MQ SERIES FOR VSE

User Experience

Why MQ Series At WRG

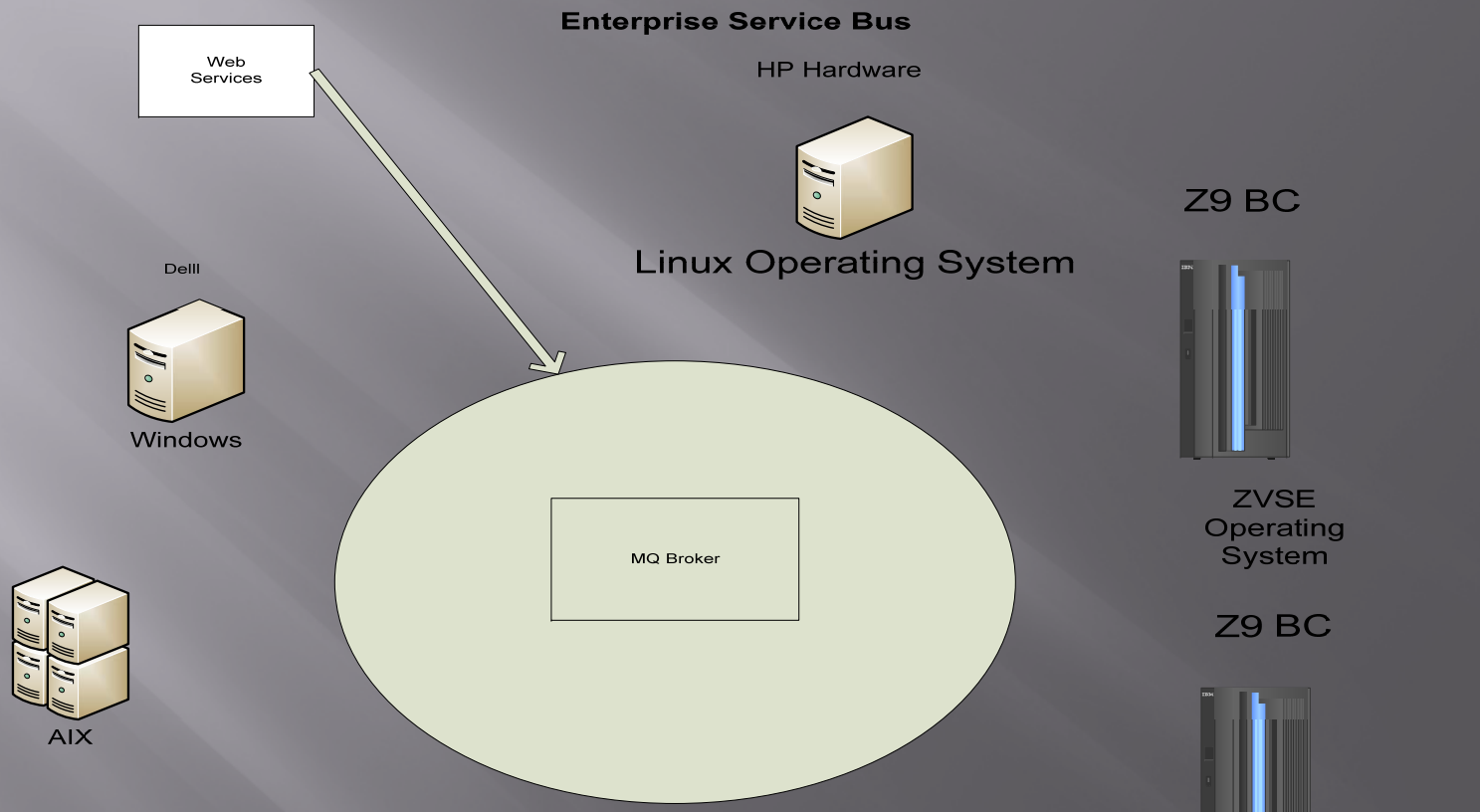
- New CIO
- New Commercial Application that required messaging
- All of our data resides on the mainframe
- Overall new strategic direction

