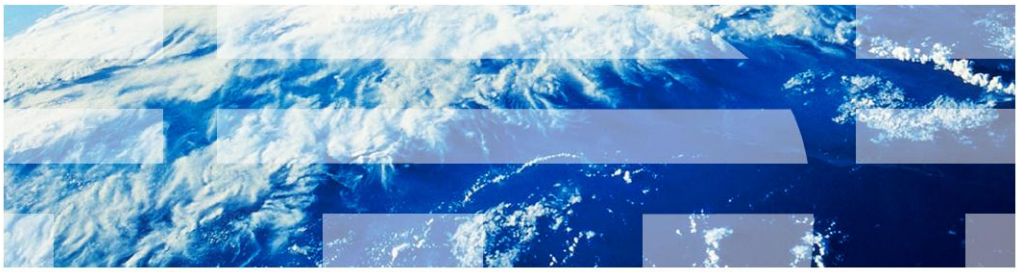
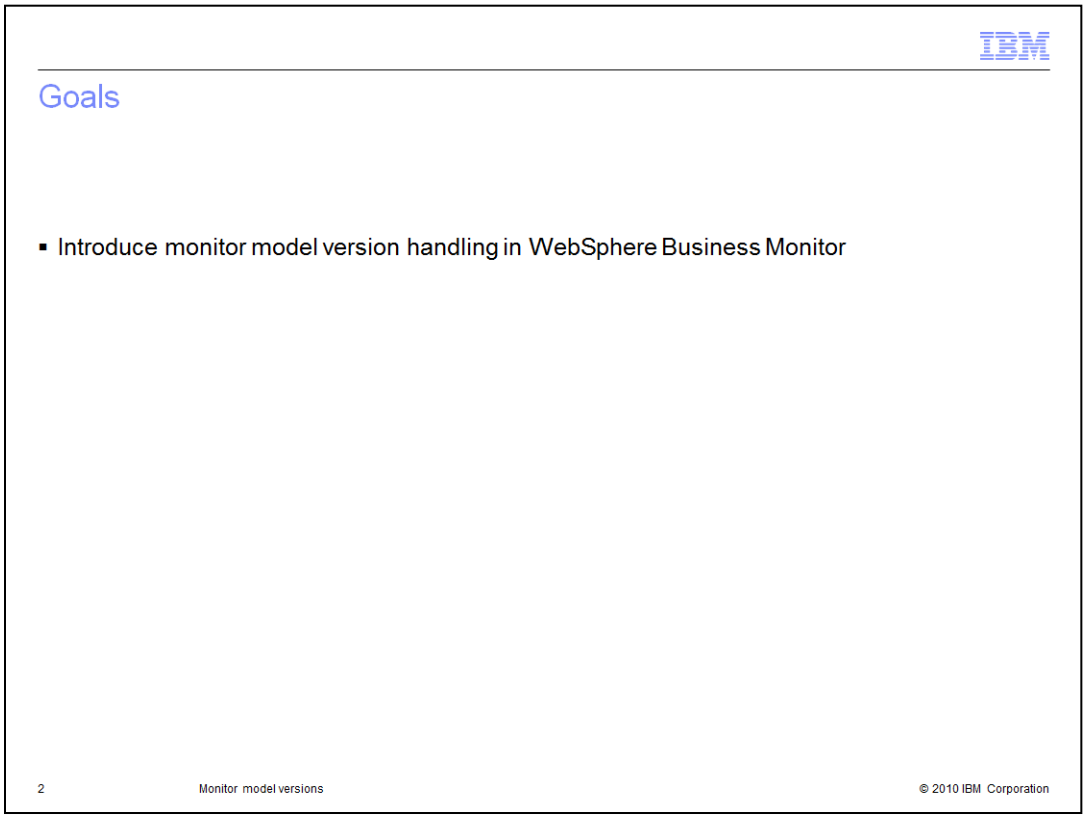
WebSphere Business Monitor

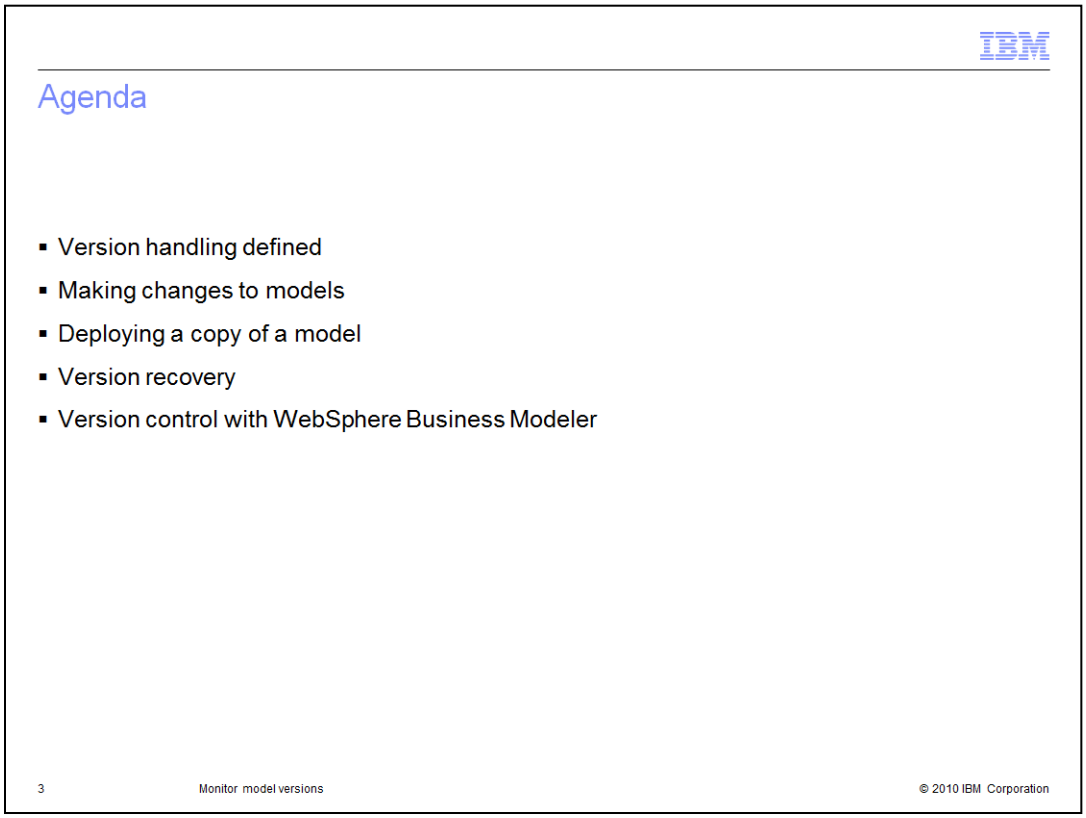
Monitor model versions



This presentation should give you an understanding of the use of version handling with monitor models for WebSphere Business Monitor.



