What's New in IBM Messaging

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IBM Hursley

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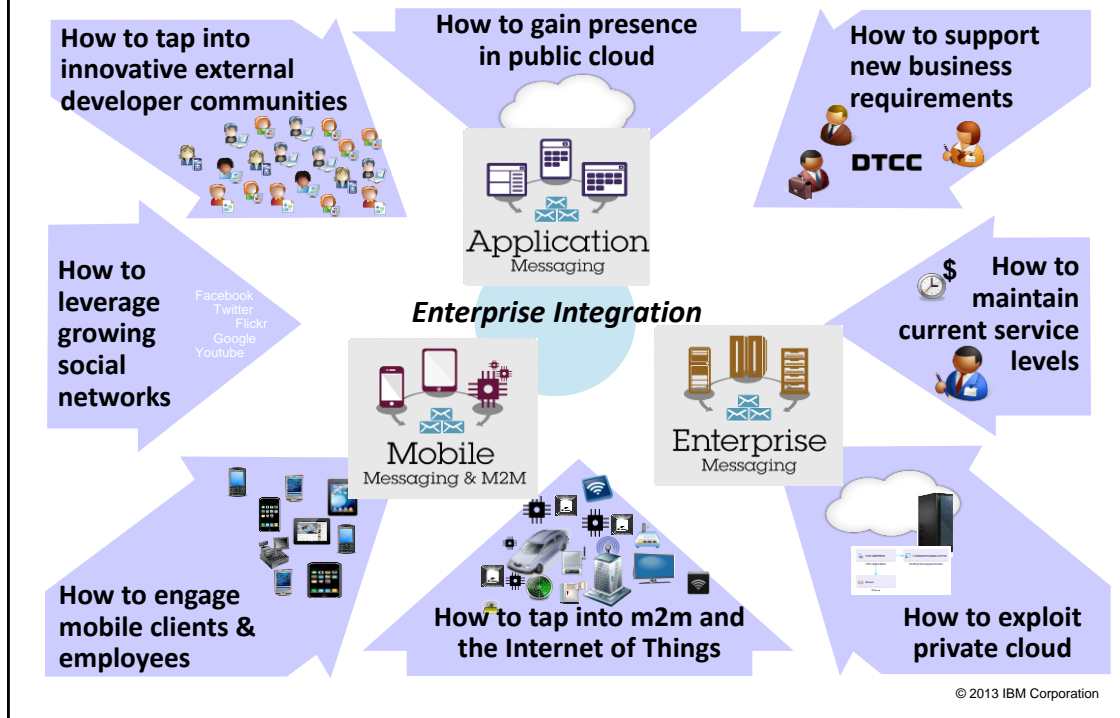
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Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon many factors, including considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve results similar to those stated here.
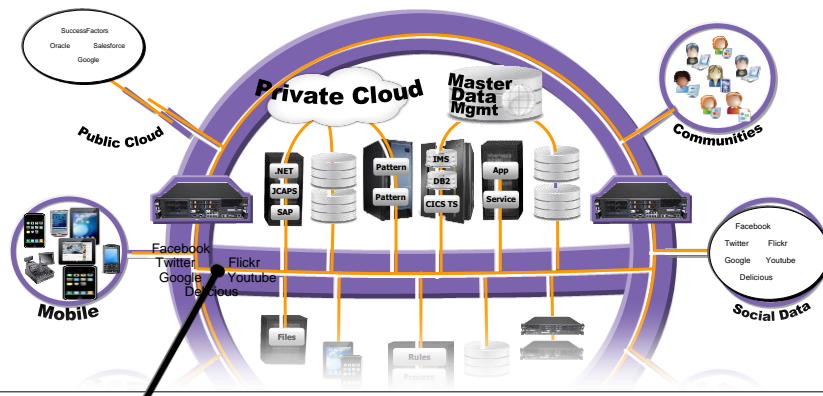
Today's business challenges for all aspects of IT

How to tap into innovative external developer communities

How to gain presence in public cloud

How to support new business requirements

DTCC

Application
Messaging

Enterprise Integration

How to leverage growing social networks

Facebook
Twitter
Flickr
Google
Youtube

How to maintain current service levels

$

Mobile
Messaging & M2M

Enterprise
Messaging

How to engage mobile clients & employees

How to tap into m2m and the Internet of Things

How to exploit private cloud

… needs a complete Messaging solution

- *Universal messaging backbone for transporting virtually any information*

SuccessFactors
Oracle   Salesforce
Google

Private Cloud

Master Data Mgmt

Public Cloud

Communities

.NET
JCAPS
SAP

Pattern
Pattern

IMS
DB2
CICS TS

App
Service

Facebook
Twitter   Flickr
Google   Youtube
Delicious

Mobile

Facebook
Twitter   Flickr
Google   Youtube
Delicious

Social Data

Files

Rules

- ○ Shared backbone for delivering all kinds of business data: messages, events, files, service interactions, mobile, sensors
- ○ Proven, reliable delivery of business critical data transactions
- ○ Preserve integrity of data with end-to-end encryption
- ○ Time-independent processing through asynchronous exchange (queuing)
- ○ Efficient messaging for mobile and sensors
- ○ Flexible distribution of information based on topics (just publish and subscribe to data)
- ○ Connect at Internet scale

