

WebSphere Business Monitor V7.0

New features



This presentation should introduce you to the new features in WebSphere® Business Monitor V7.0.



WebSphere Business Monitor V7.0 features

- Wizard based topology configurations and deployment environments
- Security enhancements for monitor model and database
- Monitor on z/OS®
- Integration with Lotus® Mashups framework
- Integration with common migration framework
- Installation Manager used for server installs
- New event integration for IMS™, CICS®, sensor events, non-CBE XML with JMS
- Integration enhancements for WebSphere Message Broker
- Global process monitor model
- Diagnosing problems with monitor model and CEI

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New features

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WebSphere Business Monitor V7 includes many new features and enhancements.

A common deployment environment framework is used for installing BPM products. This will allow you to use patterns to install Monitor into typical configuration scenarios. Also, more component wizards are being provided to automate the configuration of components.

Security is being enhanced so that it is easier to configure security for a monitor model at model deployment time. Also, enhancements are being made to make it easier to control grants on the Monitor database.

There are several enhancements to the configuration of Monitor on the z/OS system.

A new framework is used to integrate business space into the Lotus Mashups framework. This should have many benefits including providing tools to allow you to more easily create custom widgets in business space.

A new common migration framework is used for migration, so this will provide common tools across the products and make it easier to migrate multiple products in the same environment.

Installation Manager is now used for server installs, so you will see changes across the portfolio in this area.

In V7.0 you can easily monitor IMS, CICS, WebSphere Sensor Events server, and XML based event sources.

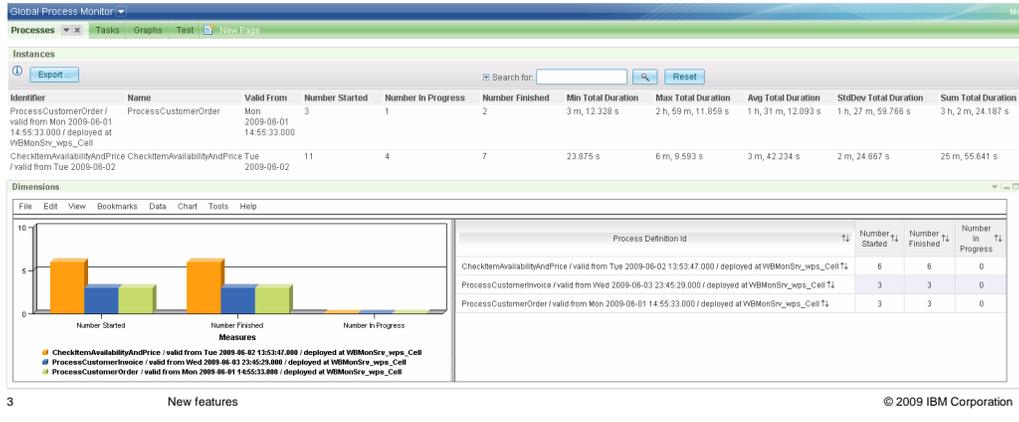
There are some enhancements in the tools to integrate Monitor with Message Broker, so you can automatically generate the monitor model rather than creating it manually.

A new global process monitor model will give you the ability to easily see metrics relating to any business processes that are running.

A new monitor model is provided which will allow you to more easily diagnose problems relating to event processing and configuration of CEI.

Global process monitor model

- Monitor any process without code generation or deployment steps
- Processes can be monitored at any level of detail, by turning event emissions on or off
- Processes are discovered dynamically as they run and emit events
- Can be extended for non-BPEL processes



The new global process monitor model allows you to easily monitor any process without performing additional steps such as generating and deploying a monitoring application. The global process monitor model can be deployed on your monitor server, and then any process instances which send events are captured and displayed in the dashboard. Any existing processes can be captured, and any newly deployed processes will automatically be captured as well. The granularity of the monitoring can be easily tailored by enabling or disabling the appropriate event emissions in the processes. The global process monitor model can also be customized for your environment, and you can even extend it to capture events for applications and processes which are not related to BPEL.



