

# Oracle Enterprise Manager 12c

## IBM DB2 Database Plug-in

May 2015

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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!

The screenshot displays the Oracle Enterprise Manager Cloud Control 12c interface for an IBM DB2 database instance. The main dashboard includes a Summary section with database status (SAMPLE, Quiesce), up time (Thu Apr 23 11:21:27 GMT-0400 2015), version (10.5), and host (NOD-DB105-WIN12). A table lists applications with columns for Application Name, Agent Total CPU Utilization, Rows Read/Written, Static SQL Statements, Dynamic SQL Statements, Failed SQL Statements, and Rollback SQL Statements. Below this are three charts: Cache Ratio (%), Tablespace Utilization (%), and Database Health Indicators. The Incidents and Problems section shows a list of incidents with columns for Summary, Target, Severity, Status, Escalation level, Type, and Time Since Last Update. The Job Activity section shows a summary of job execution counts for the last 7 days.

Application Name	Agent Total CPU Util...	Rows Read/Written	Static SQL Statemen...	Dynamic SQL State...	Failed SQL Stateme...	Rollback SQL State...
db2fw1	0	0/0	0	0	0	0
db2stmm	0	0/0	0	0	0	0
db2wimd	0	0/0	0	0	0	0
db2pcsd	0	0/0	0	0	0	0
db2taskd	0	6/0	0	0	0	0
db2lused	0	0/0	0	0	0	0

Alert Type	Alert State	Timestamp	Additional Info
Database State	Normal	2015-04-24 12:48:11.327	
Fullness of Transaction Log	Normal	2015-04-24 12:43:11.102	The following are the related
Fullness of Log FS	Normal	2015-04-24 12:33:11.728	The following are the related
Auto Storage Utilization	Normal	2015-04-24 12:43:11.102	The short term growth rate at

Summary	Target	Severity	Status	Escalation level	Type	Time Since Last Upd...
The Tablespace Utilization o	⊙	✖	New	-	Incident	2 days 10 hours
Package Cache Hit Ratio is C	⊙	✖	New	-	Incident	2 days 9 hours
Catalog Cache Hit Ratio is 7	⊙	⚠	New	-	Incident	0 days 6 hours

Job Activity	Count
Suspended Executions	1
Problem Executions	0
Action Required Executions	0
Scheduled Executions	0
Running Executions	0

# 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

The dashboard displays various performance metrics for the target 'DB\_nod-db105-win12-SAMPLE'. Key components include:

- Performance History:** Line graphs showing 'Current Connections', 'Catalog Cache Hit Ratio (%)', and 'Package Cache Hit Ratio (%)' over time.
- Storage and IO KPIs:** A bar chart for 'Database Space Utilization (%)' and a line graph for 'Average Lock Wait Time (ms)'.
- Summary:** Database status (SAMPLE), instance status (DB2 Inst Status), and version (10.5) information.
- Applications:** A table listing applications like db2fw1, db2strmm, db2wmd, db2pcsd, db2taskd, and db2used, along with their CPU utilization and I/O statistics.
- Tablespace Utilization (%):** A horizontal bar chart showing utilization for tablespaces such as Sysauxspace, Userspace1, Ibmdb2samplem1, Ibmdb2samplel1, Systoolspace, Systooltemp1space, and Temp1space1.
- Database Health Indicators:** A table showing alert types like Database State, Fullness of Transaction Log, Fullness of Log FS, and Auto Storage Utilization, all in a Normal state.
- Incidents and Problems:** A table listing incidents such as 'The Tablespace Utilization o', 'Package Cache Hit Ratio is L', and 'Catalog Cache Hit Ratio is 7'.
- Job Activity:** A summary of job executions including Suspended, Problem, Action Required, Scheduled, and Running Executions.