IBM Software

A single multi-platform API

Assured message delivery

MQSeries

Commercial Messaging

Faster application development

Time independent processing

Application parallelism
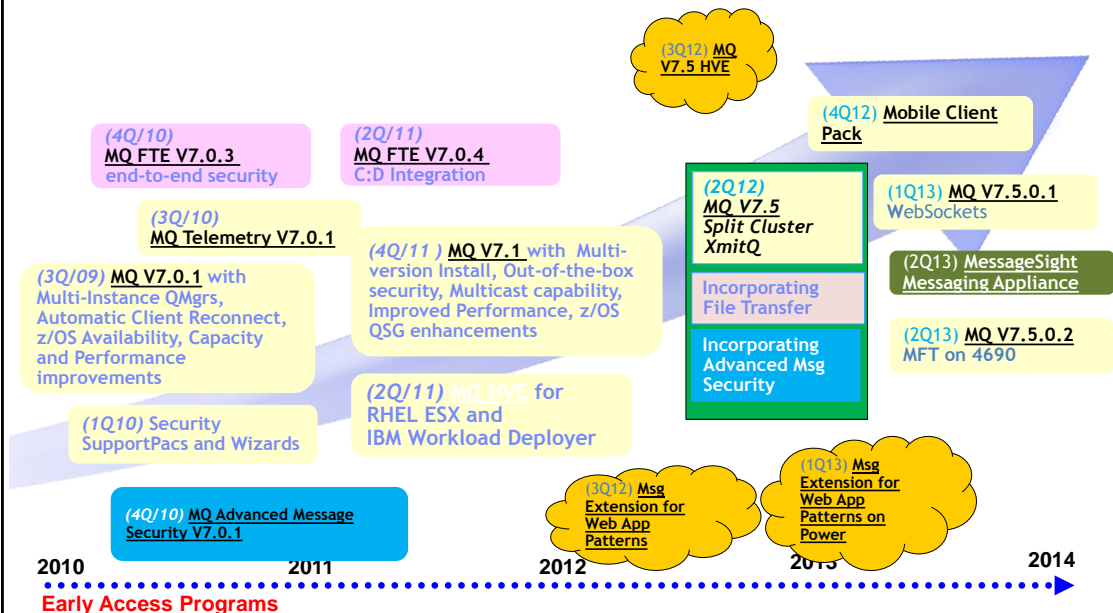
IBM Transaction and Messaging Congress 1995
BARCELONA

WMQ Family Status

(3Q12) **MQ V7.5 HVE**

(4Q12) **Mobile Client Pack**

(4Q/10) **MQ FTE V7.0.3** end-to-end security

(2Q/11) **MQ FTE V7.0.4** C:D Integration

(2Q12) **MQ V7.5 Split Cluster XmitQ**

(1Q13) **MQ V7.5.0.1** WebSockets

(3Q/10) **MQ Telemetry V7.0.1**

Incorporating File Transfer

(2Q13) **MessageSight Messaging Appliance**

(3Q/09) **MQ V7.0.1** with Multi-Instance QMgrs, Automatic Client Reconnect, z/OS Availability, Capacity and Performance improvements

(4Q/11) **MQ V7.1** with Multi-version Install, Out-of-the-box security, Multicast capability, Improved Performance, z/OS QSG enhancements

Incorporating Advanced Msg Security

(2Q13) **MQ V7.5.0.2** MFT on 4690

(1Q10) Security SupportPacs and Wizards

(2Q/11) MQ HVE for RHEL ESX and IBM Workload Deployer

(1Q13) **Msg Extension for Web App Patterns on Power**

(4Q/10) **MQ Advanced Message Security V7.0.1**

(3Q12) **Msg Extension for Web App Patterns**

2010   **2011**   **2012**   **2013**   **2014**

Early Access Programs

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Overviews and
License Changes

WebSphere MQ V7.1: Feature Summary

New Feature	Benefits	Details
Multi-Version Install capability on Distributed platforms	Makes it easier to deploy and upgrade systems and stage version to version migration	Unix and Windows support for multiple versions of MQ V7.x (AND one copy of MQ V7.0.1) down to fixpack levels. Relocatable installation support. Applications can connect to any Qmgr
Enhanced Security	Simplified Configuration Enhanced Authorisation and auditing	IP address Authorisation capability Additional crypto algorithms More granular authorisation for non-local queues Application Activity Reports
Cloud Support	Simplifies and support Cloud deployments	Additional HVE images
Enhanced Clustering	Improves ease-of-use	Authorisation on Cluster Q rather than XMIT Q on Dist. Platforms Bind-on-Group Support
Multicast capability	New messaging QoS provides low latency with high fan-out capability	MQ Pub/Sub Topics can seamlessly map to multicast Group Addresses Provides direct interoperability with MQ LLM
Improved scalability and availability on z/OS	Further exploitation of z196 Customer control over CF storage use CF Connectivity Loss improvements	Code contention reduced to improve multiprocessor linear scaling Use of MQ Datasets rather than DB2 significantly improves "large" message capability Structure rebuild capability for CF Connectivity Loss scenarios
Improved Performance on Dist platforms	Improved multiprocessor exploitation	Various code improvements

Simplification

WebSphere MQ V7.5: Content Summary

- For Windows, Unix and Linux

Simplification
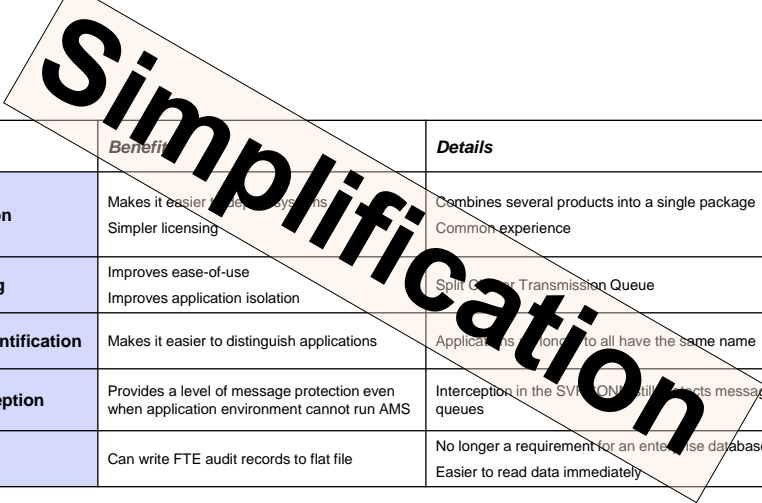
New Feature	Benefit	Details
Integrated Installation	Makes it easier to deploy systems Simpler licensing	Combines several products into a single package Common experience
Enhanced Clustering	Improves ease-of-use Improves application isolation	Split Cluster Transmission Queue
Java Application Identification	Makes it easier to distinguish applications	Applications used 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 Easier to read data immediately

