
# Guide Share France
# Groupe de Travail MQ
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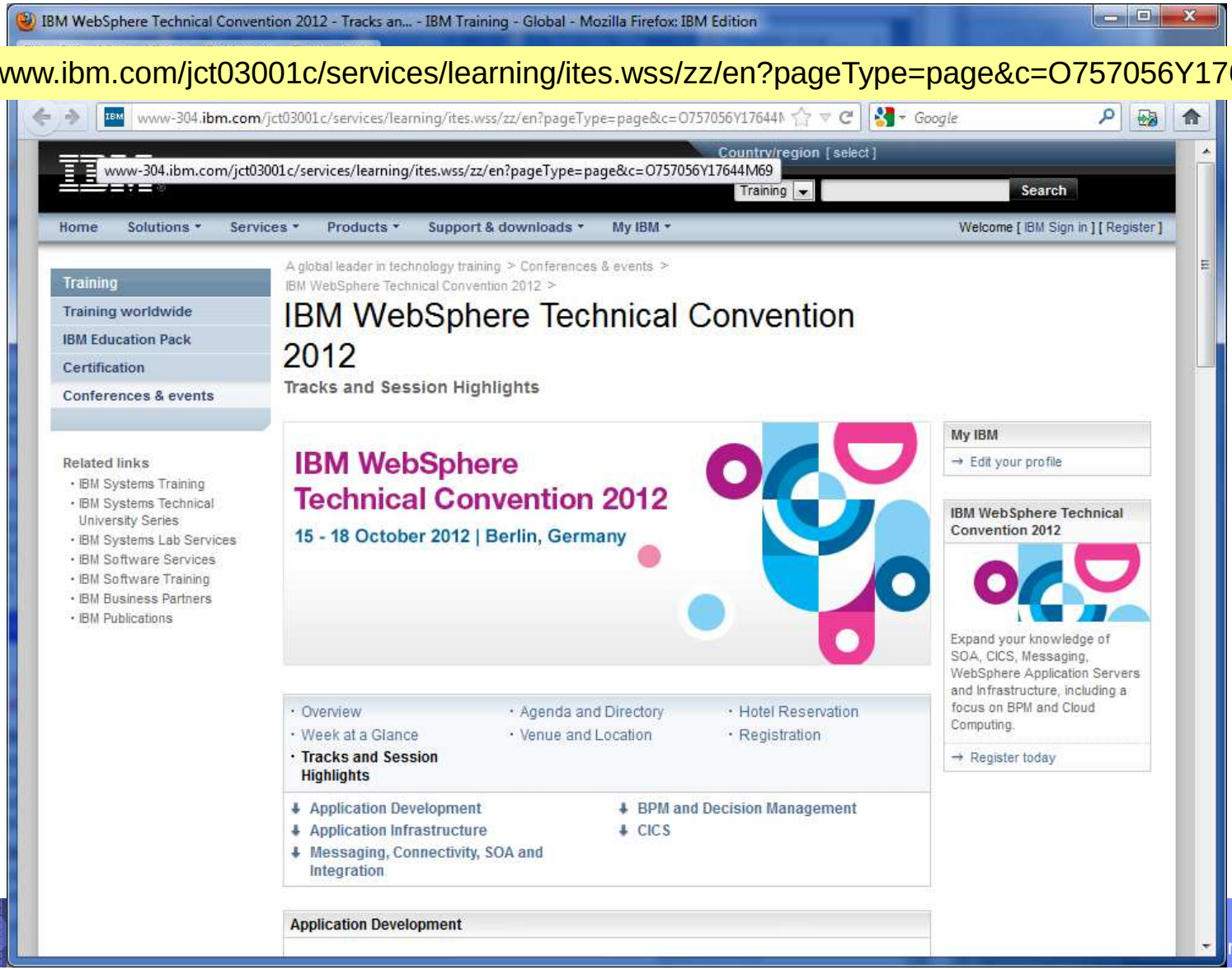
# Moi… demain

# Agenda

- Evènements
- RFEs
- Evolutions de nos produits favoris… IMPACT
- Injecteurs MQ : JMSHarness
- SMFez-vous ?

