Installation and Migration to IBM MQ for z/OS

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Wildfire
Technical Hands-On Workshops
IBM zGrowth Team

Agenda

- **IBM MQ for z/OS Installation**
- Customizing a Queue Manager
- Creating a Queue Sharing Group
- Integrating with CICS and IMS
- Migrations Paths
- Summary

IBM MQ for z/OS Installation Information

- MQ for z/OS is installed using a standard SMP/E installation
  - FMID HMS9000/HMS9010 – z/OS Base
  - FMID Subsets (LTSR/CD):
    - **JMS9001/JMS9011** – U.S. English (ENU)
    - JMS9002/JMS9012 – Japanese (JPN)
    - JMS9003/JMS9013 – Simplified Chinese (CHS)
    - JMS9004/JMS9014 – Upper Case English (ENP)
    - JMS9005/JMS9015 – French (FRA)
    - **JMS9008/JMS9018** – Unix Services Components for IBM MQ, including JMS and HTTP
    - **JMS9016** - Unit Services Components web components for IBM MQ
- MQ Advanced for z/OS
  - FMID HAM800/HAMS900 – MQ Advanced Message Security
  - FMID HMF8800 – MQ Managed File Transfer

Areas involved in configuring a queue manager on z/OS

- MQ Administration
  - Implementation project ownership
- MVS System Programmers
  - APF authorization and other system changes
  - Allocation of HFS/ZFS
  - Allocation of CF list structures for QSG
- Security Administrator
  - User IDs /Groups
  - Infrastructure planning and environment controls
- Network Administrators
  - IP addresses and ports
  - DNS entries/Firewalls
- CICS, IMS and/or WebSphere system programmers/administrators
  - Implementation of adapters and bridges
- DB2 - DB2 resources (STOGROUP, DATABASES, etc) needed for QSG
- Applications
  - Planning queue and queue manager objects needed
  - Reviewing and implementing Change Management
- Automation

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Customizing a Queue Manager

- Customizing a ‘stand alone’ z/OS queue manager is simple:
  - Define system resources, e.g. subsystems, authorized data sets, OMVS mounts
  - Copy and tailor the sample JCL
  - Define the security resources
  - Submit the tailored jobs
  - Start the Queue Manager (MSTR)
  - Start the Channel Initiator (CHIN)

With sufficient authority, this can take an hour

- Especially if you have ‘patterns’ to use

JCL for the Queue Manager & CHIN Customization

- Sample members include:
  - CSQ4BSDS – Creates and activates the IBM MQ Bootstrap, creates and formats the queue manager log files
  - CSQ4PAGE – Creates and formats the IBM MQ Pagesets
  - CSQ4ZPRM – Creates the queue manager initiation attributes modules (zPARM)
  - CSQ4INYG – Commands to define objects that are normally required
    - For example the DLQ is defined as '++qmgr++.DEAD.QUEUE'
  - CSQ4INPX – Sample commands relaled to the channel initiator
    - For example START LISTENER TRPTYPE(TCP) PORT(++port-number++)
  - CSQ4CHIN – Sample Channel Initiator JCL Procedure
  - CSQ4MSTR – Sample Queue Manager JCL Procedure
- Other JCL members
  - Many samples not included here, some to 'undo' creation to define additional objects, etc.

SCSQPROC changes from V7.1

- New SCSQPROC members
  - CSQ4AMSM Sample Advance Message Security JCL procedure
  - CSQ4BCNV JCL for utility CSQJUCNV – converts BSDS data sets to V2 (8 byte RBAs)
  - CSQ4INSM System objects for AMS objects
  - CSQ4QLOD JCL for CSQUQLOD (QLOAD) utility
  - CSQ4SCHD Sample updates for SYS1.PARMLIB SCHEDxx member
  - CSQ40CFG JCL for CSQ0UTIL utility – sample for AMS security policy using setmqspi
  - CSQ40CRL Sample AMS certificate revocation list (CRL) configuration file
  - CSQ40ENV Sample AMS environment variables
  - CSQ40RSM Sample JCL for AMS SMF Audit Report Generator
  - CSQ45BPK Sample JCL to bind DB2 packages (a subset of CSQ45BPL)
  - CSQ4570T Sample JCL to migrate WMQ V7.0.x DB2 definitions for MQ V9 level changes
  - CSQ44571T Sample JCL to migrate WMQ V7.1 DB2 definitions for MQ V9 level changes

SCSQPROC members changed from V7.1

- Members **CSQ4INPR** and **CSQ4INP1** were updated by adding
  - New attributes LOCATION(BELOW) , PAGECLAS (4KB) and NOREPLACE were added to the DEFINE BUFFPOOL
- Member **CSQ4INSG** was updated by
  - adding attribute STATCHL (QMGR) to the DEFINE CHANNEL commands
  - adding new local queue SYSTEM.DDELAY.LOCAL.QUEUE
  - adding a DEFINE AUTHINFO command for SYSTEM.DEFAULT.AUTHINFO.IDPWOS
  - adding new attribute CLROUTE(DIRECT) added to the DEFINE TOPIC commands
  - adding a DEFINE AUTHINFO for SYSTEM.DEFAULT.AUTHINFO.IDPWOS
  - adding a DEFINE QMODEL for SYSTEM.CLUSTER.TRANSMIT.MODEL.QUEUE
- Member **CSQ4INYD** was updated by
  - adding attributes STATCHL (QMGR) to the DEFINE CHANNEL commands
  - changing local queue ++remqmgr++.XMIT.QUEUE by
    - adding a TRIGDATA value
    - removing the PROCESS name