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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

WebSphere MQ

MQ Server (Queue manager)
+ MQ TT Gateway
+ Advanced Message Security
+ Managed File Transfer Service
+ MQ Explorer with built-in AMS & managed file transfer

MQ Client
+ AMS Enablement
+ MQ TT Clients

Managed File Transfer Agent
+ AMS Enablement

Multi-Language Documentation
+ Security (AMS) sections
+ Managed File Transfer sections

WebSphere MQ

MQ Server (Queue manager)
MQ Client
MQ Documentation

Advanced Message Security

Advanced Msg Security
AMS Documentation

File Transfer Edition

FTE Server
FTE Client
FTE Docs + tools

WebSphere MQ Advanced

- Messaging layer integrated with advanced message security and managed file transfer solution
- Single pricing for all server based functionality
  - V7.5 server components for Distributed
  - V7.x AMS and FTE for z/OS
- All enabled projects get immediate access to all capabilities

- Quickly and cost-effectively address integration requirements from new technologies
- Increase infrastructure agility and rapidly pursue new market opportunities

Enhanced!

IBM WebSphere MQ Advanced V7.5

Convenience of a single, integrated offering

WebSphere MQ V7.5 Advanced for Developers

- Available from March 22 2013

- Cheaper version of MQ V7.5 Advanced for development-only activities

- Uses a new pricing metric: Authorized User Single Install
  - Authorized User Single Install is a unit of measure by which the program can be licensed. An Authorized User is a unique person who is given access to the program. An Install is an installed copy of the program on a physical or virtual disk made available to be executed on a computer. The program may be installed on any number of computers or servers, but if the Authorized User has accessed or has access to more than one Install of the program, the Authorized User requires a separate entitlement for each such Install.
  - Licensee must obtain separate, dedicated entitlements for each Authorized User given access to the program on each Install in any manner directly or indirectly (for example: via a multiplexing program, device, or application server) through any means. An entitlement for an Authorized User is unique to that Authorized User and may not be shared, nor may it be reassigned other than for the permanent transfer of the Authorized User entitlement to another person.

- Allowed to use all MQ V7.5.0.1 function including MQTT, AMS and MFT

Other License Changes

- **Idle Standby for High Availability configurations**
  - Previously only available for use of Multi-instance Queue Manager feature.
    - The Multi-instance Queue Manager maintains an active queue manager in idle standby, by waiting to take over in case of a failure. This idle queue manager can be licensed with idle standby parts.
  - New license extends entitlement for other HA systems such as IBM PowerHA® or Veritas
    - In this type of deployment, WebSphere MQ can be installed, but not started, on a system under the control of the external high availability solution. This instance is automatically activated in the case of failure and takes over the work of the failed queue manager.

- **Extended Transactional Client**
  - Now free to use XA features in client regardless of transaction manager
- **Telemetry Service**
  - Now standard charge (included in Advanced license) for any number of standard TT clients
  - Lower cost for larger numbers of clients

WebSphere MQ
V7.1 and V7.5

Multi-Version Installation

- MQ on Unix and Windows can install multiple levels on a system
  - Relocatable to user-chosen directories
  - Can have multiple copies even at the same fixpack level

- Permits a single copy of V7.0.1 to remain on system
  - So existing systems can be migrated
  - Must be 7.0.1.6 or later

- V7.5.0.1 is available as both install and update images
  - Multi-install gives lots of routes to get to latest code with minimal disruption

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Security: Channel Access Control

- Simplifying configuration for channel access
  - From clients and from queue managers

- SET CHLAUTH definitions control who can use channels
  - Block connections from specific IP addresses
  - Block connections from specific Userids
  - Set MCAUSER value used for any channel coming from a specific IP address
  - Set MCAUSER value used for any channel having a specific SSL or TLS DN
  - Set MCAUSER value used for any channel connecting from a specific Qmgr
  - Block connections claiming to be from a particular Qmgr unless from a specific IP address
  - Block connections claiming to be from a particular Client Userid from a specific IP address
  - Block connections presenting a particular certificate unless from a specific IP address
- Easy to test rules that you define
  - DISPLAY CHLAUTH can "execute" rules
- Rules can be applied in WARNING mode
  - Not actually blocked, but errors generated

Large Shared Queue Messages: SMDS

3 LPAR Test - DB2

64KB Non-Persistent Messages In-Syncpoint - DB2

3 LPAR Test - SMDS

64KB Non-Persistent Messages In-Syncpoint - SMDS
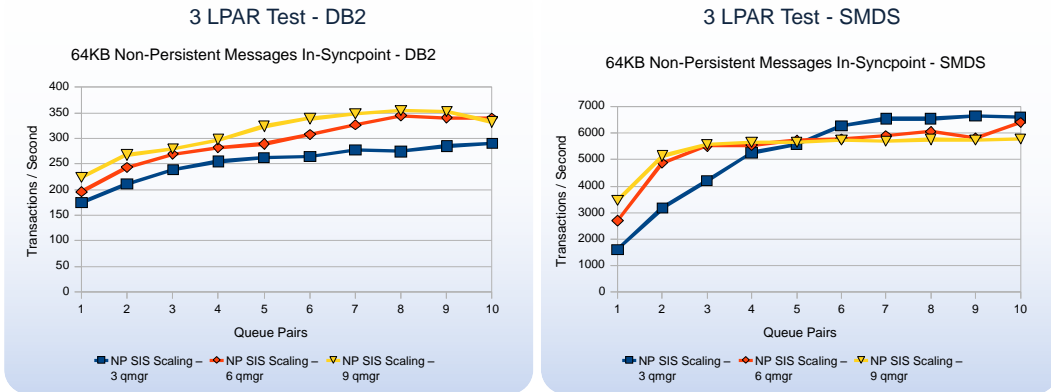
- Using DB2 BLOBs to store large (>63KB) messages is expensive in CPU
- Shared Message DataSets (SMDS) removes DB2 for large message storage
  - DB2 still needed for storing shared definitions
  - CF still holds small messages and pointers for offloaded messages
- SMDS per CF structure provides better scaling than DB2 BLOB storage