Configuration wizards

Component	Status
<input checked="" type="checkbox"/> Messaging engine	Deployed on server1 on WBMonSrv_wps_Node
<input checked="" type="checkbox"/> Event emitter factory	Configured using the event :
<input checked="" type="checkbox"/> REST API service	Deployed on server1 on WBA
<input checked="" type="checkbox"/> Business Space	Deployed on server1 on WBA
<input checked="" type="checkbox"/> Action services	Deployed on server1 on WBA
<input checked="" type="checkbox"/> Data services scheduler	Deployed on server1 on WBA
<input checked="" type="checkbox"/> Dashboard for mobile devices	Deployed on server1 on WBA
<input checked="" type="checkbox"/> AlphaBlox	Deployed on server1 on WBA

Version 6.2

■ Wizards as AdminTasks can be invoked from:

- Deployment environment
- wsadmin scripts
- Profile creation actions for stand-alone profiles

Version 7

Component	Status
<input checked="" type="checkbox"/> Outbound CEI event service	Configured using the event service on onedcluster.AppTarget
<input checked="" type="checkbox"/> Messaging engine	Deployed on onedcluster.AppTarget
<input checked="" type="checkbox"/> Action services	Deployed on onedcluster.AppTarget
<input checked="" type="checkbox"/> Monitor scheduled services	Deployed on onedcluster.AppTarget

Optional components:
To configure an optional component, click the component name. Components that are already configured display a green check mark.

Component	Status
<input checked="" type="checkbox"/> AlphaBlox	Deployed on onedcluster.AppTarget
<input checked="" type="checkbox"/> Dashboards for mobile devices	Deployed on onedcluster.AppTarget
<input checked="" type="checkbox"/> Inbound event emitter services (JMS and REST)	Deployed on onedcluster.AppTarget

Shared components:
Components that are already configured display a green check mark. Removing these components might affect other products.

Component	Status
<input checked="" type="checkbox"/> REST Services Gateway	Deployed on onedcluster.AppTarget
<input checked="" type="checkbox"/> Business Space	Deployed on onedcluster.AppTarget

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The monitor topology configuration wizards have been enhanced in V7. Here are screen captures of the configuration page in the administrative console for V6.2 and V7. There is a new JMS emitter service wizard and a new wizard for AlphaBlox. There are some naming changes for some of the wizards, plus the wizards are now grouped according to required, optional and shared components.

The REST Services Gateway is a framework for pluggable REST service providers. It is built as a servlet that brings all REST services on the BPM platform under one hat. The Monitor endpoints are setup automatically at the time of profile creation. The link on the configuration page will take you to a separate configuration area for maintaining this information.

Alphablox installation

- In V6.2 Alphablox installation and configuration is only automated when installing as part of a stand-alone server installation
- For V7.0, eliminate manual Alphablox installation and configuration steps by embedding Alphablox deeper into Monitor
 - Single automatic profile action during stand-alone profile creation/augmentation
 - Single automatic step when using deployment environment patterns
 - Single click when using topology wizard
 - For nodes where Monitor is not installed use new installer option for Alphablox only install or use a script

For V6.2, Alphablox required manual installation and configuration for any scenario that was not a stand-alone server installation. For example, Monitor installation for network deployment, Monitor dashboard installation on Portal clusters, or an extension of an existing Business Space node that was created by another stack product where Monitor is not located.

For V7, instead of calling the Alphablox installer, Monitor installer lays down Alphablox binaries directly. Then the installed Alphablox is ready to go with Monitor's customizations and recommended configuration. Instead of creating and converting an Alphablox repository later, the Alphablox tables are created in the Monitor database.

This means that it is very simple to configure Alphablox regardless of the installation topology. Even for a business space node for WebSphere Process Server which is in the same cell as Monitor, you can use the new installer option to install Alphablox only into the topology. For a Portal node which is in a different cell from Monitor, you can run a supplied script to setup Alphablox.

Monitor resource groups

- Added description to resource groups

[Monitor Data Security Administration](#) > [Create a new resource group](#)

Use this page to create a new resource group. Enter the name and click Apply.

