WebSphere Education

Defining business measures

Unit 22

© Copyright IBM Corporation 2008
Course materials may not be reproduced in whole or in part without the prior written permission of IBM.

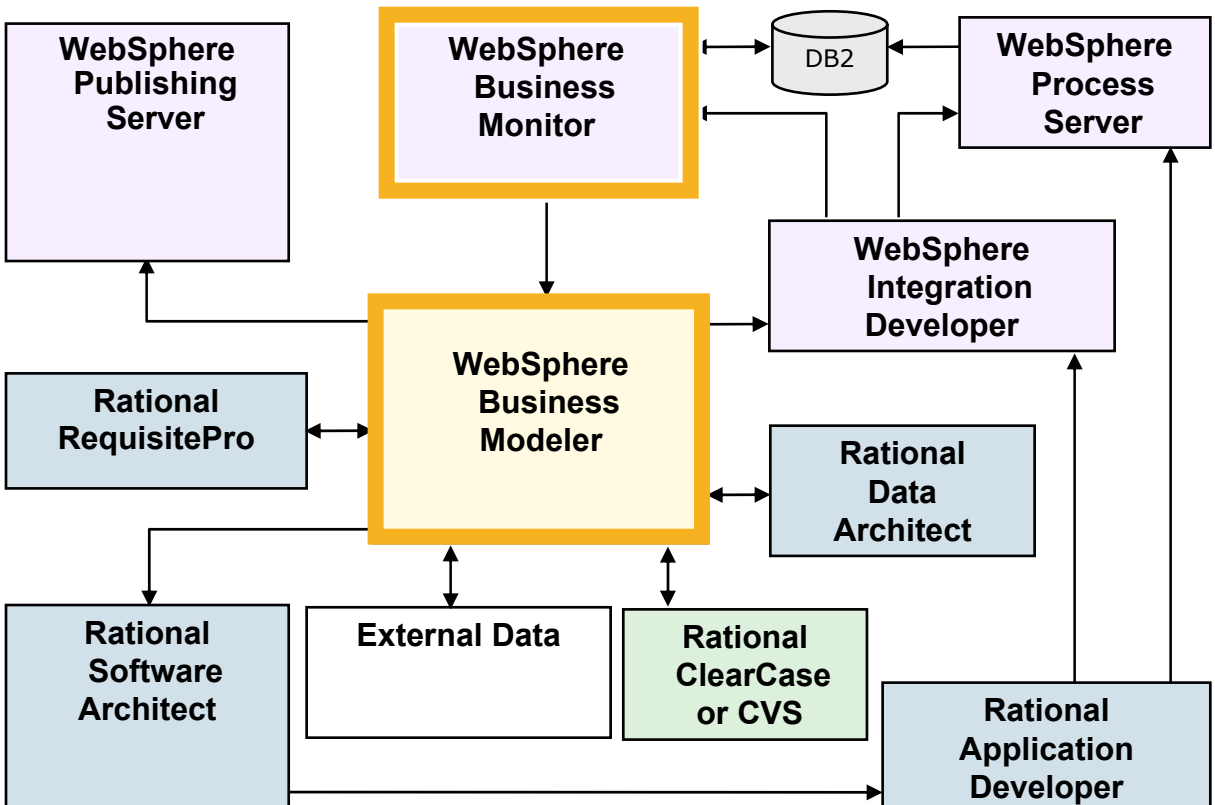
Unit objectives

After completing this unit, you should be able to:

- Define WebSphere Business Monitor
- Describe WebSphere Business Monitor dashboards
- Define business measures and model elements
- Describe the capabilities of the Business Measures view in WebSphere Business Modeler

© Copyright IBM Corporation 2008

Creating business measures in WebSphere Business Modeler



© Copyright IBM Corporation 2008

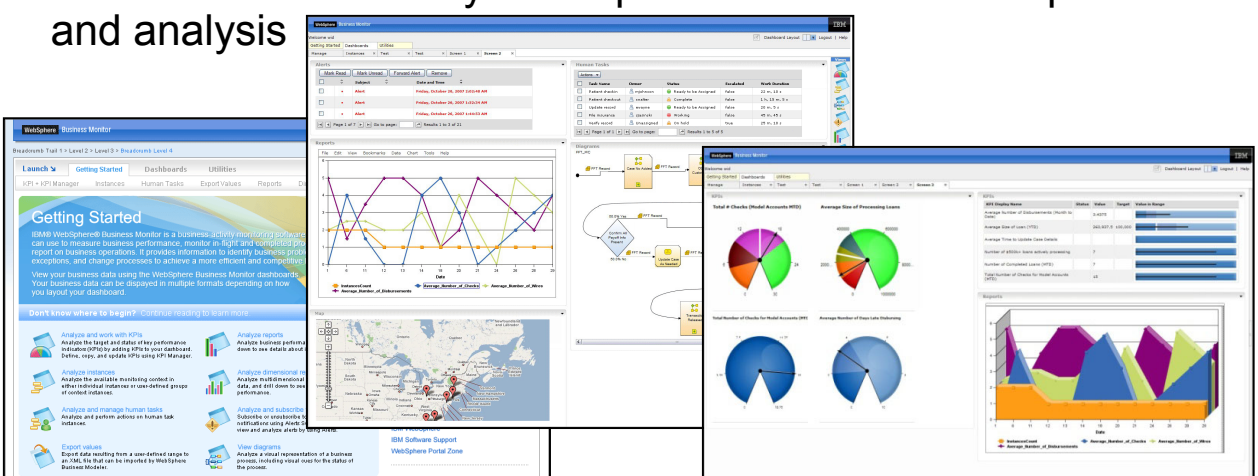
Why measure business performance?

- Monitor and control business operations
- Drive improvement of process efficiency
- Maximize the effectiveness of the improvement effort
- Achieve organizational goals and objectives