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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)
  CLCHNAME(CLUSTER1.TO.APPQMGR) USAGE(XMITQ)

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

V7.5

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Single SYSTEM.CLUSTER.TRANSMIT.QUEUE

CLUSTER1

QM_B

Q1

QM_A

S.
C.
T.
Q

QM_C

Q2
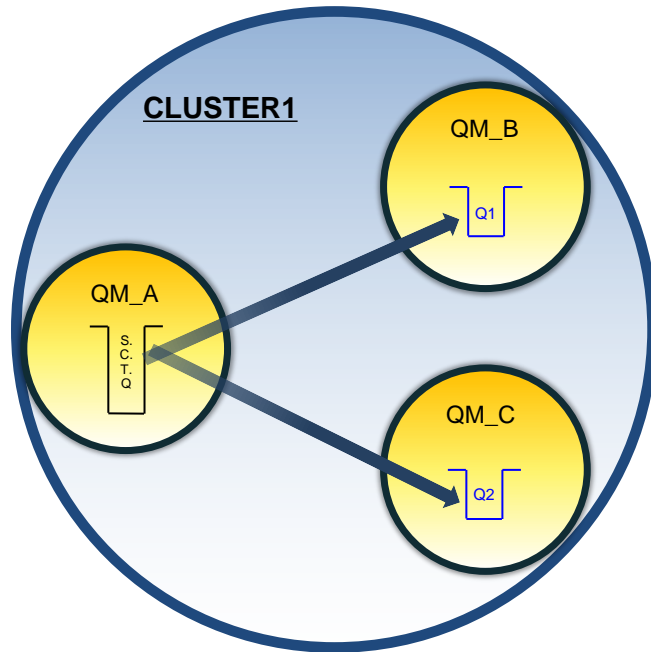
Separate XMITQ per cluster-sender channel

CLUSTER1

QM_B

Q1

..B

CLUSTER1.QM_B

QM_A

..C

CLUSTER1.QM_C

QM_C

Q1
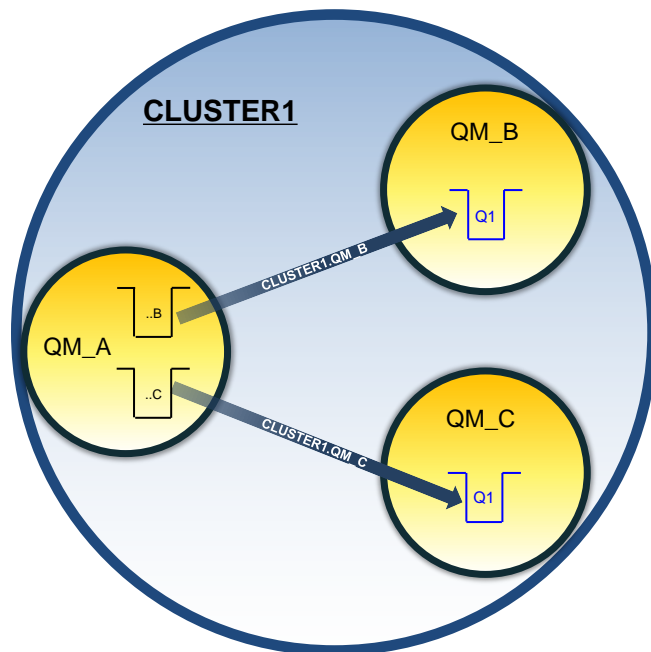
Java application identification

- Java client applications now fill in APPLTAG field

- No longer appear as "WebSphere MQ Client for Java"

V7.5

- Application-provided property

- Or the Main class

V7 - Application Connections

Applications connected to "V7 on 'rockall(2414)'":

App name	App type	△ App description
WebSphere MQ Client for Java	Queue manager	WebSphere MQ Channel
MQ Explorer 7.5.0	Queue manager	WebSphere MQ Channel
runmqchi	Channel initiator	WebSphere MQ Channel Initiator
amqrrmfa	Queue manager	WebSphere MQ Cluster Repository

V7 Explorer →

V7.5 Explorer →

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MQ 7.5: Enhancements to newly-integrated components

- Managed File Transfer
  - Logger can now write to a file
  - Agent lifecycle enhancements

- 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

V7.5

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SHA-2 for SSL/TLS on z/OS

- SHA-2 CipherSpecs available at V7.1 GA on Distributed platforms
    - Stronger hashing algorithms
    - Required/recommended by some authorities

- Now also available on z/OS

- APAR OA39422 needed on z/OS for System SSL

- APAR PM77341 for MQ on z/OS V7.1

```
TLS_RSA_WITH_NULL_SHA256
TLS_RSA_WITH_AES_128_CBC_SHA256
TLS_RSA_WITH_AES_256_CBC_SHA256
ECDHE_ECDSA_AES_128_CBC_SHA256
ECDHE_ECDSA_AES_256_CBC_SHA384
ECDHE_RSA_AES_128_CBC_SHA256
ECDHE_RSA_AES_256_CBC_SHA384
```

Internet Pass-Thru – SupportPac MS81

- Previous MQIPT 2.0 release was in 2008
    - Many new operating systems have been released since then
    - New cryptographic algorithms since then

- Redesigned to use the JRE-provided Java Secure Sockets Extension (JSSE)
    - Previously used a separate SSL implementation