Name

Description

- Added link to resource groups from monitor models page

[Monitor Models](#) > [ClipsAndTasks](#)

Use this page to view the configuration for this monitor model. Click the access pages for further configuring of model properties.

General

General Properties	Model Properties
Model <input type="text" value="ClipsAndTasks"/>	<ul style="list-style-type: none"> Change CEI configuration Manage Scheduled Services Purge Change resource group
Number of versions <input type="text" value="1"/>	
Resource group <input type="text" value="root"/>	

Resource groups are used to maintain the access list for your monitor models. For monitor resource groups, there is a new description field. Also there is a link to the resource groups on the monitor models page, so this should make it easier for an administrator to maintain the data security for the deployed monitor models.

Monitor resource groups

- Added resource groups to deployment steps
- New data security column in models page

Install New Application

Specify a resource group for monitor data security

Step 1 Select installation options
Step 2 Map modules to servers
→ Step 3: Configure security for the monitor model
Step 4 Summary

Configure security for the monitor model

If application security is enabled, installed monitor models are not available unless Monitor data security is configured correctly. In the table below, select the appropriate resource group for the monitor model.

Data Security

Select an existing resource group

Select	Resource Group	Members Assigned	Description
<input checked="" type="radio"/>	root	yes	The default resource group
<input type="radio"/>	MyGroup	no	This is the resource group MyGroup

Create a new resource group

Name

Description

Select	Model	Version	Deployment	Application	Data Security	Status
<input type="checkbox"/>	ClipsAndTacks	2007-09-11T12:07:30	OK	ClipsAndTacksApplication	Members assigned	
<input type="checkbox"/>	MortgageLendingBAM	2007-05-03T10:08:00	Error	MortgageLendingBAMApplication	Root access only	

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To assist you with setting up monitor data security, there is a new step in the model deployment to remind you to setup the security. In this step you can select the resource group to assign to the model, or you can create a new resource group for the model. In the monitor models page of the administrative console, there is a new column for data security. This will show you at a glance if any models need security configuration. If you assign a model to a resource group which has users, then you see the message 'Members assigned'. If you assign a model to a resource group which has no users then you will see one of two messages. You will see 'Root access only' or 'No members assigned', depending on the number of users assigned to the root group.

Monitor data security – List models for a user

- Tool for diagnosing model access problems

The screenshot shows the administrative console interface. On the left is a navigation tree with categories like Guided Activities, Servers, Applications, Services, Resources, Security, Environment, Integration Applications, System administration, Users and Groups, Monitoring and Tuning, Troubleshooting, Service integration, and UDDI. Under 'Security', 'Monitor Data Security' is selected and circled in red. The main content area has two tabs: 'Configure' and 'Diagnose', with 'Diagnose' selected and circled in red. Below the tabs is a search section with a 'Search for:' label, a 'Maximum results' dropdown set to '100', and a 'Search' button. A search results list shows a single entry: 'uid=admin,o=defaultWIMFileBasedRealm'. Below this is a table with two columns: 'Model' and 'Roles'.

Model	Roles
GlobalHTMM	Business-Manager KPI-Administrator Personal-KPI-Administrator Public-KPI-Administrator
Global_Process_Monitor	Business-Manager KPI-Administrator Personal-KPI-Administrator Public-KPI-Administrator
testModMonMM	Business-Manager KPI-Administrator Personal-KPI-Administrator Public-KPI-Administrator

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There is a new tool for helping you diagnose monitor model access problems. In the administrative console, for monitor data security, there is a new tab called Diagnose. This tab displays the models assigned to a particular user, and the roles associated with the user. You can also enter a search string to select the users that you want to query.