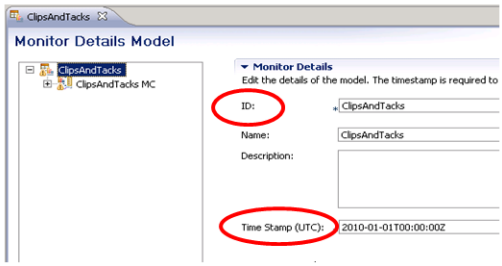
This presentation will give you an understanding of the version handling of monitor models in WebSphere Business Monitor including which changes you can make and how you manage the deployment of the new versions.

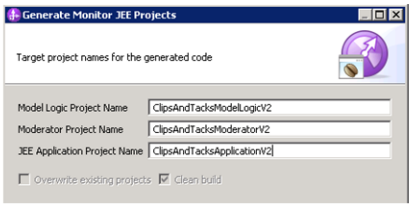


This is the agenda for this presentation. You will review the characteristics of a monitor model version and how to manage new versions in the monitor environment. You will see which model changes are allowable and for allowed changes you will see the best way to implement them. If you use a copy of a monitor model to begin construction of a new monitor model, then there are important points to consider when doing this activity. For problem models you will learn how to introduce a new version and move the instances. Finally you will see how to manage changes to the business measures model in WebSphere Business Modeler.

Version handling (1 of 2)

- Version handling is the ability to concurrently run multiple versions of the same monitor model
- Version handling is used to
  - Fix current monitor model problems or add model enhancements
  - Preserve the already collected data
- All versions for a single monitor model should have the same model ID
- All versions for a single monitor model should have different time stamps
- New version deployment is allowed only if its time stamp is the most recent
- Project names during Java generation have to be unique per version



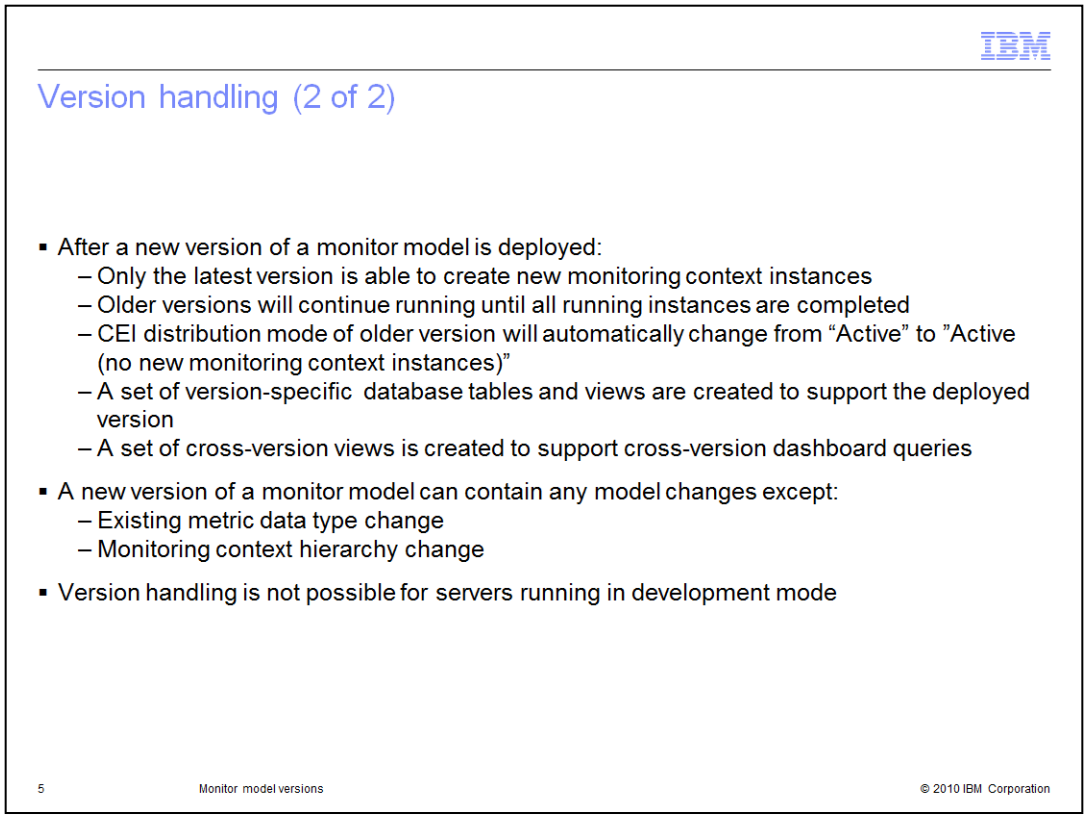


4 Monitor model versions

By using model version handling you can deploy multiple versions of the same monitor model with each successive model containing fixes or enhancements to the previous versions. By running multiple models simultaneously you can preserve the monitor data that is collected for each version, and reporting can be done for a specific version or for all versions.

To create a new version of a deployed monitor model, use the monitor model editor to update the model timestamp with a more recent timestamp but do not change the model ID. When you deploy the new model it must have a more recent timestamp compared to the previously deployed versions of the model.

