**MANAGEMENT PACK FOR ORACLE COHERENCE**

Oracle Enterprise Manager is Oracle’s integrated enterprise IT management product line, and provides the industry’s first complete cloud lifecycle management solution. Oracle Enterprise Manager’s Business-Driven IT Management capabilities allow you to quickly set up, manage and support enterprise clouds and traditional Oracle IT environments from applications to disk. Enterprise Manager allows customers to achieve the best service levels for traditional and cloud applications through management from a business perspective in order to provide maximum return on IT management investment through the best solutions for intelligent management of the Oracle stack and engineered systems and gain unmatched customer support experience through real-time integration of Oracle’s knowledgebase with each customer environment.

**Monitor the Cluster Performance Hotspots**

Oracle Coherence is an in-memory data-grid and distributed caching solution. Oracle Coherence is composed of many individual nodes or JVMs which work together to provide highly reliable and high speed virtual caching. The complexity of the cluster is completely hidden from the user of the virtual cache. While this greatly benefits developing highly available and efficient applications, it also poses a serious challenge for an administrator responsible for monitoring and maintaining the Oracle Coherence Clusters.

![Figure 1. Cluster Homepage](image)

Management Pack for Oracle Coherence delivers maximum benefits when used with the following Oracle products:

- WebLogic Server Management Pack Enterprise Edition
- SOA Management Pack Enterprise Edition
- Management Pack for WebCenter Suite
- Management Pack for Non-Oracle Middleware
- Diagnostic Pack for Oracle Database
- Real User Experience Insight
available in the Cluster dashboard. Using topology view, operational teams can quickly correlate cluster nodes with the underlying hosts to determine CPU and memory utilization on those hosts in order to make better decisions for scaling their clusters.

For preventive monitoring it is critical to get alerts on the performance issues. Using the Incident system in Enterprise Manager, users can set threshold on metrics to create events that can trigger rule based incidents and notification presented on the console or by various other mechanisms such as email, mobile text, SNMP trap, etc.

Oracle Enterprise Manager also provides highly customizable performance views for monitoring performance charts and trends. Administrators can overlay metrics for multiple nodes or caches in the same or different cluster for detail analysis to provide detailed visibility at the desired level. Nodes, caches, services and Oracle*Extend connections are displayed via drill down views that allows administrators to determine the root cause of performance problems or simply identify performance trends in the Coherence Cluster. For example, Figure 2 below shows a drill down view of a node. Such views allow administrators to slice and dice data across various caches and services running on the node. The gap in the performance charts below indicate that the node was shut down during that period. Oracle Enterprise Manager has a unique ability to keep track of the performance of a node across its lifecycle.

![Node performance summary view](image)

**Figure 2. Node performance summary view**

**Coherence ExtendedMBean**

Oracle Coherence 3.7.1.9 and higher supports a new feature called ExtendedMbean flag. This flag enables Coherence to use the member name of the node in the JMX object name. It is highly recommended to use this feature as it allows Oracle Enterprise Manager to recognize the UP status of the down node (after restart or rejoining the cluster) without the need of the refresh on the Oracle Coherence Cluster target. To take advantage of this feature all the nodes in the cluster need to use `-Dtangosol.coherence.management.extendedmbeanname=true` in the command line.

**Configuration and Lifecycle Management**

Oracle Enterprise Manager provides a complete provisioning and configuration management solution for Oracle Coherence. Administrators can maintain their Oracle Coherence setup image in the software library and deploy it throughout their infrastructure to create new clusters or add nodes to an existing cluster.
Oracle Enterprise Manager collects the nodes and caches configuration periodically. Users can search and compare configuration items across multiple clusters (such as production cluster vs. QA cluster), and even be alerted on configuration changes. Getting visibility into the configuration of caches and services helps identify issues which could be affecting the application performance. E.g. if the service task backlog is consistently high, an administrator can quickly find out the thread pool configuration of the service and decide if the bottlenecks are caused by lack of adequate threads. Similarly, cache configuration parameters such as high units and low units, indicate the cache capacity configured on the node. Apart from out-of-box configuration parameters, administrators can also select the coherence configuration XMLs as custom configuration. Oracle Enterprise Manager provides out-of-box parsers for well known configuration file formats such as .xml, .properties, etc.

Centralized Console for Coherence QL

Administrators routinely have to find out if entries pertaining to certain filter criteria are available in the cache. Oracle Enterprise Manager provides a centralized console to run Coherence QL on the caches. The queries can be stored for easy access. Administrator can also check the performance of the queries using Query Trace and Query Explain Plan features. These functions indicate how the indexes are used for the selected Coherence QL query.
Contact Us
For more information about Management Pack for Oracle Coherence, 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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