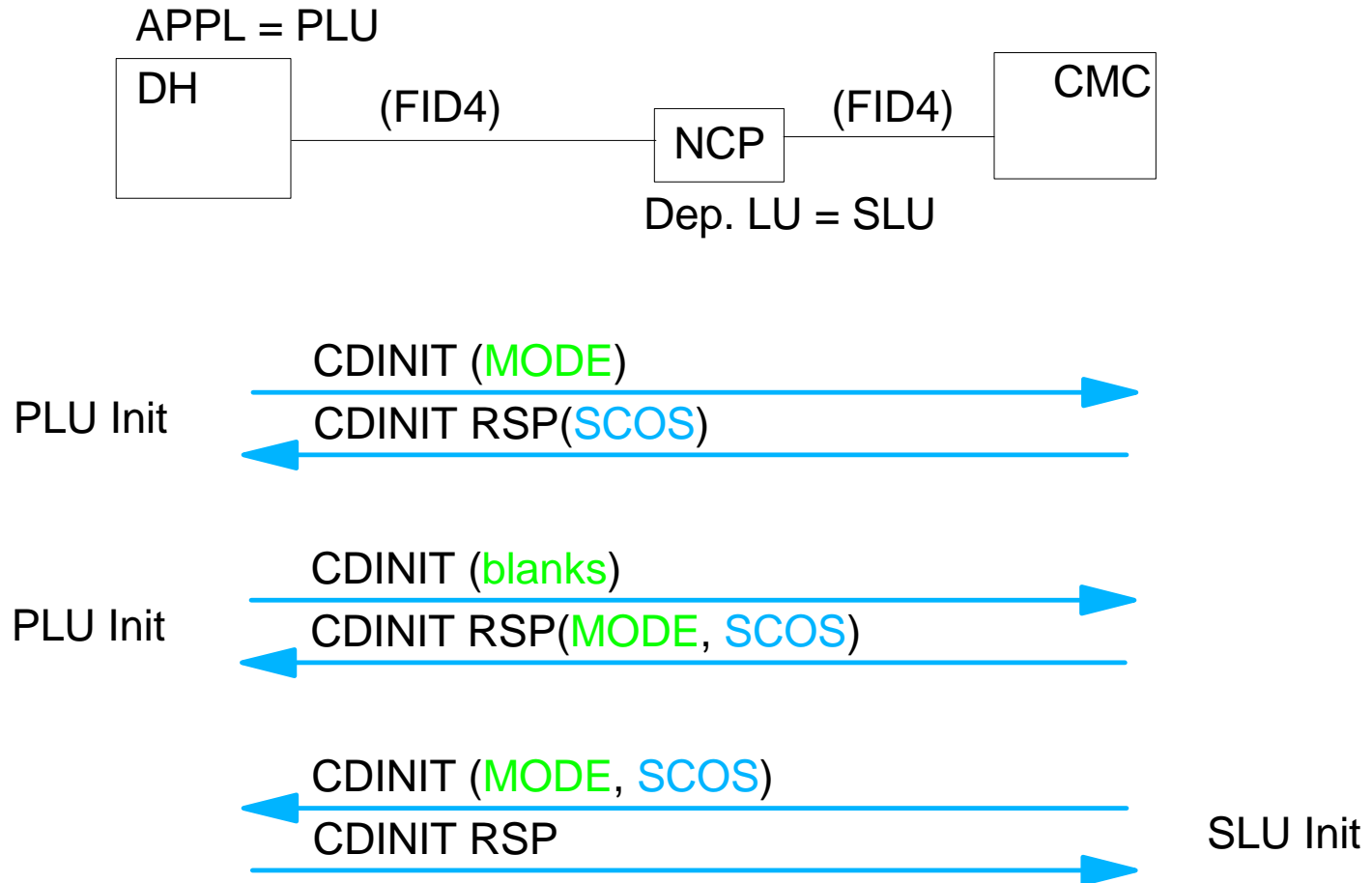
- LOGMODE Name Chosen By OLU Or SSCP(OLU)
 - ▶ If BLANKS, Default LOGMODE Name Chosen By SSCP(SLU)
 - ▶ DLOGMOD Or First Entry In SLU's MODETAB Or ISTINCLM
- Subarea COS Name Chosen By SSCP(SLU)
 - ▶ Translated At SNI Boundaries (SLU-to-PLU)
- VR/ER List Chosen By SSCP(PLU) Or GWSSCP(PLU)