# 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

**ORACLE Enterprise Manager Cloud Control 12c**

Enterprise Targets Favorites History Search Target Name

**DB\_nod-db105-win12-SAMPLE** IBM DB2

Database ↑ SAMPLE Quiesce  
 DB2 Inst Status ↑ Stop  
 Up Since Thu Apr 23 11:21:27 GMT-0400 2015  
 Version 10.5  
 Host NOD-DB105-WIN12

Analysis Performance

Application Name	Agent Total CPU Util...	Rows Read/Written	Static SQL Statemen...	Dynamic SQL State...	Failed SQL Stateme...	Rollback SQL State...
db2fw1	0	0/0	0	0	0	0
db2stmm	0	0/0	0	0	0	0
db2wlm	0	0/0	0	0	0	0
db2pcsd	0	0/0	0	0	0	0
db2taskd	0	6/0	0	0	0	0
db2lused	0	0/0	0	0	0	0

**Cache Ratio (%)**

Apr 24, 10:00:00 pm Apr 25, 10:00:00 am

**Tablespace Utilization (%)**

Tablespace	Utilization (%)
Syscatspace	~100
Userspace1	~65
Ibmdb2samplxml	~35
Ibmdb2samplrel	~15
Systoolspace	~5
Systoolstmpspace	~5
Tempspace1	~5

**Database Health Indicators**

Alert Type	Alert State	Timestamp	Additional Info
Database State	Normal	2015-04-24 12:48:11.327	
Fullness of Transaction Log	Normal	2015-04-24 12:43:11.102	The following are the related
Fullness of Log FS	Normal	2015-04-24 12:33:11.728	The following are the related
Auto Storage Utilization	Normal	2015-04-24 12:43:11.102	The short term growth rate at

**Incidents and Problems**

\* Target Local target and related targets \* Category All 0 2 1 0

Summary	Target	Severity	Status	Escalation level	Type	Time Since Last Upd...
The Tablespace Utilization o	🟡	🔴	New	-	Incident	2 days 10 hours
Package Cache Hit Ratio is C	🟡	🔴	New	-	Incident	2 days 9 hours
Catalog Cache Hit Ratio is 7	🟡	🟡	New	-	Incident	0 days 6 hours

**Job Activity**

For jobs whose start date is within the last 7 days.

Suspended Executions	1
Problem Executions	0
Action Required Executions	0
Scheduled Executions	0
Running Executions	0

# 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

ORACLE Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History Search Target Name

DB\_nod-db105-win12-SAMPLE IBM DB2

Page Refreshed Apr 25, 2015 9:24:50 PM PDT

### Top SQL Statements

CPU Time Day Week Month

CPU Time (ms per Hour)	Query
1555	SELECT CAST(stmt_text as varchar(5000)), (TOTAL_EXEC_TIME * 1000000 + TOTAL_EXEC_TIME_MS)/1000 FROM SYSIBMADM.SNAPDYN_SQL
888	SELECT T2.db_name, T2.pool_data_l_reads, T2.pool_data_p_reads, T2.pool_index_l_reads, T2.pool_index_p_reads, T2.pool_async_data_reads, T2.pool_async_index_reads, T2.pool_f
0	SELECT app.AGENT_ID, min(app.APPL_NAME), COALESCE(sum(wait.LOCK_WAIT_ELAPSED_TIME), 0) FROM SYSIBMADM.APPLICATIONS app LEFT JOIN SYSIBMADM.MON_LOCKWAIT
0	SELECT tbl.CREATOR, tbl.NAME, COALESCE(sum(wait.LOCK_WAIT_ELAPSED_TIME), 0) FROM SYSIBM.SYSTABLES tbl LEFT JOIN SYSIBMADM.MON_LOCKWAITS wait ON tbl.CREATOR
0	SELECT app.AGENT_ID, min(app.APPL_NAME), COALESCE(sum(wait.LOCK_WAIT_ELAPSED_TIME), 0) FROM SYSIBMADM.APPLICATIONS app LEFT JOIN SYSIBMADM.MON_LOCKWAIT

### Lock Waits

Top Waits by Blocking Application Kill Application

Application Holding Lock	Duration Waiting (s)
db2lused	0
db2pcsd	0
OEM Plug-in	0
db2stnm	0
db2fw0	0