© Copyright IBM Corporation 2008

WebSphere Business Monitor overview

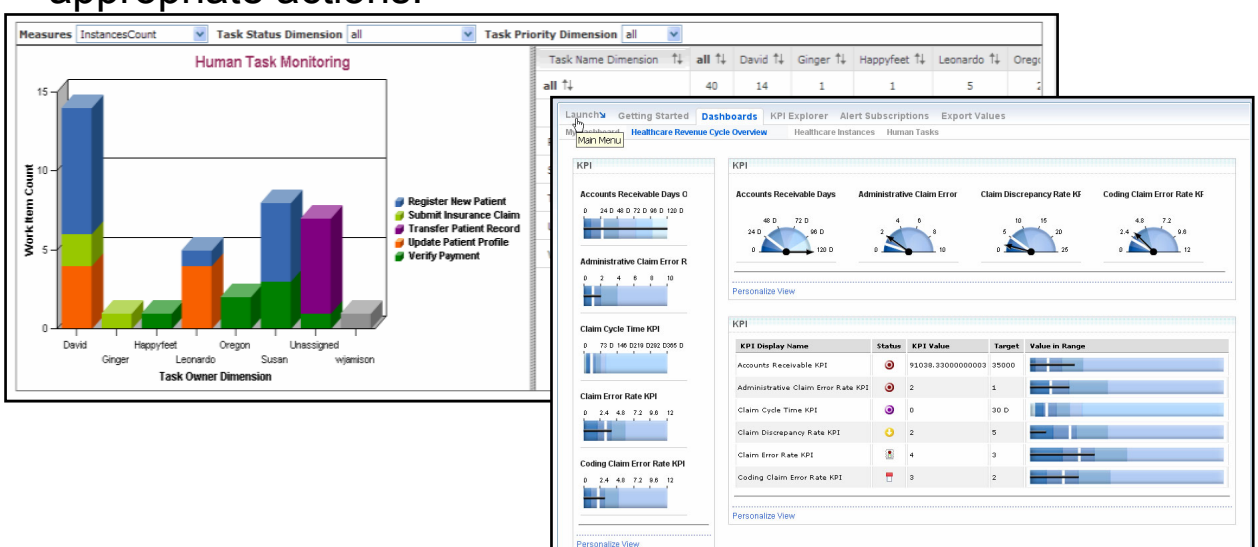
- Captures business-related data
- Displays the measurement values on your dashboard.
- Provides business intelligence insight through dimensional analysis and reporting
- Enables you to define actions to take when specified situations occur
- Identifies and notifies you of operation failures for inspection and analysis



© Copyright IBM Corporation 2008

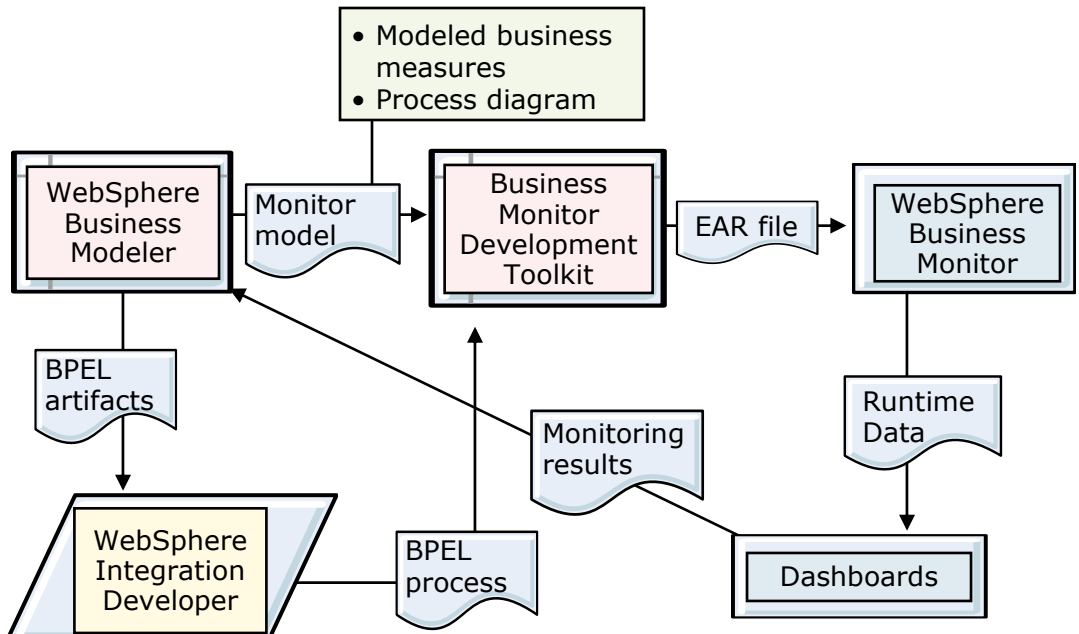
WebSphere Business Monitor dashboards

- Business performance-management dashboards are used to view the financial and operational data of a business.
- The dashboards operate in a near-real-time environment to monitor business situations, allowing users to manage the appropriate actions.



© Copyright IBM Corporation 2008

Life cycle of performance measurement



© Copyright IBM Corporation 2008

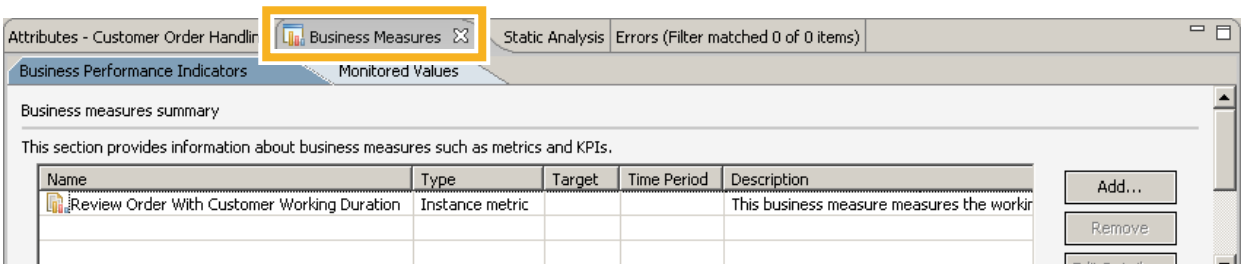
What is a business measure?

- Business measures describe the performance management aspects of a business that are required for real-time business monitoring.
  - They include metrics and key performance indicators (KPIs).
- Process execution results are collected, calculated, and analyzed against business measures using WebSphere Business Monitor.
- Business measures can be used for:
  - Compliance or documentation
  - Redesign
  - Execution
- In a process model, specify the information that you want to monitor by associating business measures with the process.

© Copyright IBM Corporation 2008

Business measures in WebSphere Business Modeler

- Business measures in WebSphere Business Modeler provide a way for business analysts to specify what should be monitored when the business process is executing.
  - The business analyst has insight into key elements of the business process that could indicate the success or failure of strategic business goals.
- Business measures can be associated with process elements.
- Predefined and custom business measures can be built.
- The business analyst's specification of what should be monitored is exported to the WebSphere Business Monitor Development Toolkit.
  - The implementation is then completed by the integration developer.



© Copyright IBM Corporation 2008

Monitor model (1 of 2)

- Describes business measures such as metrics and key performance indicators (KPIs).

