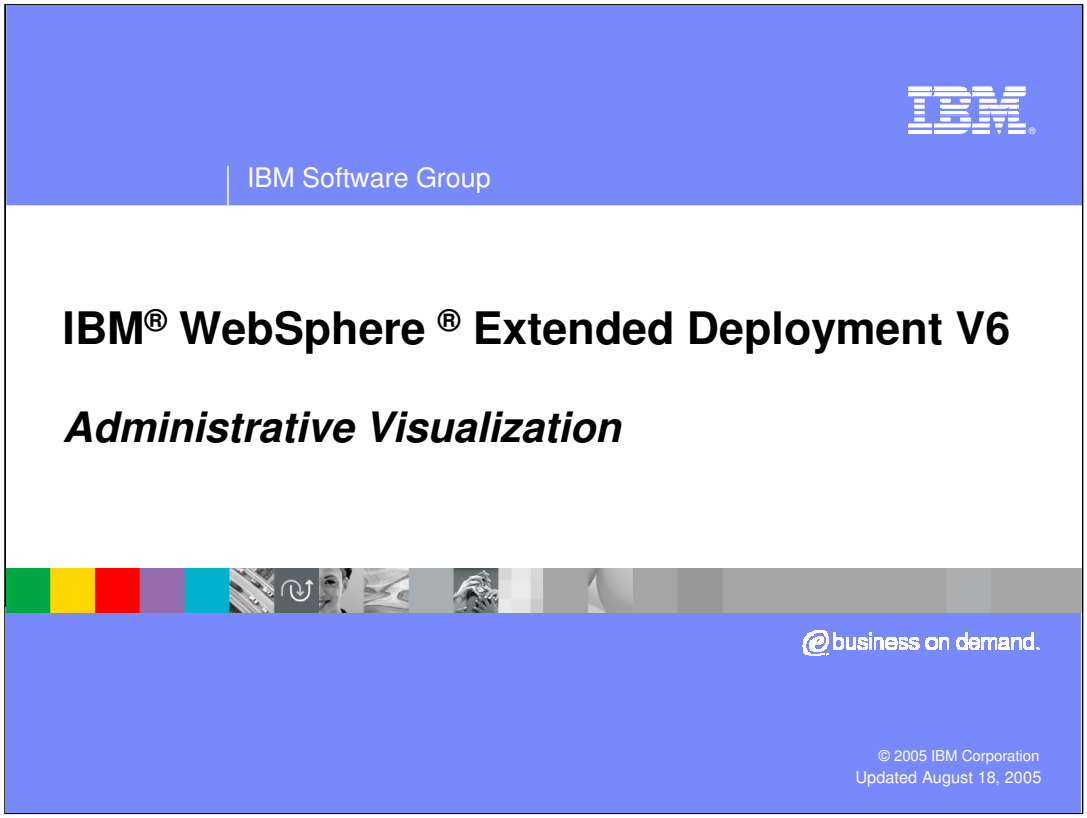


This presentation will cover the administrative visualization features of WebSphere Extended Deployment V6.

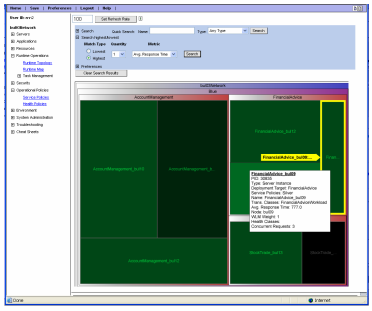
Agenda

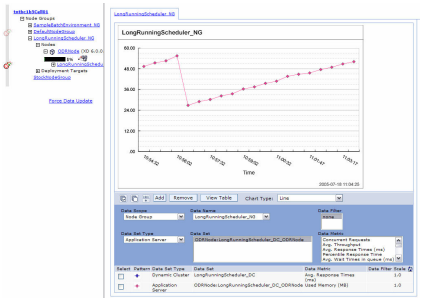
- Visualization capabilities
  - Runtime map view
  - Runtime topology view
  - Visualization data service

This presentation will introduce you to the runtime map and runtime topology views, and will also discuss the visualization data service.

