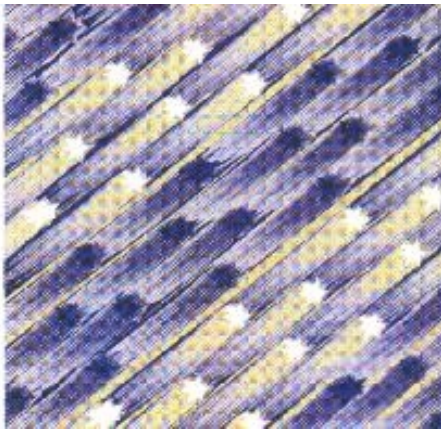

3746-900 Installation Scenarios

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Abstract

The following document is intended to provide the field with working examples of some of the most common configurations using a 3746-900 and the MAE to connect to the mainframe
.
The way the information is organized is the following:

- a presentation documenting the test environment and the different scenarios tested.
- text files with VTAM and NCP source that reflect the different elements used in the tests.
- CCM files with the 3746-900 configurations for each scenario.

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Preface

This document is inteded for people that are in the process of installing specific functions like TN3270e support or Frame-Relay switch using the IBM 3746-900 with the MAE. There will be additional scenarios added as we see requirements from the field.

Keywords

3746-900, 3746-950, MAE, 3746, TN3270e, Frame Relay, MVS IOGEN

Product List

3746-900, 3746-950, and MAE

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Chapter 1: Test Scenarios discussion

The first part you should read is the presentation, making sure to read the all notes
that document the LAB environment and the different scenarios.
Each one of the scenarios list a series of “relevant files” that are also part of this document.

Those files are VTAMLST files, NCP and CCM configurations (some of them including MAE) that provide all the necessary information to have a specific scenario operational. You can use them as a starting point if you are going to implement one of the specified scenarios in your Customer.

FILES:

1) WSC LAB 2000 (Presentation with all the tested scenarios)

2) 3746 CCM files:

01101500.ccm	(FRAME RELAY FRAME HANDLER CONFIGURATION)
01101501.ccm	(TN3270e using APPN/HPR and direct MAE connectivity)
01101502.ccm	(TN3270e using SNA Subarea and 3746 ESCON channels)
01101503.ccm	(Configuration used in the 3746 hands-on class G3955)

3) VTAM files:

ET21BAN	(Switched major node for a PC using a 2210 BAN to connect)
ET3174	(Switched major node for a 3174 SDLC attached)
ETCM2	(Switched major node for a PC using CM/2 to connect on TR.)
ETLOC900	(Local node for the 3746-900)
ETSP900	(Switched major node describing the 3746 Service processor)
MAET3270	(Switched major node describing the 3270 PUs/LUs for TN3270)
MAEXCA	(XCA definition to represent the MAE)

4) NCP file:

NCPMAES	(NCP source used for Subarea connectivity on the 3745/6)