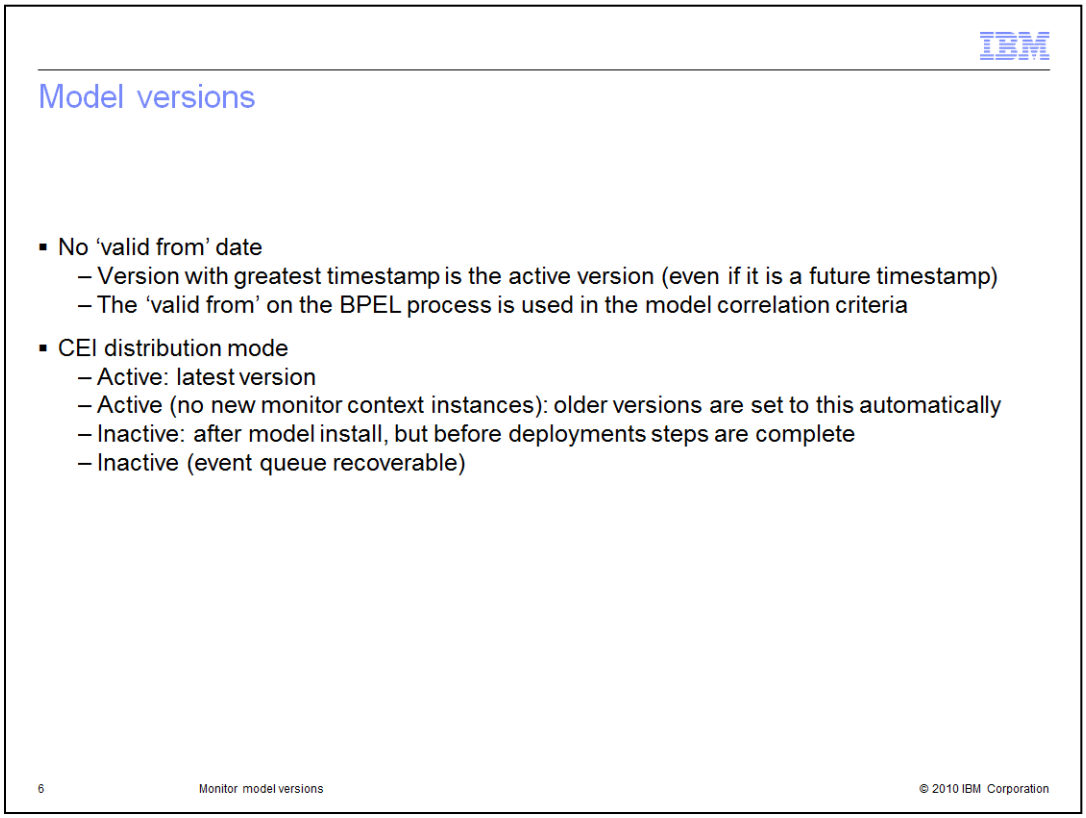
When you generate the monitor Java projects you should make all the project names unique for each model version. Adding a version identifier to the project names is a good practice so all the applications can be readily identified by version number.



In case there are multiple versions installed on the server, only one version can have the distribution mode set to active. Installing a new monitor model with status active automatically sets the distribution mode of the previous version to ‘active (no new monitoring context instances)’. The timestamp of the new version has to be more recent than the previous one. Though events are being processed independently by monitor model versions, a set of cross-version views is created to enable dashboards to display data aggregated from all versions.

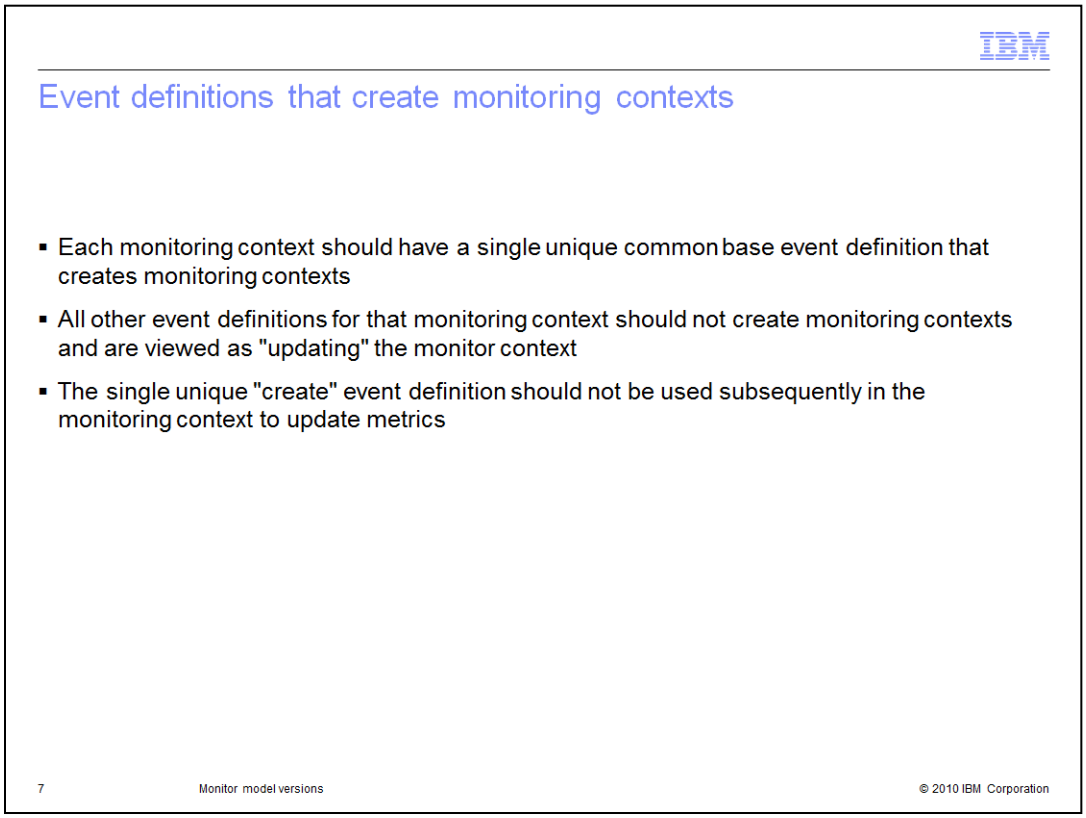
When you are making changes to a monitor model using the model editor, ensure that you do not change the data type of an existing metric. Also ensure that you do not move existing monitoring contexts around in the hierarchy. Either of these changes will prevent you from using version handling. If these changes are necessary then consider creating a new monitor model.

