IBM® WebSphere® Application Server V7

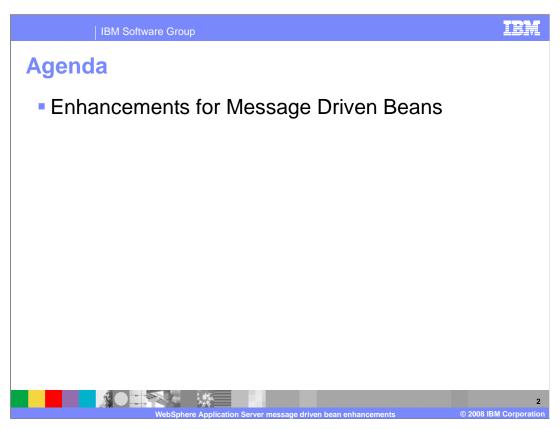## *WebSphere Application Server message driven bean enhancements*

@business on demand.

This presentation will discuss the enhancements for message driven beans available in WebSphere Application Server version 7.

Agenda

- Enhancements for Message Driven Beans

WebSphere Application Server message driven bean enhancements

This presentation will discuss enhancements for message driven beans in WebSphere Application Server version 7.

New MDB consumption options for clusters

- In V6.1 an MDB endpoint is started in each cluster member that is hosting an active messaging engine

- New options in V7:
  - ▸ Start an MDB on each cluster member that has an active messaging engine
  - ▸ Parallel processing offers increased throughput
    - Enabled by the "Always activate all logical MDB endpoints in a cluster bus member" setting on an activation specification
  - ▸ Singleton MDBs
    - Start only one MDB endpoint, even for clusters with multiple messaging engines
    - Enabled by the "receive exclusive" setting on an SIB destination

Message driven beans can now be started in WebSphere Application Server version 7 on each member of a cluster that has an active messaging engine.

Another setting that can be exploited is the option to restrict the messages to a single message driven bean end point even on clusters with multiple messaging engines.

The receive exclusive option is enabled by the receive exclusive setting on a service integration bus destination, while the option to activate all logical MDB endpoints in a cluster bus member is set on the activation specification.
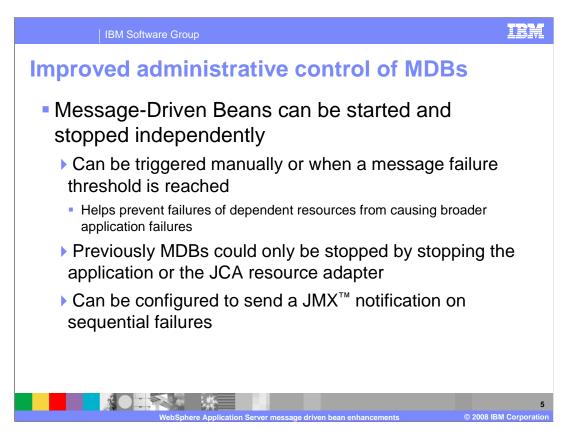
MDB connections to other cells

- Activation specifications can now be configured to enable MDBs to consume messages from destinations in another cell
  - ▸ Local cell configuration does not require any other knowledge of the foreign cell (no core group bridge required)
  - ▸ Defined by the "provider endpoints" setting on an activation specification

- Bus lookup always occurs within the local cell first, then looks to the "provider endpoints" configuration

4

In WebSphere Application Server version 6.1, the service integration bus resource adapter limits the choice of connections to only busses that exist in the same cell as the message driven bean application.

New in WebSphere Application Server version 7, activation specifications can be configured to enable message driven beans to consume messages from destinations in another cell entirely.

Using the provider endpoints setting on an activation specification you can configure the specification to enable the message driven bean to consume messages without any knowledge of the foreign cell.

If the destination that the message driven bean will be driven from is in another cell, the resource adapter will initially perform a lookup within the local cell first. If the lookup fails, it will use the provided cell endpoint.

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Improved administrative control of MDBs

- Message-Driven Beans can be started and stopped independently
  - Can be triggered manually or when a message failure threshold is reached
    - Helps prevent failures of dependent resources from causing broader application failures
  - Previously MDBs could only be stopped by stopping the application or the JCA resource adapter
  - Can be configured to send a JMX™ notification on sequential failures

More features for message driven beans are included in the WebSphere Application Server version 7 that provide great enhancements to the message driven bean support.

For example, you no longer have to stop the application or the resource adapter in order to stop the deployed message driven beans.

You are now able to start and stop the message driven beans independently.

Features have been added that also allow message driven beans to be stopped automatically on message failures when message delivery failures when message delivery failure reaches a specific threshold.

For example if a database goes down preventing message delivery, messages will not continue to be processed by a message driven bean only to fail processing every time continuously.

Improved administrative control of MDBs

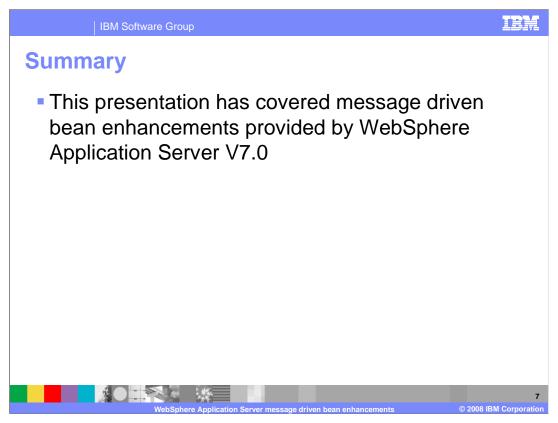- Messages on queues or durable topics will be received when the MDB is restarted
  - ▶ Messages on non-durable topics will not be received

- Visualization of relationships between MDBs and service integration bus destinations available in the administrative console

New in WebSphere Application Server version 7, message driven beans can be stopped individually instead of having to stop the entire application containing the beans, or having to stop the resource adapter. Beans that have been stopped will continue to process messages on Queues and durable topics when they are restarted.

Additionally, message driven beans now have the ability to detect multiple sequential failures and automatically stop the MDB. This is useful because it means that a system resource outage no longer has the capacity to divert a large number of messages to the exception destination as each reaches its rollback retry limit – which would drain the messages from the destination onto the exception destination. There is also now a Message End Point MBean that allows message consumption to be paused or resumed programmatically, even from within the MDB itself.

Also new in the administrative console is a visual representation of the relationships between the message driven beans and the service integration bus destinations that are available.

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Summary

- This presentation has covered message driven bean enhancements provided by WebSphere Application Server V7.0

This presentation has covered the enhancements included in WebSphere Application Server version 7 for message driven beans.

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8

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9