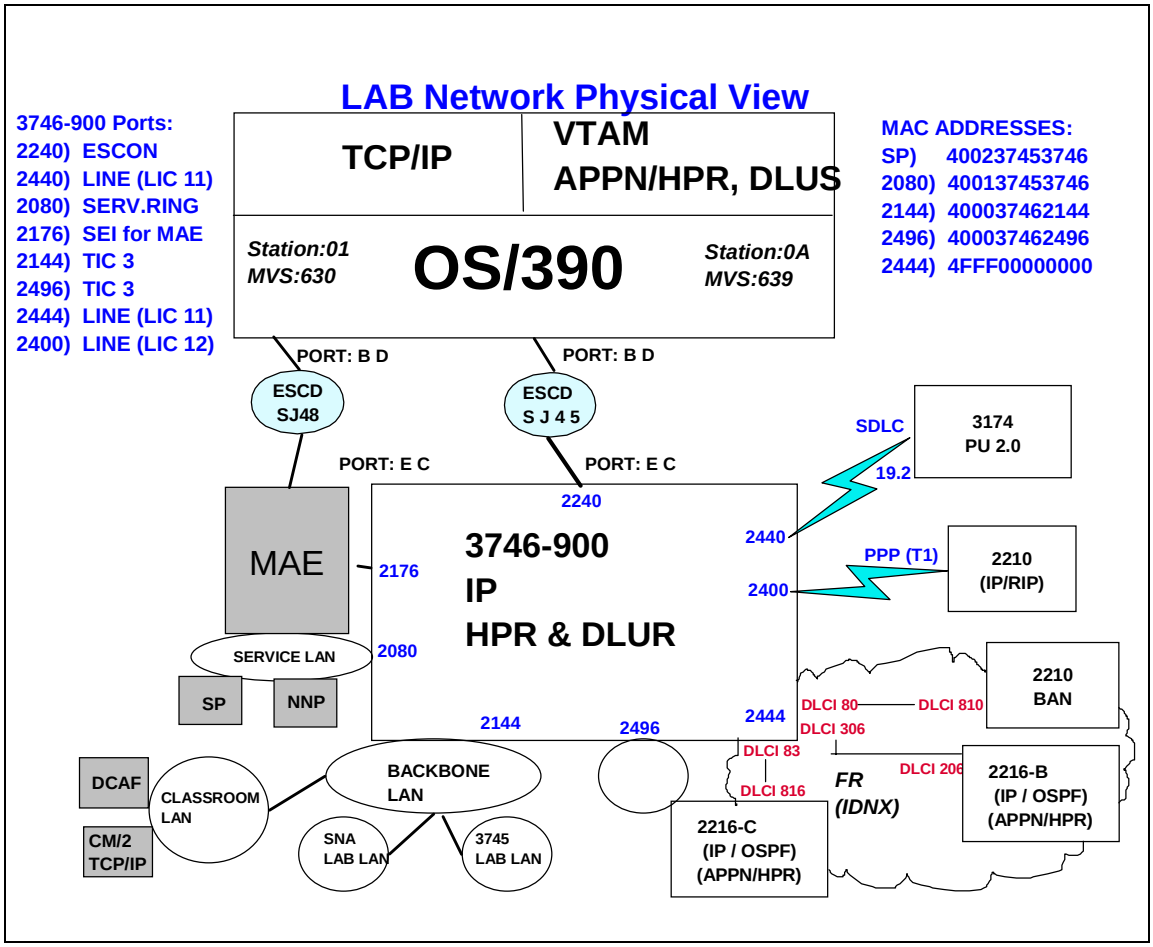
Chapter 2: Detailed Implementation

TESTING ENVIRONMENT LAB

This diagram describes the MVS physical connectivity provided by the 3746-900, including the MAE, in the Washington Systems Center LAB.