- This gives consistent SSL/TLS support
    - Also has consistent certificate DN attributes with MQ V7.1

- US NIST standard SP800-131A recommends:
    - Support for SHA-2 (e.g. SHA-256, SHA-384 and SHA-512)
    - Elliptic Curve encryption

JMS in Liberty Profile

- WAS Liberty profile does not include a copy of the MQ JMS client
  - For consistency with other resource providers such as databases
  - Provider specific classes come from the resource provider

- The RA provided with MQ can be easily configured in Liberty
  - Define one variable in server.xml to tell the *wmqJmsClient-1.1* where the client is
    ```
    <variable name="wmqJmsClient.rar.location"
    value="${shared.resource.dir}/wmq/wmq.jmsra.rar"/>
    ```

- Requires the MQ 7.5.0.2 rar or a fix on top of 7.5.0.1

- More information is at
  - https://www.ibmdw.net/wasdev/2013/06/14/using-websphere-mq-with-the-liberty-profile/
  - http://www-01.ibm.com/support/docview.wss?uid=swg21633761

New client support for HP NSS (aka Tandem)

- Extended Transactional client support at an MQ V7.1 release level

- Full MQ V7.1 function for NonStop applications accessing MQ on other systems

- Client is free and fully supported
  - C / C++ extended transactional client
  - Cobol
  - pTAL support
  - JMS client

- Supports both Guardian and OSS applications
  - including OSS multi-threaded applications

- Available as SupportPac MAT1

SupportPac MA7R – MQ Adapter for Dynamics AX 2012

- Microsoft Dynamics AX is an ERP solution with in-built function for financial, human resources and operations management
- Services provided by Dynamics AX are invoked over "channels"
  - Provided channels include web services over HTTP, a client GUI and Office Add-ins
  - AX services can also be asynchronously invoked using Files
- Application Integration Framework (AIF) enables integration with external business processes and partners through the exchange of XML
- Integration ports use "adapters"
  - AX provides four adapters that represent predefined bindings
  - Custom adapters can also be developed through AIF-provided interfaces
- This SupportPac enables direct integration of MQ applications
- AX applications do not need to know anything about MQ
  - They are configured to use an MQ URI such as
    `wmq://mqhost:2099/msg/queue/SALES.REQUEST.QUEUE@QM1?connectQueueManag`
    `er=QM1&&channelName=AX.SVRCONN`

SupportPac MA7R – MQ Adapter for Dynamics AX 2012: Architecture

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IBM Redbook

Now available

Mobile and Machine-to-Machine

Messaging for mobile apps and machine communication

- For mobile and M2M applications, messaging is preferable to HTTP, with support for transactions and an event-oriented model, engineered for wireless communications
  - Reliably and securely complete business transactions over unreliable networks
  - Push information over unreliable networks, including sending information 'one to many'
  - Listen for events whenever they happen
  - Distribute minimal packets of data in huge volumes
  - Reduces volume (cost) of data, power consumption, responsiveness, reliability and scalability
- Messaging enables:
  - intelligent decision-making based on remote real-world events
  - remote resource management of static or moving assets, people, locations
- Patterns include: reliable asynchronous transactions, continuous 'streamed' updates, notification, data collection
- MQTT (MQ Telemetry Transport) messaging protocol optimized for mobile and sensors
- Reliable, Simple, Lean and Open protocol with Industry leadership & mindshare
  - MQTT protocol and client code contributed to open source (MQTT.org and Eclipse Paho)
  - Open licence allows development communities to provide further client code & device support (16+ MQTT servers and 40+ MQTT clients)
  - Standardisation process is under way at OASIS

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The Realm of MQTT

Intelligence and Analytics

Traditional Backend Systems

BigData

Interconnect with IBM Messaging

Respond

Data / Alert

Sense

Control

Visualise and Respond

Sense and Control

Embedded Controllers *Sensors* *Actuators* *Edge Gateways*

Mobile   Web   M2M

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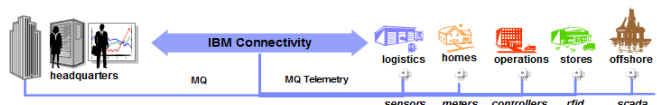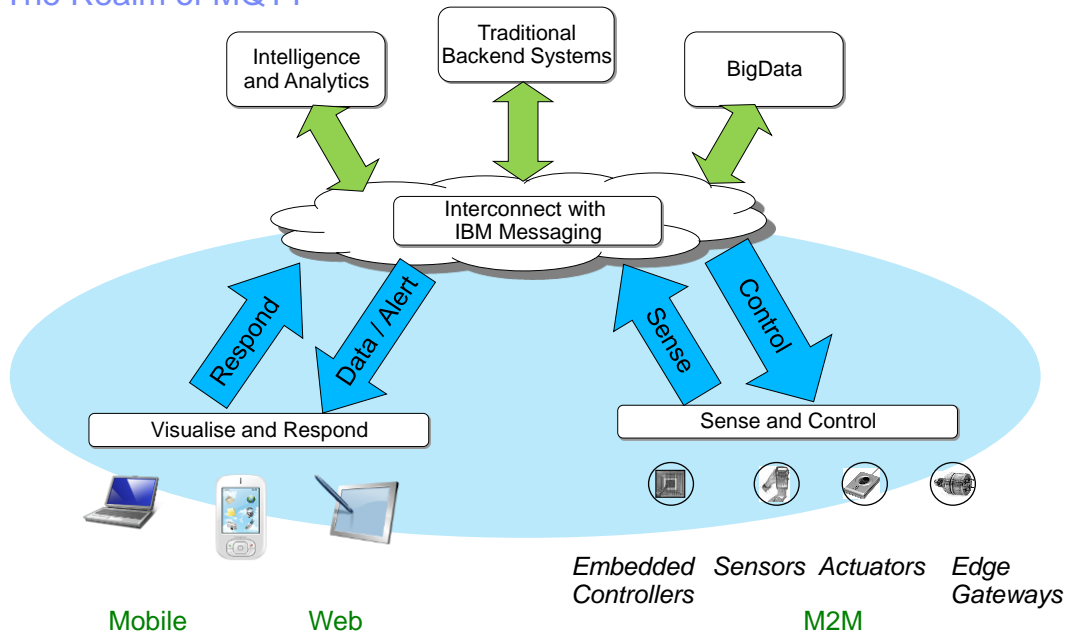
MQTT – the WebSphere MQ implementation