■ APPN Networks

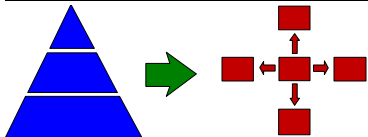
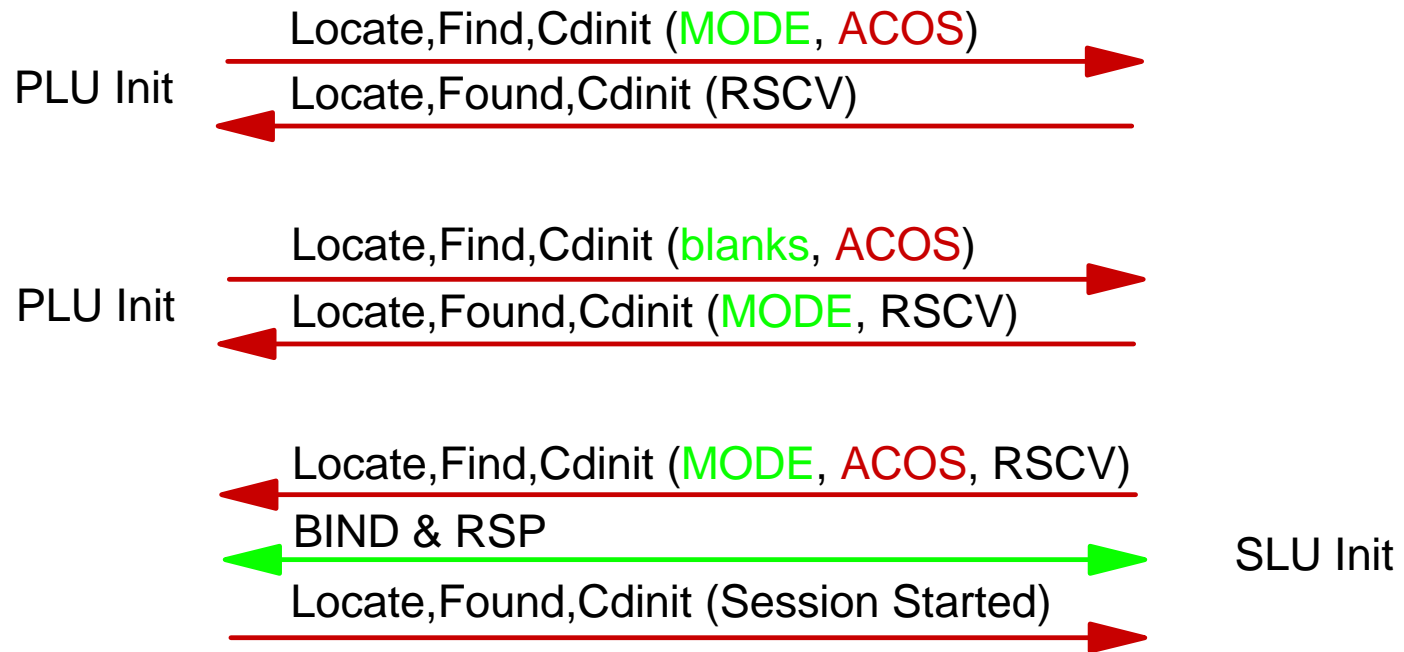
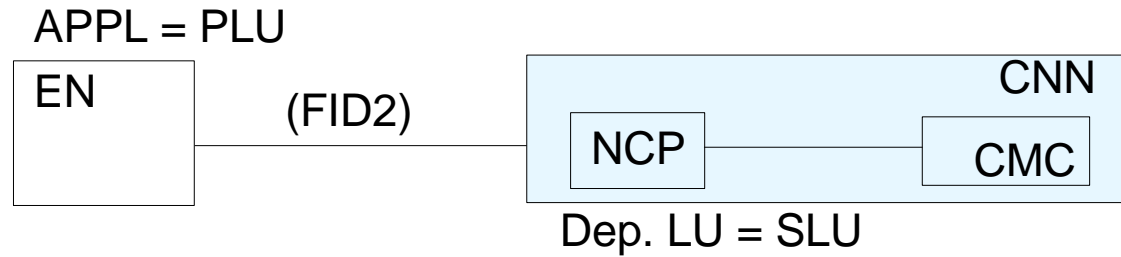
- LOGMODE Name Chosen By OLU Or CP(OLU)
 - ▶ No Special Provisions Made For BLANK LOGMODE
- APPN COS Name Chosen By EN(OLU) Or NNS(OLU)
 - ▶ Mapped At APPN Network Boundaries (OLU-To-DLU)
- RSCV Computed By NNS(PLU) In Each APPN Network
 - ▶ Except When Interchange TGs (ICTGs) Are Involved