Security configuration

Integrated Solutions Console Welcome wasadmin

View: All tasks

- Welcome
- Guided Activities
- Servers
- Applications
- Services
- Resources
- Security
- Environment
- System administration
- Users and Groups
- Monitoring and Tuning
- Troubleshooting
 - Logs and trace
 - Configuration problems
 - Class loader viewer
 - Configuration Validation
 - Monitor Models
 - Diagnostic Provider
 - Diagnostic Manager
 - WebSphere Business Monitor security**
- Service Integration
- UDDI

A single panel provides easy access to relevant security configuration information

WebSphere Business Monitor Security

Security Information

The panel below provides information about some of the security properties relevant to WebSphere Business Monitor

Component	Status
Global Security	Administrative Security is Enabled Application Security is Disabled Selected User Account Repository: Federated Repositories The user registry is searchable
WebSphere Business Monitor Data Security	There are 3 members in the root resource group The rtst resource group has no members There are 3 members in the business resource group The monitor resource group has one member The cypretgroup resource group has no members
LTPA	LTPA key regeneration is enabled The key regeneration date is: Tue Nov 10 11:00:04 EST 2009
Single Sign-on	Single Sign-on (SSO) is enabled The SSO domain has not been specified

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To see the overall security configuration, there is a new page in the troubleshooting section of the administrative console. This page shows you the status of the server global security, including administrative security, application security and registries. You can see the status of the monitor data security including the number of members assigned to each of the monitor resource groups. There are also listings for the status of the LTPA keys and single sign-on configuration.

Diagnostic monitor model

- To help diagnose some non-authoring related problems with monitor models
 - Unable to configure CEI during life cycle steps.
 - Did not add user to sender role for the foreign bus. (cross cell only)
 - Did not add user to the sender role for the destination. (cross cell only)
 - No events are being routed through CEI.
 - Did not put the routing jars on the CEI target.
 - Model is not consuming even though it is started.
- To address these problems, use the diagnostic model and verification checklist
- It is provided as a download on the IBM WebSphere Business Monitor support page and usable with V6.2 and V7

There are several kinds of problems relating to event processing for monitor models which are related to the configuration of the environment. To help you diagnose these problems, you can use the new diagnostic monitor model and instructions. The instructions provide a step by step procedure to install and test the supplied model. As each step is performed, you can validate the configuration and detect problems relating to CEI, cross cell roles, and routing jars. You can download this diagnostic model and instructions on the IBM WebSphere Business Monitor support page. Note that the model will work for V6.2 and V7.

Database grants

- 6.2 Technotes for database security
 - DB2®:
http://www.ibm.com/support/docview.wss?rs=802&context=SSSRR3&uid=swg21393375&loc=en_US&cs=utf-8&lang=en
 - Oracle:
http://www.ibm.com/support/docview.wss?rs=802&context=SSSRR3&uid=swg21393376&loc=en_US&cs=utf-8&lang=en
- In 6.2 the DBA ran a separate script to create the grants for the database user
- In 7.0 the grants are added automatically to the DDL
- For DB2 or Oracle
 - For test systems, you can supply an administrative user, then the installation schema and model schemas are created automatically
 - For production systems, you can give the installation schema and model schemas to the database administrator

Some enhancements have been implemented in the area of grants for the Monitor database. On this slide you can access the Technotes for V6.2 which help explain setting up security for the Monitor database. For V6.2 the database administrator creates and runs a separate script containing the grants for the database user. In V7, these grants are created automatically and are added to the DDL for the initial database installation and for the monitor model schemas.

When you are setting up the installation schema or the model schemas, you can supply a database user with administrative authority and the schemas are created automatically. This is typically used for test and development environments only. In a more secure production environment, the administrative database user generally is known only to the database administrator. So in the production case, the monitor administrator gives the schemas to the database administrator for setting up the database.



Support for z/OS

- V6.2 supports running on 64-bit z/Linux, using DB2 V8 or V9.1
- V7.0
 - Improve performance with DB2 V9.1 for z/OS
 - Monitor business space widgets (including Alphablox) on z/OS
 - Support non-z/OS Monitor nodes belonging to a z/OS cell

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For z/OS implementations in V6.2 Monitor could run on z/Linux systems using DB2 V8 or V9.1. In Monitor V7 there have been several enhancements.

In V6.2 database access is single-threaded for DB2 for z/OS, to avoid deadlocks, which results in much lower event throughput rates. The new DB2 V9.1 “Skip Locked Data” option is used to solve this problem and improve performance.