- Specifically describes how to:
  - Gather information from real-time (inbound) events
  - Aggregate information to calculate higher-level business metrics or key performance indicators (KPIs)
  - Represent the calculated values on a number of dashboard views and analysis reports, based on the business needs
  - Recognize business situations
  - Emit situation events that may be used to trigger actions

© Copyright IBM Corporation 2008

Monitor model (2 of 2)

- Specifications are defined in WebSphere Business Modeler's business measures view.
  - Has integrated capability within the process editor
  - Allows users to quickly and easily define KPIs and metrics
  - Targeted at business users

- Technical implementation is performed with the Development Toolkit in WebSphere Integration Developer.

© Copyright IBM Corporation 2008

Basic monitor model elements

- Metric
  - Represents the value of a monitored item and helps in assessing performance in a particular business area
    - Example: Order processing time
  - Can have numeric values such as the number of items shipped, or non-numeric values such as the delivery dates of shipments

- Key performance indicator (KPI)
  - A quantifiable measure designed to track critical success factors of a business process
  - Example: Orders must be processed within three days (Order processing time < 3 days)

© Copyright IBM Corporation 2008

Metric

- A holder for information, usually a business performance measurement, in a monitoring context
- Associated with one or more maps that, when evaluated, give the metric a value
- Can be used alone or in combination with other metrics to define the calculation for a key performance indicator (KPI), which measures performance against a business objective
- Examples of metrics:
  - Working duration of a process
  - Name of the user assigned to a task
  - Supplier's response time
  - Cost of the risk assessment step in an insurance process
- Two types
  - **Instance metrics** return the result from one run of the process.
  - **Aggregate metrics** are calculated across multiple runs of the process, for finding the average, maximum, minimum, or total number of occurrences.

© Copyright IBM Corporation 2008

Key performance indicator (KPI)

- KPIs are detailed specifications required to track business objectives.
  - Used in measuring business performance
- Each KPI is associated with a specific process, and is quantifiable, measurable, and results-oriented.
- Two ways of specifying expected values or ranges:
  - Target value with percentage deviation margins
  - Upper and Lower Limits

© Copyright IBM Corporation 2008

Dimensions

- Data categories used to organize information for reporting and analysis.
- Process data can be described in terms of:
  - Quantitative Data (what is measured or counted)
    - Example: Order Price, Number of Sales, Shipping Time
  - Dimensions (how to divide up, or group the data)
    - Example: Customer, Address, Product
- Dimensions provide a structure that summarizes business measures.
- WebSphere Business Monitor dashboards allow the user to graphically display and interactively analyze this data.

© Copyright IBM Corporation 2008

Dimension levels

- Dimensions can (optionally) have multiple levels.

- Location
  - Continent
    - Country
      - State/Province
        - City
- Time
  - Century
    - Year
      - Month
        - Day
- Product
  - Category
    - Name

© Copyright IBM Corporation 2008

Dimensional analysis

- Provides business insight by summarizing business metrics.
- Organizes data into levels of detail that can drilled down to extract significant information.
- Dimensional analysis enables a breakdown of quantitative measures by some grouping (dimension).
  - Typically follows this format: “function” of a “measure” by a “dimension”
    - Examples:
      - Average of Profit by City
      - Total of Order Value by Customer
      - Maximum of Employee Salary by Time

© Copyright IBM Corporation 2008

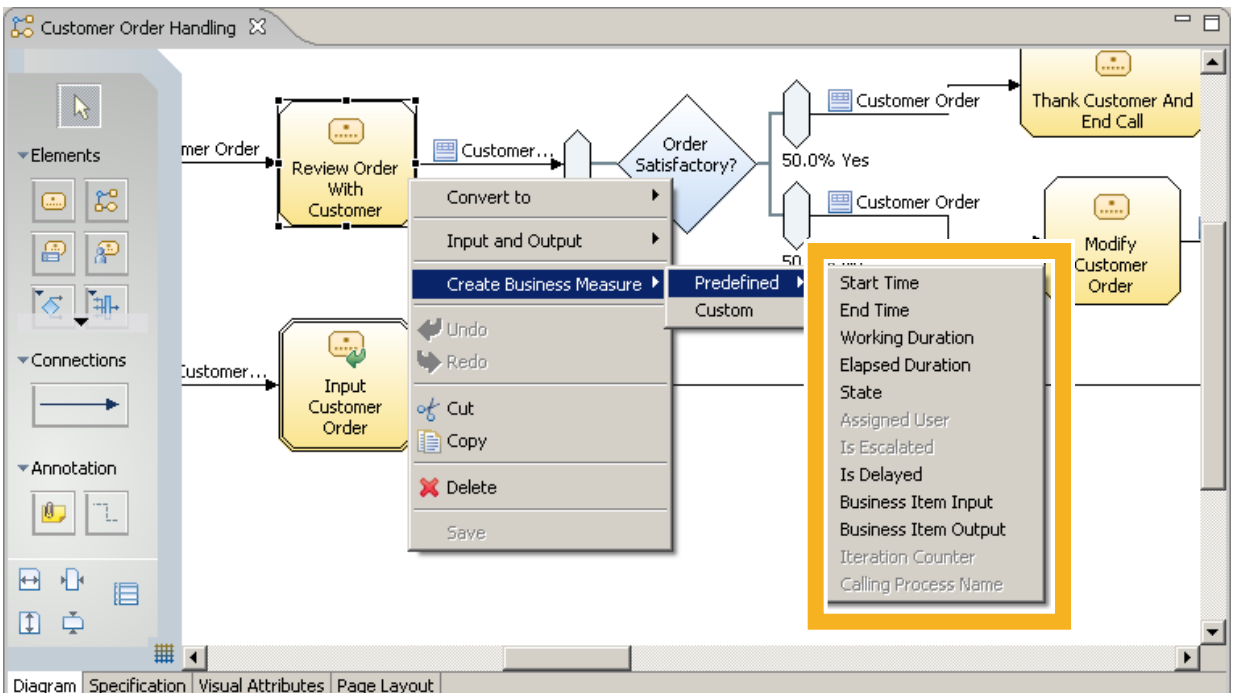
Predefined business measure templates (1 of 3)

- Templates provide definitions of frequently-used business measures.
- Used with instance metrics.
  - Tracks information over a single run of the process
- Templates can be applied to business measures created on top-level processes, tasks, loops, and subprocesses.