MQ Series – Presentation Contents

- High Level overview – Enterprise Service Bus
- MQ Series Capabilities and Reliability and High Availability
- MQ Series in the ZVSE World
- MQ at Western Reserve Group
  - Our initial Approach
  - Training
  - MQ Playground
  - Lets get real – Engaged IBM Services
  - Built Several High available Clustered Environments
  - Zvse Configuration settings to watch for
  - Production experiences

MQ Series

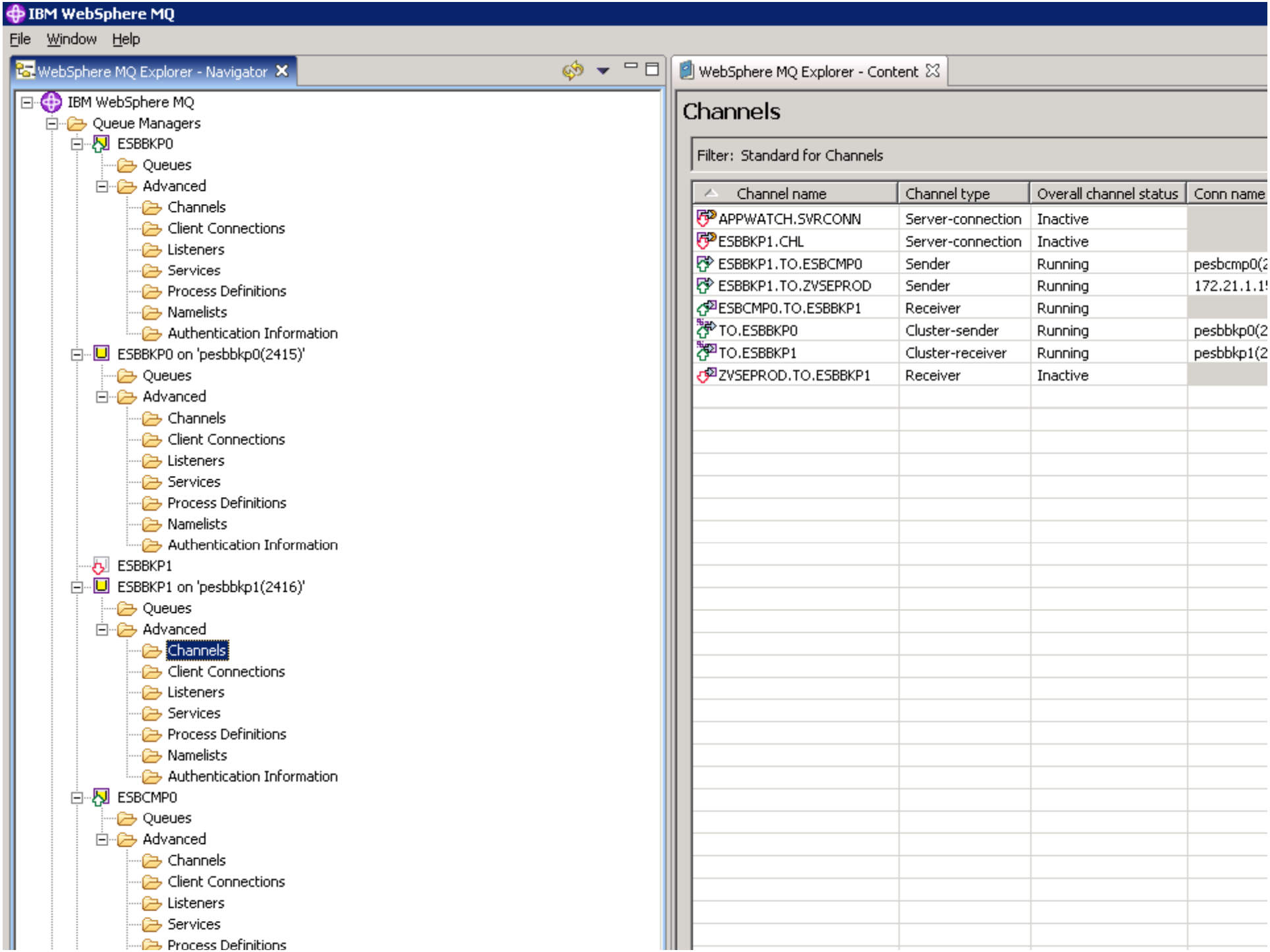
High Level View
MQ Series is only one important component of the Enterprise Service Bus