Business Space has been supported on z/OS but for this release the monitor widgets are also supported. And Alphablox is now supported on z/OS, so this also includes support for Monitor multi-dimensional widgets, specifically the reports and dimensions widgets.

In V7, you can use z/Linux or distributed nodes in a z/OS cell using a z/OS deployment manager. So, you can have a process server cell on z/OS and augment the deployment manager with Monitor, then federate non-z/OS monitor nodes into the cell.

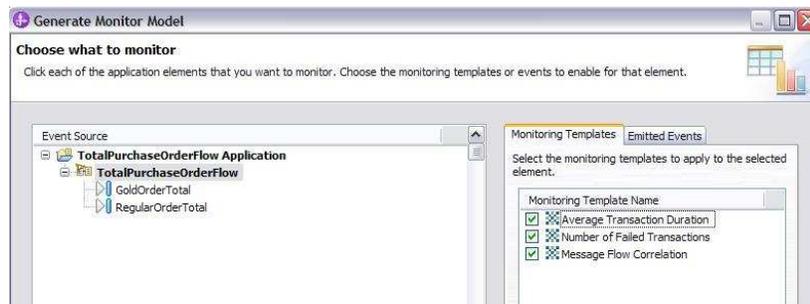
Process instance migration

- In V7 you can move a running BPEL process instance from version 1 (V1) to version 2 (V2)
- BPEL events for V1 and V2 have different monitor filtering criteria
- Migration sequence
 - Process V2 and monitor model V2 are installed
 - Process instance migration is initiated
 - For each instance, two transfer events are generated containing correlation information for V1 and V2
 - Monitoring context instance row is moved from V1 to V2
 - Subsequent events are processed by model V2
 - If errors are detected, then the events go to the error queue
- See information center topic 'Monitoring multiple versions of a running BPEL model'

In V7, you can migrate a running process instance to a new version of the process. This has implications for the associated monitor application because the events for different versions of a process have different monitor model filtering criteria. To handle the process migration, Monitor will capture the filtering criteria from special events which are emitted by both versions of the process. These events are used by the corresponding monitor models to initiate the migration of the monitoring context instance to the new version. During the migration, if any errors are detected, they will go to the error queue. For more information on monitor instance migration, see the topic in the Monitor information center titled 'Monitor multiple versions of a running BPEL model'.

WebSphere Message Broker V7 enhancements

- Event filter using XPath expressions
- Transaction enhancements
- Monitor support for MQReply and Publication nodes
- Event sequencing – creationTime and counter
- Auto-generate monitor model



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There are several enhancements for monitoring WebSphere Message Broker. You can use XPath expressions to build the filters that select the events to emit. You can specify unit of work qualifiers to coordinate the event emission with the message flow transaction, or as an independent unit of work, or unrelated to a unit of work. There are new nodes which are supported in V7. For event sequencing each event will contain both creationTime and a counter which will provide a guaranteed uniqueness for event sequencing purposes. Also, in V7 you can auto-generate a monitor model using the toolkit. This model will contain inbound events for each event source defined in the message flow. And additional metrics and KPIs are available by selecting templates in the generation wizard. As you can see in the screen capture, you can quickly generate a monitor model that will monitor average transaction duration, number of failed transactions, and message flow correlation.

IMS integration overview

- IMS customers can use WebSphere Business Monitor to get visibility into the performance of business activities
- You can use existing IMS assets to monitor business activities after updating your IMS business logic to emit the monitor events
- IMS 11 has the capability to allow IMS applications to interact and callout to applications and servers outside of IMS.
- Requires
 - IMS Enterprise Suite SOAP Gateway
 - IBM Rational® Developer for System z® V7.6
 - WebSphere Business Monitor V6.2 or later