© Copyright IBM Corporation 2008

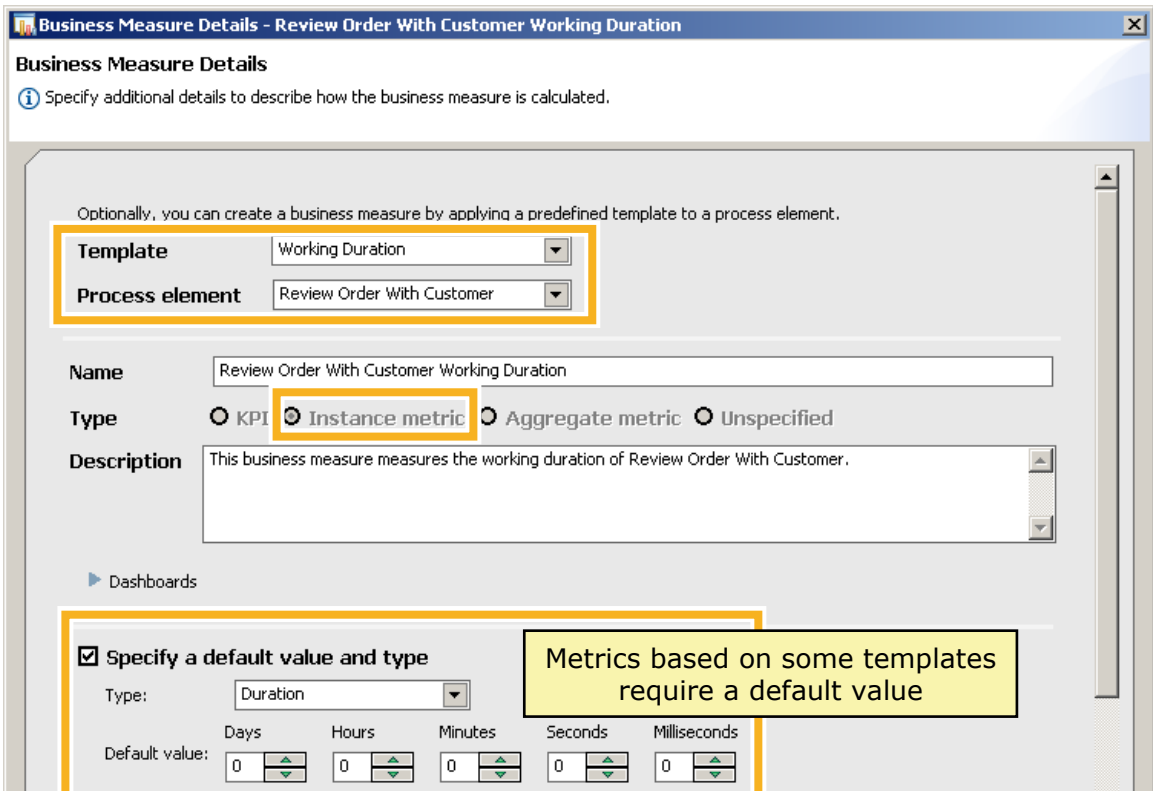
Predefined business measure templates (2 of 3)

- Available from context menu when right-clicking model element or process.



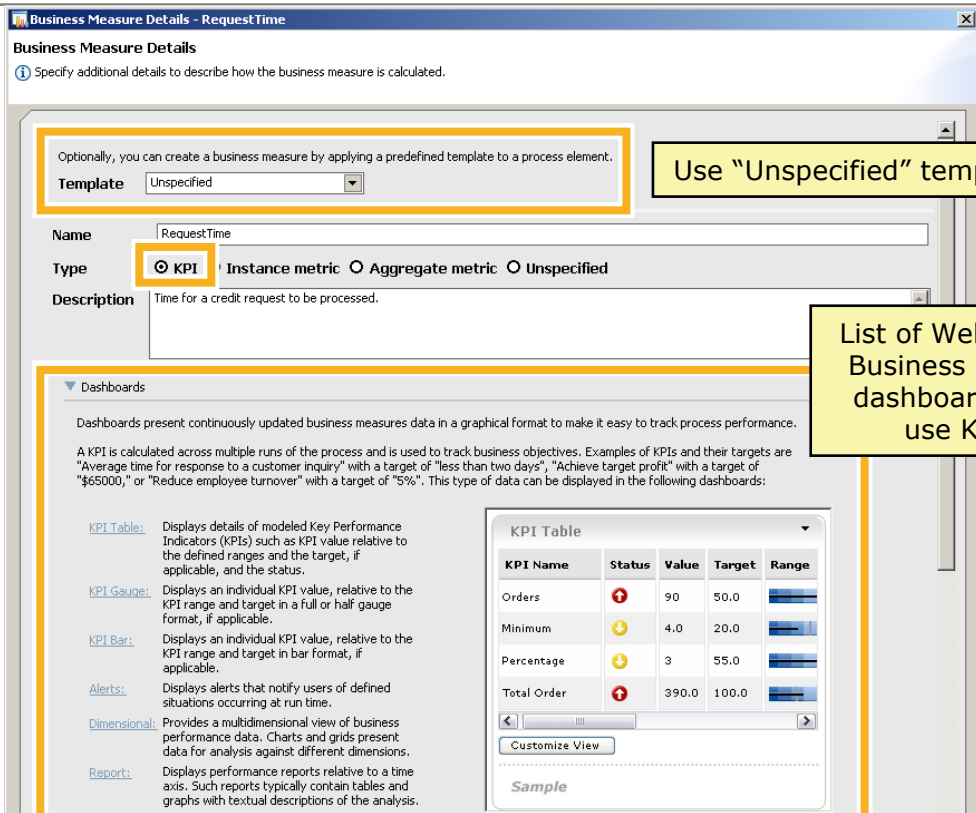
© Copyright IBM Corporation 2008

Predefined business measure templates (3 of 3)