# Identify Top IBM DB2 SQL Activity

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

### Top SQL Statements

CPU Time ▼

Day
  Week
  Month

CPU Time

Execution Count

### Top SQL Statements

CPU Time ▼

Day
  Week
  Month

CPU Time (ms per Hour)	Query
1555	SELECT CAST(stmt_text as varchar(5000)), (TOTAL_EXEC_TIME * 1000000 + TOTAL_EXEC_TIME
888	SELECT T2.db_name, T2.pool_data_l_reads, T2.pool_data_p_reads, T2.pool_index_l_reads, T2.po
0	SELECT app.AGENT_ID, min(app.APPL_NAME), COALESCE(sum(wait.LOCK_WAIT_ELAPSED_TIME
0	SELECT tbl.CREATOR, tbl.NAME, COALESCE(sum(wait.LOCK_WAIT_ELAPSED_TIME), 0) FROM SYS
0	SELECT app.AGENT_ID, min(app.APPL_NAME), COALESCE(sum(wait.LOCK_WAIT_ELAPSED_TIME



# 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

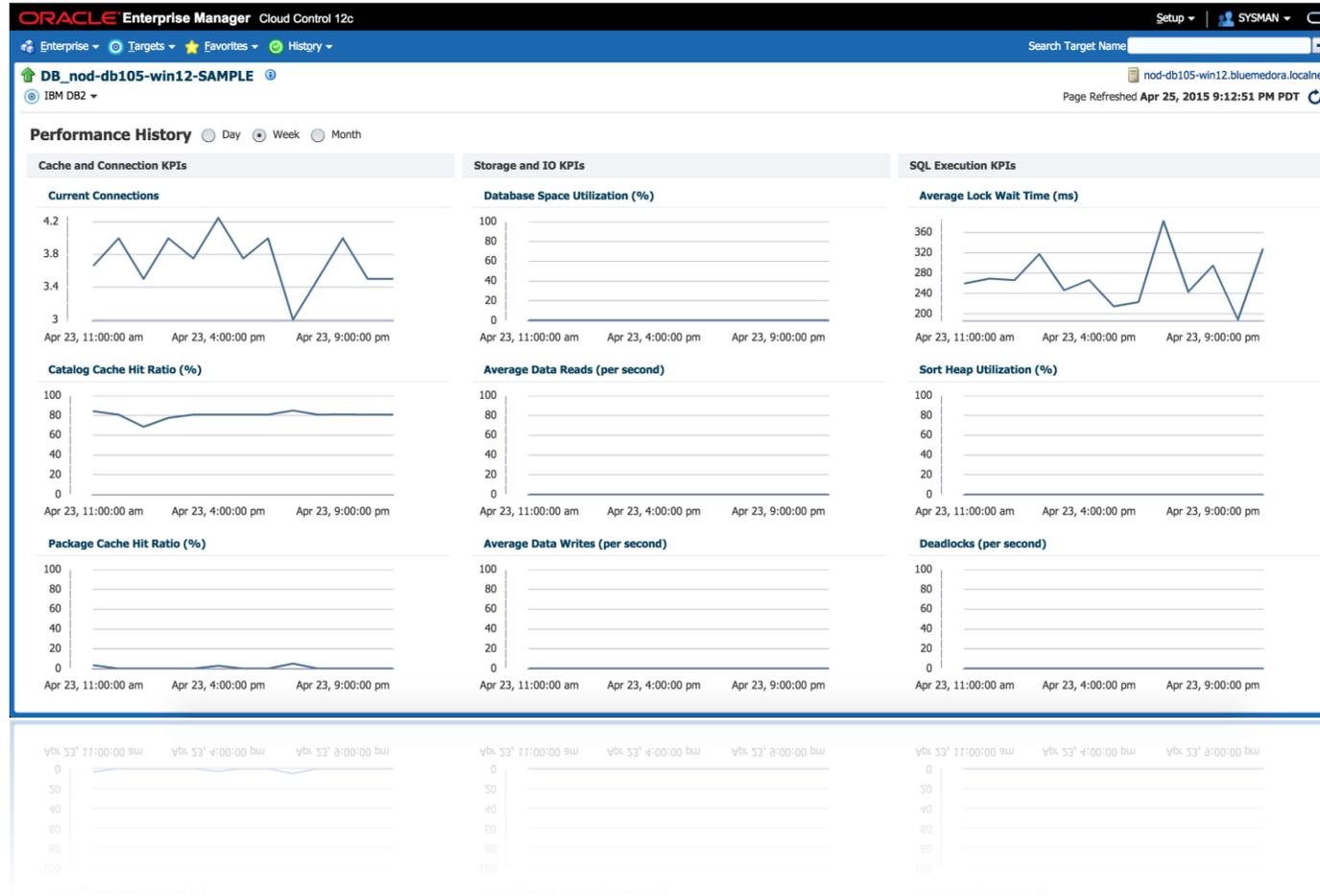
**Lock Waits**

All Waits 

[Kill Application](#)