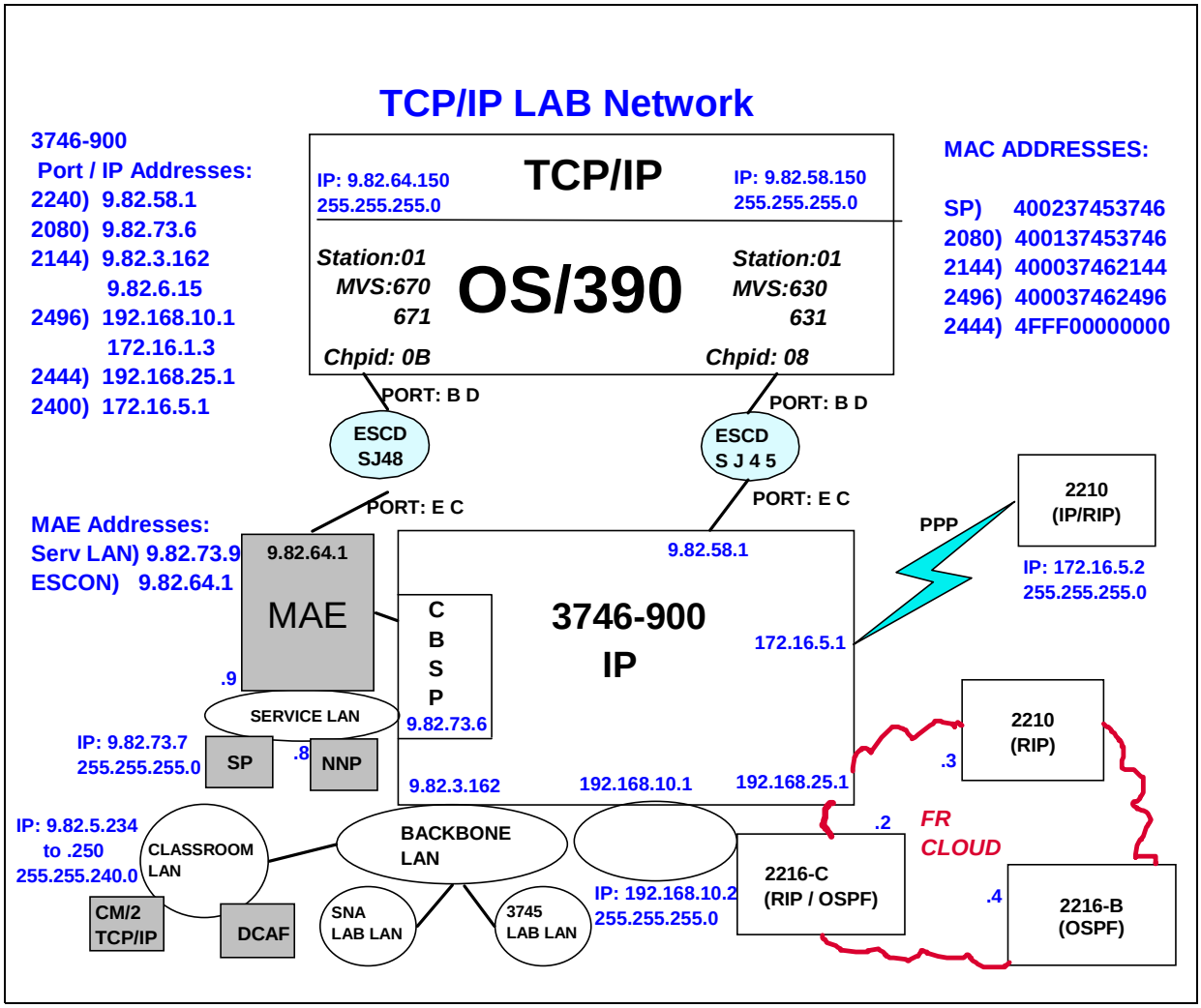
The 3746-900 frame is running IP, APPN(HPR) using DLUR to connect to the Subarea Network. The 3745 frame is not shown to simplify this diagram. It is a 3745-610 with 2 engines defined as twin dual, and running an NCP for the Subarea access.

The 3746 configuration supports Frame Relay, Token Ring and ESCON connectivity to the host. PU2.0, PU2.1, TCP/IP terminals and 221X routers are used as peripheral devices connected to the 3746 adapters.The MAE provides all the "advanced connectivity" (ATM, Fast Enet, etc.) and the TN3270e function to connect to the MVS host.