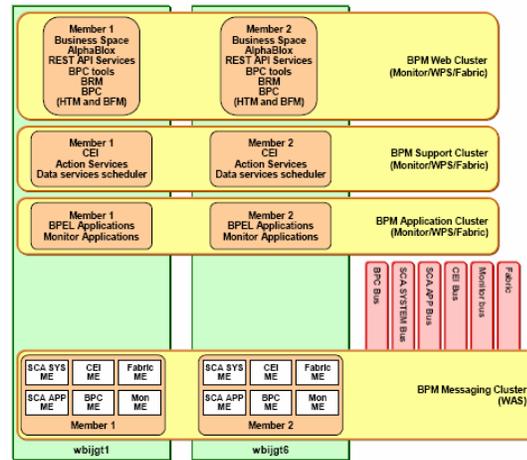
Integration has been added to IMS so that you can monitor your IMS applications. IMS application developers create or modify an IMS business application to identify the event capture points in the application. In the toolkit you can easily generate code snippets to make the call to send out business event data from the capture points.

The IBM IMS SOAP Gateway is a Web service solution that integrates IMS assets in a service-oriented architecture environment. The SOAP Gateway pulls the business event message from the transaction and sends the event to Monitor using the REST protocol. WebSphere Business Monitor currently provides a lightweight REST API that is used by the SOAP Gateway to emit IMS business event data using HTTP.

You will use the Rational Developer tool to generate the Web service artifacts that enable IMS monitoring.

Deployment environment topologies

- Deployment Environment options
 - Create a one cluster topology for small production environments
 - Create a four cluster topology for increased production isolation and scalability
 - Monitor configuration steps are automatically run



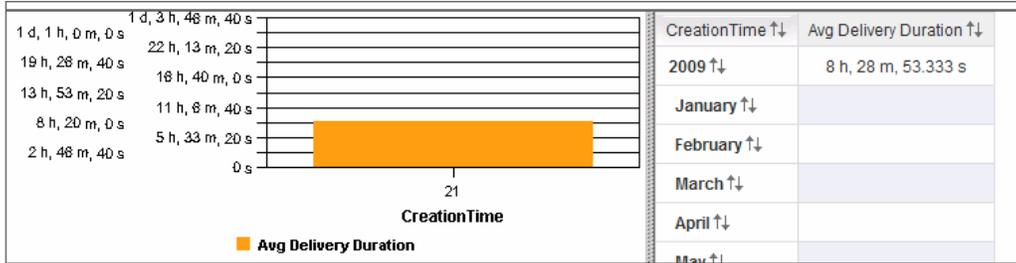
Four cluster topology with two nodes for failover support

A new deployment environment page in the administrative console makes it easy to configure Monitor for supplied patterns. There are two patterns, the one cluster pattern and the four cluster pattern. Typically you use the one cluster pattern for test systems or small production environments. The four cluster topology is used for scalable solutions with failover support. In this case you have clusters for Web applications, support services, business applications and messaging.

In either pattern, the Monitor configuration is automatic, so this greatly simplifies the setup of your environment for the supported patterns. But you still have the option of creating a custom topology using the Monitor component configuration wizards.

Durations in dimensions and reports

- Durations in grid formatted now as 'd, h, m, s' rather than as a long integer of milliseconds
- This only affects grid, for chart you can apply a mask:
 - Right click y axis > Format axis > Select 'Custom' mask > enter 'ABXDM', for the Y axis of the chart



In previous versions, the durations in the grid member of the multi-dimensional widgets were displayed in milliseconds only. In V7, the grid displays durations in a formatted string containing the days, hours, minutes, seconds and milliseconds. For the chart, you can also display the durations in the same format, using the supplied custom mask ABXDM. You can also create your own unique custom masks to display the information in a format of your choice.

Cross cell changes

- V6.2 – two scripts
 - configQueueBypass – creates the routing database data source
 - setupQueueBypass – set up routing jars
- V7.0
 - Routing jars already in WebSphere Process Server
 - For each CEI target, need to copy the routing jars, extract to 'plugins' folder, run osgiCfgInit
 - Administrative task on remote server (deployment manager) to setup data source
 - wsadmin command: \$AdminTask wbmConfigureQueueBypassDatasource - interactive

In V6.2 there were two scripts that you ran to setup monitoring of a remote server. This has been simplified in V7. If you are using WebSphere Process Server as your remote CEI server, then the routing jars are already installed. If the target CEI server is not WebSphere Process Server, then you will still need to copy the routing jars and run the initialization command. For V7, there is a new administrative task which is used to setup the data source on the remote deployment manager server.