Included in IBM WebSphere MQ v7.1 and 7.5

Massive Scale

- 240,000 concurrent clients tested with <5% CPU on a single IBM WebSphere MQ queue manager
  - Maxed out number of load testing client machines
- Interoperable with Enterprise Applications:
  - Seamless interchange with JMS or MQI applications

High Security

- Direct connection between your enterprise and devices
- Network: TLS/SSL
- Authentication: JAAS
- Authorization: OAM

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Clients for Mobile and M2M Messaging

- Make it easier for mobile developers to build apps that access enterprise data
  - MQTT mobile apps can be developed in Worklight Studio
  - MQTT clients run in the Worklight Device runtime
  - Worklight Server provides security, app management, statistics;
  - MQ or MessageSight appliance handle messaging

IBM MessageSight
• Edge of Network Messaging Appliance
• High scale MQTT and Websockets support

Apple IOS
Messaging for native iOS apps

Android
Messaging for native Android apps

Javascript messaging for hybrid apps

Javascript messaging for Web apps

Worklight developers
Developer experience augmented with mobile messaging

Internet

MQTT
• Access to enterprise
• Reliable delivery
• Conserve device power
• Reduce network traffic

WebSphere MQ
• Provide access to enterprise apps and data already connected by MQ
• Pub/sub model to enable dynamic distribution of notifications

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New mobile messaging deliverables

- **What is being delivered?**
  - MQ "Mobile Messaging Client Pack"
    - Set of new and enhanced MQTT messaging clients for mobile devices and sensors
  - Articles, code samples and sample mobile applications
- **How available?**
  - Downloadable from the new Messaging community on developerWorks.
  - Clients are fully supported when used with relevant IBM products, for no extra charge

developerWorks.   Technical topics   Evaluation software   Community   Events   Search de

Browse Blogs   My Blog   My Updates   Help   This Blog   Search

MQdev community

DOWNLOAD   LEARN   PARTICIPATE

Welcome to the MQdev Community

ABOUT THIS BLOG
A Blog by a bunch of
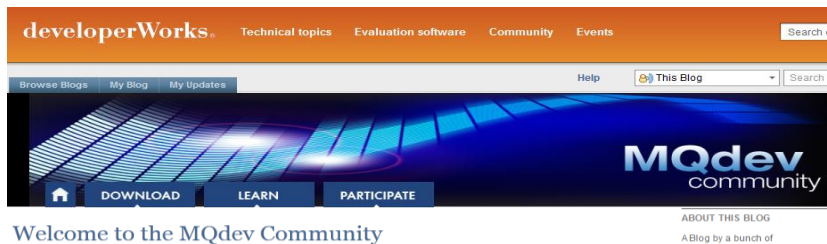
WebSockets support

- A new JavaScript messaging API, to allow JavaScript users to code mobile messaging applications with less programming
  - Support for WebSocket applications allowing JavaScript users to build mobile messaging applications without platform specific coding by using HTML5 WebSockets to connect to WebSphere MQ
  - Built on the MQTT API and V3.1 protocol
  - Push-model delivers messages to clients without polling

- The function supported includes:
  - Connecting to and disconnecting from a server
  - Options that relate to the communications link with the server
    - For example the frequency of keep-alive heartbeats, and whether SSL/TLS is required
  - Publishing messages to MQTT Topics
  - Subscribing to and receiving messages from MQTT Topics

- Support provided in V7.5.0.1 and in latest MA9B Client Pack
  - The XR Service in MQ incorporates the server-side function

Simple WebSockets example

```
client = new Messaging.Client(location.hostname, Number(location.port), clientId);
client.onConnectionLost = onConnectionLost;
client.onMessageArrived = onMessageArrived;
client.connect({onSuccess:onConnect});

function onConnect() {
  // Once a connection has been made, make a subscription and send a message.
  console.log("onConnect");
  client.subscribe("/World");
  message = new Messaging.Message("Hello");
  message.destinationName = "/World";
  client.send(message);
};

function onConnectionLost(responseObject){
  if (responseObject.errorCode !== 0)
    console.log("onConnectionLost:"+responseObject.errorMessage);
};
function onMessageArrived(message) {
  console.log("onMessageArrived:"+message.payloadString);
  client.disconnect();
};
```

IBM

IBM MessageSight – a messaging Appliance

- Extends the IBM Messaging family with a secure, easy to deploy appliance-based messaging server, optimized to address the massive scale requirements of machine to machine (m2m) and mobile use cases

- A million connections, and millions of messages per second

- Exploits hardware acceleration for performance

- Designed to sit at the edge of the enterprise

- Can extend your existing messaging infrastructure or used standalone

- Complements MQ - provides an offload/accelerator for edge of enterprise scenarios

- Supports familiar APIs with a mixture of standard and high-speed protocols

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IBM

IBM MessageSight – example use cases

- "Connected City" : traffic monitoring and alerts, emergency detection and response
  - crowd-sourced monitoring of traffic and notification to drivers, re-routing and assistance

- "Connected Car" : automotive telematics for security, customer service
  - mobile notification of location and state, preventative maintenance

- Process and utility industries :
  - remote monitoring and control, analysis and prediction of maintenance

- Mobile applications : secure, reliable, fast messaging
  - personal investment portfolio updates, market news