TCP/IP ADDRESSING AND CONNECTIVITY

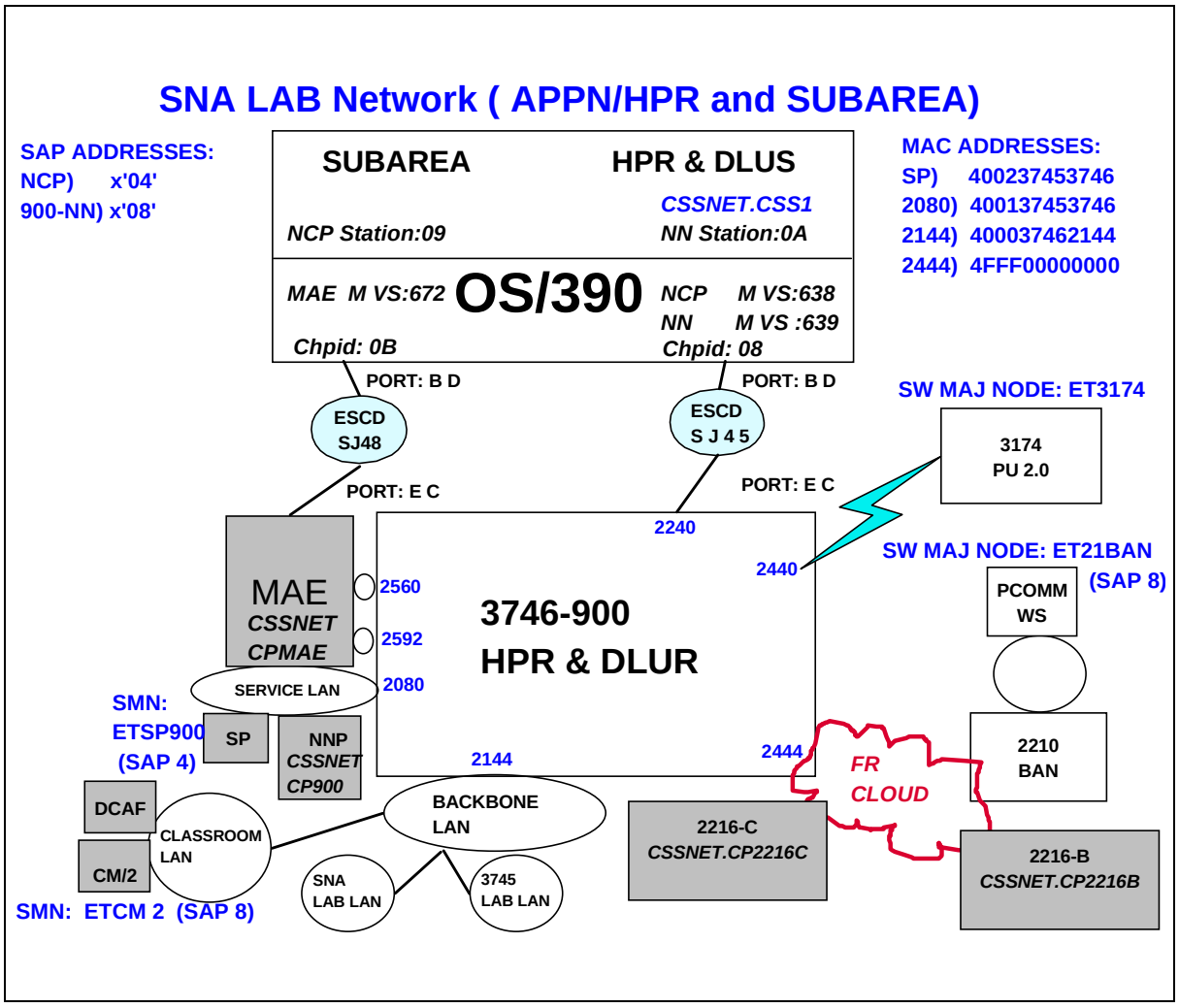
The TCP/IP connectivity supported by the 3746 configuration uses RIP V1 and OSPF routing protocols. There are 2 different ESCON connections to the host:
- On channel 630/631, the 3746 IP router connects to TCP/IP in MVS
- On channel 670/671, the MAE has a direct ESCON connection to provide access to TCP/IP in the host, to the high speed adapters in the MAE, without using the adapters in the 3746-900.



SNA ADDRESSING (HPR and SUBAREA) AND CONNECTIVITY

The WSC 3746-900 has been configured with full support of SNA protocols (Subarea and APPN/HPR). To support Subarea, an NCP (NCPMAES) runs in the 3745-610 (CCU-A). It is used in the TN3270e Subarea support configuration.APPN/DLUR is provided by the NNP, and uses DLUR to support dependent LUs, represented by the 3174 in this diagram.Subarea connection to VTAM ICN is provided by ESCON, using channel 638. APPN/HPR connectivity to VTAM ICN is provided by ESCON, using channel 639.

