IBM Software Group

IBM® WebSphere® Application Server V7

MBeans for JCA message endpoints
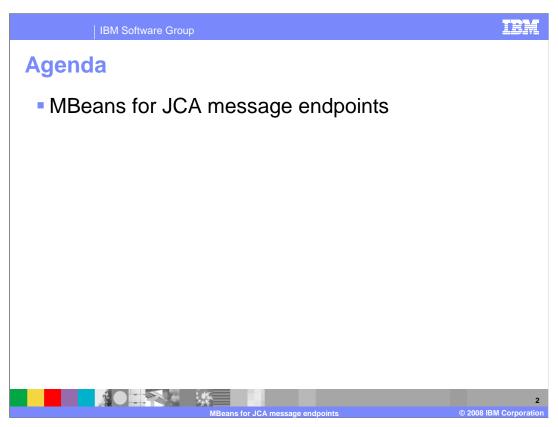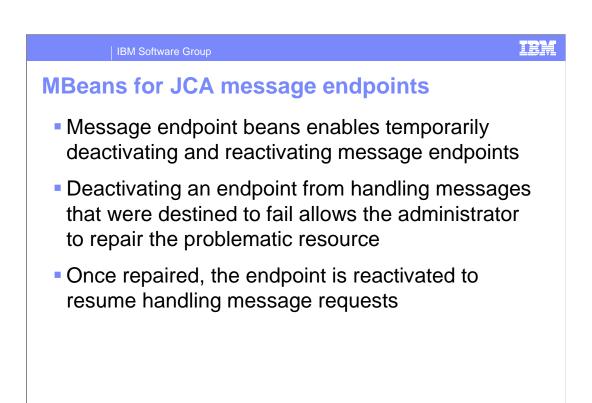
business on demand.

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Updated September 19, 2008

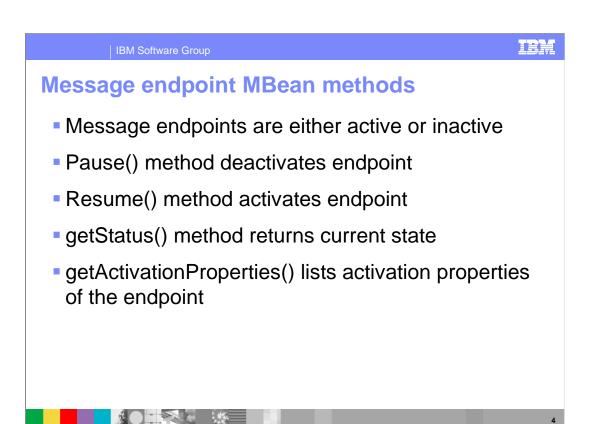This presentation will discuss MBeans for JCA message endpoints for WebSphere Application Server V7.0 on z/OS®.

Agenda

- MBeans for JCA message endpoints

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This presentation will briefly discuss MBeans for JCA message endpoints.

MBeans for JCA message endpoints

- Message endpoint beans enables temporarily deactivating and reactivating message endpoints

- Deactivating an endpoint from handling messages that were destined to fail allows the administrator to repair the problematic resource

- Once repaired, the endpoint is reactivated to resume handling message requests

WebSphere Application Server version 7.0 includes a new feature, Message Endpoint MBeans, to alleviate problems inherent to applications providing Message Endpoints that access resources. A message will typically fail whenever its endpoint invokes an operation against an unhealthy resource – for example, the underlying Message Driven EnterpriseBean for an endpoint attempts to commit a transaction against an unresponsive database server. Failed messages require additional processing, such as retrying them or redirecting them to failure, exception, standby, and dead letter queues. A message provider can attempt to deliver a message to an endpoint an infinite number of times, and message redirection entails implementing special queues with typically complex logic to detect failure.