Broker Provides
Data Transformation Services
Message Re-routing

MQ Series in the ZVSE World

- Must have a CICS region active at all times to support MQ – even for batch MQ applications. This is unique to ZVSE
- MQ on ZVSE does not support Clustering – which causes challenges for message flow design and high availability
- Version 3 of MQ Series for VSE supports remote management using MQ Explorer
- MQ for VSE is very stable and reliable
- The documentation for MQ Series for ZVSE is very good
- There is little to no training specific to MQ Series on VSE
- Excellent support for MQ Series for ZVSE (once you reach the right support group)


IBM WebSphere MQ
File
Window
Help
WebSphere MQ Explorer - Navigator
IBM WebSphere MQ
Queue Managers
ESBBKP0
Queues
Advanced
Channels
Client Connections
Listeners
Services
Process Definitions
Namelists
Authentication Information
ESBBKP0 on 'pesbbkp0(2415)'
Queues
Advanced
Channels
Client Connections
Listeners
Services
Process Definitions
Namelists
Authentication Information
ESBBKP1
ESBBKP1 on 'pesbbkp1(2416)'
Queues
Advanced
Channels
Client Connections
Listeners
Services
Process Definitions
Namelists
Authentication Information
ESBCMP0
Queues
Advanced
Channels
Client Connections
Listeners
Services
Process Definitions
WebSphere MQ Explorer - Content
Channels
Filter: Standard for Channels
Channel name
Channel type
Overall channel status
Conn name
APPWATCH.SVRCONN
Server-connection
Inactive
ESBBKP1.CHL
Server-connection
Inactive
ESBBKP1.TO.ESBCMP0
Sender
Running
pesbcmp0(
ESBBKP1.TO.ZVSEPROD
Sender
Running
172.21.1.1
ESBCMP0.TO.ESBBKP1
Receiver
Running
TO.ESBBKP0
Cluster-sender
Running
pesbbkp0(2
TO.ESBBKP1
Cluster-receiver
Running
pesbbkp1(2
ZVSEPROD.TO.ESBBKP1
Receiver
Inactive

MQ Series Recommendations

- If you are new to MQ attend the IBM Training Classes
  - MQ Administration
  - Broker Administration

  Set up an MQ Playground – Development licenses are free – You can set up a robust environment on your desktop or laptop (especially if you are running VM)