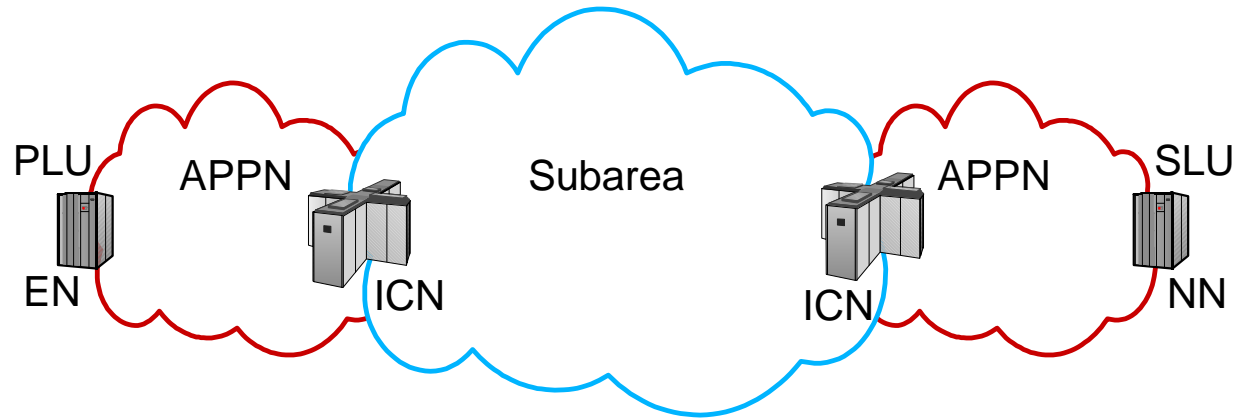
Subarea Network Examples



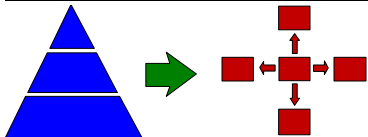
APPN Network Examples



What About Mixed Networks?



- How Many APPN Networks Are There? (2)
- How Many Subarea Networks Are There? (3)
- How & Where Is LOGMODE Name Determined?
- How & Where Is Subarea COS Name Determined?
- How & Where Is APPN COS Name Determined?

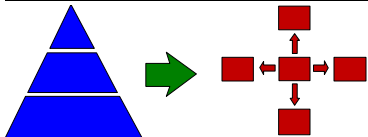


Mixed APPN And Subarea Networks

- Each Network Follows Its Own Rules
 - In EACH NETWORK Of That Type!!

- Two Methods of Resolving COS Names
 - LOGMODE Table Method
 - ▶ Maps LOGMODE Name To APPN And/Or Subarea COS Name
 - ▶ Uses LOGMODE Table Associated With The SLU
 - ▶ Default Method (When No COS Mapping Table/Entry Exists)
 - COS Mapping Table Method
 - ▶ Maps One COS Name (APPN Or Subarea) To The Other
 - ▶ Replaces LOGMODE Table Method (If COS Mapping Table/Entry Exists)
 - ▶ Requires That One COS Name Be Known (Via LOGMODE Table Method)

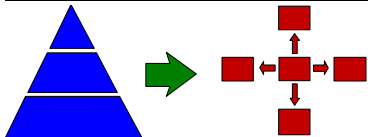
- COS Name Resolution Is Performed At Same Node Roles!
 - Regardless Of Which Method Is Used
 - Following The Rules For Each Type Of Network



COS Resolution: LOGMODE Table Method

```
TABLNAME MODETAB
      :
      :
*****
*      LOGMODE TABLE FOR BATCH SESSIONS ON RESOURCES CAPABLE      *
*      OF ACTING AS LU 6.2 DEVICES                                  *
*****
#BATCH  MODEENT LOGMODE=#BATCH,FMPROF=X'13',TSPROF=X'07',          *
          ENCR=B'0000',SSNDPAC=3,RUSIZES=X'F7F7',                  *
          SRCVPAC=3,PSNDPAC=3,COS=SABATCH,APPNCOS=#BATCH
*****
*      LOGMODE TABLE FOR INTERACTIVE SESSIONS ON RESOURCES        *
*      CAPABLE OF ACTING AS LU 6.2 DEVICES                          *
*****
#INTER  MODEENT LOGMODE=#INTER,FMPROF=X'13',TSPROF=X'07',          *
          ENCR=B'0000',SSNDPAC=7,RUSIZES=X'F7F7',                  *
          SRCVPAC=7,PSNDPAC=7,COS=SAINTER,APPNCOS=#INTER
      :
      :
      MODEEND
      END
```