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SCSQPROC members changed from V7.1

- Member **CSQ4INYC** was updated by
  - adding attributes STATCHL (QMGR) to the DEFINE CHANNEL commands
- Member **CSQ4INYR** was updated by
  - adding DEFINE STGCLASS commands for storage classes SYSLNGLV and SYSVOLAT
- Member **CSQ4INSX** was updated by
  - adding a DEFINE QMODEL command for queue model SYSTEM.CLUSTER.TRANSMIT.MODEL.QUEUE
- JCL procedure **CSQ4MSTR** updated to include additional
  - Member CSQ4INSM added for DD name CSQINP2

  (N.B. review the value of MEMLIMIT for above the bar storage)
- Job **CSQ4SMFJ** updated to add new DD names to JCL
- JCL procedure **CSQ4MSRR** updated to include
  - MEMLIMIT=2G to the EXEC JCL statement
  - Member CSQ4INSM added for DD name CSQINP2
  - Members CSQ4INST and CSQ4INYT added for DD name CSQINPT
  - Output DD name CSQOUTT

SCSQPROC members changed from V7.1

- zPARM member **CSQ4ZPRM** updated
  - Archive LOG block size changed to 24576 from 28672
  - CONNSWAP=YES added to indicate whether batch jobs are swappable during API calls
  - EXCLMSG=() added to indicate that no messages are excluded or suppressed
  - OPMODE changed to (COMPAT,900)
  - SPCAP=NO added to indicate message encryption not required
- Sample DB2 JCL **CSQ45BPL** changed to reflect new plan and package names and other BIND command changes
- Sample DB2 JCL **CSQ45CTB** changed to add new column names
- Sample DB2 job **CSQ45DTB** changed to reflect new table names
- DB2 job **CSQ45GEX** changed to reflect new plan names
- DB2 migration jobs **CSQ456TB** changed to add new column names and package names
- IPCS member **CSQ7IPCS** changed to new entry point

SCSQPROC members unchanged from V7.1

- SCSQPROC unchanged members (changes to Copyright dates and/or general comments)
  - CSQ4INYS User storage classes using one page set for each class of message
  - CSQ4INSJ System objects for Publish/Subscribe using JMS
  - CSQ4INSR System objects for general use for using queue pub/sub and WebSphere AS
  - CSQ4INYG User objects for general use
  - CSQ4INSS System objects for queue-sharing groups
  - CSQ4INSA System objects for Channel authentication records

Customization the Samples provided in SCSQPROC

- The samples will not run as delivered, they must be tailored for your environment
- Fields that need to be replaced are enclosed by leading and trailing '++' characters
- Examples include:
  - ++HLQ++ – high level qualifier (HLQ) for the BSDS, pagesets and logs
  - ++THLQUAL++ - IBM MQ library HLQ
  - ++LANGLETTER++ - Letter indicating the language for message display
- Your environment may require additional customization
  - For example you may want pagesets and logs to have a different HLQ so they will get allocated on different physical devices.

To make customization a bit easier!

- We use a REXX to make customization simpler
  - Includes most of the '++' variables used in the sample JCL to create a queue manager and channel initiator
- Provide with workshop material or upon request

```
 File  Edit  Edit_Settings  Menu  Utilities  Compilers  Test  Help
--------------------------------------------------------------------------------
VIEW       WMQ710.QML#.SCSQPROC(QML#EDIT) - 01.00          Columns 00001 00072
Command ===>                                                 Scroll ===> PAGE
****** ***************************** Top of Data ********************************
000001 ISREDIT MACRO NOPROCESS
000002 ADDRESS ISREDIT
000003 "change '++THLQUAL++' 'WMQ710' all"
000004 "change '++HLQ++' 'SYS1.MQM710' all"
000005 "change '++LANGLETTER++' 'E' all"
000006 /* **** BSDS CHANGES ****  */
000007 "change '++VOLBSDS1++' 'Q70001' all"
000008 "change '++VOLLOG1A++' 'Q70002' all"
000009 "change '++VOLLOG1B++' 'Q70003' all"
000010 /* **** PAGE CHANGES ****  */
000011 "change '++VOL0++' 'Q70001' all"
000012 "change '++VOL1++' 'Q70001' all"
000013 "change '++VOL2++' 'Q70002' all"
000014 "change '++VOL3++' 'Q70003' all"
000015 "change '++VOL4++' 'Q70002' all"
000016 /* **** ZPRM CHANGES ****  */
000017 "change '++HLQ.USERAUTH++' 'WMQ710.++QML#++.AUTHLIB' all"
000018 "change '++NAME++' 'QML#ZPRM' all"
000019 /* **** MSTR CHANGES ****  */
```

