

# Top Ten ways to improve your MQ/IIB environment

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# Agenda – Top 10 MQ & IIB Tips

1. Business Requirements
2. Sizing
3. Naming Standards
4. Logging
5. Application Design Standards
6. High Availability
7. Disaster Recovery
8. Monitoring
9. Role Requirements
10. Skill Development

# 1. Business Requirements

- Define the requirements
- Document interfaces & Stakeholders
- Collect Interface Objects
- Document the interchange specifications
- Define the mappings
- Define the SLA requirements
- Testing
  - ▶ Environments
  - ▶ Requirements
- Implementation requirements

## 2. Sizing Requirements

### Server Sizing

WebSphere MQ requires:

- Memory
- CPU
- Fast Disk
- Network
- IBM Techline
  - ▶ Server Estimates
    - Memory, CPU, DISK
  - ▶ Workload Based

### Queue Manager Sizing

- Log File directory space
- Log File Type
- Log File Size - <http://tiny.cc/MQsizing>
- Log File Placement
- Data Directory Size
- Queue Buffers
- Queue Max Size
- Z/OS (Bufferpools, Logs, PageSets)

# 3. Naming Standards

- Define a naming standard that works
- Select simple names, KISS it
- Avoid object or location identifiers
- Define cluster naming standards
- Use Alias names for local Cluster Queue access
- Keep QMGR Names short
- SDLC identifier (i.e. MQDAPP01)
- Adhere to standards
- Support Pack

## 4. Logging

- Log Types – Circular vs Linear
- Log Sizing is important, for distributed, download and use the log file size estimator @ [\*\*http://tiny.cc/MQsizing\*\*](http://tiny.cc/MQsizing)
- Running out of log space is bad.
- Keep logs on spindles separate from other file systems
- DEV and SIT use Circular
- UAT, PROD and DR use linear
- Move archived logs off file system
- Delete after successful restart
- Usually 14 days on weekly restart

# 5. Application Design Standards

- Create Application programming standards
- Should work with Naming Standards
- Create patterns and detail QMGR interactions
  - ▶ Request/Reply
  - ▶ Triggering
  - ▶ Error Processing
  - ▶ Reconnection
  - ▶ Poison messages
  - ▶ Audit / Logging
- Language Specific Interactions
- Create program specification templates
- Create Test Script Templates
- Perform Code Reviews prior to implementation
- Security

■ Wrappers

# Tools

- What tools do you need
- Do you standardize or give free hand
- Do you buy or borrow?
- What Tools do your application programmers use
- What tools do your administrators use
- What tools do your Business users use
- What tools do your support team use
- Support Packs
- MQ out-of-the-box



# Tools - RFHUTIL

RfhUtil V7.0.2 (Client)

File Edit Search Read Write View Ids MQ Help

Main Data MQMD PS Usr Prop RFH PubSub pscr jms usr other CICS IMS DLQ

Queue Manager Name (to connect to)  
SYSTEM.ADMIN.SVRCONN(TCP/172.24.65.23(2414))

Queue Name  
ISSUER.ERR.Q

Remote Queue Manager Name (remote queues only)

Queue Type

Queue depth

Move Q

Save Q

Purge Q

Load Q

Display Q

Selector

Read Q Write Q Browse Q Start Browse Browse Next Browse Prev End Browse Close Q

File Code Page  
437

File Name

Data Size

Open File Save File Clear Data Clear All Load Names Set Conn Id

COBOL Copy Book File Name

User Props  
☒ As Queue  
☐ None  
☐ Yes  
☐ RFH2  
☐ Compet

Cluster Open  
☐ As Queue  
☐ Bind Open  
☐ Not Fixed

Put/Get Options  
☒ New Msg Id  
☐ Get by Msg Id  
☐ Get by Correlid  
☐ Get by Group Id  
☐ Set Idem Context  
☐ Set All Context  
☐ New Correl Id  
☐ Logical Order  
☐ Complete Msg  
☐ All Avail  
☐ Convert  
☐ Alternate User Id

Exit

# Tools – MQ Explorer

IBM WebSphere MQ Explorer (Installation1)