# WebSphere Tech Convention, 15-18 oct, Berlin

http://www.ibm.com/jct03001c/services/learning/ites.wss/zz/en?pageType=page&c=O757056Y17644M69



# TechSoftware, IBM BoisColombes, 29-31 août

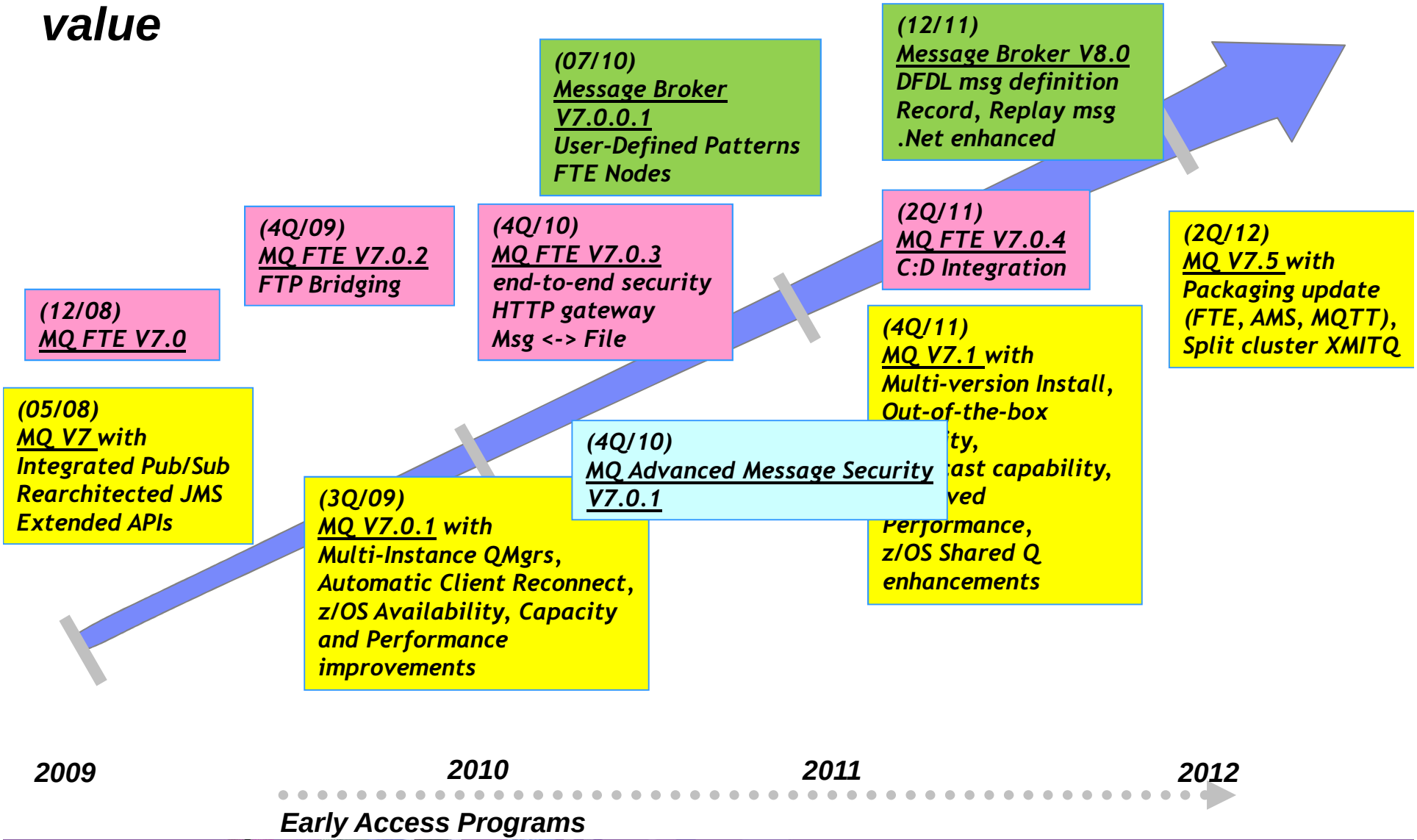
http://www.ibm.com/software/fr/techsoftware-2012/index.html