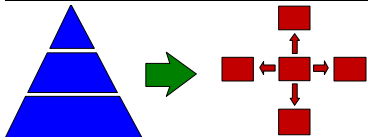
- Maps LOGMODE Name To Subarea/APPN COS Name. Used:
 - When COS Mapping Tables Are Not Defined
 - When No Direct Or Default COS Mapping Exists
 - To Resolve LOGMODE Name To Very First (Subarea) COS Name
- ISTCOSDF LOGMODE Entry Defines Default Values
 - Used When LOGMODE Name Is Unknown (If ITCOSDF Start Option Allows)



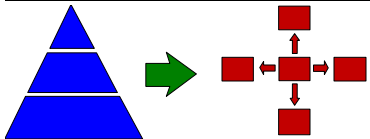
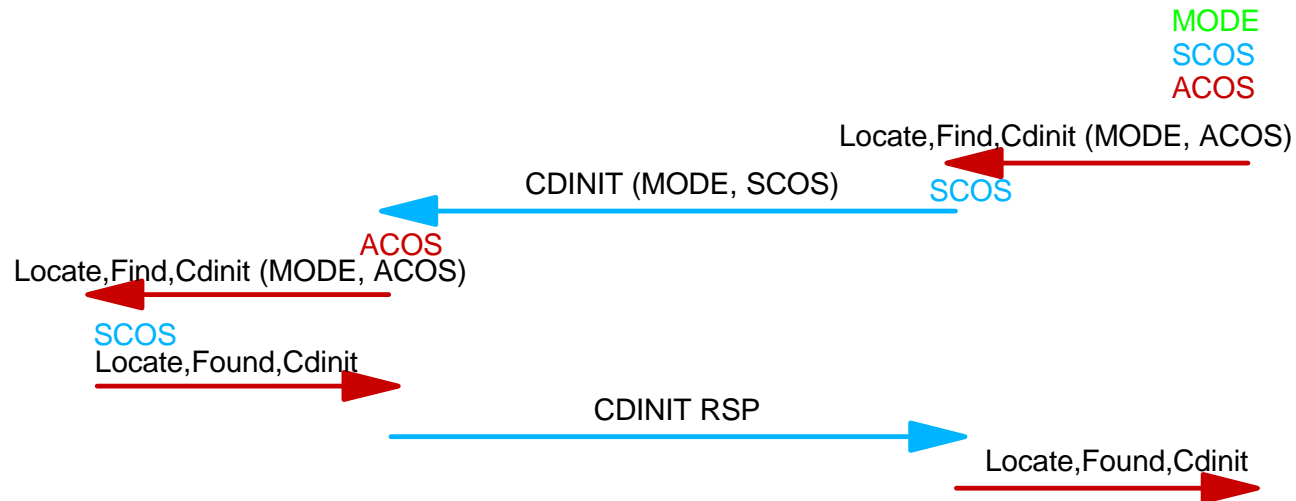
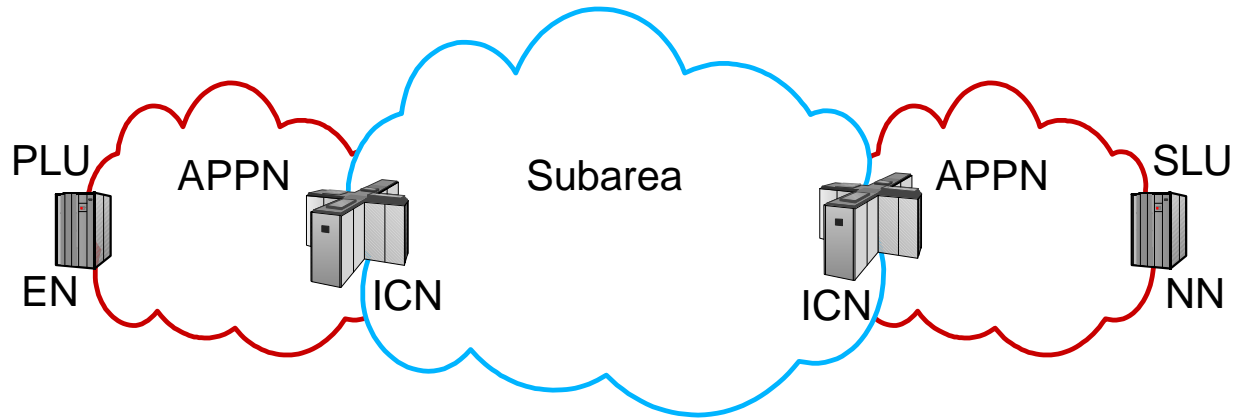
COS Resolution: COS Mapping Table Method

```
*****
*
*  NAME:      APPNTOSA (APPN_TO_SA COS Mapping Table)
*
*****
APPN2SA  VBUILD      TYPE=APPNTOSA
#CONNECT MAPSTO      COS=,DEFAULT=YES
#BATCH   MAPSTO      COS=SABATCH
#BATCHSC MAPSTO      COS=SABATCHS
#INTER   MAPSTO      COS=SAINTER
#INTERSC MAPSTO      COS=SAINTERS
CPSVCMG  MAPSTO      COS=ISTVTCOS
SNASVCMG MAPSTO      COS=ISTVTCOS
:
:
:
```