Runtime Visualization Views

- Runtime Map
  - Summary view of entire cell
  - Quickly assess overall health
- Runtime topology
  - Detailed view of what is running and where
  - Custom charting of performance and goal data

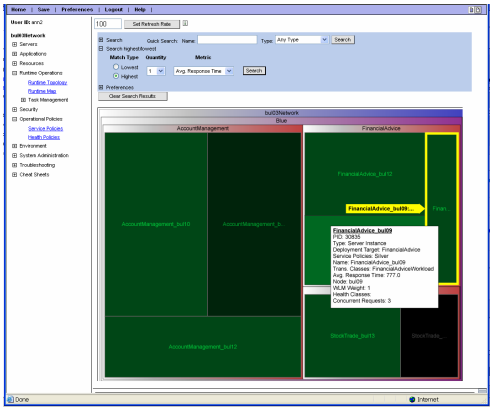




The Administrative Console in WebSphere XD offers two views that provide you with a dynamic view of the status and performance of your cell. The runtime map view lets you easily assess the overall health of a large environment at a glance, and then drill down to find more specific information. The runtime topology view enables you to see where components are running at the present time, an important capability in a dynamic WebSphere XD environment. It also gives you access to the custom charting feature, which can display data about your environment, such as a graph of actual response times for a particular dynamic cluster versus your defined response time goals.

Runtime Map

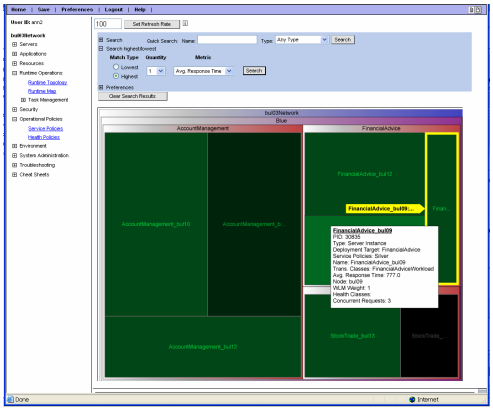
- Overview of the entire cell
- Color and size of boxes are meaningful
  - Area of a box represents the number of transactions being handled
  - Color represents performance vs. configured goals



The runtime map view presents you with a series of nested rectangles that represent the grouped artifacts in your environment, such as node groups, dynamic clusters, and individual application servers. Both the size and the color of the boxes have meaning. The size of a box represents the current throughput of that artifact, relative to the sizes of other boxes in the map. The color of a each box is also significant, representing the performance relative to defined goals. Servers that are meeting performance goals will display green, and turn red as they begin to miss their goals. The colors are configurable if you have another preference.

Runtime Map (cont.)

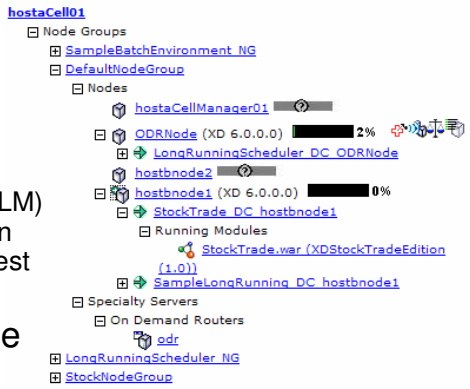
- Objects in the map are searchable by name
  - Yellow outlined area represents search results
  - Advanced search supports regular expressions
- Mouse hover-over provides information about individual artifacts



To get more specific information about an object in the map, you can hover the mouse over any particular box. You can also use the search fields to highlight any items matching a particular name, or perform a more complex search using regular expressions.

Runtime Topology (node group view)

- Shows what is running and where
  - Location of Dynamic Cluster instances
  - System components
    - Dynamic workload management (DWLM) controller, health controller, application placement controller, autonomic request flow manager (ARFM), work profiler
  - Processor usage of each node
- 3 perspectives
  - Node group-, application-, or service policy-centric