# RFEs

- Préparez votre demande avec nous pour la raffiner
  - Faites impliquer qqn qui écrit bien anglais dans la préparation…..
  - N'oubliez pas de lui offrir un verre….
- C'est la saison pour voter : signaler à notre communauté quand la RFE est saisie afin qu'un maximum parmi nous le soutient (Voter Yes!)
  - Profitez d'un Président GSF MQ très proactif….
- Ne soyez pas trop déçu si la demande n'aboutit pas… le labo ne peut pas tout faire. Ils doivent constamment équilibrer…
  - Intérêt parmi les utilisateurs (votes)
  - Intérêt "architecturel" (stratégie, direction du produit long-terme)
  - Complexité (coût) pour la modification
  - Besoins tactiques (pour influencer des ventes courtes-termes)
  - ….

# MQ v7.5 from Impact

# WMQ Family Roadmap – continual delivery of customer value



# WebSphere MQ V7.5: Content Summary

For Windows, Unix and Linux

**WebSphere MQ V7.5**

Announced: 24 April 2012

Availability: 20 June 2012

**Simplification**

| *New Feature* | *Benefits* | *Details* |
|---|---|---|
| **Integrated Installation** | Makes it easier to deploy systems<br>Simpler licensing | Combines several products into a single package<br>Common experience |
| **Enhanced Clustering** | Improves ease-of-use<br>Improves application isolation | Split Cluster Transmission Queue |
| **Java Application Identification** | Makes it easier to distinguish applications | Applications no longer to all have the same name |
| **AMS channel interception** | Provides a level of message protection even when application environment cannot run AMS | Interception in the SVRCONN still protects messages before hitting queues |
| **FTE Logger Options** | Can write FTE audit records to flat file | No longer a requirement for an enterprise database<br>Easier to read data immediately |