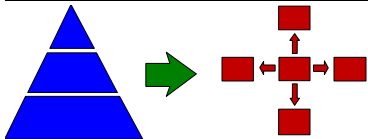
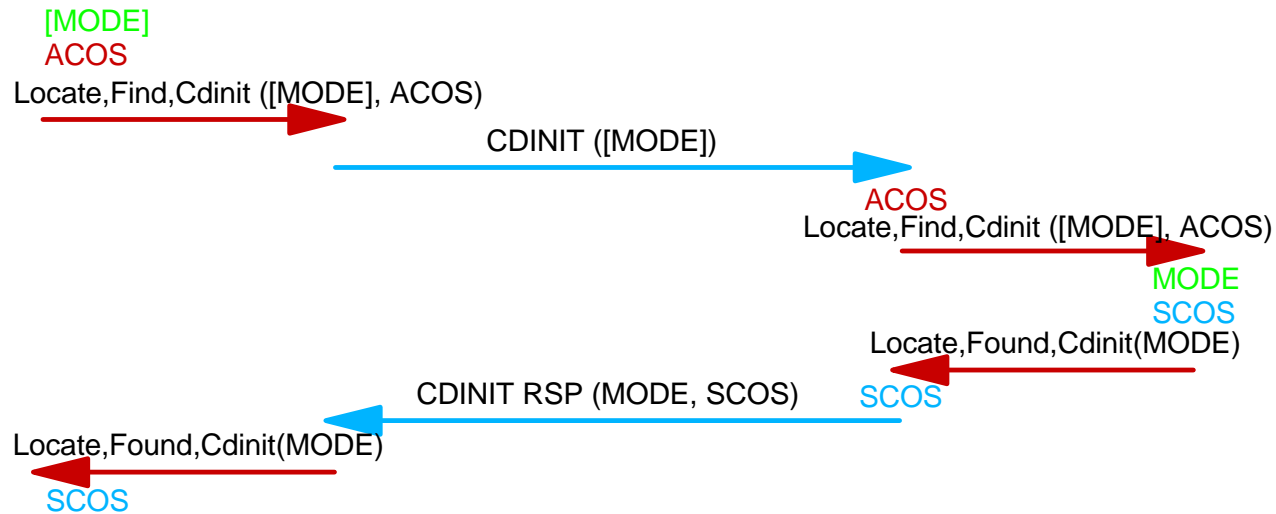
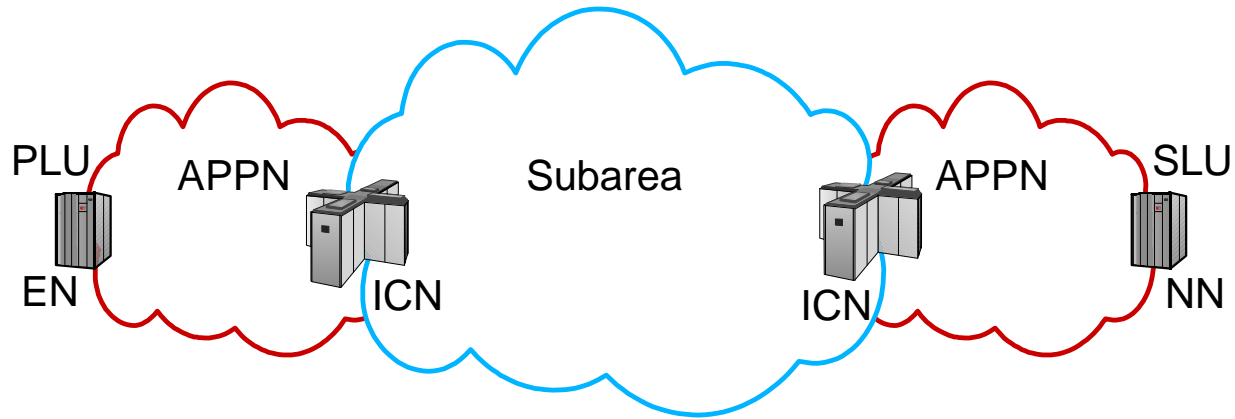
- VBUILD TYPE=APPNTOSA Or TYPE=SATOAPPN
- Used In Preference To LOGMODE Table Method
- Maps One COS Name (APPN or Subarea) To The Other
- Allows Different Mappings In Each Direction (But Why?)
- Default COS Mapping Can Be Specified (DEFAULT=YES)
 - Used When Input COS Has No Explicit Mapping
- OW28568 Needed To Map "Blank" Subarea COS Name