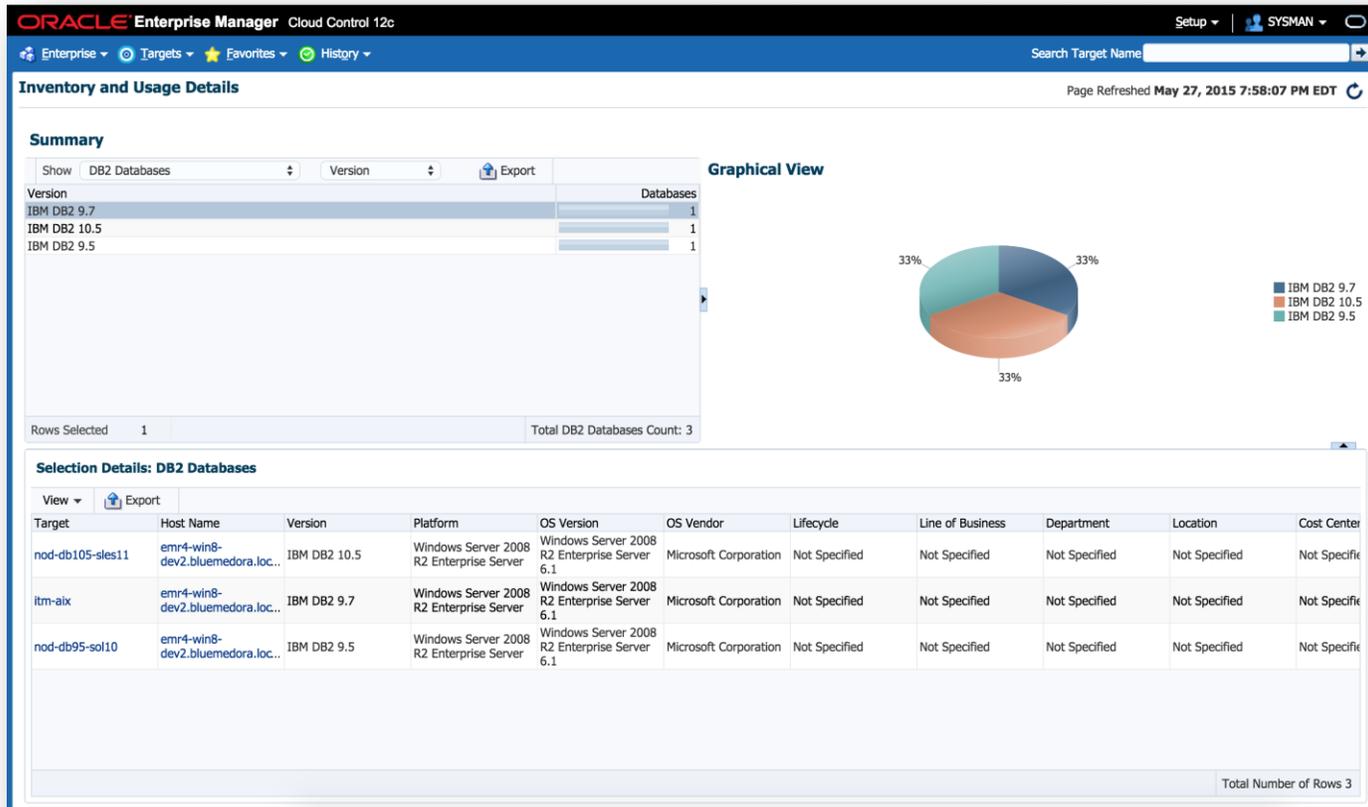
Lock Name	Lock Type	Schema	Locked Table	Duration Waiting (s)	Application Reque...	User Requesting ...	Application Holdin...	User Holding Lock
00020006000000000026	ROW	DB2INST1	EMPLOYEE	30.00	db2bp	DB2INST1	db2bp	DB2INST1