IBM MQ - Modifying Queue managers

- **Queue Manager changes needed in response to environment or volume changes**
  - zPARM changes require an outage
    - Still a few non-dynamic options
    - Adding logs, adding pagesets no longer requires an outage
  - Do not turn off SMF Statistics (SMFSTAT=YES)

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IBM MQ - Modifying Queue managers

- Adding a Queue Manager to an new or existing Queue Sharing Group?
  - New QSG Considerations:
    - Resource sizing – admin structure
    - Resource sizing – application structures
    - Offload placement and rules
    - To duplex the structures or not
    - 'Admin' queue manager
    - CFSTRUCT BACKUP
      - > How often
      - > Where issued
  - For a Queue Sharing Group:
    - Changing zPARMS – a queue manager cycle is required
    - Identify the coupling facility structures to be used
    - Resize any existing structures

JCL for the Queue Sharing Group tasks

- Sample JCL members include:
  - CSQ45CSG – Creates the DB2 Storage Group
  - CSQ45CDB – Creates the DB2 Database
  - CSQ45CTS – Creates the DB2 Table Spaces
  - CSQ45CTB – Creates the DB2 Tables
  - CSQ45BPL – Bind the DB2 Plans
  - CSQ45AQS – Creates the queue sharing group entry into the DB2 tables
  - CSQ45AQM – Creates the queue manager entries in the DB2 tables
  - CSQ4CFRM – Sample CFRM policy definitions for IBM MQ list structures
  - CSQ4SMDS – Sample job to define and initialize a SMDS data set

JCL for the Queue Sharing Group tasks

- To create the Queue Sharing Group:
  - Customize the JCL
    - Your DBA should assist with customization of all except the CFRM sample
      - CSQ45AQM defines the queue managers to the DB2 data sharing group tables for IBM MQ, this may be run multiple times as queue managers are added
    - The DBA may have to run the jobs depending on DB2 security requirements
    - The SYSPROG should assist with the customization of CSQ4CFRM
    - The SYSPROG may have to do the coupling facility policy definition
  - Customize the 'zPARM' for each queue manager
    - Update the QSGDATA parm, for example:
      - QSGDATA=(QSGM,DSN0PLEX,DSN0,4,4)
      - Where QSGM – is our QSG name
      - DSN0PLEX is the DB2 Data Sharing Group name
      - DSN0 is the DB2 connection name
      - 4 is the number of server tasks used for accessing DB2 (range is 4-10)
      - 4 is the number of tasks used for accessing the BLOBS (range is 4-10)

JCL for the Queue Sharing Group tasks

```
//STEP01  EXEC PGM=IXCMIAPU
//SYSPRINT DD  SYSOUT=*
//SYSIN    DD  *
 DATA TYPE(CFRM) REPORT(YES)
 /*   DSN(MPXPLEX.CFRMCDS.PRI) */
 DEFINE POLICY NAME(POLICY2) REPLACE(YES)
 CF NAME(MPXCF1) TYPE(SIMDEV) MFG(IBM) PLANT(EN) CPCID(00) DUMPSPACE(5000)
                 PARTITION(0) SEQUENCE(0000000MQCF1)
 CF NAME(MPXCF2) TYPE(SIMDEV) MFG(IBM) PLANT(EN) CPCID(00) DUMPSPACE(5000)
        PARTITION(0) SEQUENCE(0000000MQCF2)
. . . . .
 STRUCTURE NAME(QSGMCSQ_ADMIN) SIZE(80M)  INITSIZE(80M)
           PREFLIST(MPXCF1)  FULLTHRESHOLD(85)
 STRUCTURE NAME(QSGMCSQSYSAPPL) SIZE(81920) INITSIZE(30720) MINSIZE(20480)
        PREFLIST(MPXCF1) FULLTHRESHOLD(85) ALLOWAUTOALT(YES)
STRUCTURE NAME(QSGMNRMLMSGS) SIZE(81920)  INITSIZE(40960)  MINSIZE(30720)
          PREFLIST(MPXCF1) FULLTHRESHOLD(75)  ALLOWAUTOALT(YES)
 STRUCTURE NAME(QSGMLARGMSGS) SIZE(81920)  INITSIZE(30720)  MINSIZE(20480)
          PREFLIST(MPXCF1)  FULLTHRESHOLD(85)  ALLOWAUTOALT(YES)
 STRUCTURE NAME(QSGMSMDSMSGS) SIZE(81920) INITSIZE(30720)  MINSIZE(20480)
        PREFLIST(MPXCF1)  FULLTHRESHOLD(85)  ALLOWAUTOALT(YES)
. . . .
```

- CF Structure v. MQ CFSTRUCT
  - QSGMNRMLMSGS - NRMLMSGS
  - QSGMLARGMSGS - LARGMSGS
  - QSGMSMDSMSGS - SMDSMSGS
- Coupling Facility Sizing tool (CFSizer)
  - http://www-947.ibm.com/systems/support/z/cfsizer/

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Adding IBM MQ to CICS

- Depending on the CICS version, you may be using different version of the IBM MQ adapter and Bridge
  - For CICS V3.1 use the IBM MQ provided code
    - Resources definitions provided in IBM MQ groups CSQCAT1 and CSQCKB
      - > Use the DFHCSUP utility to define the IBM MQ CICS Adapter resources in member CSQ4B100 and the IBM MQ CICS Bridge resources in member CSQ4CKBC in SYS1.MQM710.SCSQPROC
  - For CICS V3.2, V4.1 and later, use the CICS provided code
    - The threadsafe version of the adapter and bridge code is now owned and delivered by CICS
      - Noticeably better performance
      - Uses the same TCB as DB2
      - Resource definitions provided in CICS group DFHMQ (remove groups CSQCAT1 and CSQCKB from any group lists.)