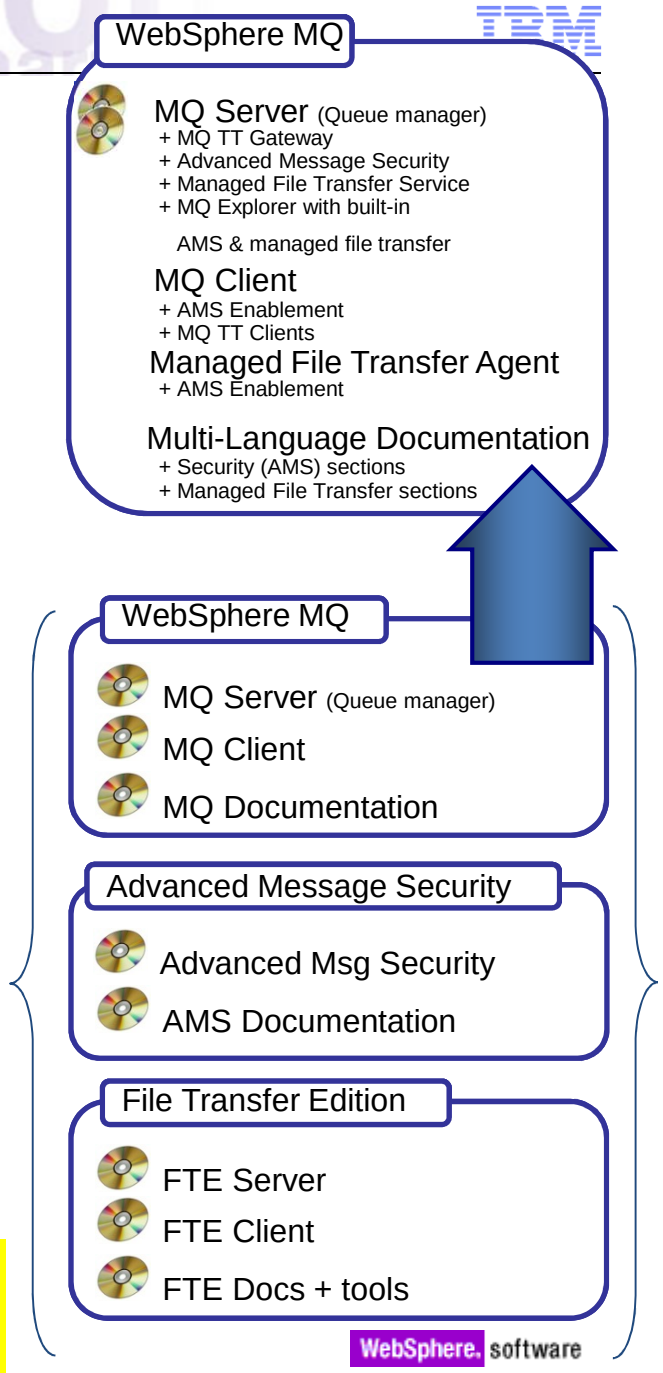
# WebSphere MQ V7.5

- Integrated Messaging Offering
  - Single install, packaging & tooling for all Messaging options
  - Reduce time to value, simplify usage

- What's being delivered?
  - Integration of MQ with MQ FTE, MQ AMS and MQ Telemetry
  - Single install, common integrated tooling and management, simplified licensing and entitlements
  - Updated MQ Explorer tooling for all platforms
  - More complete, easy to use messaging infrastructure, enabling you to gain full range of messaging, swiftly & easily

- All messaging functions & capabilities available to all customers, new and existing with rich choice of qualities of service
  - Removal of charge for MQ XA client
  - Reduced pricing metric for standard MQ Telemetry client
    - Lower cost for larger numbers of clients

**Je n'ai pas parlé des prix !**



# Clustering – Split Transmit Queue Requirements

- Separation of Message Traffic
  - With a single transmission queue there is potential for pending messages for cluster channel 'A' to interfere with messages pending for cluster channel 'B'
- Management of messages
  - Use of queue concepts such as MAXDEPTH not useful when using a single transmission queue for more than one channel
- Monitoring
  - Tracking the number of messages processed by a cluster channel currently difficult
  - Some information available via Channel Status

# Clustering – Split Transmit Queue

- With V7.5 a queue manager can automatically define a PERMANENT-DYNAMIC queue for each CLUSSDR channel.
  - Dynamic queues based upon new model queue "SYSTEM.CLUSTER.TRANSMIT.MODEL"
  - Well known queue names: "SYSTEM.CLUSTER.TRANSMIT.<CHANNEL-NAME>"
- Controlled via attribute affecting all cluster-sdr channels on the queue manager

```
ALTER QMGR DEFCLXQ( SCTQ | CHANNEL )
```

- Also have manual definitions
  - Multiple queues can be defined to cover all, or a subset of the cluster channels.

```
DEFINE QLOCAL(APPQMGR.CLUSTER1.XMITQ)
CHLNAME(CLUSTER1.TO.APPQMGR) USAGE(XMITQ)
```