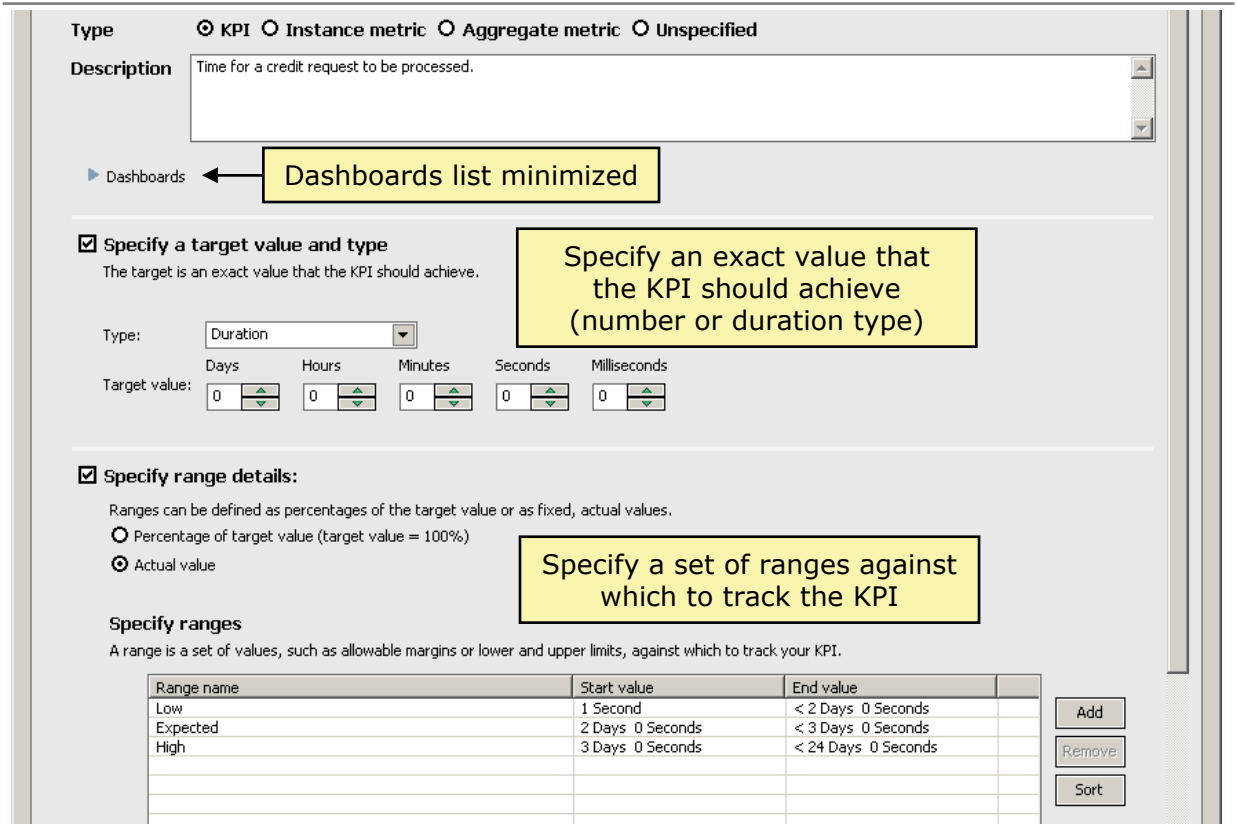
© Copyright IBM Corporation 2008

Custom business measure: Key performance indicator (1 of 3)



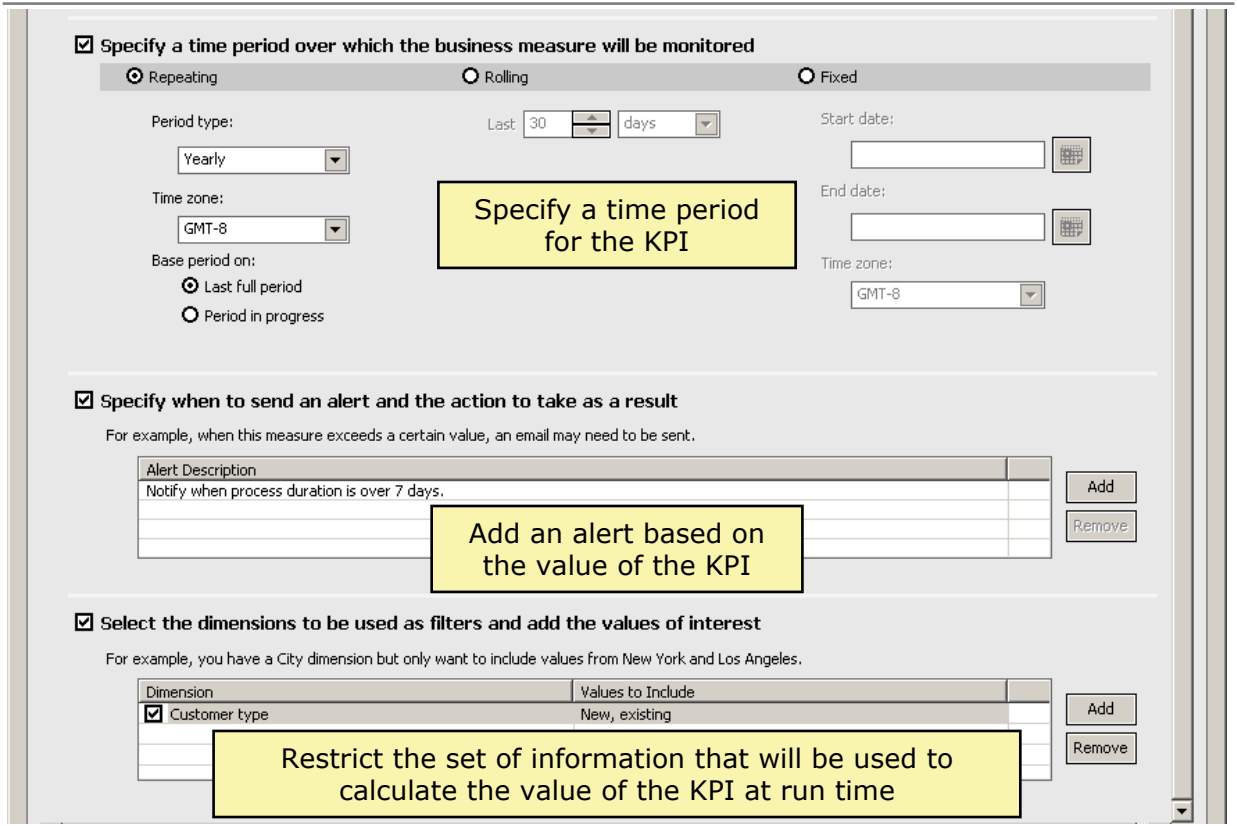
© Copyright IBM Corporation 2008

Custom business measure: Key performance indicator (2 of 3)