# 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.

The screenshot displays the Oracle Enterprise Manager Cloud Control 12c interface. The top navigation bar includes 'Setup', 'SYSMAN', and a search field for 'Search Target Name'. The main content area is titled 'All Metrics' for target 'nod-db105-sles11'. A left-hand navigation pane lists various metric categories such as Agent Monitoring, Database Health, and Tablespace Health. The main area shows a table of 'Open Metric Events' with columns for Metric Name, Severity, Message, Last Collected Timestamp, and Open Since. Below this, a 'Top 5 alerting metrics (Last 7 days)' table is shown with columns for Metric Name, Critical Alert Count, and Warning Alert Count.

Metric Name	Severity	Message	Last Collected Timestamp	Open Since
Catalog Cache Hit Ratio (%) for SAMPLE	Warning	Catalog Cache Hit Ratio is 79.429% for the database SAMPLE. It has crossed the warning (80) or critical (70) threshold.	May 4, 2015 11:13:15 AM EDT	Less than 1 hour
Tablespace Utilization (%) for 0;SYSCATSPACE	Critical	The Tablespace Utilization of SYSCATSPACE is 99.072%. It has crossed the warning (80%) or critical (90%) threshold.	May 4, 2015 11:06:35 AM EDT	2 days and 17 hours
Package Cache Hit Ratio (%) for SAMPLE	Critical	Package Cache Hit Ratio is 20% for the database SAMPLE. It has crossed the warning (80) or critical (70) threshold.	May 4, 2015 11:13:15 AM EDT	2 days and 19 hours

Metric Name	Critical Alert Count	Warning Alert Count
Catalog Cache Hit Ratio (%) for SAMPLE	4	5
Tablespace Utilization (%) for 0;SYSCATSPACE	3	0
Package Cache Hit Ratio (%) for SAMPLE	2	0

# 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

The screenshot displays the Oracle Enterprise Manager Cloud Control 12c interface for monitoring IBM DB2 metrics. The main content area shows a table of 'Overflow Accesses' with the following data:

Data File Identifier	Table Name	Table Schema	Table Type	Page Reorganizations	Average Value	Low Value	High Value	Last Known Value	Current Severity
5	SYSTABLES	SYSIBM	CATALOG_TABLE	0	62	62	62	62	Not Applicable
5	HMON_ATM_INFO	SYSTOOLS	USER_TABLE	0	1,088	1,088	1,088	1,088	Not Applicable

Below the table, the 'Data File Identifier/Table Name/Table Schema/Table Type/Page Reorganizations' for the selected row is shown as: 5/HMON\_ATM\_INFO/SYSTOOLS/USER\_TABLE/0. The 'Statistics' section displays the following values:

- Last Known Value: 1088
- Collection Timestamp: May 10, 2015 7:12:39 PM EDT
- Average Value: 1,088
- Low Value: 1,088
- High Value: 1,088

The 'Thresholds' section shows:

- Warning/Critical: Not Defined/Not Defined
- Comparison Operator: >
- Occurrences Before Alert: 3
- Corrective Actions: None

The 'Metric Value History' section features a line chart showing the value of the metric over time. The y-axis ranges from 0 to 2,100, and the x-axis shows time from 09 PM on May 09, 2015, to 07 AM on May 10, 2015. The chart shows a constant value of 1,088. A legend on the right identifies the data series as 'Overflow Accesses: [5, HMON\_ATM\_INFO, SYSTOOLS, USER\_TABLE, 0]'.