Note that version handling is not enabled for development servers.



There is no 'valid from' dates with monitor version handling. The version with the greatest timestamp is active even if the timestamp is in the future. But for BPEL process monitoring, you can effectively achieve the same result. The process has a 'valid from' date and respects the usage of it. The inbound events in the monitor model use this date in the correlation criteria. So the result is that the monitor model won't process events before the date criteria have been met.

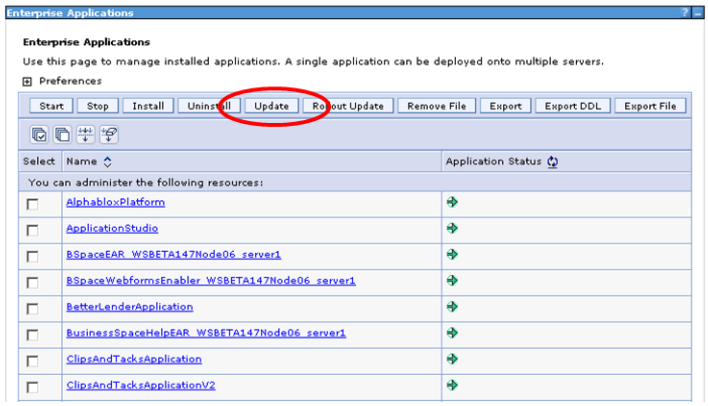
There are four CEI distribution modes. Active mode is automatically set for the latest version. Mode 'Active (no new monitor context instances)' is automatically set for older versions of a model. A model in inactive mode has been installed, but the deployment steps have not completed. Mode 'Inactive (event queue recoverable)' is used for recovery purposes when a problem version of a model has been deployed.



To ensure that your model works when deploying multiple versions of the model, you should define a unique event with ‘create monitoring context’ semantics. This event should not be used elsewhere in the model to update metrics. This will prevent the newest version from creating monitoring context instances for existing instances that are being managed by the older versions.

Version handling is not a model update

- Model application update replaces the application code associated with the model with a later version
- Use this to apply a fix to correct a code-generation problem

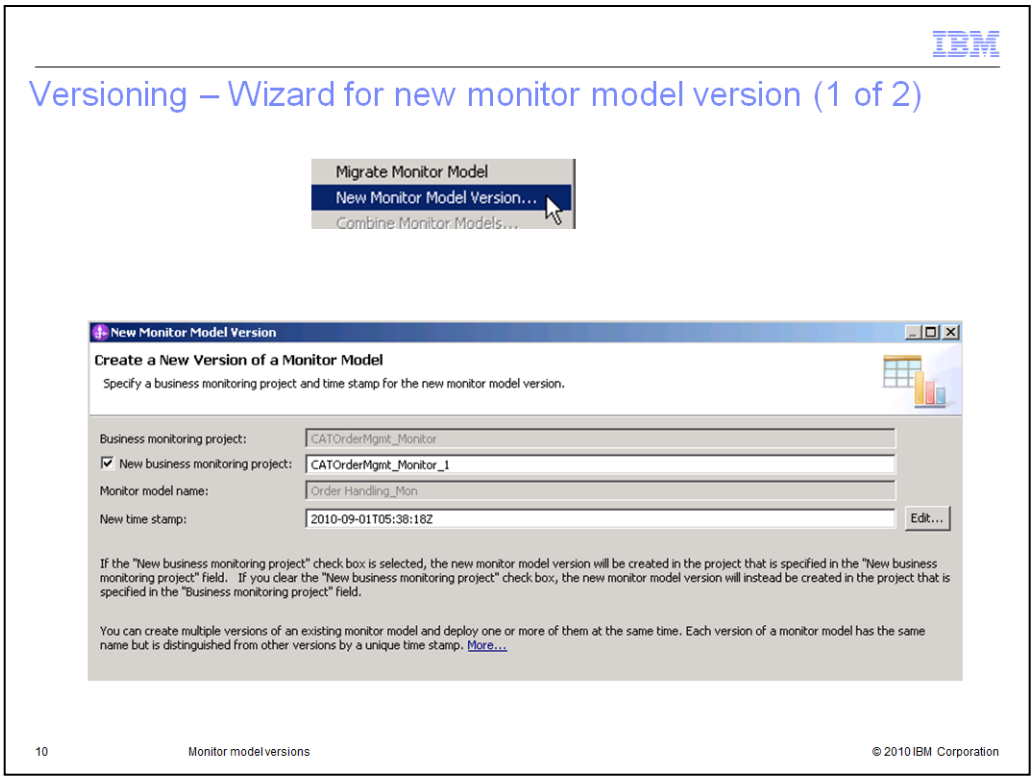


The update application button in the administrative console should not be used for version handling. The update button is typically used to apply a fix to the application when there has been a code generation issue.