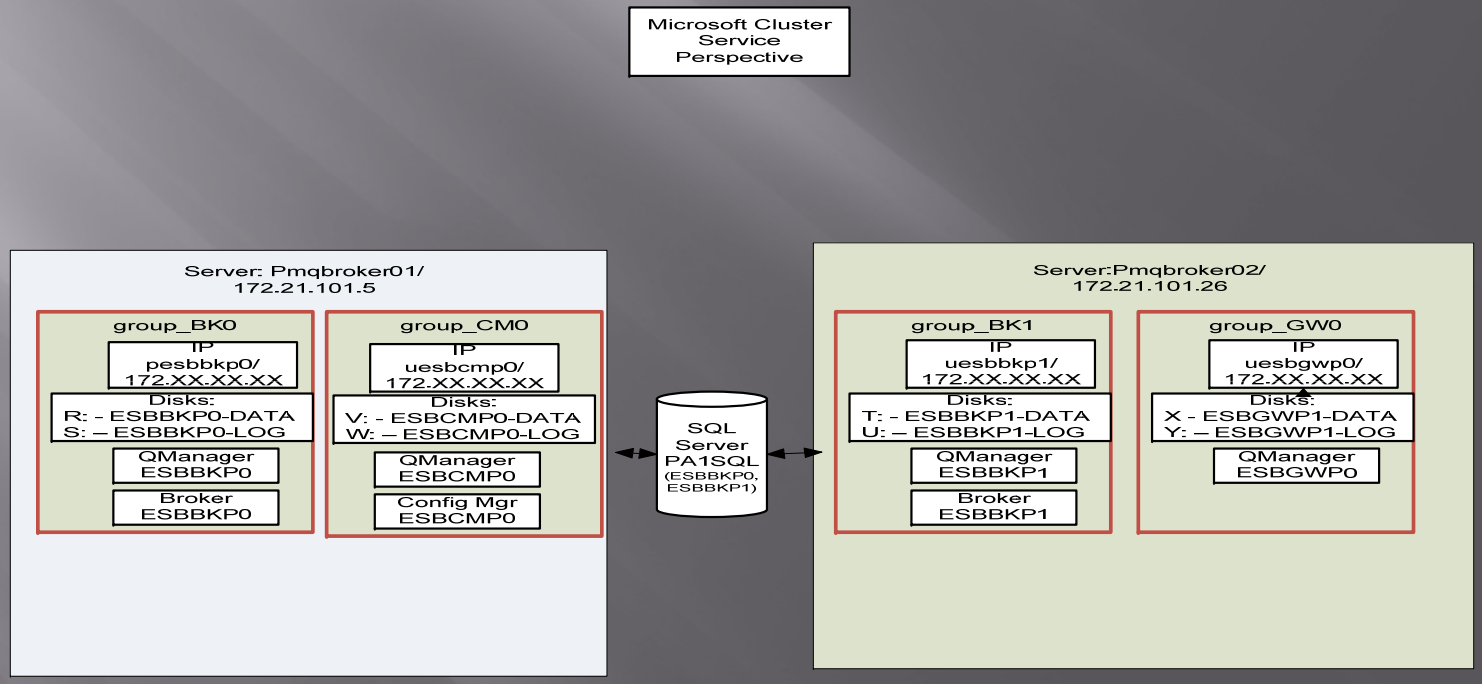
  ESB Naming conventions are critical – spend a great deal of time coming up with good naming conventions for MQ and Broker artifacts. There is a lot of good information on IBM 's site and the internet on naming conventions

  When finalizing an environment, use scripting – do not use MQ Explorer to define or maintain your environment.

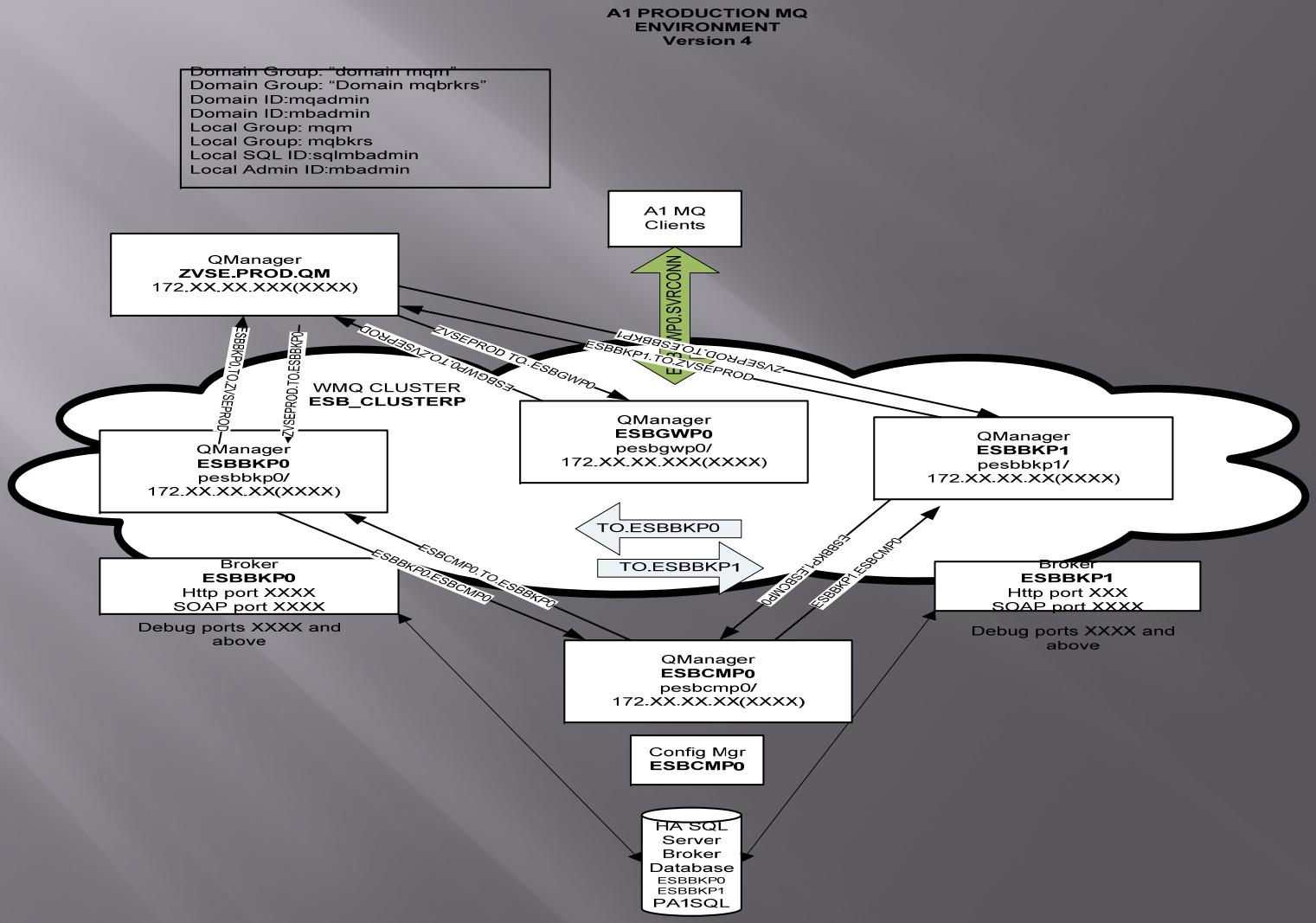
  Look into purchasing monitor software eg. Q PASA. Unfortunately we could not find any for the ZVSE environment

