GUIDE MQ 26/09/2017

HIGH AVAILABILITY

multi instance feedback

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01. Multi Instance

- Since MQ version 7.0.1 (Automatic Client reconnection), now 8.0.0.6 and 9.0.1 CD

- OS : Windows Server 2012 R2

- Shared file system : NAS NetApp 8.2.2RC1 with Microsoft CIFS Common Internet File Services

- Previous MQ HA : use Microsoft Cluster Service MSCS

01. Benefits ☺

✓ Tech : Native MQ solution and works fine

✓ Cost : HA Solution with less extra cost (120%) than hardware solution

✓ Orga : Unique contact in case of incident (MQ Admin)

01. Drawbacks / Problems ☹

- MQ Client have to deal with 2 IP addresses (cf next slides)

- Problems with rights (Windows / Active Directory / NAS / MQ service account / Admin MQ

```
>crtmqm -a "DOMAIN\MQSVCUSER" -sax  -md "\\nas\mq\qmgrs" -ll -ld "\\nas\mq\logs" -lf 8192 -lp 10 -ls 5 MYQMGR
```

AMQ6239: Permission denied attempting to access filesystem location '\\nas\mq\log'
AMQ7077: You are not authorized to perform the requested operation.

```
>strmqm MYQMGR
```

AMQ6239: Permission denied attempting to access filesystem location '\\nas\mq\qmgrs\MYQMGR\qm.ini'
AMQ7001: The location specified for the queue manager is not valid

=> MQ Service account to create share and also mapping rights between AD and NAS

- Admin MQ command with : `>runas /user:DOMAIN\MQSVCUSER cmd`

- Windows : Unable to perform file system check like Linux (amqmfsck)
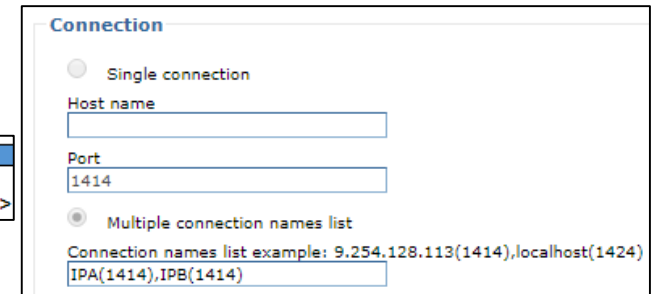
02. MQ Clients Impact

- ▪ WSO2 ESB (Enterprise Integrator 6.1.1)
  - o Copying MQ librairies from \MQDIR\java\lib\OSGi : com.ibm.mq.allclient.jar, fscontext.jar, jms.jar, providerutil.jar
  - o .bindings file with QCF

```
define QCF(QCF_ESB) CONNECTIONNAMELIST(IPA(1414),IPB(1414)) TRANSPORT(client) QMANAGER(MyQMGR) CHANNEL(ESBSVRCONN)
```

- ▪ IBM WAS 8.0 and 8.5.5
  - o Messaging Engine

Buses

Buses > BUS01t > mecluster01t.000-BUS01t > WebSphere MQ links > MQLink_BUS01t > WebSphere MQ link sender channel >

Connection

○ Single connection

Host name

Port
1414

● Multiple connection names list

Connection names list example: 9.254.128.113(1414),localhost(1424)
IPA(1414),IPB(1414)

  - o MQ see ME as a qmgr, IP config in Channel Sender

- ▪ Synapse FIBEN / Editique / Batch Server

  - o MQClient connection : AMQCLCHL.TAB

  - o mqsc –n (since 8.0)

```
DEFINE CHANNEL('AppliCHL') CHLTYPE(CLNTCONN) CONNAME('IPA(1414),IPB(1414)') QMNAME('MYQMGR') REPLACE
```

02. Datapower

IBM Datapower : qm group

Hostname and channel name, but not « native »
connectionnamelist
=> Problems with alerting, standby qmgr is seen
as « DOWN »

02. Linear Log Maintenance Update

- Support Pac MS0L : MQ Linear Logfile Maintenance in JAVA
  - Launched locally, need duplication in both server

```
REM Move log sequence number
rcdmqimg -m %QMGR% -t all *
REM logs cleanup
java com.ibm.ms0l.MqLinearLogfileMaint -v -d %MQHOME% -l %LOGFILE% -a %ARCHDIR% -lp %LP% -q %QMGR%
```

- Need to check if queue manager is actually running on server to avoid errors

```
for /f %%i in ('dspmq ^| findstr "%QMGR%" ^| find /i /c "Running"') do set
isrunning=%%i
if %isrunning% NEQ 1 (
echo queue manager %QMGR% is not running
exit /B 2
)
else
echo queue manager %QMGR% is running
echo next

Seen there : http://t-rob.net/2015/02/22/windows-mq-log-maintenance-that-really-works/
```

03. Next Step : reach Full HA an to do list

- Since 9.0.2 Cleaning log extents automatically `distributed` `V 9.0.2`
  - o "*You use the LogManagement attribute in the Log stanza of the qm.ini file, or by using the IBM MQ Explorer, to setup automatic management.*" (IBM Knowledge center)
- Local triggering programs > switch to client trigger with runmqtmc
- Remove embedded MQLibs in local programs (<7.0.1?) and use redistributable client instead
- Datapower : RFE to manage MQ Multi Instance
- WAS9 and MQ : use MQ as an external messaging provider and use Central provisioning of CCDT with MQCCDTURL

04. MQ HA Documentation

- IBM Redbook - sg247839 - High Availability in WebSphere Messaging Solutions

- ~~IBM Redbook – sg247583 - WebSphere MQ V7.0 Features and Enhancements~~

- ~~IBM Redbook – sg248087 - WebSphere MQ V7.1 and V7.5 Features and Enhancements~~

- http://www.mqtechconference.com/sessions_v2016.html

Thank you for your attention,