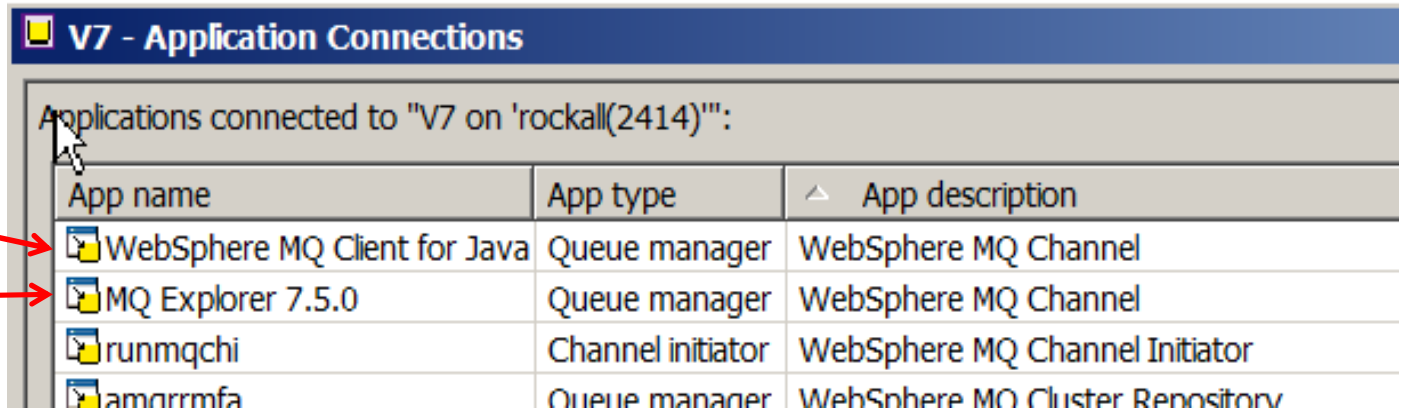

- Automatic and Manual are not mutually exclusive
  - They could be used together

# Java Application Identification

- Java client applications now fill in APPLTAG field
- No longer appear as “WebSphere MQ Client for Java”
- Application-provided property
- Or the Main class


V7 Explorer

V7.5 Explorer

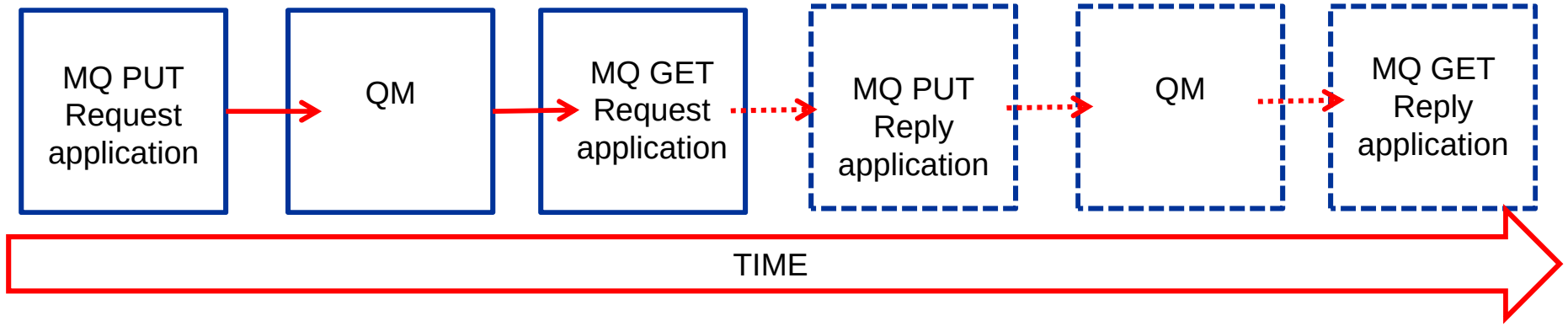


# MQ 7.5: Enhancements to newly-integrated components

- Managed File Transfer
  - Logger can now write to a file

- AMS
  - V7.0.1.2 enhancements
    - Supports SHA-2 Digest algorithms
    - Command and Configuration Events for Policy changes
    - Audit trail of who has changed configuration
  - SVRCONN interception

# MQ Performance testing




- Send a message, measure the time (elapsed, CPU…)
  - Conceptually simple, but how do you do it? And when you look at the details… not that simple at all!
  - Measure under max load? Fill the queue? Multi-thread? Measure Q/R? etc…
- Typically: use a "message injector"
  - AMQSBLST ("sample" delivered with several MQ Distributed platforms)
  - JMSHarness (or XMSHarness)
  - MA0T MsgText
  - IH03 "MQSI" msg utility (RFHUTIL, MQCAPONE, MQPUTS….)
  - MA01 Q
  - Loadrunner
  - Others? See http://www.capitalware.biz/mq_tools_comm.html#mqdebug or http://www-304.ibm.com/support/docview.wss?rs=977&uid=swg27007205
- Some include reports, some suppose that you have other complementary tools for reporting