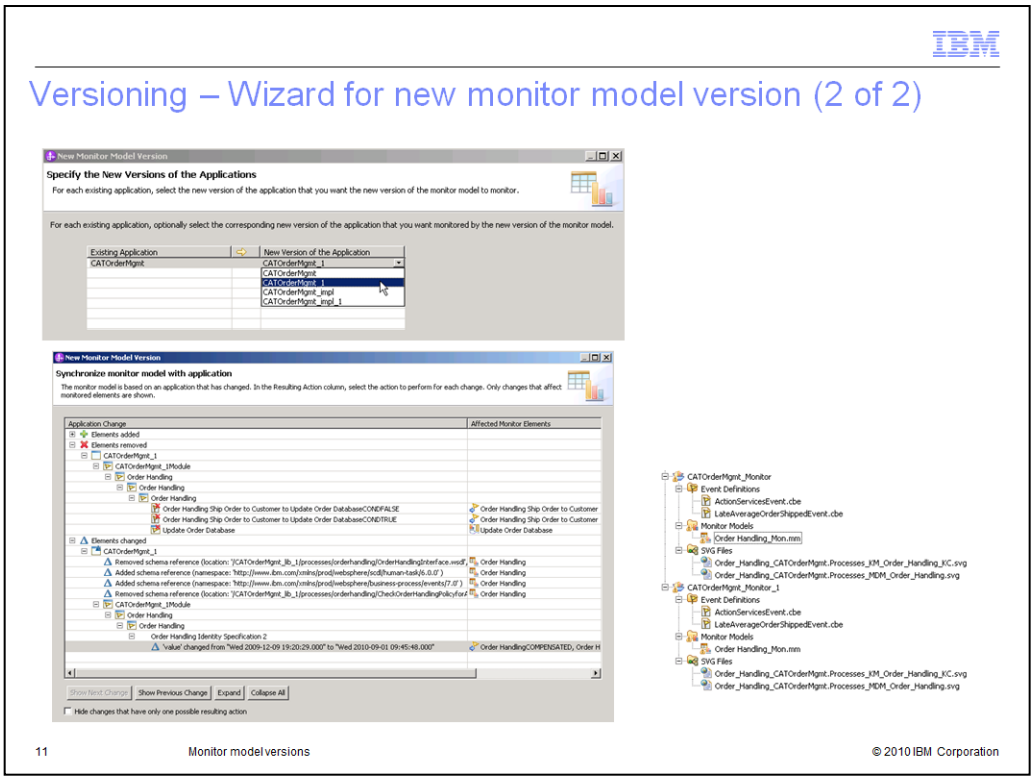
Summary of model changes

Model change	Valid scenario	Recommendation
Add new KPI (based on existing metric or other KPI)	Yes	Use KPI manager widget
Modify existing modeled KPI	Yes	Version handling must be used
Add new alert (based on KPI)	Yes	Use alert manager widget
Add new alert (based on metric)	Yes	Version handling must be used
Add or change a metric or event	Yes	Version handling must be used
Add or change a dimension or aggregated measure	Yes	Version handling must be used
Add or change a diagram	Yes	Version handling must be used
Change metric data properties (type, default,..)	No	
Modify monitoring context hierarchy	No	

This table lists the types of changes that you can make to a monitor model. In some cases, it is easier to use the dashboard widgets rather than version handling to make the model change. For example, to add a new KPI you can use the KPI manager widget. Also, to add a new alert that is based on a KPI, you can use the alert manager widget. For the other valid changes, you should use the monitor model version handling process.



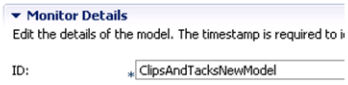
You can make a copy of the monitor model project and update the timestamps yourself. You can also use the wizard to create a new monitor model version. When using the wizard you specify the new name for the project and you can also specify a new timestamp for the montor model.



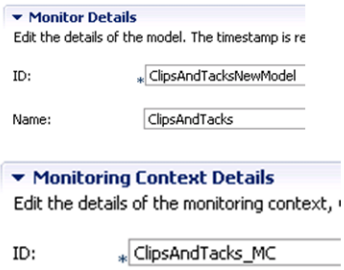
If you are not monitoring a process then the wizard completes. If you are monitoring a process, then after specifying the project name and timestamp, the wizard prompts you for the target version of the monitored process application. There may be several versions of the process, so you need to identify the one that you will monitor with the new version of the monitor model. The process version has changed from the original, so now a synchronization dialog is shown. This allows you to view the monitor model changes that will occur based on the new process version. There is an action column where you can remove application associations or delete monitored elements. When you complete the wizard, the new project contains the new version of the monitor model.

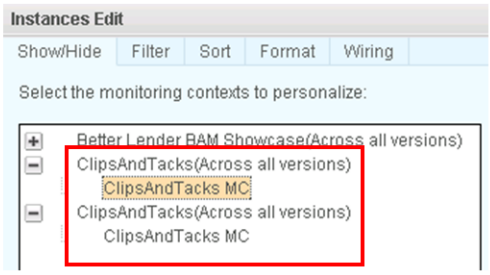
Deploy a copied model

- To avoid name collisions you will need to rename monitor model ID



- For convenience you should rename monitor details name and monitoring context ID
  - Otherwise when configuring the instances widget it is difficult to distinguish between the two different models:





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When you want to create a new monitor model, sometimes it makes sense to make a copy of an existing model and make changes to it. In order to deploy the copied model as a new model and not as a version of the original model, you should create a unique model ID in the model editor on the model details tab. This is the minimum required change, but you might also change the monitor details name and the root monitoring context ID. The instances widget must be configured to display monitor contexts and, as you can see in this screen capture, the model names and monitoring context identifiers are the same for the original model and the copied model. So it is difficult to determine which model and monitoring context to choose.

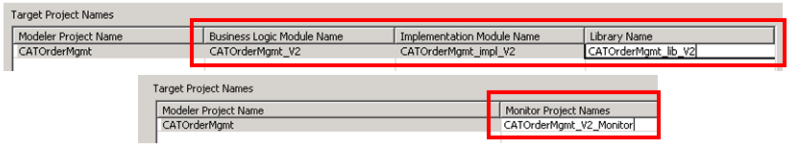
Error recovery – Remove a problem version

- Change CEI Distribution state to 'Inactive (event queue recoverable)'
- Repackage prior version or create new version with timestamp greater than problem version
- Deploy new version
- If there are active monitoring context instances for the problem version, the new version cannot go to active status
  - Run script to move instances from problem version to the new version
  - See information center topic 'Versioning a monitor model'
- New version goes to 'Active' status
- Events for problem version are processed by the new version (assuming same filters, correlation keys)
- Problem version can be uninstalled after it goes to 'Inactive' status

If you find that you have deployed a new version of a model and it is a problem version that needs to be removed then this slide shows you the procedure. You change the CEI distribution mode to 'Inactive (event queue recoverable)' for the problem version, then repackage a new version to deploy. You deploy the new version, and you must also move any active monitoring context instances from the problem version to the new version. There is a supplied script which you can use to move the instances. Assuming the new model has the same filters and correlation keys, then the new version will process the events queued up for the problem version. After the events are processed, then the problem version can be uninstalled.