# Comprehensive IBM DB2 Metric Thresholds

ORACLE Enterprise Manager Cloud Control 12c Setup | SYSMAN

Enterprise Targets Favorites History Search Target Name

IBM DB2 Demo emr4-ol6-demo.bluedora.localnet

IBM DB2 Database: IBM DB2 Demo > Metric and Collection Settings

### Metric and Collection Settings

Cancel OK

Metrics Other Collected Items

View Metrics with thresholds

Expand All Collapse All

Metric	Comparison Operator	Warning Threshold	Critical Threshold	Corrective Actions	Collection Schedule	Edit
IBM DB2 Demo						
Cache Performance					Every 15 Minutes	
Catalog Cache Hit Ratio (%)	<	80	70	None		
Package Cache Hit Ratio (%)	<	80	70	None		
Container Health					Every 30 Minutes	
Container Rolled Up Alert State	=	Warning	Alarm	None		
Container Health Indicator					Every 30 Minutes	
Container Health Indicator Alert State	=	Warning	Alarm	None		
Database Health					Every 30 Minutes	
Database Rolled Up Alert State	=	Warning	Alarm	None		
Database Health Indicator					Every 30 Minutes	
Database Health Indicator Alert State	=	Warning	Alarm	None		
Database Manager Health					Every 30 Minutes	
DB Manager Rolled Up Alert State	=	Warning	Alarm	None		
Database Manager Health Indicator					Every 30 Minutes	
DB Manager Health Indicator Alert State	=	Warning	Alarm	None		
Database Monitoring					Every 15 Minutes	
Database Percentage of Applications Waiting on Locks (%)	>	50	70	None		

# IBM DB2 Monitoring Templates

- Apply a subset of collection settings to multiple targets
- Standardize monitoring across your enterprise

ORACLE Enterprise Manager Cloud Control 12c

Setup | SYSMAN

Search Target Name

Page Refreshed Apr 26, 2015 12:18:13 AM EDT

### Monitoring Templates

Monitoring Templates can be used to apply a subset of monitoring and collection settings to multiple targets. This allows you to standardize monitoring across your enterprise. When a Monitoring Template is applied to a target, any monitoring settings not specified in the Monitoring Template remain unaffected on the target.

Search

Name Target Type All

Display Oracle Certified Templates

Actions View Create Edit Delete... Apply... Compare Settings... View Past Apply Operations...

Name	Target Type	Owner	Status			Description
			Pending	Failed	Aborted	
Basic IBM DB2 Monitoring Template	IBM DB2 Database	SYSMAN	0	0	0	Recommended basic template for monitoring IBM DB2.
IBM DB2 I/O Monitoring Template	IBM DB2 Database	SYSMAN	1	0	0	Recommended template for monitoring IBM DB2 I/O.
IBM DB2 Lock Monitoring Template	IBM DB2 Database	SYSMAN	1	0	0	Recommended template for monitoring locks and deadlocks in IBM DB2.

Columns Hidden 6

Total Rows: 3

# 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

The screenshot displays the Oracle Enterprise Manager Cloud Control 12c interface. The main view is titled 'Configuration Topology' for a 'DIL Heterogeneous System'. It shows a hierarchical tree structure with three child nodes: 'Sybase\_ASE\_Database', 'IBM\_DB2\_Database', and 'PluginDemo-SQLServer-201...'. The 'PluginDemo-SQLServer-201...' node is selected and expanded, showing details for 'PluginDemo-SQLServer-2012cluster'. The details include: Type: Microsoft SQL Server, Host: em-win8-sr4.bluededora.localnet, and Incidents: 6. A right-hand panel contains a 'Filter' section with 'Hosts' selected and a 'Properties' section for the selected cluster. The 'Properties' section shows: Up Since: Mar 27, 2014 6:59:51 PM, Availability (%): 99.94, Agent: em-win8-sr4.bluededora.localnet:3872, Host: em-win8-sr4.bluededora.localnet, and Member of: DIL Heterogeneous System.

# Incident Manager For IBM DB2 Plug-In

ORACLE Enterprise Manager Cloud Control 12c Setup | SYSMAN

Enterprise | Targets | Favorites | History Search Target Name

**nod-db105-sles11** EMR4-WIN8-DEV1.bluededora.localnet

IBM DB2 Page Refreshed May 4, 2015 11:39:25 AM EDT

### Incident Manager: All open incidents

**Views** Search

- Out-of-box
- My open incidents and problems
- Unassigned incidents
- Unacknowledged incidents
- Escalated incidents
- All open incidents
- Unassigned problems
- All open problems
- Events without incidents

Actions View View search criteria Critical ledge Clear ...