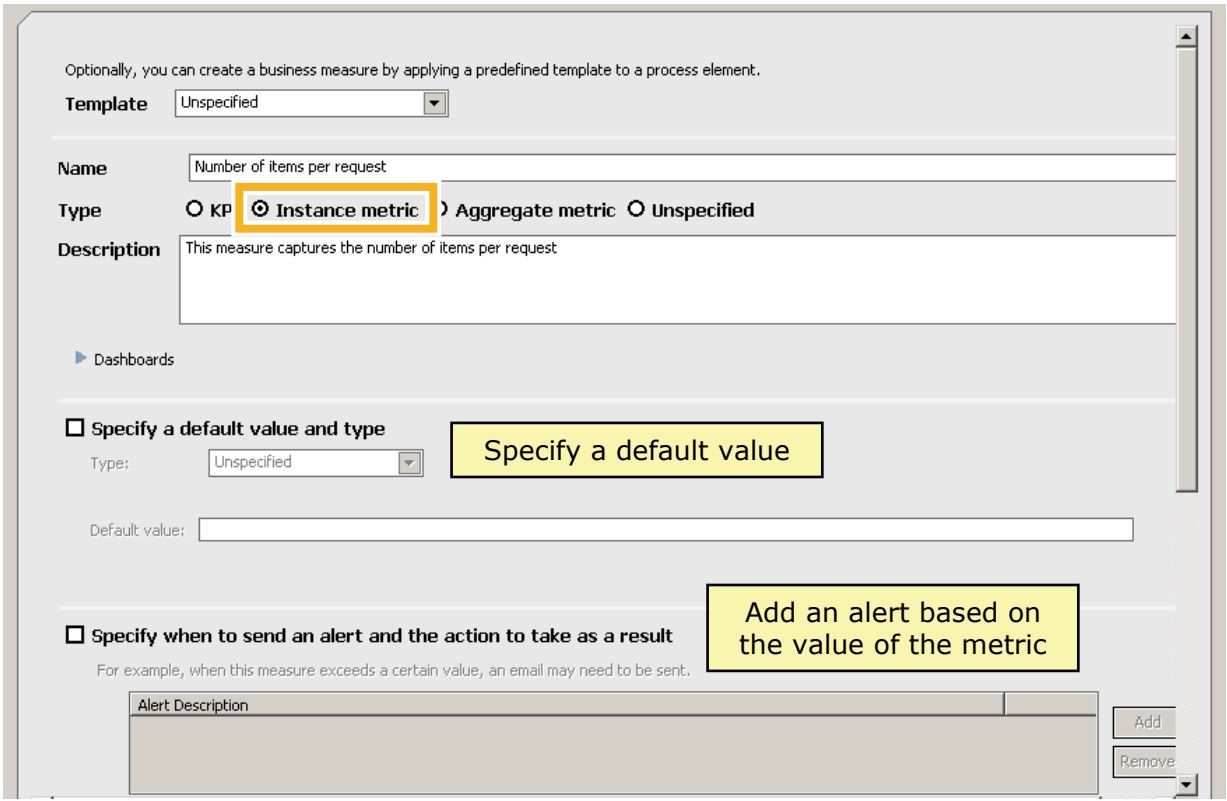
© Copyright IBM Corporation 2008

Custom business measure: Key performance indicator (3 of 3)



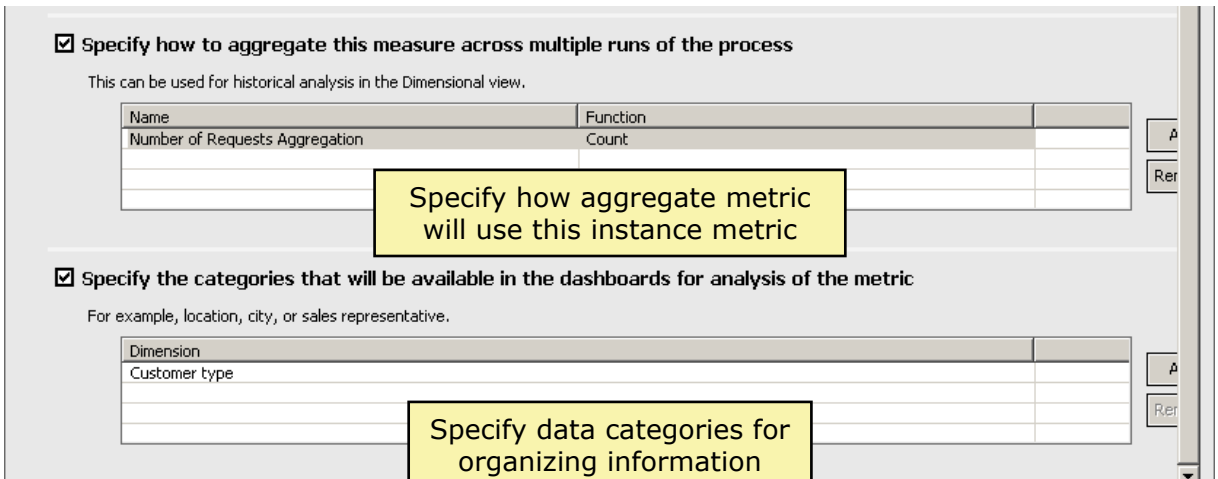
© Copyright IBM Corporation 2008

Custom business measure: Instance metric (1 of 2)



