Oracle Enterprise Manager 12c
IBM DB2 Database Plug-in

May 2015
Safe Harbor Statement

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Heterogeneous Datacenter Management

Oracle’s Philosophy

• Productize our deep understanding of the Oracle stack to provide integrated management

• Provide generic Oracle solutions for managing non-Oracle technology
  – User Experience Management, Middleware Management, Business Transaction Management, Testing & Test Data Management, ...

• Incent and promote others to provide optimized management for non-Oracle technology

• Provide product extensibility wherever possible (today’s focus: Plug-Ins)
Enterprise Manager 12c Heterogeneous Management
Making The Complex Simple In Three Steps

1. Use or create **plug-ins** using Enterprise Ready Extensible Framework

2. Leverage common functions through plug-ins
   - Performance & Availability Monitoring
   - Configuration Management
   - Compliance Management
   - Job System
   - Alerting & Notifications
   - Custom UI
   - Reporting

3. Manage like any other target
IBM DB2 Plug-in
Revamped for Better Performance Analysis and Monitoring

New features

- New Performance page
- Enabled more Metric Thresholds
- 3 Out-of-the-Box Monitoring templates
- Migrated Information Publisher Reports to Business Intelligence Publisher Reports and more!
IBM DB2 Plug-in 12.1.0.4.0

**Benefits**

Apply Enterprise Manager management and monitoring to your IBM DB2 workloads.

- **Comprehensive Monitoring**
  - Availability, Performance Metrics
  - Alerts, Blackouts
  - Templates
  - Groups/Systems

- **Configuration Analysis**
  - Detailed configuration collection
  - View/Save/Compare Configurations

- **Reporting**
IBM DB2 Plug-in

Features

• IBM DB2 as EM Managed Target
• Comprehensive collection of monitoring Metrics (~ 390)
  – Buffer Statistics, Memory Statistics, Cache Statistics
  – Locks, Processes, Space Usage
  – Users and Roles
  – HADR Cluster performance and status
• Out-of-box thresholds on key metrics
• 19 Out of the box Reports summarize key configuration and performance data

• Comprehensive configuration management
  – Server Configuration, Database Settings, Registry and Security Settings
  – Ability to View, Search and Compare configurations
• Ability to schedule Jobs
• Ability to kill blocking DB2 Applications
• Ability to Start/Stop IBM DB2 Instances
• Quiesce and Unquiesce jobs for DB2 Databases
• Versions supported:
  – IBM DB2 9.1, 9.5, 9.7, 10.1, and 10.5
New Intuitive UI Dashboards

- Revamped for Better Performance Analysis and Monitoring
- Exposes even more key performance indicators
- Adds additional performance page with advanced investigative capabilities
New IBM DB2 Focused Dashboard Views

- View Database server as well as individual database instance health and availability
- Stop and Start jobs for the database instance and Quiesce and Unquiesce jobs for the monitored Database
- Key health, performance, and availability views
Drill into DB2 Lock Wait and Query Statistics

- View SQL statistics by CPU time and Execution Count
- Break down of Lock Waits by Top Waits by Blocking Application, Top Waits by Blocked Application, Top Waits by Table, and All Waits
Identify Top IBM DB2 SQL Activity

- Identify “Top” SQL queries
- View by CPU Time or Execution Count
- Limit to last Day, Week or Month
Managing IBM DB2 Applications

- Identify “Top” DB2 lock waits by Blocking Application, Blocked Application, Table, and All Waits
- Kill troublesome blocking DB2 applications from within the UI
View Historical Key Performance Indicators

- Cache and Connection KPIs
- Storage and IO KPIs
- SQL Execution KPIs
- View the performance history by Day, Week, or Month
Inventory and Usage Details

- Drill down multiple levels of inventory details
- View different trends in inventory counts charted
Metrics

Hundreds of performance and configuration metrics available for incident thresholds, reports, analysis and comparison.
Drill Down Into Individual IBM DB2 Statistics

- Drill into hundreds of IBM DB2 metrics
- View associated alerts for particular metrics
- Choose to view the metric in real-time or customized historical views
Comprehensive IBM DB2 Metric Thresholds