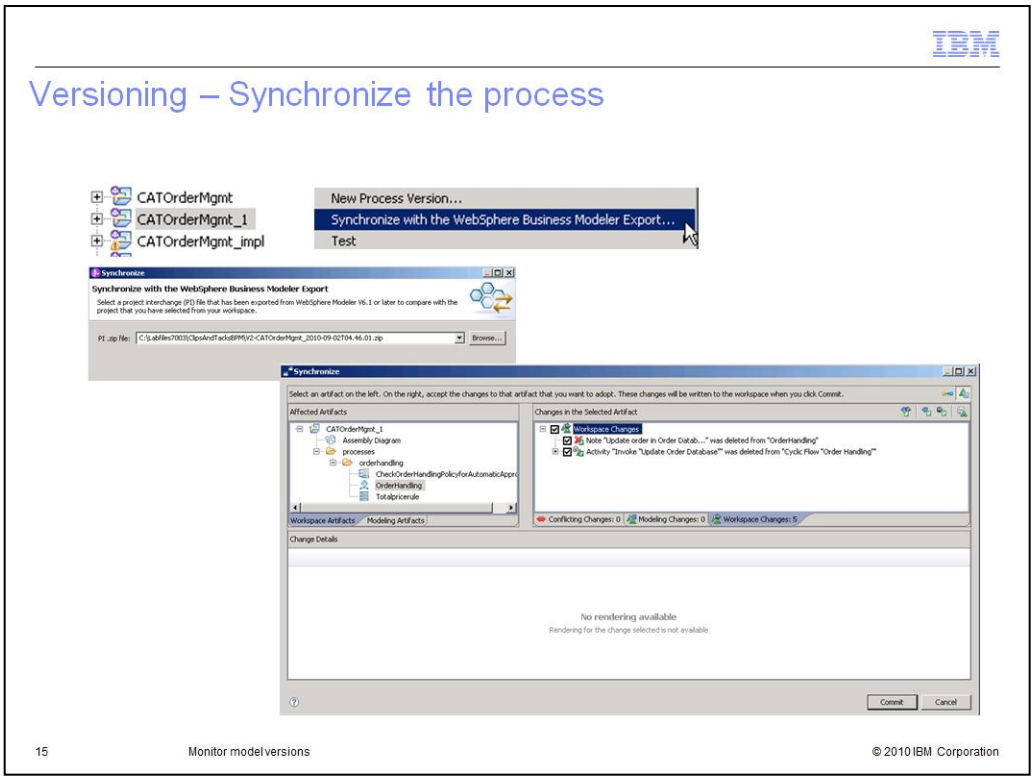
Version control with WebSphere Business Modeler

- After making changes to the business measure model, export it selecting target WebSphere Integration Developer
  - In the export wizard, add the version number to the target process project names and the target monitor project names

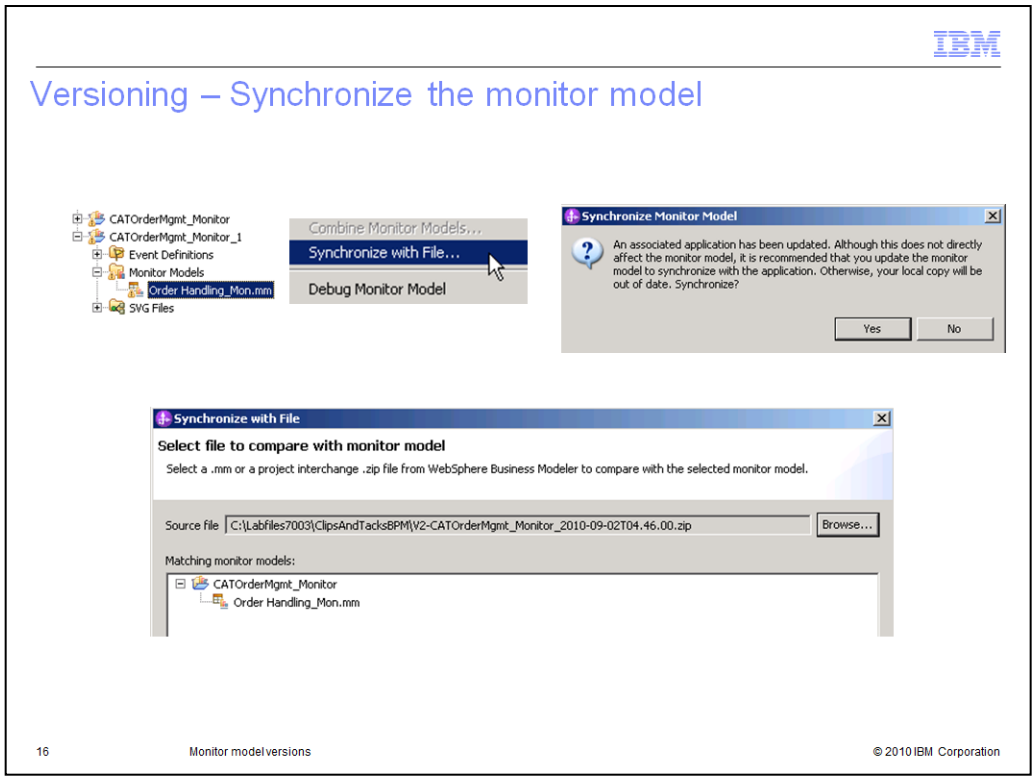


- Synchronize the process with Modeler export
- Synchronize the monitor model with Modeler export
- Now you are ready to deploy this as a new monitor model version