APPN-Subarea-APPN SLU-Initiated Session



APPN-Subarea-APPN PLU-Initiated Session



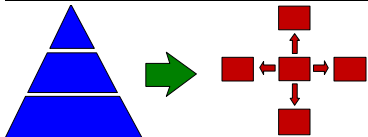
Mixed Network Summary

■ SLU-Initiated Sessions Work Very Well

- LOGMODE Name Always Chosen By OLU=SLU
 - ▶ COS Names Are Chosen Using Non-Blank LOGMODE Name
- APPN/Subarea COS Names Chosen On Same Flow
 - ▶ During Request Phase (SLU-To-PLU)
- COS Mapping Works Intuitively

■ PLU-Initiated Sessions Do Not Work As Well

- LOGMODE Name Chosen By OLU=PLU Or DLU=SLU
 - ▶ COS Names May Be Chosen Using Blank LOGMODE Name
- APPN And Subarea COS Names Chosen On Different Flows
 - ▶ APPN COS Name Chosen During Request Phase (PLU-To-SLU)
 - ▶ Subarea COS Name Chosen During Response Phase (SLU-To-PLU)
- COS Mapping Works, But Not As Intuitively



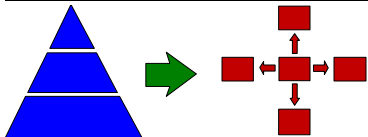
Mixed Network Considerations

- APPN/Subarea COS Names Chosen Using SLU RDTE
 - Often Outside The SLU Domain, Which Means...
 - Often Using A Dynamic CDRSC, Which Means...
 - Often Using The Default LOGMODE Table And/Or LOGMODE Entry
 - ▶ First Entry In ISTINCLM (For BLANK LOGMODE Name), Or
 - ▶ ISTCOSDF Entry (For Non-BLANK But Unknown LOGMODE Name)

- COS Mapping For PLU-Initiated Sessions Is Not Intuitive
 - SA-To-APPN-To-SA COS Mapping Occurs At The Same Node
 - ▶ Subarea-To-APPN COS Mapping During Request Phase
 - ▶ APPN-To-Subarea COS Mapping During Response Phase
 - ▶ Could End Up With Different Subarea COS Name

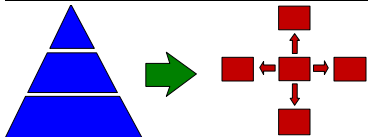
- PLU=OLU Does Not Always Provide LOGMODE Name
 - APPN COS Name Chosen Using Blank LOGMODE Name
 - Subarea COS Name Chosen Using Resolved LOGMODE Name
 - ▶ Except When COS Mapping Tables Are Used

WATCH FOR UNEXPECTED RESULTS!!!