Adding IBM MQ to a CICS region

- Update the CICS region startup JCL:

```
//STEPLIB   DD DSN=&INDEX1..SDFHAUTH,DISP=SHR
//         DD DSN=&INDEX1..SDFJAUTH,DISP=SHR
//*        DD DSN=SYS1.MQ900.SCSQANLE,DISP=SHR      (CICS TS V3.x only)
//*        DD DSN=SYS1.MQ900.SCSQAUTH,DISP=SHR
//DFHRPL   DD DSN=&INDEX1..SDFHLOAD,DISP=SHR
//         DD DSN=SYS1.LEMVS.SCEECICS,DISP=SH
//         DD DSN=SYS1.LEMVS.SCEERUN2,DISP=SH
//         DD DSN=SYS1.LEMVS.SCEERUN,DISP=SHR
//*        DD DSN=SYS1.MQ900.SCSQCICS,DISP=SHR      (IBM MQ CICS Samples)
//*        DD DSN=SYS1.MQ900.SCSQLOAD,DISP=SHR
//*        DD DSN=SYS1.MQ900.SCSQANLE,DISP=SHR      (CICS TS V3.x only)
//*        DD DSN=SYS1.MQ900.SCSQAUTH,DISP=SHR
//         DD DSN=DSNA10.RUNLIB.LOAD,DISP=SHR
```

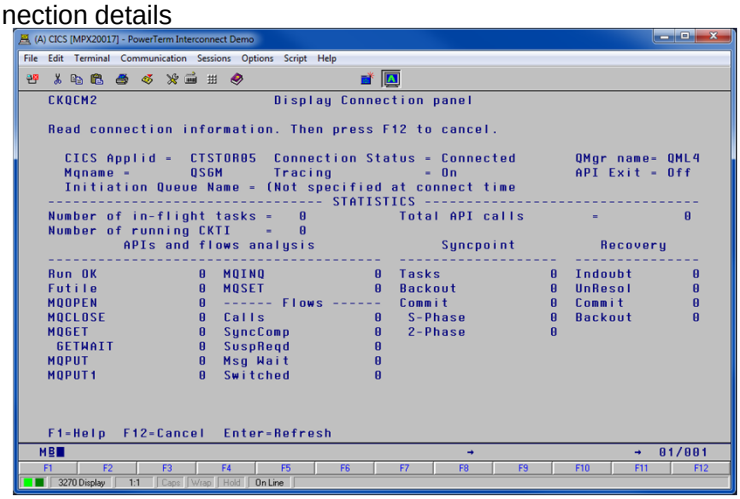
- Note: Consider using a CICS LIBRARY resources to define the DFHRPL data sets so they are dynamically allocated

Adding IBM MQ to a CICS region

- Update the CICS initialization parameters:
  - Specify MQCONN=YES
  - For CICS TS V3.1
    - INITPARM=(CSQCPARM='SN=QML2,TN=001,IQ=CICS01.INITQ')
  - For CICS TS V3.2
    - INITPARM=(DFHMQPRM='SN=QML2,IQ=CICS01.INITQ')
  - For CICS TS V4.x and later
    - Define a MQCONN resources in the CSD
      - DEFINE MQCONN(QSGM) MQNAME(QSGM) INITQNAME(CICS01.INITQ)
- Recycle CICS to pick up changes

Adding IBM MQ to a CICS region

- Use CICS transaction CKQC to start, stop, modify and display connection details



CKQC Transaction and PLT programs

- CICS Transactions
  - CKQC STARTCKTI CICS.TRIGGER.INITQ
  - CKQC STOPCKTI CICS.TRIGGER.INITQ
- CICS Application Program (useful in startup PLT)

```
IDENTIFICATION DIVISION.
       PROGRAM-ID. ATSCSSQ.
       ENVIRONMENT DIVISION.
       DATA DIVISION.
       WORKING-STORAGE SECTION.
       01 COMMAREA.
         10 CKQC     PIC X(4) VALUE 'CKQC'.
         10 FILLER   PIC X VALUE ' '.
          10 CONNREQ  PIC X(10) VALUE 'STARTCKTI '.
         10 FILLER   PIC X VALUE ' '.
         10 CONNIQ   PIC X(48) VALUE 'CICS.TRIGGER.INITQ'.
       PROCEDURE DIVISION.
          EXEC CICS LINK PROGRAM('DFHMQSSQ')
             INPUTMSG(COMMAREA) INPUTMSGLEN(LENGTH OF COMMAREA)
          END-EXEC.
          EXEC CICS RETURN END-EXEC.
          GOBACK.
```