MQ
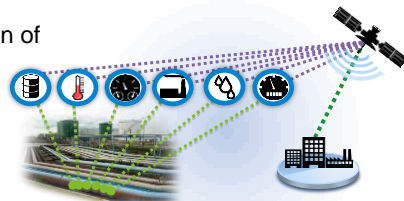
"Connected Car" for telematics, infotainment and mobile

**predicts part
failure**

**Find
my car**

**vibration detected,
details published**

**schedules
appointment
with car owner**

**Unlock
my car**

Smartcar
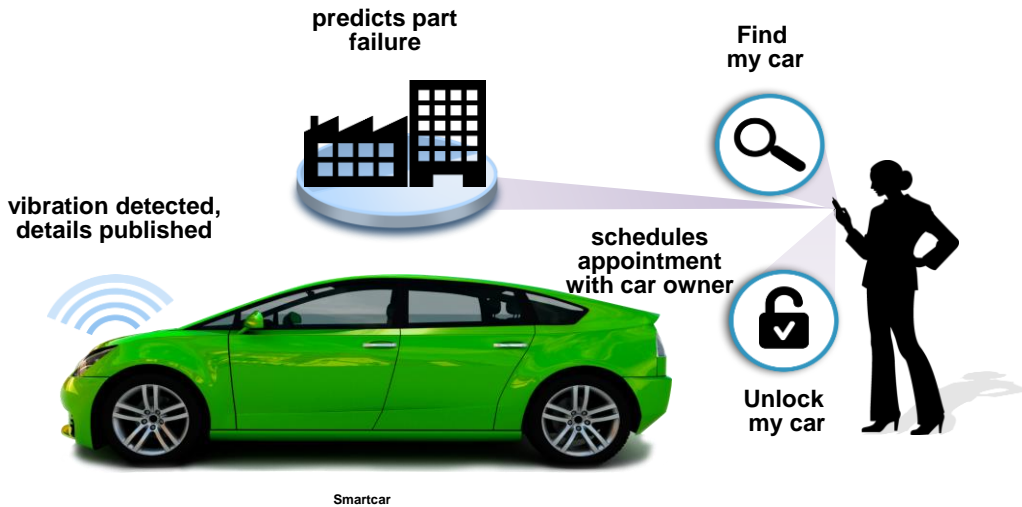
IBM MessageSight: Massive Scale

*Massive
Scale*

*Orders of
Magnitude
Improvements*
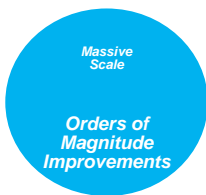
One appliance can handle

- 1M Concurrent Connections
  – For instance, one appliance can handle all the cars circulating in Manhattan in a day
- 13M non-persistent msg/sec
  – Allows massive fan-out streaming of data
- 400K persistent msg/sec
  – When assured delivery matters
- Predictable latency in the microseconds under load
  – Quick response time for end user

These numbers refer to specific scenarios.

IBM MessageSight: Optimized for Wireless

Optimized for Wireless Clients

m2m and Mobile
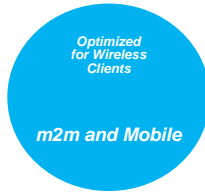
- Efficient MQTT messaging protocol that is faster, requires less bandwidth and less battery than traditional https
- Event oriented paradigm allows for better customer experience
- Support for JavaScript, C and Java APIs
- Apps can be HTML5 web apps, native or hybrid
- Integrates easily with IBM Worklight

For more details, attend session 1990 "Developing mobile & web app's for WebSphere MQ and IBM MessageSight" – Wed 1PM – Palazzo N

IBM MessageSight: Secure and Reliable

Secure and Reliable

DMZ Ready Appliance
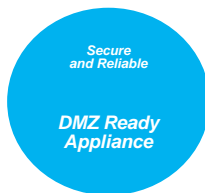
- Hardened Appliance Form Factor
  - Secure firmware (signed and encrypted by IBM)
  - No user-visible, general purpose OS

- Fine-grained Messaging Policies
  - SSL / TLS (including FIPS 140-2)
  - Authentication
  - Deny-based access control
- Various options for Quality of Service including Assured delivery
- Highly available (without shared resources)

For more details, attend session 1988 "Secure and scale your business with Mobile Messaging and M2M appliance" – Mon 5:15pm Palazzo N

IBM MessageSight: Developer-friendly

Developer Friendly

Simple Programming Model
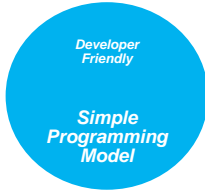
- Simple yet powerful APIs consistent across multiple platforms
  – Simple paradigm: connect, subscribe, publish
  – Promotes loosely coupled and scalable applications
- Protocols:
  – MQTT protocol – efficient pub/sub protocol designed for M2M
  – Java Messaging Service (JMS): Point-to-point & pub-sub over high speed protocol
- Active development community on developerWorks
  – http://www.ibm.com/developerworks/connect/IBMmessaging
- Cloud-based demo systems for rapid prototyping

For more details, attend session 1992 "Developing for the IBM MessageSight and WebSphere MQ Integration" – Tue 1pm Palazzo M

IBM MessageSight: Compatibility

Easy to Integrate
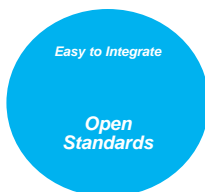
Open Standards

- Compatible with a variety of environments
  – JMS support for Java Standard Edition (JSE) environments
  – WebSockets support for Rich Internet Applications
  – MQTT protocol with many open source clients

- Built-in Connectivity with WebSphere MQ
  – One appliance can connect to multiple WebSphere MQ queue managers

- IBM Integration Bus support
  – Through the JMS nodes

For more details, attend session 1992 "Developing for the IBM MessageSight and WebSphere MQ Integration" – Tue 1pm Palazzo M