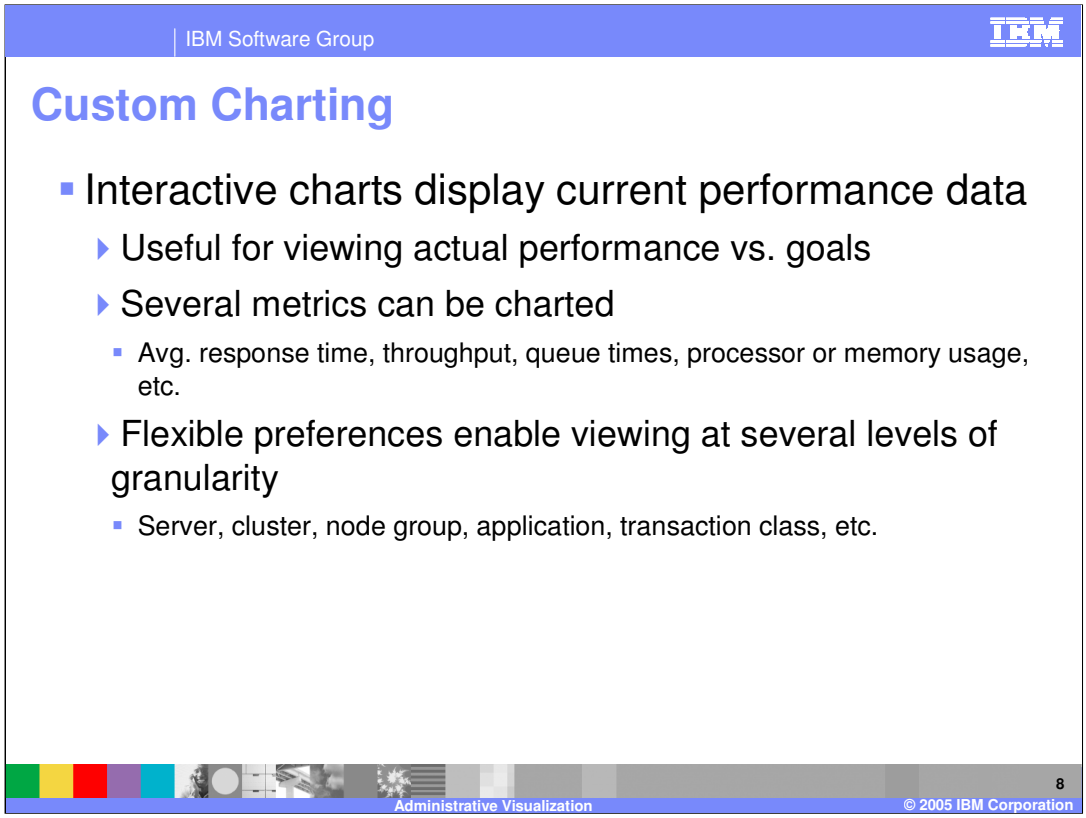


The runtime topology view lets you navigate your cell from either a node group-, application-, or transaction class-centric perspective to see what is happening at the present time, a necessity in a dynamic WebSphere XD environment. The example view shown here is the node group perspective, in which you can see where instances of dynamic clusters are running, and locate the nodes that are running system singletons, such as the health controller or application placement controller. You can also start and stop individual application servers from this view using a contextual menu.

Runtime Topology: Server Health

- Runtime topology view reflects health policies
- A server is marked with the “sick” icon () when a health condition is breached
  - Icon links to the task management console
- Faded indicator on parent nodes if sick server is hidden

If you have configured health policies, the an icon will appear in the runtime topology view alongside any servers that have breached a defined health condition. A faded icon next to a parent object, such as a node or node group, indicates that a server within its scope has a health problem, but is currently hidden. Expand the object with the faded icon to locate the server in question. Clicking on the health icon displays a pop-up menu that can take you directly to the task management console to learn more about the sick server and take corrective action.



The runtime topology view also lets you create custom charts. You can chart several different metrics with this feature, including response times, processor utilization, or queue times for long running work. These kinds of data can be broken down by server, application, work class, or transaction class, to name a few of the options. Performance metrics can be graphed against the response time goals defined by your service policy.

Visualization Demonstration

- Click here for a demonstration of visualization capabilities:

The visualization features can be best understood by seeing them in action. Pause this presentation and click the “show me” icon to open a self-playing visualization demo.

Visualization Engine

- The visualization engine is a component that runs inside the Deployment Manager
- Gathers data from cell members
- Drives all runtime operations views in the Administrative Console

All of the visualization capabilities in WebSphere XD are driven by the visualization engine. The visualization engine runs inside the Deployment Manager process, gathering information from other nodes and making the data available for display in the Administrative Console.

Visualization Data Service

- Monitored data can be automatically recorded to a log file
  - Comma separated text files, suitable for spreadsheet import
  - Node and server statistics are logged separately from application and transaction class statistics
- Log properties can be changed under System *Administration > Visualization Data Service*

WebSphere XD also provides the capability to write performance data to a log file for historical purposes or for importing into another application. The comma-separated text files can be easily imported into a spreadsheet or other reporting program for analyzing performance over a longer period of time. These statistics can also be useful for application service providers or IT departments to “charge-back” customers for actual processor usage.

Summary

- The visualization features of WebSphere XD make it easier to manage a large environment
  - The Runtime Map view gives an overview of the entire cell, relative to the goals you have defined
  - The Runtime Topology view shows you what is running and where
  - Custom charting enables you to visualize a number of performance statistics and compare them to your defined goals

In summary, the visualization features of WebSphere XD give you graphical tools to more effectively manage a large, dynamic environment. The runtime map view gives you an overview of the state of your entire cell, with the ability to drill down to specific subsets of the topology. The runtime topology view shows you what is running in your environment, and where it is running. You can also interactively create charts to display performance characteristics of your environment.

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