Adding IBM MQ to IMS

- Update the IMS control region and dependent (BMP,MPP) region's JCL
  - Add MQ900.SCSQNLE and MQ900.SCSQAUTH to DDNAME
    - STEPLIB if all other data sets in the list are authorized otherwise add to
    - DFSESL if one of the data sets in the STEPLIB sequence is not authorized
  - Create a subsystem member (SSM) in the IMS PROCLIB (e.g. IMSBQML1) including a line for each queue manager that will be accessed.

```
QML1,MQMX,CSQQESMT,,R,
QML1,MQM1,CSQQESMT,,R,
QML3,MQM2,CSQQESMT,,R,
QML5,MQM3,CSQQESMT,,R,
QML7,MQM4,CSQQESMT,,R,
QML9,MQM5,CSQQESMT,,R,
```

  - Add the SSM parameter (SSM=QML1) to the program parameter list for the control region (IMS PROCLIB(DFSPBxxx), where SUFFIX=xxx) and dependent region's execution JCL

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Adding IBM MQ to IMS

- The IMS adapter cannot access the IMS PROCLIB so the names of the IBM MQ queue managers and their corresponding LITs must be defined in the queue manager definition table, CSQQDEFV.
- An MQCONN or MQCONNX call associates the *name* input parameter and the hconn output parameter with the name label and, therefore, the LIT in the CSQQDEFV entry. Further MQ calls passing the *hconn* parameter use the LIT from the CSQQDEFV entry identified in the MQCONN or MQCONNX call to direct calls to the WebSphere MQ queue manager defined in the IMS SSM PROCLIB member with that same LIT.
- In summary, the name parameter on the MQCONN or MQCONNX call identifies a LIT in CSQQDEFV and the same LIT in the SSM member identifies a WebSphere MQ queue manager.

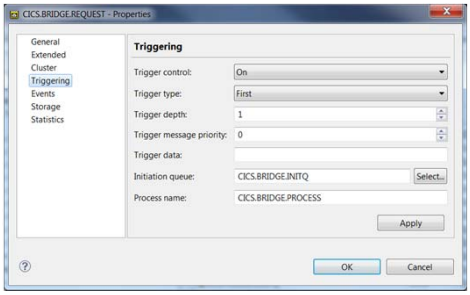
Adding IBM MQ to IMS

- Assemble and link-edit CSQQDEFV to add support for local queue managers. Add the load module library to STEPLIB or DFSESL as above.

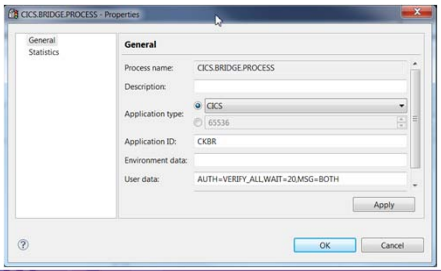
```
CSQQDEFV CSECT ,
CSQQDEFV AMODE 31
CSQQDEFV RMODE ANY
      CSQQDEFX TYPE=DEFAULT,NAME=QML1,LIT=MQMX,
      CSQQDEFX TYPE=ENTRY,NAME=QML1,LIT=MQM1
      CSQQDEFX TYPE=ENTRY,NAME=QML3,LIT=MQM2
      CSQQDEFX TYPE=ENTRY,NAME=QML5,LIT=MQM3
      CSQQDEFX TYPE=ENTRY,NAME=QML7,LIT=MQM4
      CSQQDEFX TYPE=ENTRY,NAME=QML9,LIT=MQM5
      CSQQDEFX TYPE=END
      END   CSQQDEFV
```