### Metric and Collection Settings

<table>
<thead>
<tr>
<th>Metric</th>
<th>Comparison Operator</th>
<th>Warning Threshold</th>
<th>Critical Threshold</th>
<th>Corrective Actions</th>
<th>Collection Schedule</th>
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<tr>
<td>IBM DB2 Demo</td>
<td></td>
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<td>Cache Performance</td>
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<td>Every 15 Minutes</td>
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<tr>
<td>Package Cache Hit Ratio (%)</td>
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<tr>
<td>Container Health</td>
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<td>Warning</td>
<td>Alarm</td>
<td>None</td>
<td>Every 30 Minutes</td>
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<tr>
<td>Container Health Indicator</td>
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<tr>
<td>Database Percentage of Applications Waiting on Locks (%)</td>
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<td>50</td>
<td>70</td>
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</table>
IBM DB2 Monitoring Templates

• Apply a subset of collection settings to multiple targets
• Standardize monitoring across your enterprise
Heterogeneous System Topology

Enterprise Manager helps you meet the challenges of managing the heterogeneous enterprise

- Comprehensive, top-down visibility into your infrastructure
- Rapid, accurate diagnosis & resolution of complex problems
Incident Manager: All open incidents

- Catalog Cache Hit Ratio is 23.40% for the database SAMPLE. It has crossed the warning (80) or critical (70) threshold.
- The Tablespace Utilization of SYSCAT/SAMPLE is 99.07%. It has crossed the warning (80%) or critical (90%) threshold.
- Package Cache Hit Ratio is 50% for the database SAMPLE. It has crossed the warning (80) or critical (70) threshold.

Unassigned, Not acknowledged

- Package Cache Hit Ratio is 50% for the database SAMPLE. It has crossed the warning (80) or critical (70) threshold.

Guided Resolution

- Problem Analysis
- View topology
- View recent configuration changes
- View Metric Help

Actions
- Acknowledge
- Add Comment
- Manage

Ticket ID: dsfsd209007912031505459a050e69

This incident will automatically cleared when the underlying issue is resolved.

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Metric Extensions

Missing a metric your team depends on?

Do you want to integrate custom scripts?

Use Oracle Enterprise Manager’s Metric Extension capabilities to easily expand and customize the IBM DB2 solution with a convenient UI-based development workflow.
Latest Configuration of IBM DB2

- DB2 version and fix pack level
- Platform and OS details
- Relevant DB2 registry settings
- DB Manager Configuration details
Compare IBM DB2 Configurations

Result for job CONFIGURATION COMPARISON JOB SUN MAY 10 2015 20:20:52 EDT

Comparison Job Activity

Comparison Details

Template: No Template
First Configuration: nod-db105-sles11 (IBM DB2 Database)
Collected: May 9, 2015 8:25:33 PM (Latest Configuration)
Compare Save Mode: Save Only Differences

Second Configuration: nod-db95-sol10 (IBM DB2 Database)
Collected: May 10, 2015 10:39:20 AM (Latest Configuration)

Job Details

Filter Results | Remove Filter

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<tr>
<th>Result</th>
<th>Configuration Property Name</th>
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</table>
Reports
Comprehensive out-of-the-box reports

Includes 19 IBM DB2 reports including reports focused on:

• Performance Monitoring
• Configuration
• Storage
Reports

Performance

• In-depth performance reports

• View the SQL query statements consuming the most resources or taking the longest to execute
Reports

Configuration

- In-depth configuration reports
- Reports for database and system configuration
- At-a-glance comparison of key database configuration values
Reports

Storage

- Schedule a report to identify databases storage utilization
- Identify file growth and location
Plug-ins: Where do you get them?

Self Update: Oracle Provided Content

- Self Update
- Download the IBM DB2 plug-in directly from Self Update
- Delivers new features and updates
- Single console to search, download and manage target plug-ins
- Proactive notification for Oracle supplied updates if running in connected mode
- Supports Online & Offline modes
- Allows import of non-Oracle entities
Plug-In Manager

Single window Solution for all (Un)Deployment

- Integrated with Self Update
- Plug-ins must be deployed to OMS before agents
- Download, Deploy and Upgrade Plug-Ins across OMS and agent
- Option to resume the plug-in deployment. It will start from failed step.
For More Information...

• The IBM DB2 Plug-in is listed in the Oracle Technology Global Price List under: System Monitoring Plug-in for Non Oracle Databases

• The Oracle Global Price List can be found at: http://www.oracle.com/us/corporate/pricing/technology-price-list-070617.pdf

• Latest IBM DB2 Plug-in documentation for installation, troubleshooting and monitoring metric reference: http://docs.oracle.com/cd/E24628_01/install.121/e25215/toc.htm