# JMSHarness, what is it?

- "a flexible and modular Java package for performance testing of JMS scenarios and providers."
- A rich tool for driving MQ (or HTTP) loads (not limited to JMS!)
- Available free of charge:
  https://www.ibm.com/developerworks/community/groups/service/html/communityview?communityUuid=1c020fe8-4efb-4d70-afb7-0f561120c2aa
  or
  http://www.alphaworks.ibm.com/tech/perfharness?open&S_TACT=105AGX21&S_CMP=AWRSS
- After downloading, you get:
  - Perfharness.jar
  - Manual.pdf

  That's it!
- This is THE tool used by IBM Hursley labs to drive their MQ tests (referred to in the MQ performance reviews). Now you, too, can be a MQ performance pro!
- An XMS Performance Harness Tool is also available, announced and supported with MQ v7, and for testing MQ performance with .Net. See SupportPac IA9H or https://www.ibm.com/developerworks/mydeveloperworks/files/app/collection/5bd0fa23-4704-44dc-a5d5-ffe7cd205bf3?lang=en

# JMSHarness, how do I get it going?

- Friendly advice: first do your standard setup and IVP for MQ Java on your platform, eg.
  - Setup your Environment variables as per http://publib.boulder.ibm.com/infocenter/wmqv7/v7r0/topic/com.ibm.mq.csqzaw.doc/jm10330_.htm
  - Setup PATH, CLASSPATH, MQ_JAVA_DATA_PATH, MQ_JAVA_INSTALL_PATH, MQ_JAVA_LIB_PATH
  - Test using `IVTRun -nojndi` at a minimum
  - If you want to use JMS & JNDI, use `IVTSetup`, and test `JMSAdmin` and `IVTRun`
- Setup the JMSHarness specific environment, eg. For Windoze….

  **`set CLASSPATH=perfharness.jar;%CLASSPATH%`**
- That's it!
- Running JMSHarness:

```
E:\perfh> java JMSPerfHarness -tc mqjava.PutGet -nt 5 -d Test -jb QM_carl510
ControlThread1: START
PutGet1: START
PutGet1: Opening Test
PutGet2: START
PutGet2: Opening Test
   :
PutGet5: STOP
totalIterations=455740,avgDuration=62.60,maxrateR=7353.97
ControlThread1: STOP
```

# JMSHarness, some of Carl's favorite parameters

| Parm | Description |
|---|---|
| -tc | Test Class, eg. jmsSender, PutGet, Responder, Publisher, etc. |
| -nt | Number of (parallel) Threads to run the class |
| -d | Name of target Queue |
| -jb | Name of Queue Manager |
| -mf | Specify input file to be used for sending message |
| -pp | Persistent messages |
| -tx | Send messages under transaction |
| -nl | Time to run test |
| -rt | Iterations rate (iterations per second). Default is "as fast as you can". |
| -mg | Total number of iterations |
| -ms | Message size in bytes |
| etc. | About 100 other parameters! Very flexible! |

# JMSHarness, example Send

```
E:\Junk\All\perfharness_v120\perfharness>java JMSPerfHarness -tc mqjava.Sender
-d Test -jb QM_carl510 -rl 20 -sr 10 -ss 5  -ms 2000 -rt 1
ControlThread1: START
Sender1: START
rateR=1.00,threads=1
rateR=1.00,threads=1
rateR=1.00,threads=1
rateR=1.00,threads=1
Sender1: STOP
totalIterations=21,avgDuration=21.17,maxrateR=1.00
ControlThread1: STOP
```

- Send 1 msg/sec (-rt) of 2000 bytes (-ms) during 20 seconds (-rl) with reports every 5 seconds (-ss) and sampling ever 10 seconds (-sr)

# JMSHarness, example Request/Reply

- Using 5 threads (-nt), send as many persistent (-pp) requests as possible to MyRequest queue, and get replies back on MyReply queue, for 20 seconds (-rl)

```
E:\perfharness>java JMSPerfHarness -tc mqjava.Requestor -iq MyRequest -oq MyReply -jb
QM_carl510 -rl 20 -sr 10 -ss 5  -ms 2000 -nt 5 -pp
ControlThread1: START
Requestor1: START
Requestor2: START
Requestor5: STOP
Requestor2: STOP
totalIterations=5155,avgDuration=22.61,maxrateR=315.30
ControlThread1: STOP
```