File Edit Window Help

MQ Explorer - Navigator

- IBM WebSphere MQ
  - Queue Managers
    - BOBBEE
    - COORDQM
    - ENTDQM04
    - MB8QMGR
      - MB8QMGR1 on '172.24.65.23(2414)'
      - MB8QMGR2 on '172.24.65.24(2414)'
      - MB8QMGR2 on '172.24.65.24(2414)' using 'SYSTEM.ADMIN.SVR'
      - WMBUAT02 on '10.106.69.22(2414)'
      - WMQA on 'demomvs.demopkg.ibm.com(1414)'
      - WMQDEV01 on '10.106.65.21(2414)'
      - WMQDEV01 on '10.106.65.21(2414)' using 'SYSTEM.ADMIN.SVR'
      - WMQDEV01 on '172.24.65.29(2414)'
      - WMQDEV01 on '172.24.65.39(2414)'
      - WMQDEV01 on '172.24.65.41(2414)'
      - WMQDEV02 on '10.106.65.22(2414)'
      - WMQDEV02 on '10.106.65.22(2414)' using 'SYSTEM.DEF.SVRCON'
      - WMQUAT01 on '10.106.69.21(2414)'
  - Queue Manager Clusters
  - JMS Administered Objects
  - Managed File Transfer
    - COORDQM
  - Service Definition Repositories
  - Administered Servers
  - Brokers
    - BRKDEV01 on 'WMQDEV01 (10.106.65.21)(2414)'
    - BRKDEV02 on 'WMQDEV02 (10.106.65.22)(2414)'
    - BRKUAT01 on 'WMQUAT01 (10.106.69.21)(2414)'
    - BRKUAT02 on 'WMBUAT02 (10.106.69.22)(2414)'
    - MB8BROKER
      - MB8BROKER1 on 'MB8QMGR1 (172.24.65.23)(2414)'
      - MB8BROKER2 on 'MB8QMGR2 (172.24.65.24)(2414)'
  - Broker Archive Files
    - Localhost

MQ Explorer - Content

Queues

Filter: Standard for Queues

Queue name	Queue type
BOBBEE	Local
SYSTEM.ADMIN.ACCOUNTING.QUEUE	Local
SYSTEM.ADMIN.ACTIVITY.QUEUE	Local
SYSTEM.ADMIN.CHANNEL.EVENT	Local
SYSTEM.ADMIN.COMMAND.EVENT	Local
SYSTEM.ADMIN.COMMAND.QUEUE	Local
SYSTEM.ADMIN.CONFIG.EVENT	Local
SYSTEM.ADMIN.LOGGER.EVENT	Local
SYSTEM.ADMIN.PERFM.EVENT	Local
SYSTEM.ADMIN.PUBSUB.EVENT	Local
SYSTEM.ADMIN.QMGR.EVENT	Local
SYSTEM.ADMIN.STATISTICS.QUEUE	Local
SYSTEM.ADMIN.TRACE.ACTIVITY.QUEUE	Local
SYSTEM.ADMIN.TRACE.ROUTE.QUEUE	Local

Scheme: Standard for Queues - Distributed

Last updated: 13:45:36 (79 items)

Administration Log

Mess...	Source	Timestamp	Messa
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## 6. High Availability

- What does High Availability mean to you and your business?
- Different people, different requirements.
- What is the driving force for the availability of a system
- What is my approach?
- How do I implement it.
- What am I really getting.
- Active/Passive
- Active/Active

# 7. Disaster Recovery

- End of the world approach
- SLA's again as determining factor
- Placement of datacenter is key.
- A lot of activity after 9/11 and power grid loss
- File systems are replicated to a secondary datacenter
- Primary activity can be sync or async
- Secondary can be passive or active
- Moving data ?

## 8. Monitoring

- DO NOT WAIT TILL THE LAST MINUTE.
- Pick you Monitoring Approach.
  - ▶ simple or complex
  - ▶ Feature rich or basic
- Decide the key factors that provide enterprise wide capabilities
- Centralize your Monitoring Console
- Know what to monitor
- MQ Monitoring - <http://tiny.cc/MQMonitoring>

## 9. Role Definition

- Who are the actors
- What groups control what
- Who do you turn to
- Clear definition
- Multiple Hats
- Training

# 10. Skill Development

- Skilled employees are an asset not a liability
- Training is important for the health of the system
- Changing technologies require training
- In-house, remote, Self Paced
- IBM offers training in all features and components of their software
- External sites are available for training
- Hire vs Train
- Certification Testing

# Clustering – Why do we use it

- Simplified administration
- Large WMQ networks require many object definitions (Channels, Transmit queues, Remote queues)
- Workload balancing
  - ▶ Spread the load
  - ▶ Route around failures
- Flexible connectivity
  - ▶ Overlapping clusters
  - ▶ Gateway Queue managers
- Pub/sub Clusters



# Clustering

- Don't have too many cooks
  - ▶ Treat a single cluster as a single point of administration
  - ▶ Have well defined policies for the gateway queue managers
- Treat all overlapping clusters as a single Namespace
  - ▶ Channel names, and therefore queue manager names, should be unique throughout.

# Questions & Answers