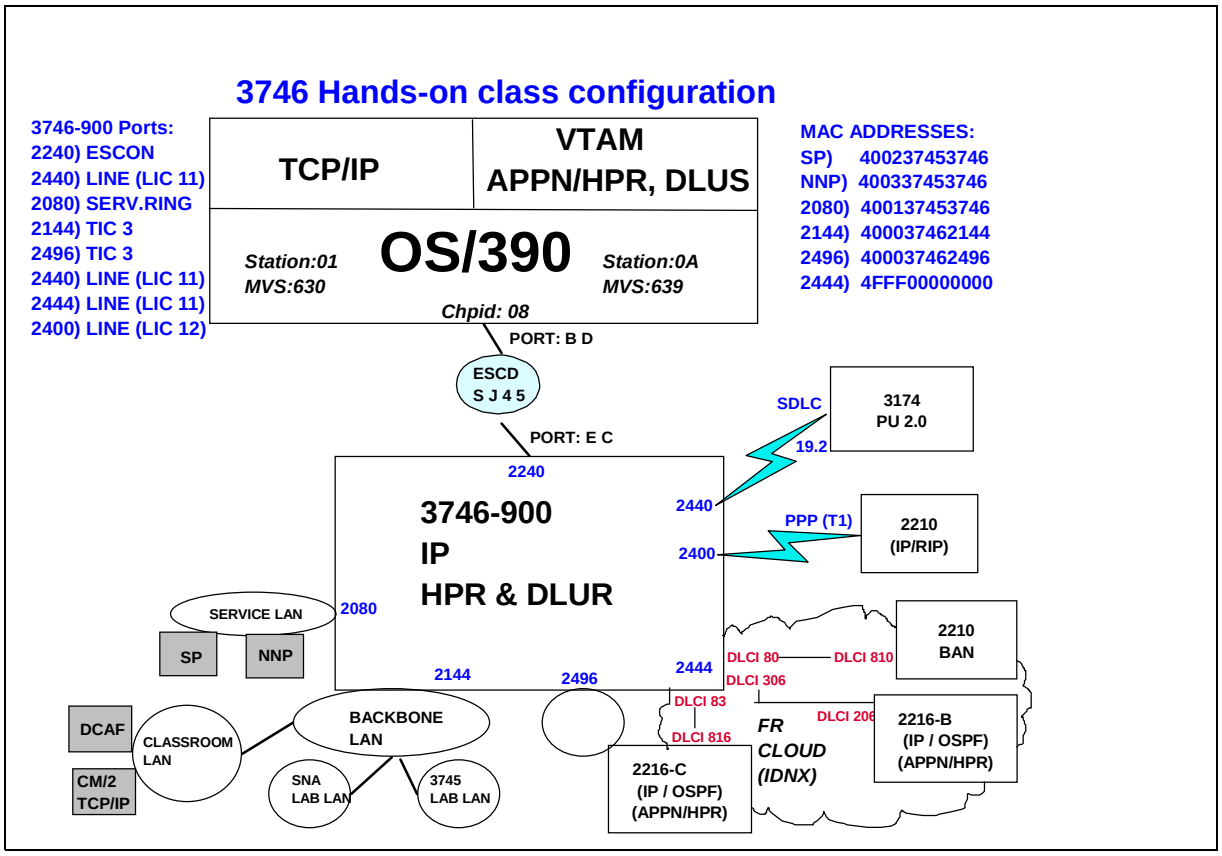
TN3270e APPN/HPR support is directly provided by the MAE ESCON using channel 672 to connect to the VTAM ICN.



Scenario 1 - Hands-on class G3955 environment

This diagram describes the configuration used by the 3746 hands-on class (G3955).
This configuration is a subset of the WSC lab, and emphasizes the following areas:
- Frame Relay definitions
- ESCON connectivity using TCP/IP and SNA (APPN/HPR)
- DLUR/DLUS functions
- TCP/IP Routing protocols definition.