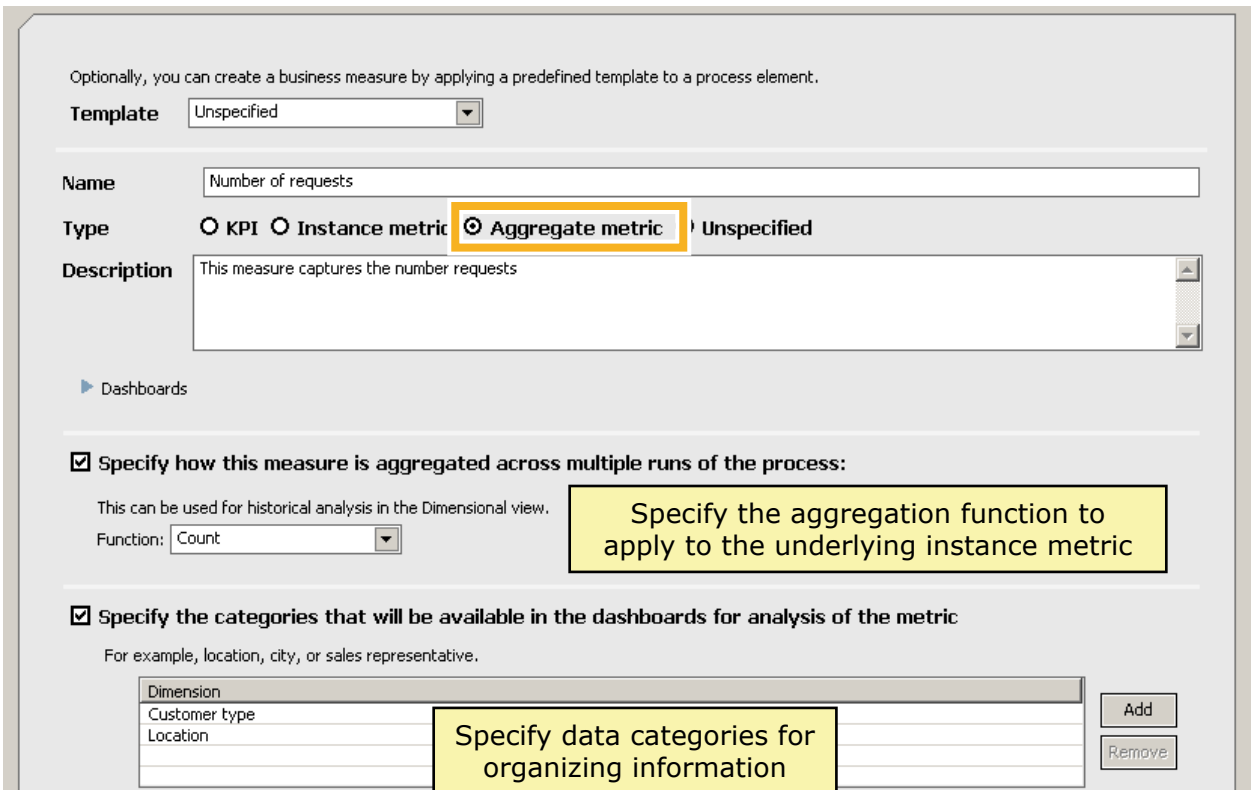
© Copyright IBM Corporation 2008

Custom business measure: Instance metric (2 of 2)



© Copyright IBM Corporation 2008

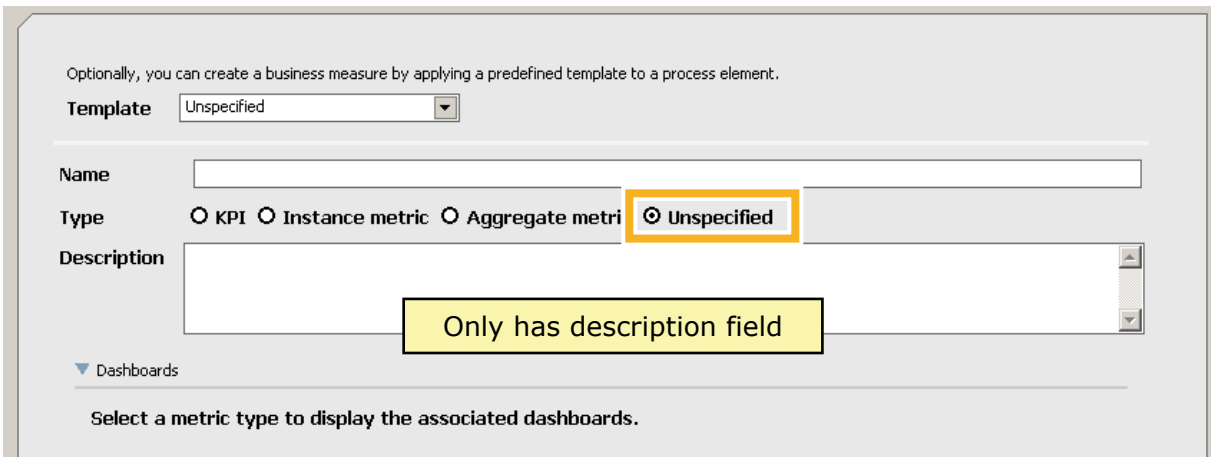
Custom business measure: Aggregate metric



© Copyright IBM Corporation 2008

Custom business measure: Unspecified

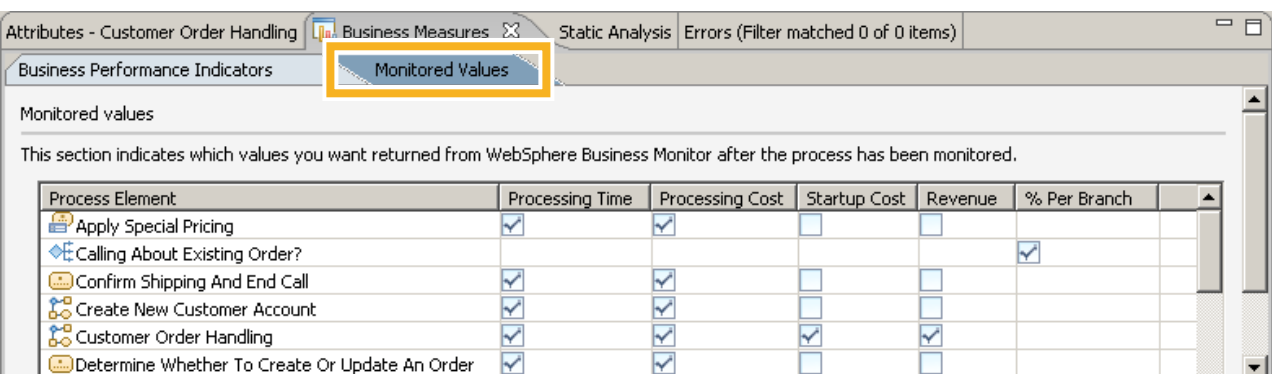
- Used for communicating additional requirements



© Copyright IBM Corporation 2008

Business Measures view: Monitored values

- Specify metric categories for monitored elements.
  - Indicates which values to return from WebSphere Business Monitor
- Multiple runs improve accuracy of simulations.
- Values in WebSphere Modeler are updated for goal analysis.



© Copyright IBM Corporation 2008

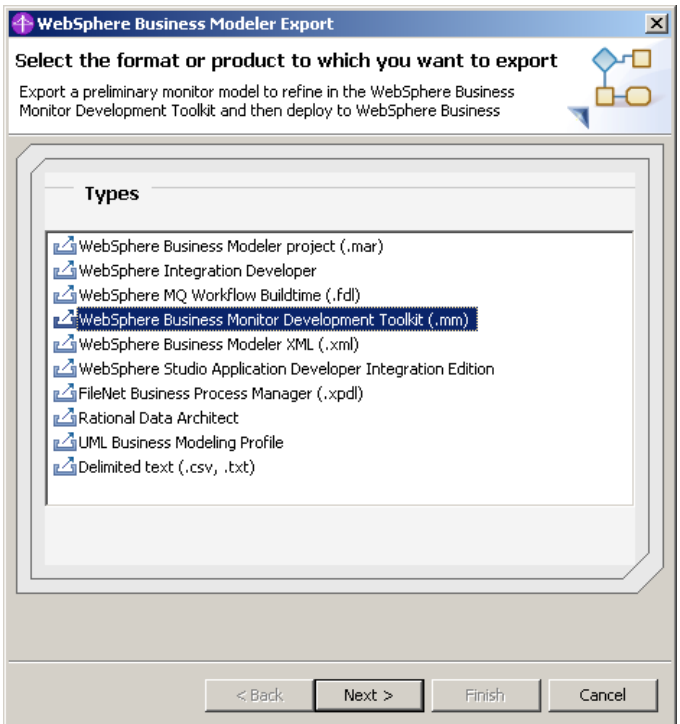
Exporting business measures

- Business analyst exports a preliminary monitor model from WebSphere Business Modeler.
- Integration developer refines monitor model in the WebSphere Business Monitor development toolkit and then deploys it on WebSphere Business Monitor.
  - Monitor model from WebSphere Business Modeler provides guidance to the developer who will complete the model.
- Once monitored process has been executing for some time, business analyst exports the values captured by WebSphere Business Monitor to an XML file and imports them into WebSphere Business Modeler for further analysis on the process.