MQ Resources for the CICS MQ Bridge

- Request Queue - Triggering

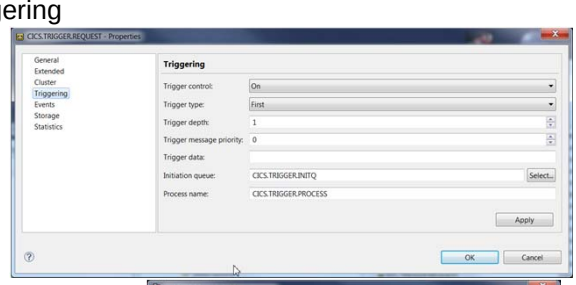


- CICS Bridge Process
  - CKBR transaction
  - Configure security

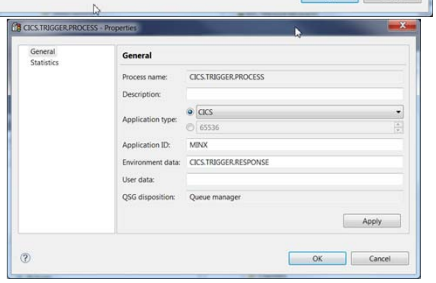


MQ Resources for the CICS Trigger Monitor

- Request Queue - Triggering

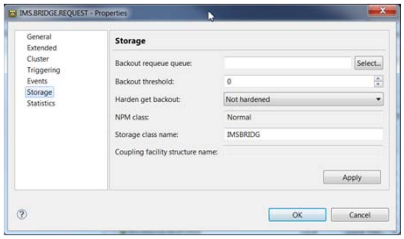


- CICS Trigger Monitor – Process
  - User transaction

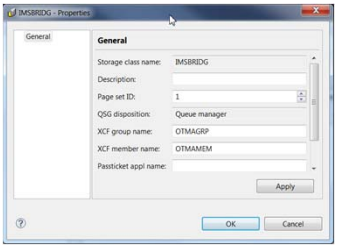


MQ Resources for the IMS Bridge

- Request Queue – Storage Class Properties



Storage Class



- Queue Manager's zPARM Module

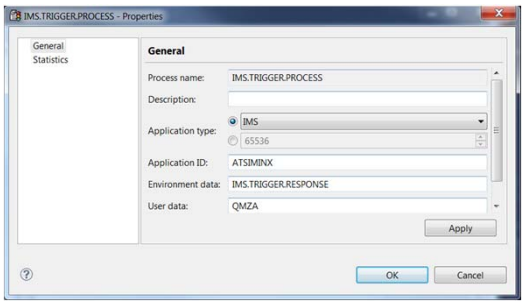
```
CSQ6SYSP Macro
        OTMACON=(OTMAGRP,,DFSYDRU0,2147483647,CSQ),
```

- IMS PROCLIB DFSBPxxx member

```
OTMA=Y,
OTMAMEM=OTMAMEM
OTMASE=
GRPNAME=OTMAGRP,
```

MQ Resources for the IMS Trigger Monitor

- **IMS trigger process**



- **IMS batch trigger JCL**

```
//CSQQTRMN EXEC PROC=IMSBATCH,MBR=CSQQTRMN,PSB=CSQQTRMN,IMSID=IMSB,
//         SOUT='*',NBA=6,OBA=5,TIME=60,SSM=QMZA
//DFSSTAT  DD SYSOUT=*
//G.DFSESL DD DISP=SHR,DSN=IMS110.SDFSRESL
//         DD DISP=SHR,DSN=MQ900.MQM.SCSQAUTH
//         DD DISP=SHR,DSN=MQ900.SCSQAUTH
//CSQQUT1  DD *
QMGRNAME=
INITQUEUENAME=IMS.TRIGGER.INITQ
CONSOLEMESSAGES=YES
LTERM=PMASTER
//CSQQUT2  DD SYSOUT=*
```


MQ CSQUTIL - MAKEDEFs

```
//CSQUTIL  EXEC PGM=CSQUTIL,PARM='QMZA'
//STEPLIB  DD DISP=SHR,DSN=MQ900.SCSQANLE
//         DD DISP=SHR,DSN=MQ900.SCSQAUTH
//         DD DISP=SHR,DSN=MQ900.SCSQLOAD
//MDOUT    DD SYSOUT=*
//SYSPRINT DD  SYSOUT=*
//SYSIN    DD  *
  COMMAND DDNAME(CMDINP) MAKEDEF(MDOUT)
//CMDINP  DD  *
DISPLAY QUEUE(CICS.BRIDGE.*) ALL
DISPLAY QUEUE(IMS.BRIDGE.*) ALL
DISPLAY PROCESS(CICS.TRIGGER.PROCESS) ALL
DISPLAY PROCESS(IMS.TRIGGER.PROCESS) ALL
DISPLAY PROCESS(ODM.PROCESS) ALL
```

- Generates corresponding “DEFINE” commands for the resources displayed
- Useful for saving resource definitions in a repository or for recreation in another queue manager.

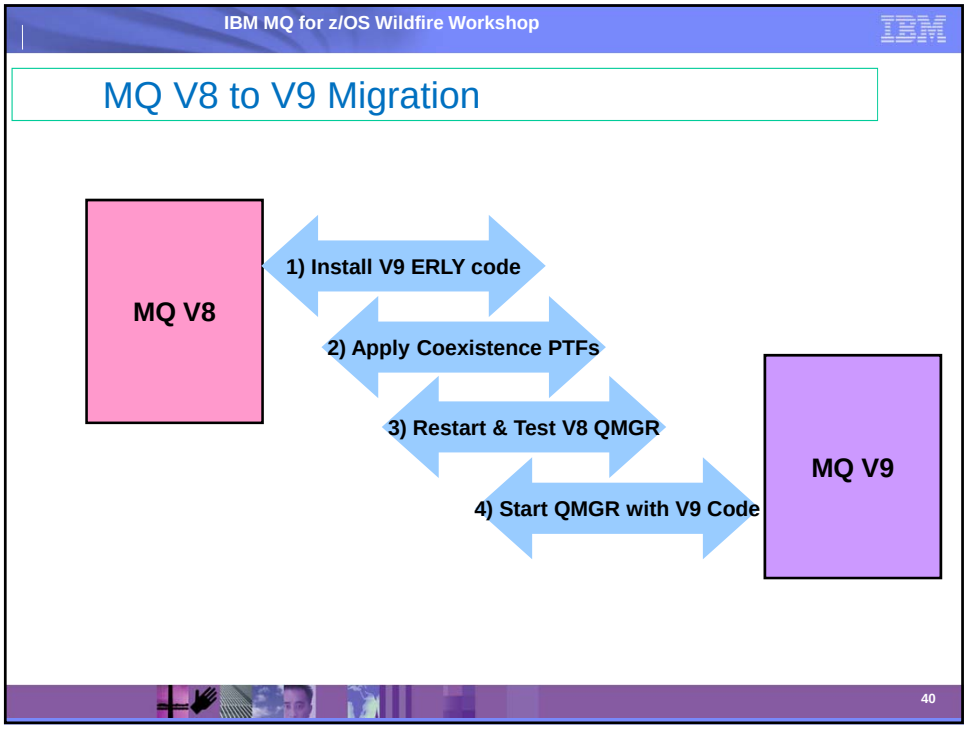
WebSphere Application Server Considerations