- Using 5 threads (-nt), receive requests on MyRequests queue (-iq) and send them back on MyReply queue (-oq)

```
e:\Junk\All\perfharness_v120\perfharness>java JMSPerfHarness -tc mqjava.Responder -iq
MyRequest -oq MyReply -jb QM_carl510 -to 30 -nt 5
ControlThread1: START
Responder1: START
Responder2: START
  :
rateR=43.90,threads=5
MQJE001: Completion Code '2', Reason '2033'.
Responder3: Uncaught exception.
   : (ugly Java tracebacks here for each thread!)
Responder5: STOP
totalIterations=5155,avgDuration=55.07,maxrateR=171.83
ControlThread1: STOP
```

# MA0T MsgTest utility (slides de Guide mai 2005)

- **Outil de test pour des messages MQ**
- **MQPUT et/ou MQGET des messages**
- **Construire des entêtes (MD, RFH) dans un « langage » XML**
- **Support des boucles, variables, etc.**
- **Comparaisons (tests de regression)**
- **SupportPac MA0T depuis…**

**http://www.ibm.com/software/integration/support/supportpacs/product.html#wmq**

- **SupportPac catagory 4 (3rd party, AS-IS)**

# MsgTest – fichier de contrôle

Id QMGR, journalisation, etc.