© Copyright IBM Corporation 2008

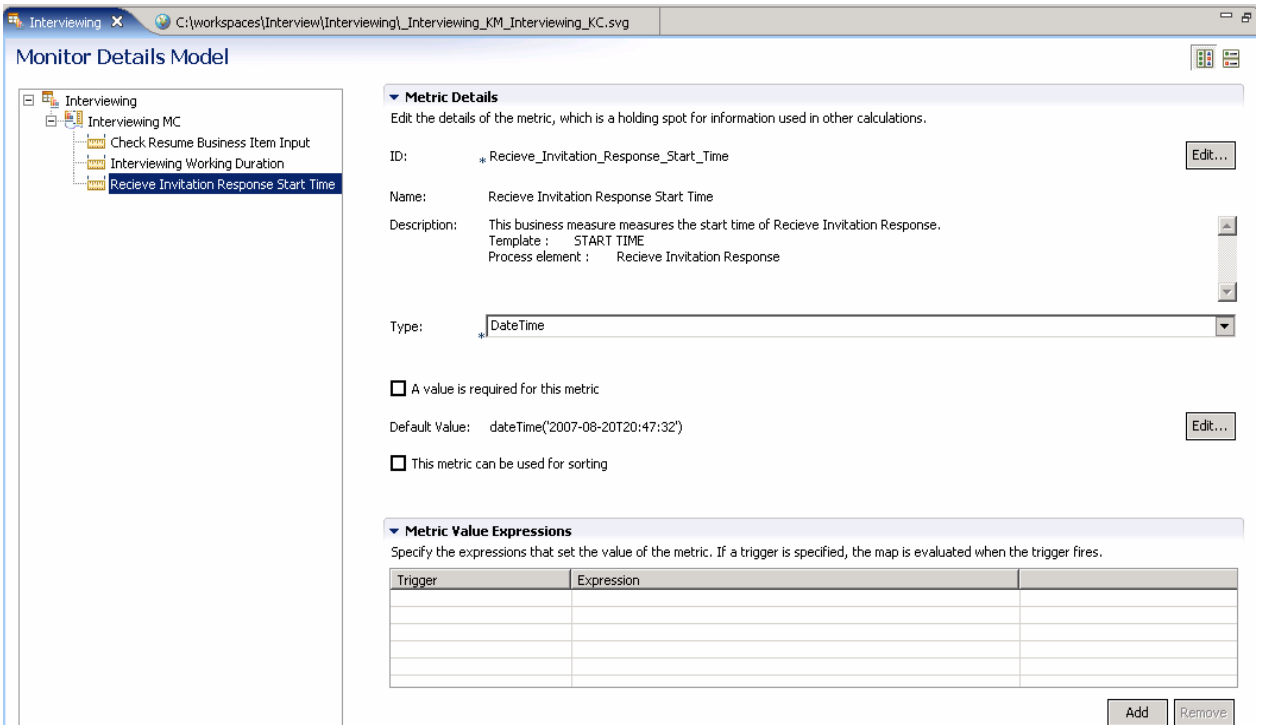
Sharing business measures with Monitor Development Toolkit

- Export using the Business Monitor Development Toolkit (.mm) export type.
- This produces an MM file, along with SVG files for each of the elements selected for export.
  - The exported .svg is specially annotated for use with WebSphere Business Monitor.



© Copyright IBM Corporation 2008

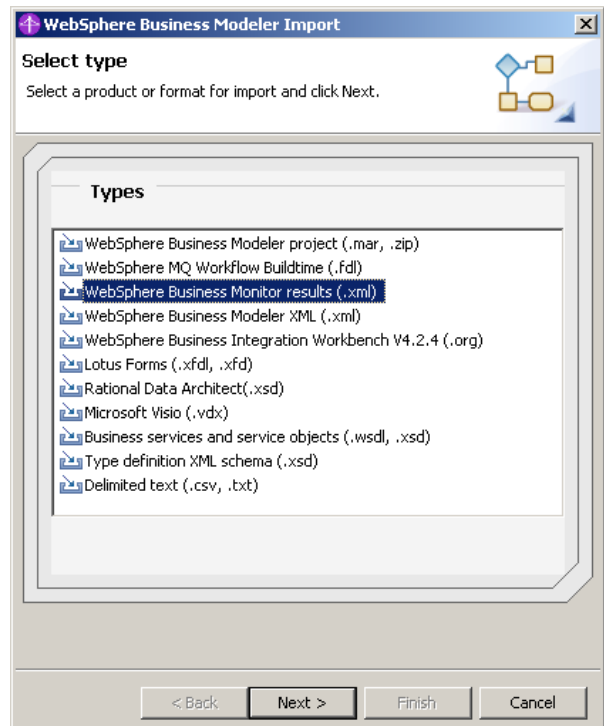
The implementation is performed in Monitor Development Toolkit



© Copyright IBM Corporation 2008

Importing results from WebSphere Business Monitor

- Aggregated values from monitored process can be exported as an XML file and imported into WebSphere Business Modeler.
- Useful for simulation.



© Copyright IBM Corporation 2008

Checkpoint: Defining business measures

Your instructor will review these questions with you as a group. If time permits, the instructor may provide you time to answer the questions on your own before the group discussion.

1. Why it is important to measure business performance?

2. What are the main elements in a business measures model?

3. What is a key performance indicator (KPI)?

© Copyright IBM Corporation 2008

Checkpoint solutions: Defining business measures

1. Business measures can be used to monitor and control business operations, drive improvement of process efficiency, and achieve organizational goals and objectives.

2. Key performance indicators and metrics.

3. KPIs are used in measuring business performance that are detailed specifications required to track business objectives.

© Copyright IBM Corporation 2008

Unit summary

Having completed this unit, you should be able to:

- Define WebSphere Business Monitor
- Describe WebSphere Business Monitor dashboards
- Define business measures and model elements
- Describe the capabilities of the Business Measures view in WebSphere Business Modeler

© Copyright IBM Corporation 2008

Exercise overview

In this exercise you will:

- Define business measures for Credit Request process
- Specify the following measures
  - Key Performance Indicators (KPI)
  - Instance metrics
  - Aggregate metrics
  - Monitored values

© Copyright IBM Corporation 2008