  When creating your final design especially if you are considering a high availability environment, consider licensing costs - MQ Brokers are very expensive

MQ Series
High Availability Design



MQ Series
Western Reserve Topology



MQ Series - Scripting

- @echo off
- set BK0_QM_NAME=ESBBKT0
- set BK1_QM_NAME=ESBBKT1
- set GW0_QM_NAME=ESBGWT0
- set CM0_QM_NAME=ESBCMT0
- set BK0_HOST_NAME=tesbbkt0
- set BK1_HOST_NAME=tesbbkt1
- set GW0_HOST_NAME=tesbgwt0
- set CM0_HOST_NAME=tesbcmt0
- set BK0_LISTEN_PORT=2415
- set BK1_LISTEN_PORT=2416
- set GW0_LISTEN_PORT=2417
- set CM0_LISTEN_PORT=2414
- set VSE_LISTEN_PORT=1515
- set VSE_QM_NAME=ZVSE.TEST.QM
- set VSE_SHORT_QM_NAME=ZVSETEST
- set VSE_HOST_NAME=172.21.25.205
- set VSE_MSGSIZE_SIZE=20000
- set LARGE_MSGSIZE_SIZE=16777216

- set CLUSTER_NAME='ESB_CLUSTERT'

MQ Series – Production Experiences

- This will cover both ZVSE and Open Systems
- Difficult for Broker Programmers to debug VSE issues due to lack of green screen experience. This will be helped by V3 of MQ. They will be able to use the MQ Explorer to view ZVSE MQ information
- Very few outages… mostly due to poor planning on our side
  - Vsam allocation for Queue files
  - Channel Disconnect Intervals
  - In short – review all settings carefully – do not accept defaults on ZVSE parameters
  - It is easier to accept the defaults on the Windows side (except log file allocations)
  - Work closely with development staff during application and message flow design