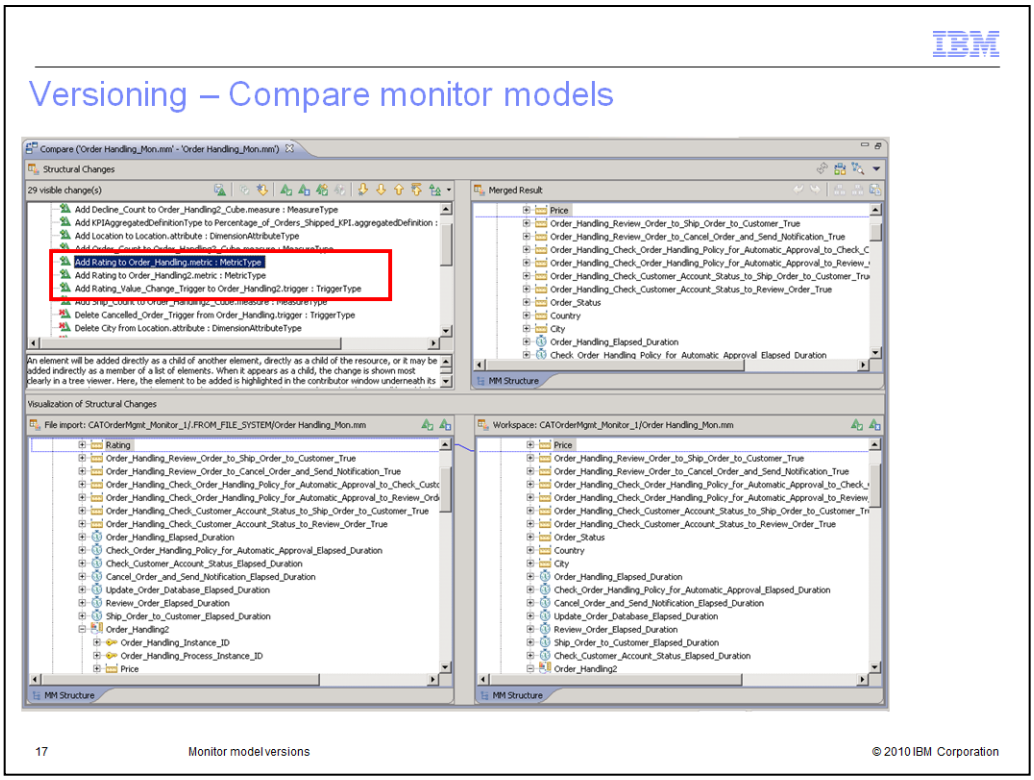
If you are maintaining your business measures models in WebSphere Business Modeler, you can use version handling with these models too. After changing the business measures model, you export it from Modeler, selecting the target as WebSphere Integration Developer. The export wizard will provide default names for the target projects for the process and for the target project for the monitor model. You should change these to include a unique identifier such as the version number. Then you can use wizards to synchronize the process and the monitor model. This will merge in any changes from Modeler or any implementation customizations that are in the workspace. Then you are ready to deploy the new process version and the new monitor model version.



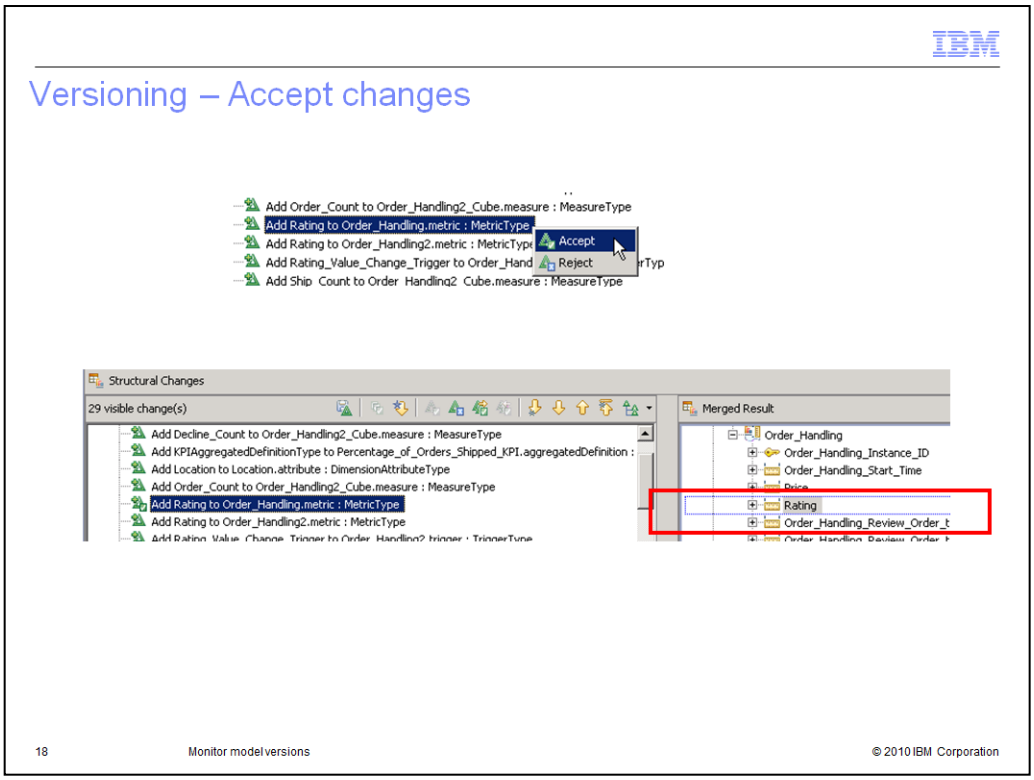
Here are some screen captures that show how to synchronize your workspace process with the exported file from Modeler. You select the option 'Synchronize with the WebSphere Business Modeler Export', then select the process project interchange file that you exported. A synchronization window shows the differences between the process in the workspace and the exported Modeler file. You can pick the individual changes that you want to accept. In this case, it shows an activity was deleted in the workspace, but you can decide if you want to keep that change or revert it back to the original Modeler process.