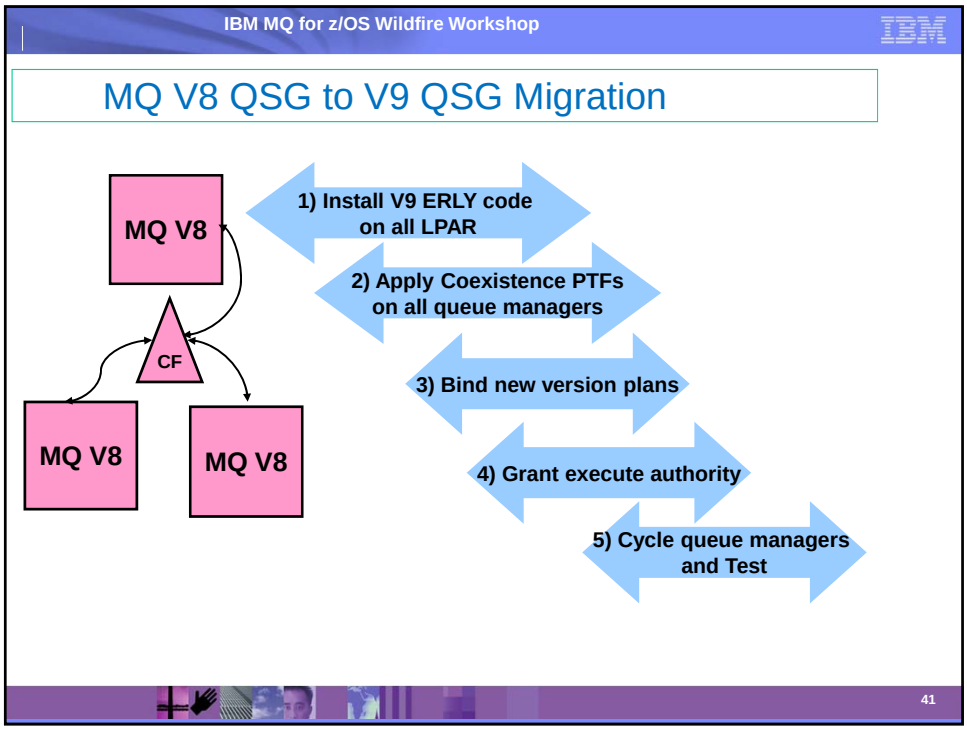
- Update the WebSphere property variables MQ_INSTALL_ROOT to the IBM MQ V9.0 installation directory
  - Set MQ_INSTALL_ROOT to /usr/lpp/mqm/V9R0M0
- Binding Mode connection requires the presence of the directory containing the Java Native Interface (JNI) code in the system library path. Set the Native Library Path property when configuring the IBM MQ messaging provider. Update this property to the directory location.
  - Set Native Library Path to /usr/lpp/mqm/V9R0M0/java/lib
- If necessary, the IBM MQ resource adapter (wmq.jmsra.rar) can be installed from location /usr/lpp/mqm/V9R0M0/java/lib/jca