Model life cycle enhancements

- Purge model version
 - Script provided for V6.2
 - Preconditions: schema must be deleted and EAR must be uninstalled
- Force option for purging model version
 - Does not check for preconditions
 - Only available from wsadmin
- Display warning icon instead of 'OK' if model cannot start
 - Schema has not been created
 - CEI configuration is not complete
 - Current state is not active

There have been several enhancements that should help when there are unexpected errors during the model un-installation process. In the previous release you can purge models, but in this release, you can purge specific model versions in the administrative console. For V6.2 you can use a supplied script to perform the same function. Just like the model purge, the model version purge requires first that the schema be deleted and the application uninstalled. There is also a force option which doesn't check for the preconditions but you must use the wsadmin command to use this option.

Finally, you can get additional messages in the model page of the administrative console that shows why a model is not able to start. The messages indicate if there are problems with the schema or CEI or the model state.

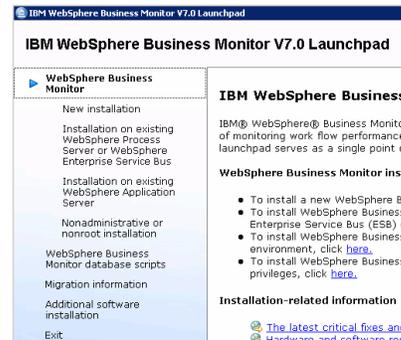
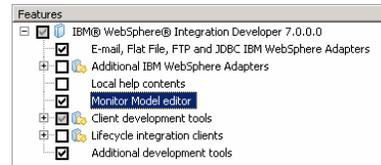
Integrated test client changes

The screenshot shows the 'Integrated Test Client' window with the 'Target server configuration' section. The 'Remote Server' dropdown menu is highlighted with a red circle. Below it, the 'Server Configuration' section includes fields for 'Host name' (localhost), 'HTTP (or HTTPS if security is enabled) port' (9443), a checked 'Security is enabled on this server' checkbox, 'WebSphere user name' (admin), and 'WebSphere password' (masked with dots). A 'Save' button is located below these fields. A yellow callout bubble points to the 'Save' button with the text 'Save before sending events to remote server'. At the bottom, two radio buttons are visible: 'Send to CEI subscribers, including debugger' (selected) and 'Send directly to debugger'. The 'Events' tab is active, and the 'Target Server' sub-tab is selected. The footer contains the text '20', 'New features', and '© 2009 IBM Corporation'.

You can now send events to a remote server when testing your monitor application using the integrated test client in the toolkit. You need to specify the remote server configuration information, and you have options to send the events to the debugger only or to the debugger along with any other subscribers. Note that you should save the configuration before sending the events.

Monitor installation procedure

- Toolkit
 - Install WebSphere Integration Developer, monitor model editor included as a selectable feature
 - Test environment includes Monitor server
 - For Rational Application Developer, you will install the Monitor toolkit separately
- Runtime
 - Install WebSphere Application Server V7.0.0.7 (Install Shield)
 - Install WebSphere Business Monitor V7.0 (Installation Manager)
 - Create WebSphere Business Monitor V7.0 profiles
 - Monitor DVD image includes WebSphere Application Server, XML feature pack, Monitor



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The installation procedure has changed for V7. For the toolkit, the monitor model editor is built into WebSphere Integration Developer, so you will see it as a selectable feature in Installation Manager. Also, the WebSphere test environment includes the Monitor server. For Rational Application Developer, you will need to install the Monitor toolkit as a separate package.

For the Monitor server runtime, you will use the launchpad to invoke the appropriate installation software. From there you can install WebSphere Application Server, the required WebSphere Application Server XML feature pack, and Monitor server. In this release you will use Installation Manager to install the runtime.

Summary

- Covered the new features in WebSphere Business Monitor V7.0

In summary, you have seen an overview of the new features in WebSphere Business Monitor V7.0.



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