Or session 1468 "The Mobile Enterprise with WebSphere Message Broker"

Appliance Connectivity

Cloud

IBM Messaging
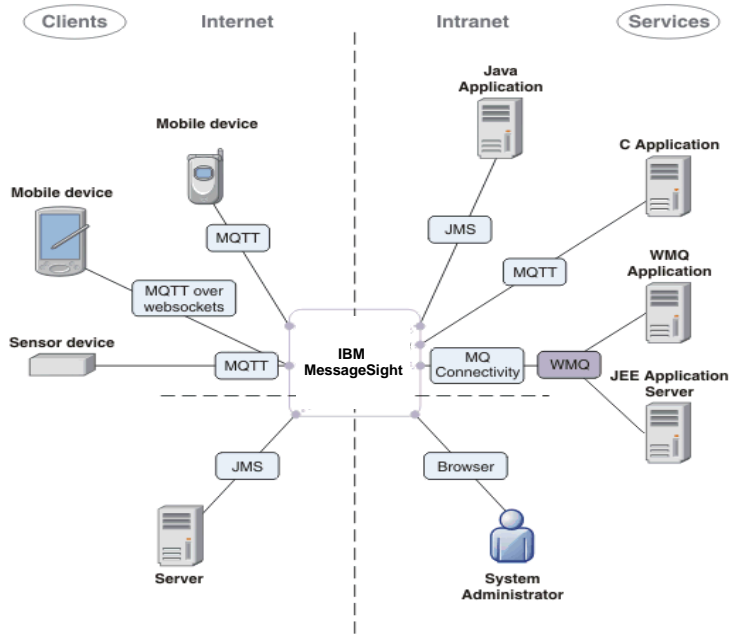
IBM SmartCloud Foundation

- SmartCloud Foundation
  - Hardware and infrastructure for private (or hybrid) clouds
  - Available in IBM PureApplication System or IBM Workload Deployer
  - Used to underpin Smart Cloud Services IBM-hosted public cloud
- Platform as a Service (PaaS)
  - Application-oriented deployment patterns
  - Dependencies are identified by introspection
  - Services are provisioned by the platform
  - Reduces the time and skill needed to deploy applications
- Infrastructure as a Service (IaaS)
  - Standardization of software images simplifies management
  - Automated provisioning reduces errors and speeds time to value
  - Applying software maintenance is simpler and quicker using IWD/IPAS
  - Improves availability of critical systems
  - Repeatable configuration across sets of machines is quicker and less error-prone
  - Comprehensive history/audit is maintained
  - License tracking is integrated

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MQ in Infrastructure as a Service (IaaS)

- Key artefact is a deployable image and configuration properties
- MQ Hypervisor Editions (HVEs)
  - Designed to run on a Hypervisor (HV)
  - Provide a readily deployable VM image
  - Include "parts" and example scripts
  - Can be extended as necessary to include admin, backup, monitoring tools/agents
  - Deploy in Virtual System Patterns in IWD/PureApp
  - Also support 3rd party HV environments
- WebSphere MQ Hypervisor Edition V7.5
  - Red Hat Enterprise Linux available 3Q2012
  - AIX available this quarter
  - MQ 7.5 core MQ runtime and clients, Telemetry Server and Clients
  - FTE and AMS install packages included; install them if entitled
- Alternatively, you can build your own image
  - ICCT tool is designed to help

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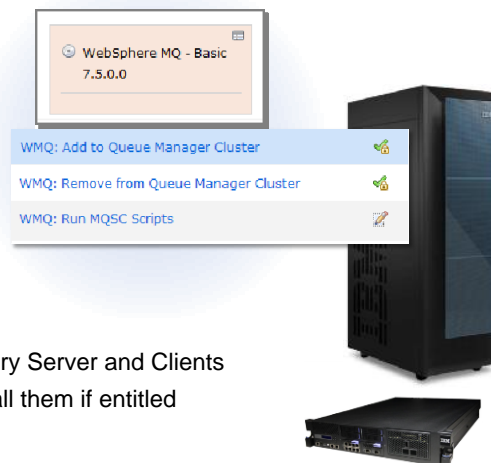
MQ in Platform as a Service (PaaS)

- Virtual Application Pattern
  - The pattern defines the application and its dependencies
  - Web App Pattern type is for JEE applications (EAR/WAR files)
  - Pattern builder tool introspects application's deployment descriptor
  - On deployment, IWD/PureApplication System creates and configures the necessary resources and JNDI objects
- MQ plugins enable deployment of messaging resources
  - Plugins in IWD and PureApp for connectivity to existing queue managers
  - Messaging Extension provisions additional queue managers
  - Download the Messaging Extension from Passport Advantage
  - Identifies application's messaging dependencies, such as:
  - ConnectionFactories and Activation Specs, Queues, and Topics
  - Dependencies are then defined and "wired" into the pattern
  - New VM is provisioned containing a queue manager when required
  - Creates queues and topics in queue manager
  - Links new resources to JNDI objects used by the application
  - Includes simple monitoring displays
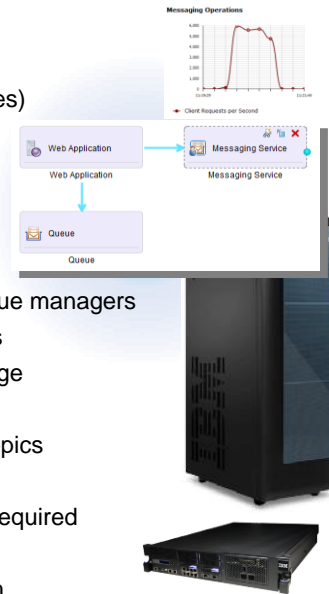
Universal Messaging with IBM Messaging

Any skills   **Any platform**   **Any QoS**

Any network   **Any speed**

Any data   **Any device**   **Any delivery level**

Universal Messaging

IBM Messaging Resources

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