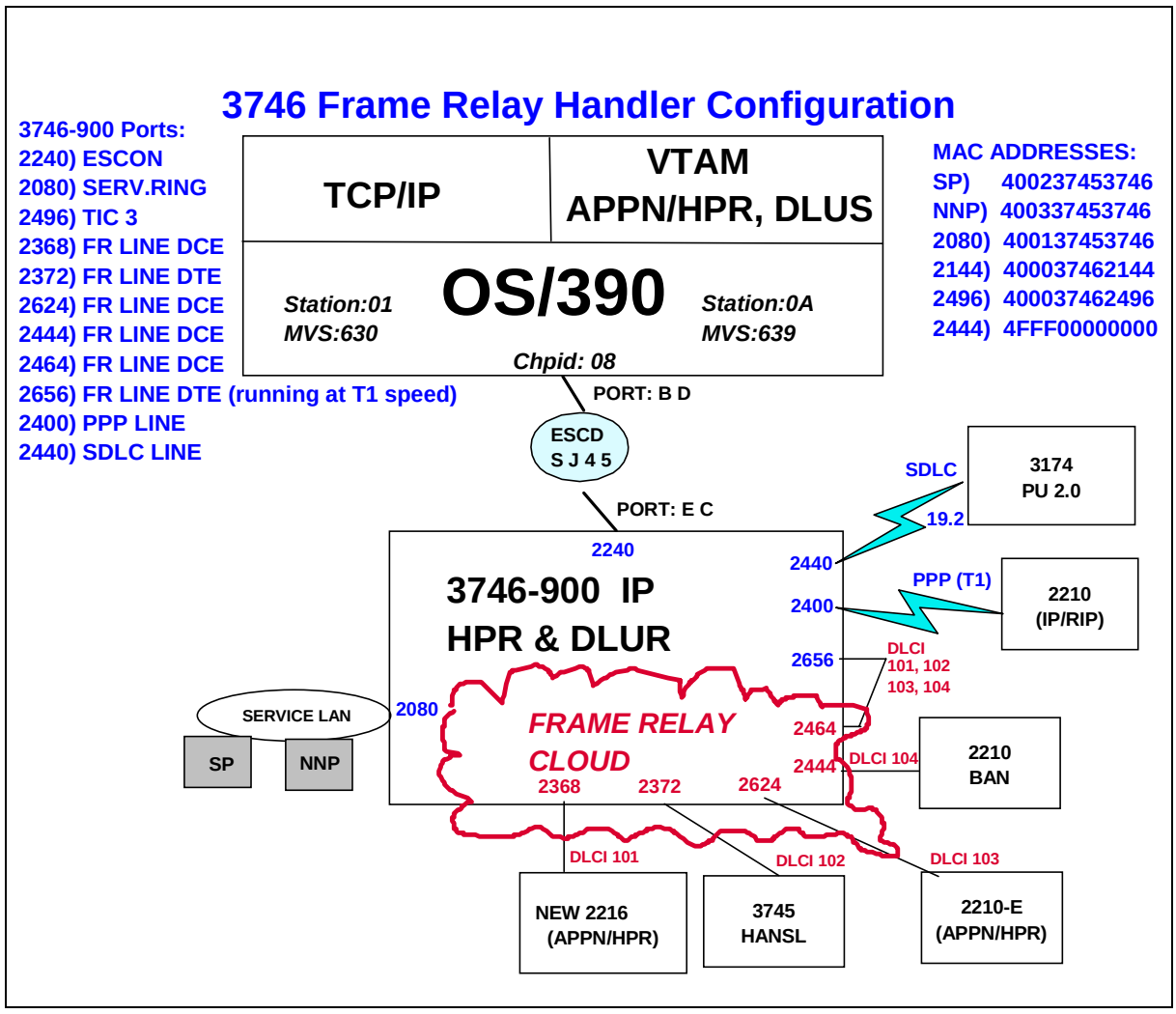
The relevant files you need to download to test this scenario are:
01101503.ccm (The 3746 CCM Configuration file)
ET21BAN (VTAM definition of WS that uses BAN)
ET3174 (VTAM definition of 3174 SDLC attached)
ETCM2 (VTAM definition of class CM/2 attached through TR)
ETLOC900 (VTAM definition of 3746-900 attachment



Scenario 2 - Frame Relay switch (FRFH) environment

This configuration reflects the definition of a Frame Relay cloud defined in the 3746. The previous FR configurations in this document relied on an IDNX switch to connect the routers and another test 3745 to the 3746-900.

The relevant file you need to download to test this scenario is:
01101500.ccm (The 3746 CCM Configuration file)

