MANAGEMENT PACK FOR ORACLE COHERENCE

ONLY SOLUTION PROVIDING ALL ASPECTS OF COHERENCE MONITORING AND MANAGEMENT

FEATURES

- Complete cluster visibility
- Monitor cache performance, stability and load distribution on nodes
- Provision new cluster or nodes
- Start/stop nodes or entire cluster
- Support for event tracking, notifications, charts and historical metric trends
- Monitors the entire Coherence infrastructure including monitoring WebLogic Server, Coherence Cluster, and the database as a single system
- Real time propagation of configuration changes to a node, a cache, or an entire cluster
- Monitor caches used by WebLogic applications

BENEFITS

- Greater administrator productivity
- Better diagnostic capabilities
- Reduce complexity by modeling complete cluster as a single target
- Reduce total cost of ownership by using single console to monitor end-to-end system and life cycle management
- Reduce risk by automating provisioning process

Coherence provides an in-memory data grid layer between the application and database. It becomes absolutely vital for administrators to make sure continued availability and higher throughput of coherence caches. Oracle Enterprise Manager is the only solution for all aspects of coherence monitoring and management, which includes complete cluster monitoring, automated provisioning, life-cycle management, and configuration management.

Monitoring Potential Hot Spots in a Coherence Cluster

A typical Coherence cluster has a large number of nodes, and caches, which may be distributed across multiple nodes making it challenging for administrators to ensure availability and performance across the cluster. Enterprise Manager provides a dashboard view of the health for the entire cluster, which helps administrators identify and monitor potential problem areas within the cluster. Key information such as the number of weak nodes, nodes with minimum memory and departed nodes quickly tell you the overall health of the cluster and give you an idea of a potential problem. Caches with the lowest "hits-to-gets" ratio are highlighted to help administrators identify potential application issues. Support for Coherence*Web allows administrators to correlate applications directly with caches in order to help you quickly perform dependency analysis on the underlying infrastructure in order to detect problems in a proactive manner.

Moreover, Enterprise Manager provides top-down application management approach and gives visibility into entire application stack. The complete end-to-end visibility allows administrators to quickly pinpoint and resolve issues within their application stack.

Real Time and Historical Monitoring of Caches and Nodes

Obviously, the availability and performance of caches have direct impact on applications critical for business. It is absolutely critical for Administrators to make sure caches keep delivering high throughput without any loss of availability. Enterprise Manager continuously collects more than 300 metrics for Coherence in addition to providing the capability to generate synthetic transactions from remote beacons in order to ensure service levels are met for applications. The average and aggregate metrics generated from the raw metrics provide immense intelligence allowing Administrators to perform deep diagnostics. Throughput of a cache directly depends on load distribution on nodes on which the cache is running. If the load is not evenly distributed on the nodes cache throughput will be adversely impacted in turn affecting application performance. Enterprise Manager performance views

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shows variety of charts and metrics using which Administrators can find if the cache is evenly balanced on multiple nodes and isolate worst performing nodes for key metrics. Administrators can drill down to detailed performance views of each node and find all caches running on it, detailed system metrics showing garbage collection information, and services running on it. Enterprise Managers clearly segregate front caches performance from that of back caches allowing Administrators to find the effectiveness of near cache.
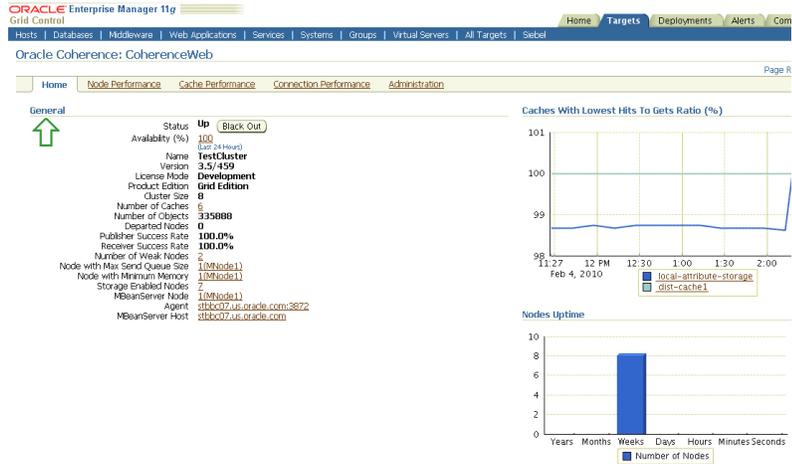
Figure 1 Coherence dashboard highlighting potential performance hot spots

Following table shows some of the high level monitoring features.

Feature	Benefits
Dashboard	Highlight performance hotspots. Overview of availability and health of the data grid.
Near real-time monitoring	Auto-refresh options in the real time views of the key metrics allow Administrators to troubleshoot problem in real time.
Discover cache-nodes heat distribution	You can easily find if the cache is well balanced among multiple nodes and isolate nodes that are either storing fewer objects or giving poor hit ratio.
Out-of-box events management	Administrators can significantly increase the availability and performance of Coherence caches by getting notified about the cache performance bottlenecks proactively before they start causing application issues. Notifications can include emails and SNMP traps which take advantage of Enterprise Manager's centralized alerting.
Out-of-box historical monitoring	Allows users to take strategic decisions related to capacity. You can also use this data to separate intermittent issues from consistent performance issues.
Coherence*Web support	Allows administrators to monitor the caches in context of the applications using them.
Coherence*Extend support	Identify remote applications out side the grid that are using caches and monitor performance of the connections.
Services monitoring	Monitor the health of Coherence services and find all the caches that are affected

Cluster Lifecycle Management and Automated Provisioning

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Oracle Enterprise Manager also allows you to manage the life cycle of the entire cluster from a central console. You can start as many new nodes as you want or stop nodes selectively. Similarly you can start and stop the entire cluster. You can also provision a completely new cluster or add nodes to an existing cluster. You can also stop the entire cluster and start it back. This automation drastically reduces risk of manual operations and brings down total cost of ownership.

Configuration Management

Enterprise Manager allows administrators to view and temporarily modify the runtime configuration of caches, nodes, and services (please note that this will not be persisted between restarts). This is a very powerful feature as it allows you to quickly tune the configuration of low performing caches and nodes when compared with high performing caches and nodes.

Conclusion

Oracle Management Pack for Oracle Coherence helps administrators proactively monitor the performance of their Coherence clusters and reduce the time needed to identify and diagnose performance problems within their application environments. Following are key benefits of this pack:

• Manage complexity by modeling the entire cluster as a single target

• Real-time and historical performance monitoring for caches and nodes for faster diagnostics and resolution times

• Monitor caches in context of applications to analyze dependency

• Proactive monitoring using thresholds and alerts

• Reduce risk using automated provisioning and lifecycle management

• Change runtime configuration in order to quickly tune cache performance

Contact Us

For more information about Management Pack for Oracle Coherence, please visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

Oracle is committed to developing practices and products that help protect the environment

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