MQ Series – Production Experiences

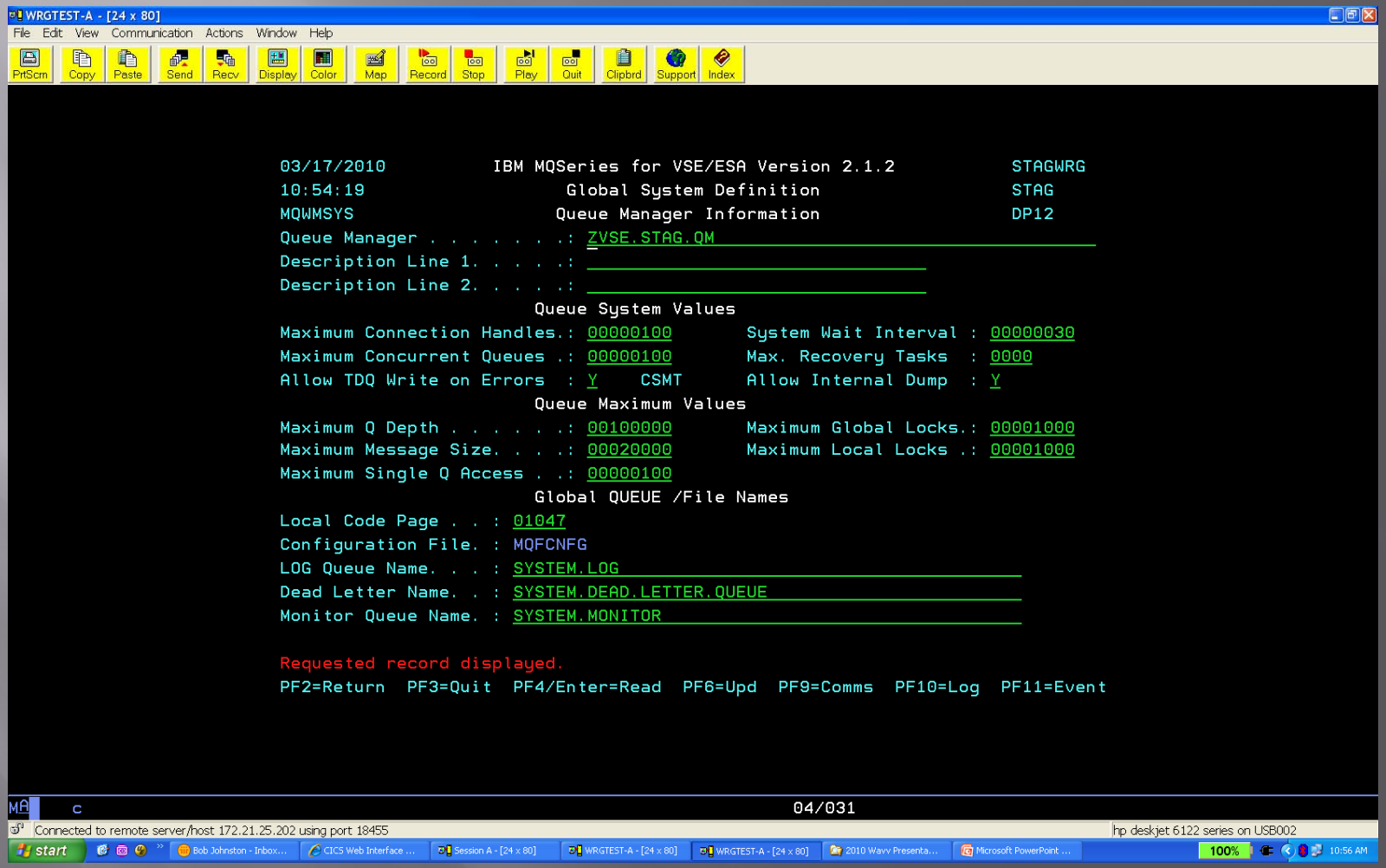
- Be careful using message grouping on ZVSE – can cause a lot of overhead
- Recovery in an MQ environment can be very complex, both from a D/R and application failure perspective Make sure that a great deal of effort and thought is put into your recovery processes
- There are some very good reference manuals that cover both backup and recovery
- During application design it is very important to differentiate between the need for persistent vs. non persistent messages