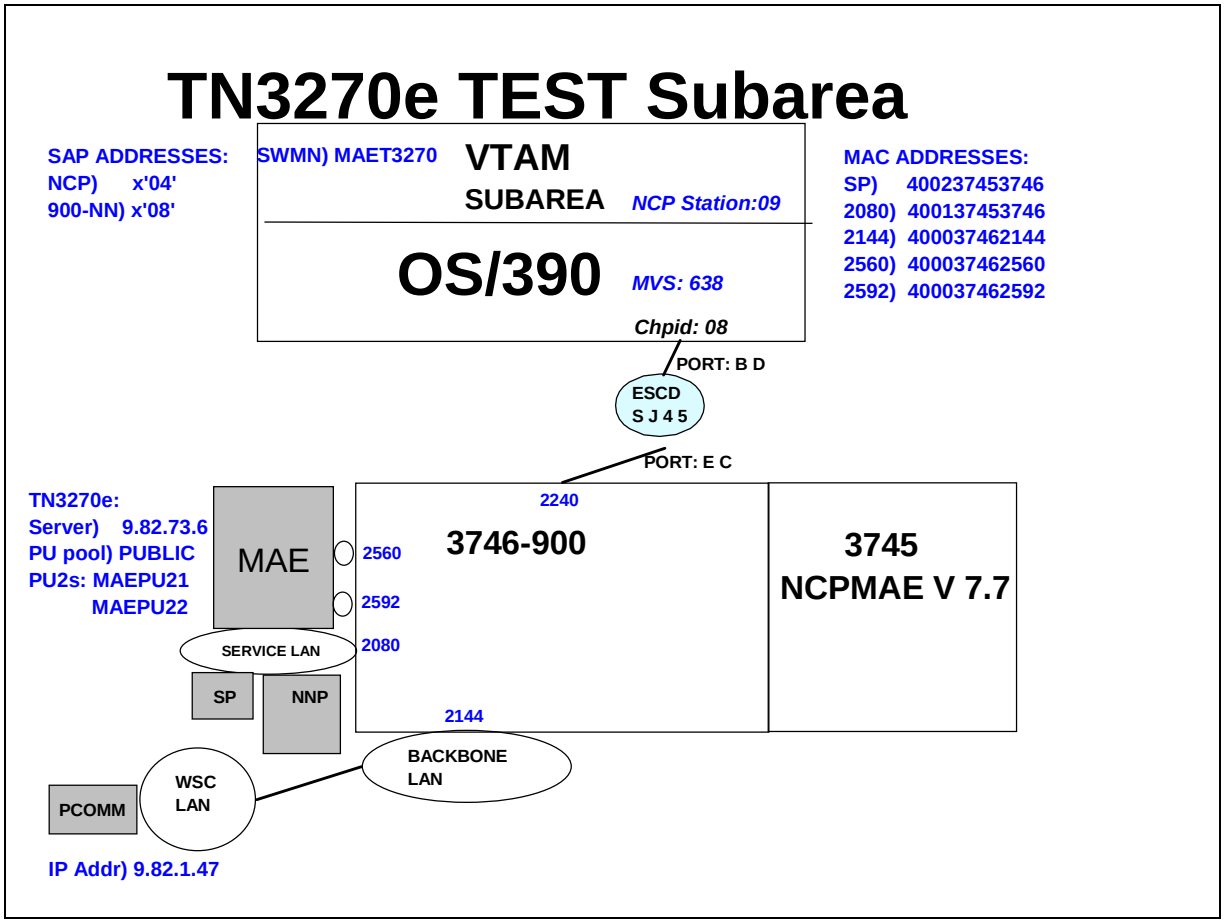


Scenario 3 - TN3270e in a Subarea environment using NCP

This diagram describes the configuration used to test TN3270e support with the MAE in a subarea environment.This configuration is a subset of the WSC lab, and emphasizes the following areas:
- MAE definitions needed to support TN3270e
- NCP definitions needed to connect the 900 TIC 2560 to the MAE TR to access the "dummy" PU2s represented by the TN3270e function.

The relevant files you need to download to test this scenario are:

01101502.ccm (The 3746 CCM Configuration file)
NCPMAES (NCP Source used in this lab)
MAET3270 (VTAM SMN definition for 2 PUs called MAEPU21 and MAEPU22)