Définition des données du msg

Valeurs du MQMD

Boucle avec données variable

Valeur du MQMD variable

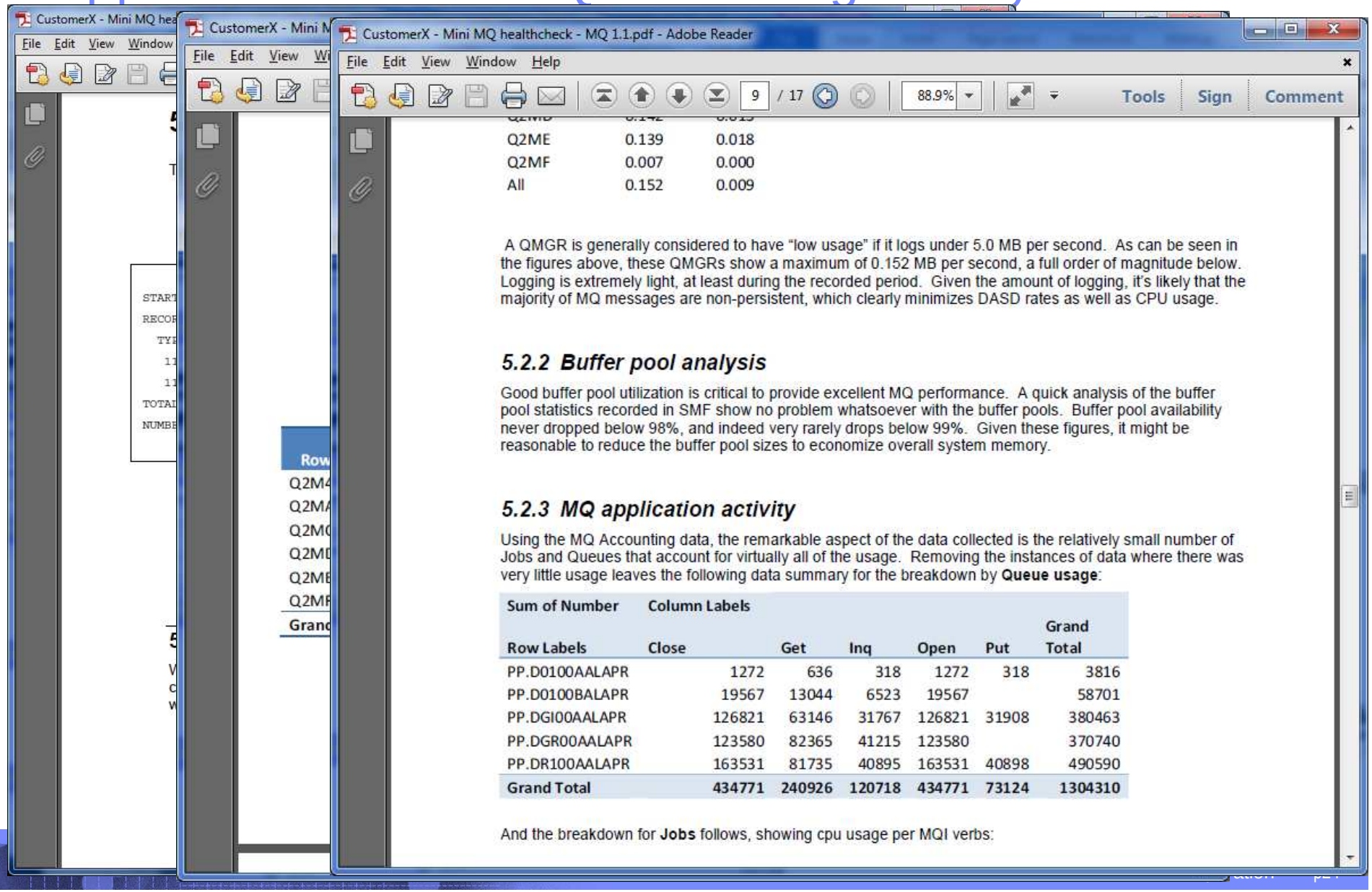
Identification de la file.

```
<MsgTest>
<Control>
   <QMgr>QM_WBIMB</QMgr>
   <Channel>SYSTEM.DEF.SVRCONN</Channel><Host>localhost</Host><Port>1418</Port>
   <TestLog>
         <File>NONE</File>
         <Dir>E:\Junk\MsgTest</Dir>
   </TestLog>
</Control>
<Test Name="PutIt">
   <!-- GetFile><File>FileIn1.txt</File><Dir>%Dir%DataIn</Dir></GetFile -->
   <InlineData>
     <!-- Buffer>MyBuff</Buffer -->
     <Data>Data?? </Data>
   </InlineData>
   <MQMD Name="MD01">
     <CorrelId>REQREP1</CorrelId>  <MsgType>1</MsgType>  <Format>MQSTR</Format>
     <ReplyToQ>TestOut</ReplyToQ> <Persistence>1</Persistence>
   </MQMD>
   <For Name="Knt" From="1" To="10" Incr="1" Format="%02d">
     <Overlay Pos="5" Len="2">
        <Data>%Knt%</Data>
     </Overlay>
     <PutMsg MQMD="MD01">
        <MsgId>CountIs%Knt%</MsgId>
        <Q>TestOut</Q>
     </PutMsg>
   </For>
</Test>
</MsgTest>
```

# Exécution du MsgTest

```
E:\Junk>msgtest c:\Tools\MsgTestTest.xml
**** MsgTest V1.2.1 Started.  **** Compiled on Feb 17 2005 at 06:00:12 ****
I012 Successfully loaded File="c:\Tools\MsgTestTest.xml". Size=1629/1204 bytes.
I019 Successfully parsed ScriptFile="c:\Tools\MsgTestTest.xml".
I027 Logging suppressed TestLog.File=NONE specified.
I034 Test Num=001 Test=PutIt. Initialised.
I035 Test Num=001 Test=PutIt. Assigned to the active list.
I075 Test load phase completed. Test execution phase started..
I168 Test Num=001 TotalPutMsg=10 SuccessfulPutMsg=10 FailedPutMsg=0.
I036 Test Num=001 Test=PutIt. Completed successfully.
I093 Interval statistics.
I108     No intervals were defined
I107 I062 Test results Total=1 Successful=1 Failed=0 Incomplete=0.
**** MsgTest V1.2.1 Finished. ****
```

# SupportPac MP1B - MQ SMF usage analysis



# IAM9: Message Broker – ILog JRules Decision Management Node

# MQ 7.1 Activity reports and SupportPac MS0P