Message Endpoint MBeans enable you to temporarily deactivate (pause) and reactivate (resume) specific Message Endpoints. These capabilities alleviate the problems above by allowing the administrator to pause an endpoint from handling messages destined to fail. Once the endpoint is inactive, the administrator can repair the underlying cause of the failure and then reactivate the endpoint to resume handling messages.

Deactivating and activating the endpoint affects neither the resource adapter nor the application hosting the endpoint.

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Message endpoint MBean methods

- Message endpoints are either active or inactive

- Pause() method deactivates endpoint

- Resume() method activates endpoint

- getStatus() method returns current state

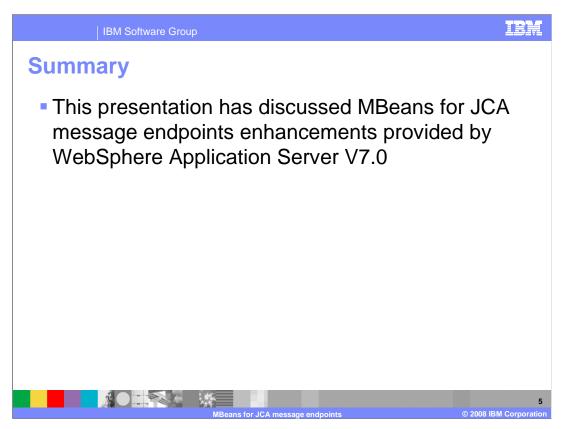- getActivationProperties() lists activation properties of the endpoint

WebSphere Application Server V7 creates and activates Message Endpoints when starting the JEE applications containing their underlying Message Driven EnterpriseBeans; it also creates the corresponding Message Endpoints MBeans at this time. Once a Message Driven MBean exists it can be accessed programmatically using JEE applications and wsadmin scripts, to *pause* an endpoint, to *resume* an endpoint, to *getStatus* of an endpoint, or to *getActivation properties* of an endpoint.
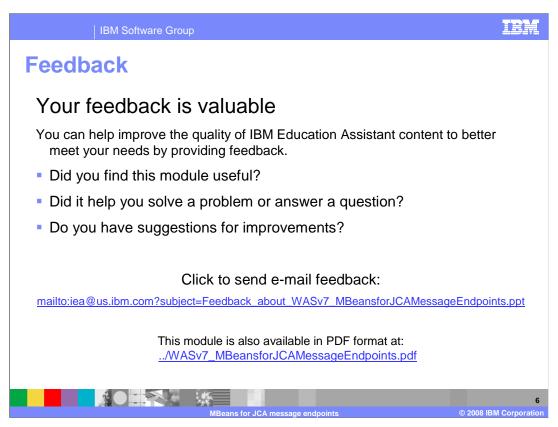
Pause() and resume() deactivate and reactivate an endpoint on the messaging provider (that is. the messaging Resource adapter). The semantics of activation and deactivation are specific to the messaging provider. getActivationProperties() returns the union of the endpoint's ActivationSpecification properties and the endpoint's bindings set during deployment. This is the actual set of properties under which the endpoint executes at runtime. It is important for debugging, for example, because the deployment bindings can override some of the ActivationSpec properties.

MBean methods *pause* and *resume* will emit an error message and throw a ResourceException when the endpoint is *stopped*. Also, an endpoint cannot be paused or resumed when the Resource Adapter supports a High-Availability (HA) capability and the High Availability coordinator has disabled inbound communication from the Resource Adapter in accordance to the High Availability policy applied to the Resource Adapter. In this case, the MBean will emit an error message and throw an InvalidStateException when processing the methods *pause* and *resume*.

Finally, the MBean emits warning messages when processing either the *pause* or *resume* methods if the endpoint is already inactive (for *pause*) or active (for *resume*).

Summary

- This presentation has discussed MBeans for JCA message endpoints enhancements provided by WebSphere Application Server V7.0

This presentation has reviewed the new MBeans for JCA message endpoints feature available in WebSphere Application Server for z/OS V7.

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MBeans for JCA message endpoints

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