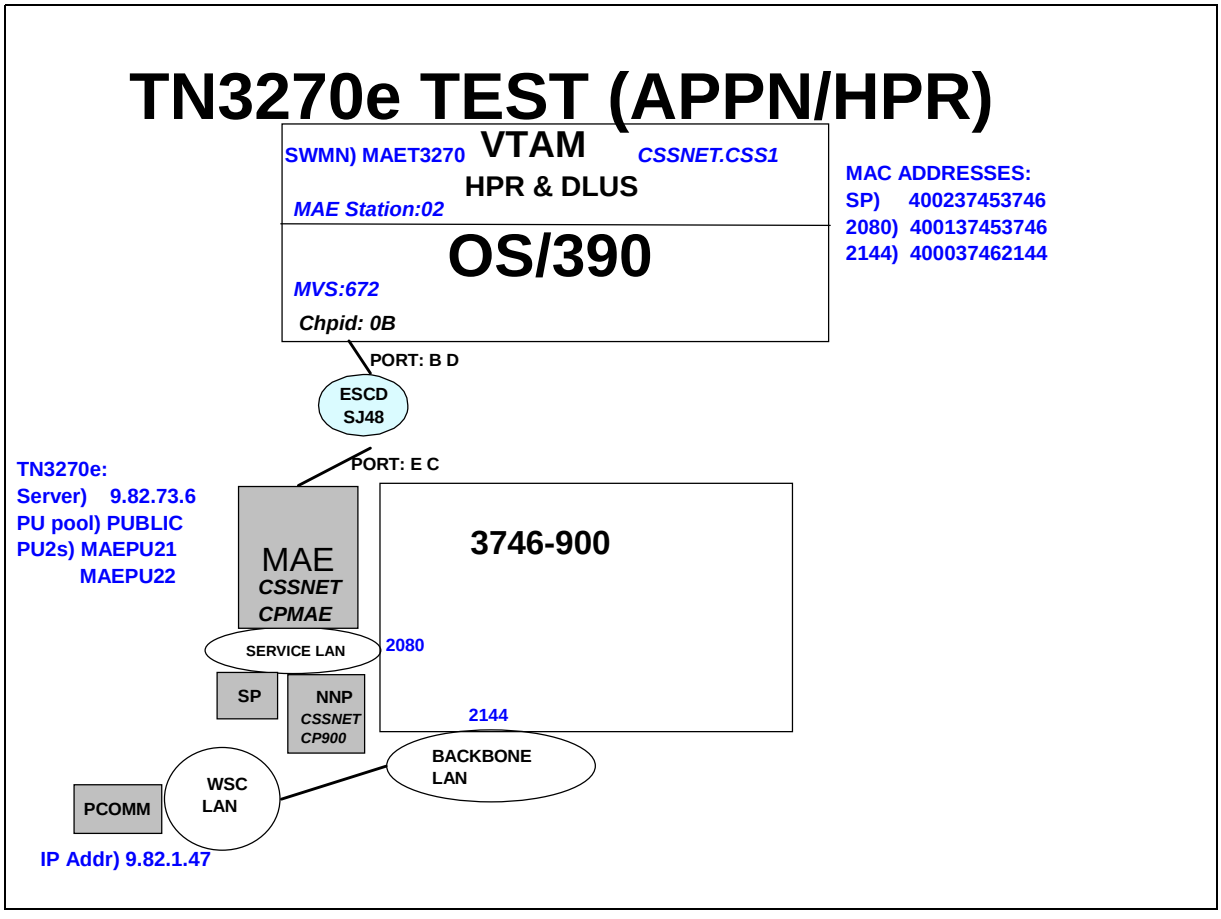


Scenario 4 - TN3270e using APPN/HPR on the MAE Environment

This diagram describes the configuration used to test TN3270e support with the MAE on an APPN environment and directly attaching to the host.
This configuration is a subset of the WSC lab, and emphasizes the following areas:
- MAE definitions needed to support TN320e
- MAE definitions to attach through ESCON to an APPN/HPR host

The relevant files you need to download to test this scenario are:

01101501.ccm (The 3746 CCM Configuration file)
MAEXCA (VTAM XCA definiton to represent the MAE)
MAET3270 (VTAM SMN definition for 2 PU2s called MAEPU21 and MAEPU22)



MVS Channel Configuration

This chart represents the VM host attachment addresses and the mapping of MVS addresses for the multiple connections to the 3746.

MVS CHANNEL CONFIGURATION

VM HOST	VM CHPID	MVS IOGEN	ESCON DIRECT.	HOST PORT	DEVICE PORT	MACHINE	UNIT ADDRESS	PROT.
4630 4638 4639	08 " "	630 638 639	SJ45 " "	BD " "	EC " "	3745SL93 900-2240	01 09 0A	IP SNA APPN
4670 4671 4672 4673	0B " " "	670 671 672 673	SJ48 " " "	BD " " "	EC " " "	3745SL93 CA4 "MAE 1"	00 01 02 03	IP APPN

Appendix A: Detailed Configuration Information

VTAM SOURCE FILES (text)

NCP SOURCE FILE (text)

CCM CONFIGURATIONS (binary)
Note that you will have to download these binary files to your workstation and then import them into the CCM stand-alone (OS/2 only) so you can see all the different parms used to configure the 3746 and the MAE.

Appendix B: References

IBM Education and training hands-on workshop G3955.

Redbooks:

1) 3746 model 900 APPN implementation guide SG24-2536
2) 3746 model 900 IP implementation SG24-4845
3) 3746 model 900 MAE SG24-5238
4) 2216 Host Channel Connections SG24-5303