MQ Series – CICS Bridge Facility

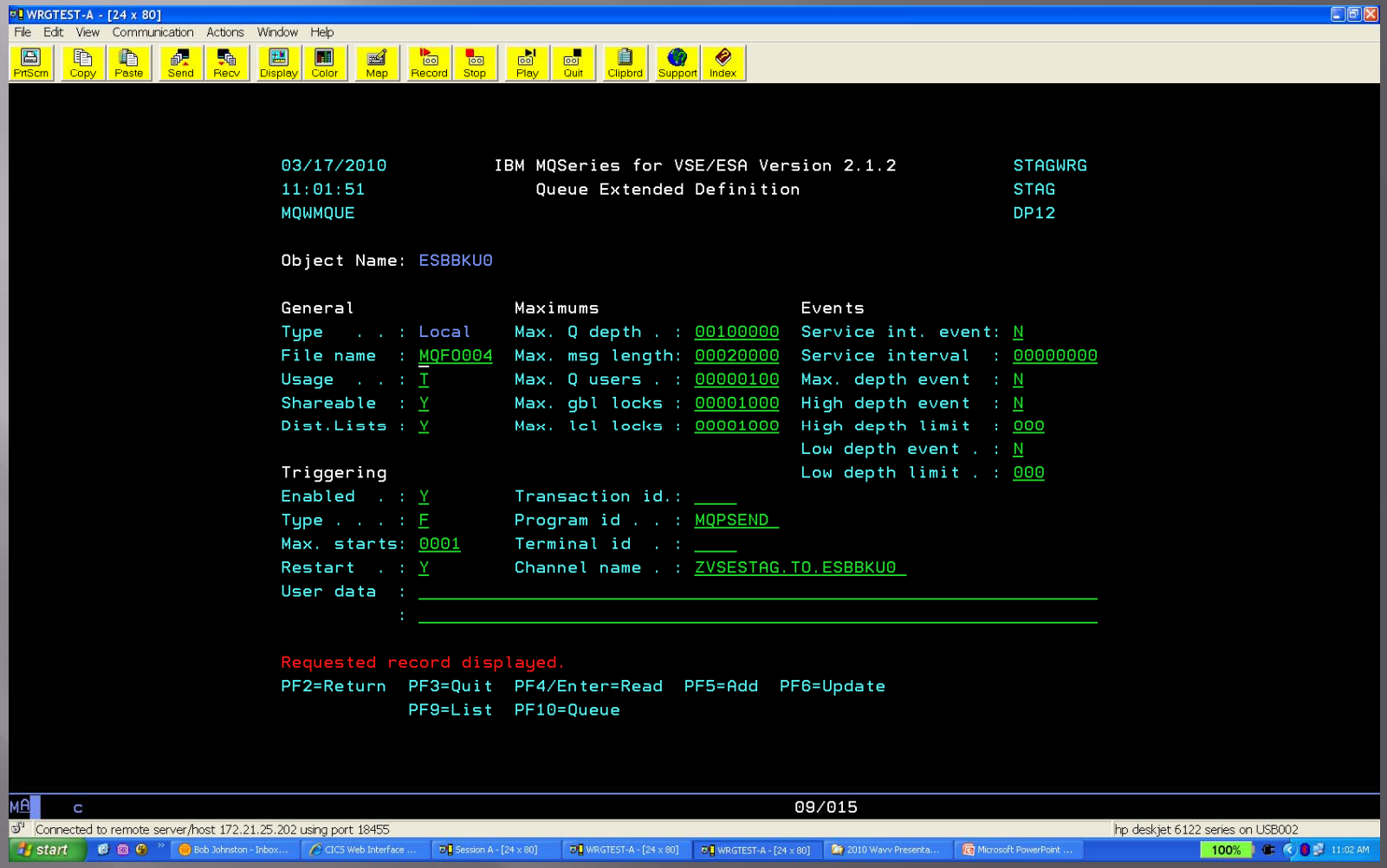
The MQ Series CICS Bridge facility allows you to use existing CICS programs to send and receive messages without changing the application code. The messages are passed via the commarea of the program. It is easy to implement and can get some applications using MQ up and running very fast and easily.

The Bridge facility maintains the messages (puts / gets) for you automatically. We have used this facility with great success.