Mixed Network Solutions

- **Predefine Resources As CDRSCs In Other Nodes**
 - Specify MODETAB= & DLOGMOD= (On CDRSC/GROUP)
 - ▶ Avoids Using Default LOGMODE Table (ISTINCLM)
 - Allows Resource Specific MODETABs/DLOGMODs
 - ▶ Converging On A Single Table Is Recommended
 - Adds Administrative Overhead To Maintain CDRSCs
- **Modify ISTINCLM As Necessary (At All Nodes!)**
 - Add A Subarea COS Name (COS=) To Each Entry
 - Same LOGMODE Table Will Be Used For All Resources
 - ▶ Unless Predefined With Different MODETAB
 - Must Re-Modify ISTINCLM With Each New Release
- **Use DYNMODTB= And DYNDLGMD= Start Options**
 - Specifies MODETAB/DLOGMOD For Dynamic CDRSCs
 - **NOT** Used For Predefined CDRSCs!
- **Use COS Mapping Tables Instead? Maybe Not...**
 - Works Well For SLU-Init; Not So Well For PLU-Init
 - Requires Some LOGMODE Table Work Anyway
 - APPNTOSA Table Required For HPR Over VRs/ERs



Other Potential Issues

■ Unknown LOGMODE Names

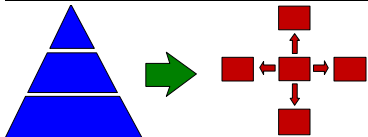
- Code ISTCOSDF Entry In LOGMODE Table(s)
 - ▶ Include COS= And APPNCOS= Operands
- Used When Supplied LOGMODE Name Is Unknown
- Code ISTCOSDF= Start Option To Control Its Use
 - ▶ APPLs, Independent LUs, Dependent LUs

■ Unknown Subarea COS Names

- Code SUBSTUT=YES On COSTAB Entry
- Used When No Subarea COS Definition (VR List) Found

■ Unknown APPN COS Names

- Code APPNCOS= Start Option
- Used When No APPN COS Definition Found



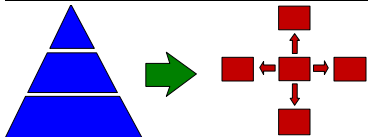
Other Potential Issues

■ LOGMODE Table Issues

- ISTINCLM Used Without Coding Subarea COS Name (COS=)
 - ▶ BLANK Subarea COS Name Used For All LOGMODE Entries
- User LOGMODE Table Used Without Coding APPN COS Name (APPNCOS=)
 - ▶ APPN COS Name Assumed To Be Same As Subarea COS Name
 - ▶ If Subarea COS Name Is Not Specified Either, #CONNECT Is Always Used
- See VTAM Network Implementation Guide Or Resource Definition Reference

■ APPNTOSA COS Mapping Table Required For HPR Over VRs

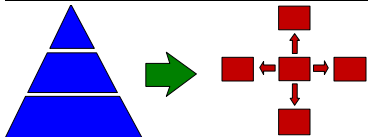
- LOGMODE Tables Cannot Always Be Used
 - ▶ Many Different SLUs Use Same RTP, If APPN COS Name Is The Same
- Instead, APPNTOSA COS Mapping Table Is Always Used
 - ▶ APPNTOSA Table Will Then Be Used For LU-LU Sessions Too!



Other Potential Issues

■ HOST Control Point (CP) Sessions

- HOST CP (APPL) RDTE Created Dynamically By VTAM
 - ▶ Cannot Specify MODETAB= Or DLOGMOD=
 - ▶ DYNMODTB= Only Affects Dynamic CDRSCs
 - ▶ ISTINCLM Always Used (And Usually BLANK Subarea COS Name)
- OW26928 Adds COS=ISTVTCOS To CP-CP LOGMODEs In ISTINCLM
 - ▶ CPSVCMG And CPSVRMGR
- Can Also Change MODETAB Using MODIFY TABLE Command
 - ▶ After VTAM Initialization Has Completed (RDTE Created)
 - ▶ May Have To Recycle CP-CP Sessions (If Already Active)