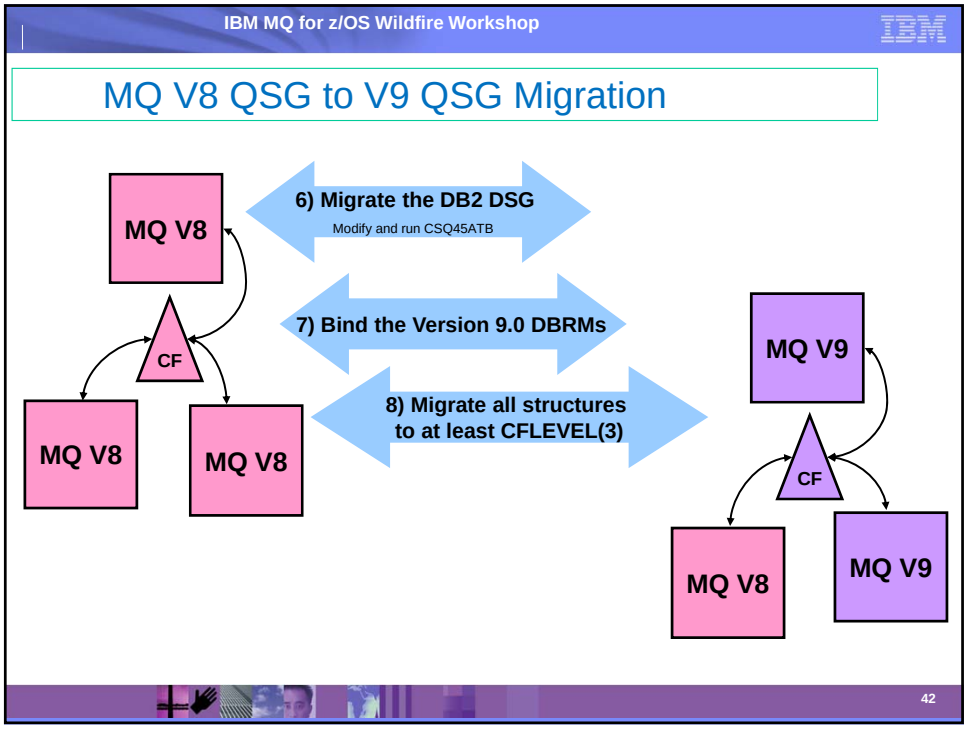
Normally the WebSphere MQ resource adapter provided by the WebSphere Application server service stream is used

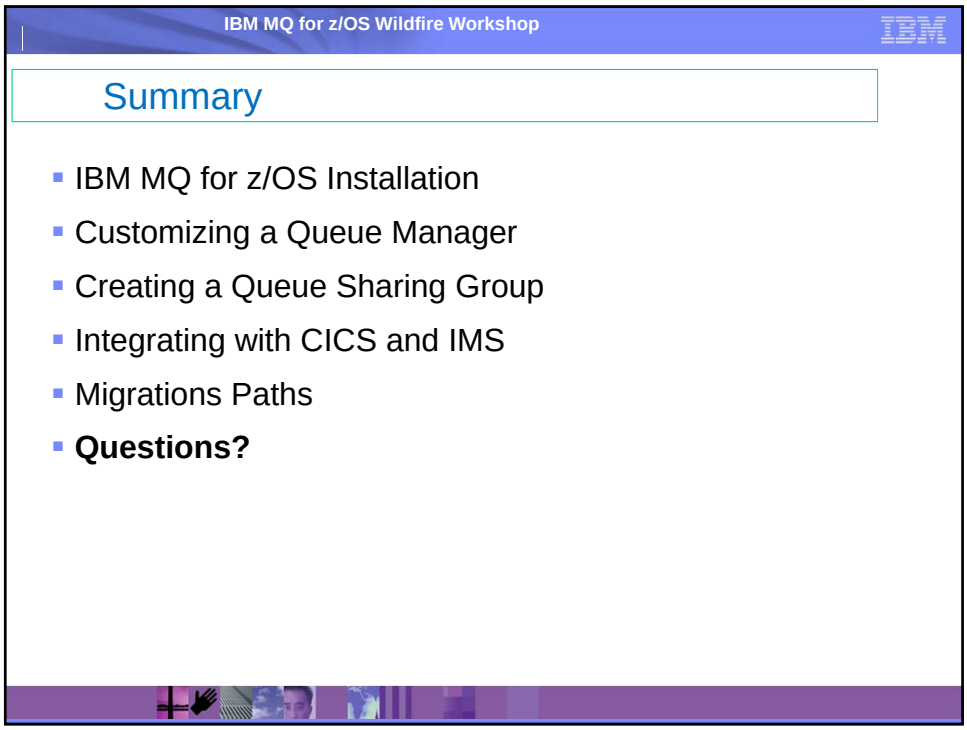
Agenda

- IBM MQ for z/OS Installation
- Customizing a Queue Manager
- Creating a Queue Sharing Group
- Integrating with CICS and IMS
- **Migrations Paths**
- Summary


IBM MQ for z/OS Wildfire Workshop
IBM
MQ V8 to V9 Migration
MQ V8
1) Install V9 ERLY code
2) Apply Coexistence PTFs
3) Restart & Test V8 QMGR
4) Start QMGR with V9 Code
MQ V9
40


IBM MQ for z/OS Wildfire Workshop
IBM
MQ V8 QSG to V9 QSG Migration
MQ V8
CF
MQ V8
MQ V8
1) Install V9 ERLY code on all LPAR
2) Apply Coexistence PTFs on all queue managers
3) Bind new version plans
4) Grant execute authority
5) Cycle queue managers and Test
41


IBM MQ for z/OS Wildfire Workshop
IBM
MQ V8 QSG to V9 QSG Migration
MQ V8
6) Migrate the DB2 DSG
Modify and run CSQ45ATB
7) Bind the Version 9.0 DBRMs
8) Migrate all structures
to at least CFLEVEL(3)
CF
MQ V8
MQ V8
MQ V9
CF
MQ V8
MQ V9
42


IBM MQ for z/OS Wildfire Workshop
IBM
Summary
IBM MQ for z/OS Installation
Customizing a Queue Manager
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Questions?