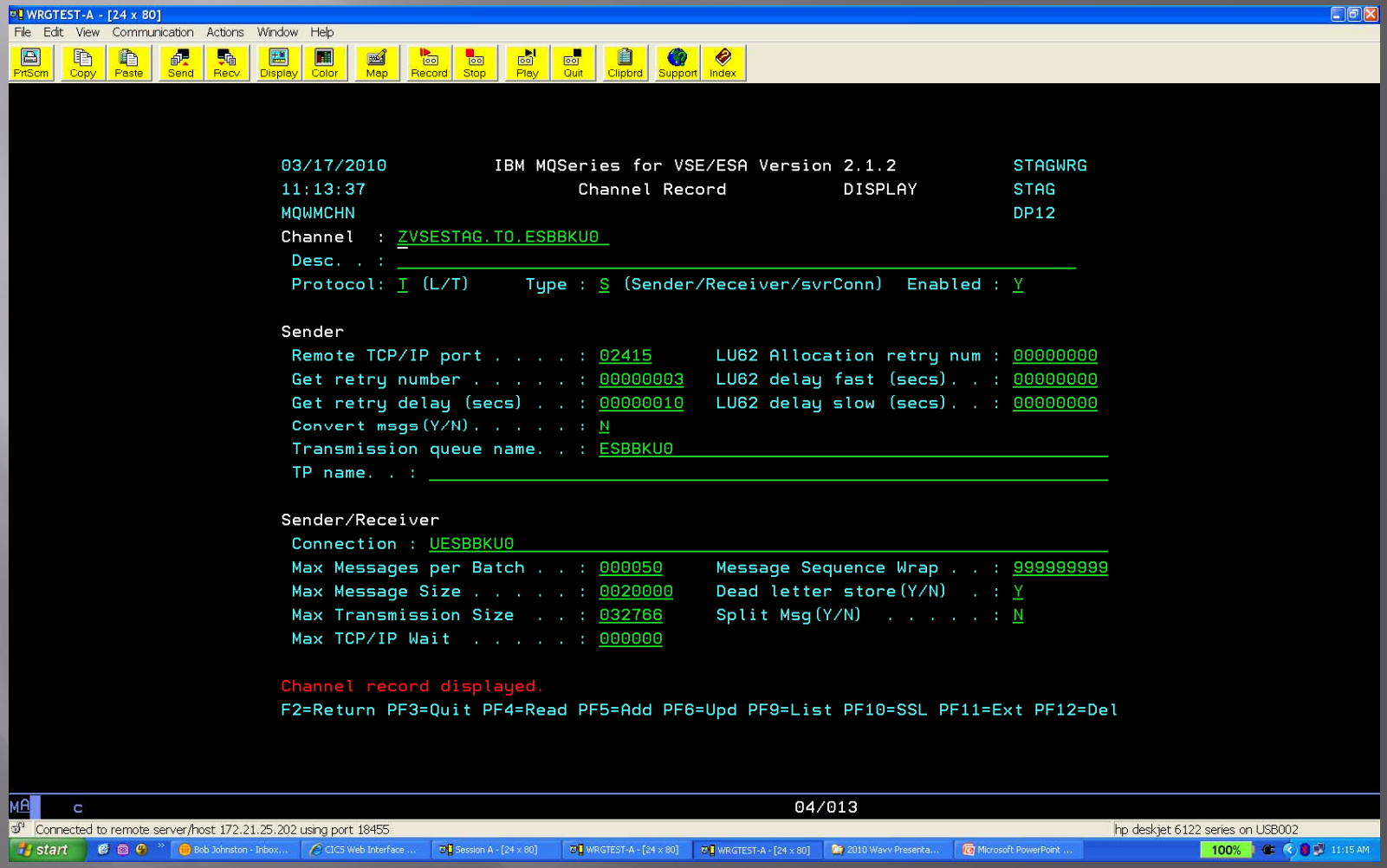
MQ Series – Configuration Global Settings



MQ Series Configuration
Queue Definitions



MQ Series Channel Definitions



MQ Series - Summary

As stated MQ series is very reliable and stable if properly implemented

It should be implemented as part of a overall strategy for future application design

If you are new to MQ – get outside help. IBM has a lot of resources – some expensive and some free that can assist

Do not look at MQ as a quick fix for a single application requirement