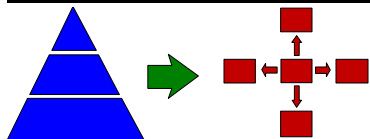


Debug Aids: DISPLAY SESSIONS,SID=

```
d net,id=applaal,e
IST097I DISPLAY ACCEPTED
IST075I NAME = NETA.APPLAAL, TYPE = CDRSC
IST486I STATUS= ACT/S, DESIRED STATE= ACTIV
IST1447I REGISTRATION TYPE = NO
IST977I MDLTAB=***NA*** ASLTAB=***NA***
IST1333I ADJLIST = ***NA***
IST861I MODETAB=***NA*** USSTAB=***NA*** LOGTAB=***NA***
IST934I DLOGMOD=***NA*** USS LANGTAB=***NA***
IST597I CAPABILITY-PLU ENABLED ,SLU ENABLED ,SESSION LIMIT NONE
IST231I CDRSC MAJOR NODE = CDRSC2A
IST479I CDRM NAME = SSCPAA, VERIFY OWNER = NO
IST1184I CPNAME = NETA.SSCPAA - NETSRVR = ***NA***
IST1044I ALSLIST = ISTAPNPU
IST082I DEVTYPE = INDEPENDENT LU / CDRSC
IST654I I/O TRACE = OFF, BUFFER TRACE = OFF
IST1500I STATE TRACE = OFF
IST228I ENCRYPTION = NONE
IST1563I CKEYNAME = APPLAAL CKEY = PRIMARY CERTIFY = NO
IST1552I MAC = NONE MACTYPE = NONE
IST171I ACTIVE SESSIONS = 0000000001, SESSION REQUESTS = 0000000000
IST206I SESSIONS:
IST1081I ADJACENT LINK STATION = P4A21AA1
IST634I NAME STATUS SID SEND RECV VR TP NETID
IST635I APPL1 ACTIV-P EAABEEC32A293FFB 0 0 NETA
IST924I -----
IST075I NAME = NETA.APPLAAL, TYPE = DIRECTORY ENTRY
IST1186I DIRECTORY ENTRY = DYNAMIC LU
IST1184I CPNAME = NETA.SSCPAA - NETSRVR = ***NA***
IST314I END
```

```
d net,sessions,list=all
IST097I DISPLAY ACCEPTED
IST350I DISPLAY TYPE = SESSIONS
IST873I PLU SLU SID STATUS
IST874I NETA.APPL1 NETA.APPLAAL EAABEEC32A293FFB ACTIV
IST874I NETA.SSCPAA NETA.SSCP2A EAABEE18787C7DA9 ACTIV/CP
IST874I NETA.SSCP2A NETA.SSCPAA F6ABEEC32D293FF7 ACTIV/CP
IST924I -----
IST878I NUMBER OF PENDING SESSIONS = 0
IST924I -----
IST878I NUMBER OF ACTIVE SESSIONS = 3
IST1162I LU-LU = 1
IST1162I CP-CP CONWINNER = 1
IST1162I CP-CP CONLOSER = 1
IST924I -----
IST878I NUMBER OF QUEUED SESSIONS = 0
IST924I -----
IST878I NUMBER OF TOTAL SESSIONS = 3
IST924I -----
IST1161I SSCP SESSIONS
IST1162I SSCP-LU = 1
IST1162I SSCP-PU = 2
IST1162I SSCP-SSCP = 1
IST314I END
```

- Displays LOGMODE And COS Names For A Specific Session
 - DISPLAY ID=resource,E Or DISPLAY SESSIONS,LIST=ALL To Get Session ID
 - DISPLAY ID=resource Also Displays MODETAB= And DLOGMOD= Values
 - ▶ Remember: SLU's LOGMODE Table Used To Resolve LOGMODE/COS Names



Debug Aids: DISPLAY SESSIONS,SID=

```
d net,sessions,sid=EAABEEC32A293FFB
IST097I DISPLAY ACCEPTED
IST350I DISPLAY TYPE = SESSIONS
IST879I PLU/OLU REAL = NETA.APPL1      ALIAS = ***NA***
IST879I SLU/DLU REAL = NETA.APPLAA1    ALIAS = ***NA***
IST880I SETUP STATUS = ACTIV
IST875I ADJSSCP TOWARDS PLU = SSCP1A
IST875I ADJSSCP TOWARDS SLU = ISTAPNCP
IST875I ALSNAME TOWARDS SLU = P4A21AA1
IST933I LOGMODE=YODAMODE, COS=*BLANK*
IST1438I LOGMODE YODAMODE UNKNOWN IN THIS DOMAIN, DEFAULT IS ISTCOSDF
IST875I APPNCOS TOWARDS SLU = #CONNECT
IST314I END
```

- DISPLAY SESSIONS,SID=XXXXXXXXXXXXXXXXX Shows:
 - LOGMODE Name Used For Session
 - ▶ And Whether ISTCOSDF Was Used Instead (IST1438I)
 - Subarea COS Name Used For Session
 - APPN COS Name Used For Session
 - ▶ In Each Direction, When Border Nodes Are In Use