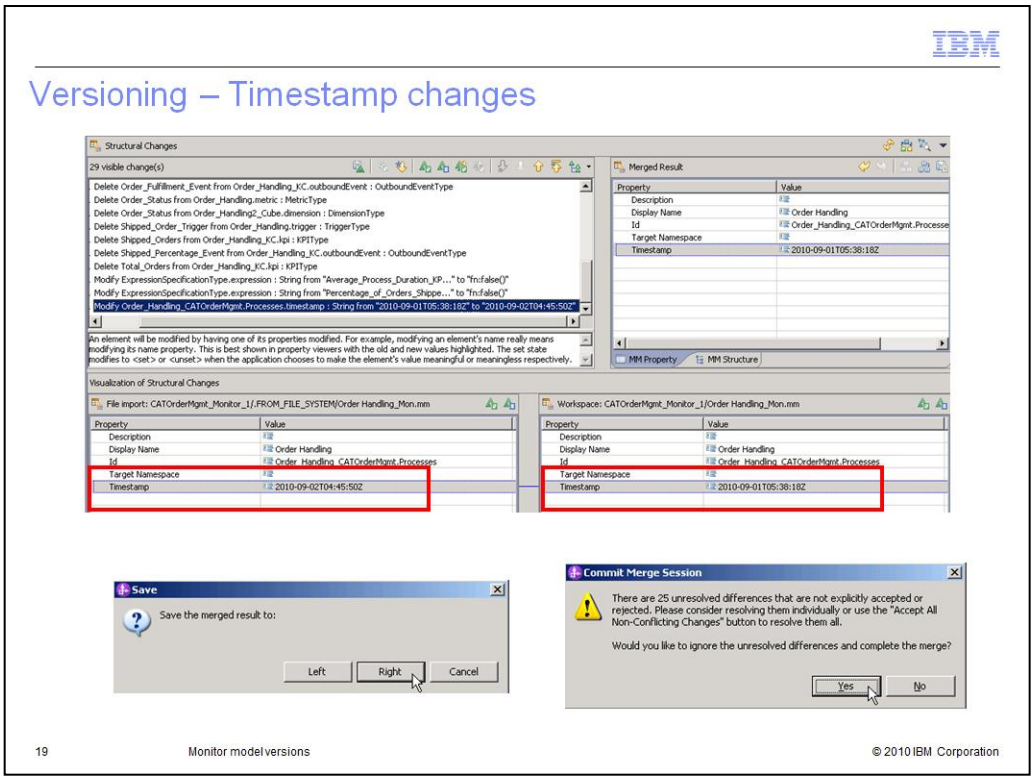
Here are some screen captures that show how to synchronize your workspace monitor model with the exported file from Modeler. You select the option 'Synchronize with File'. You should normally select to synchronize the monitor model with monitored process application to pick up any changes made there. Then select the monitor model project interchange file that you exported.



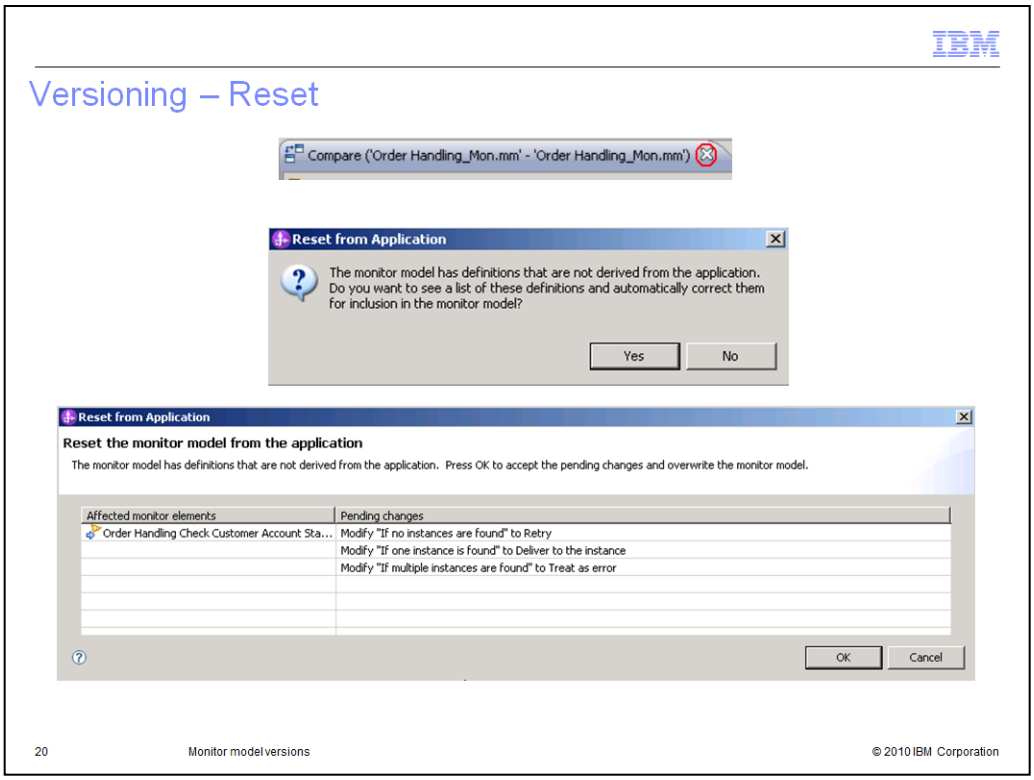
Next the wizard shows the differences between the Modeler export and the workspace monitor model. In red highlighting you can see that a new metric called Rating has been added in Modeler. There are other changes that are listed for the workspace monitor model, but these are implementation details that were added to complete the monitor model in the workspace. So you should only accept the user initiated changes that are coming from Modeler. In this case, just accept the three entries related to the new metric.



These screen captures show how you can accept the individual changes that are coming from Modeler. After you have accepted the changes, the new metric shows in the merged result.



Notice there is also a timestamp change between the Modeler export and your workspace. You want a new version, so accept the timestamp change. When you have reviewed and accepted the individual changes, save the results. Then there is a warning to remind you that you didn't accept all the changes, which is what you intended to do.



When you close the compare window, this dialog is displayed if you have made changes to the monitor model that impact the process monitoring. In this case you made changes to the handling of an inbound event. These changes may affect the monitoring of the process so you can reset these changes here.

In summary, this presentation covered the use of version handling with monitor models in WebSphere Business Monitor.

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