Severity	Summary	Target	Priority	Status	Last Updated	Owner
⊗	Catalog Cache Hit Ratio is 23.404% for the database SAMPLE. It has crossed the warning (80) or critical (70) threshold.	nod-db105-sles11	None	New	May 1, 2015 6:23:11 PM EDT	-
⊗	The Tablespace Utilization of SYSCATSPACE is 99.072%. It has crossed the warning (80%) or critical (90%) threshold.	nod-db105-sles11	None	New	May 1, 2015 5:52:52 PM EDT	-
⊗	Package Cache Hit Ratio is 50% for the database SAMPLE. It has crossed the warning (80) or critical (70) threshold.	nod-db105-sles11	None	New	May 1, 2015 4:26:52 PM EDT	-

Rows Selected 1 Columns Hidden 22 Row count

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

Unassigned, Not acknowledged

General Events Notifications My Oracle Support Knowledge All Updates Related Events Related Metrics

**Incident Details**

ID 1266

Metric [package\\_cache\\_hit\\_ratio](#)

Metric Group Cache

db\_name SAMPLE

Target [nod-db105-sles11 \(IBM DB2 Database\)](#)

Incident Created May 1, 2015 4:26:21 PM EDT

Last Updated May 1, 2015 4:26:52 PM EDT

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

Internal Event Name Cache:package\_cache\_hit\_ratio

Event Type Metric Alert

Category Load

**Tracking**  Acknowledge  Add Comment ...  Manage ... More

Escalated No Owner -

Priority None Acknowledged No

Status New Ticket ID d752da090f7b710051ff059ce1050e99

Last (Ticket d752da090f7b710051ff059ce1050e99 was created successfully on the external system through Comment connector ServiceNow Connector.) SYSMAN on May 1, 2015 4:26:52 PM EDT

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

**Guided Resolution**

**Diagnostics**

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

**Actions**

- Reevaluate Alert
- Edit Thresholds

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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.

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface for configuring a new Metric Extension. The page title is "Metric Extensions" and the user is SYSMAN. The configuration is in the "General Properties" step of a 6-step process. The "Create New: General Properties" section includes the following fields and options:

- Target Type:** IBM DB2 Database
- Name ME\$:** DB2\_New\_Metric. A note states: "A Metric Extension Name can only contain alpha-numeric characters and the following non leading special characters : ('\_', '-', ', ', ')".
- Display Name:** My New DB2 Metric
- Adapter:** OS Command - Multiple Columns. A checked checkbox indicates "Tokenizes OS command output using user-specified delimiter".
- Description:** An empty text area.

The "Collection Schedule" section includes:

- Data Collection:** Enabled (radio button selected).
- Use of Metric Data:** Alerting and Historical Trending (radio button selected).
- Upload Interval:** 1 Collections.

The "Frequency" section includes:

- Collection Frequency:** By Minutes.
- Repeat Every:** 15 Minutes.

# Latest Configuration of IBM DB2

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

The screenshot displays the Oracle Enterprise Manager Cloud Control 12c interface. The top navigation bar includes 'Enterprise', 'Targets', 'Favorites', and 'History'. The main content area shows the configuration for a target named 'nod-db105-sles11'. The left-hand navigation pane lists various configuration categories, with 'DB2 Instance' selected. The main panel displays the 'DB2 Instance' configuration page, which includes a search bar, a 'Configuration Properties' section, and a table of instance details.

**Configuration Properties**

Last collected at: May 4, 2015 12:54:53 AM

Instance Name	Number of DB Partitions	Bit Size of Current Instance	Release Number	Service Level	Build Level	Program Temporary Fix	Fix Pack Number
db2inst1	1	64	0604010E	DB2 v10.5.0.3	s140203	IP23551	3

Total Number of Rows 1

# Compare IBM DB2 Configurations

**ORACLE Enterprise Manager Cloud Control 12c** Setup | SYSMAN

Enterprise | Targets | Favorites | History Search Target Name

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**Compare Result** Page Refreshed **May 10, 2015 8:21:22 PM EDT**

**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)** Second Configuration **nod-db95-sol10 (IBM DB2 Database)**  
 Collected May 9, 2015 8:25:33 PM (Latest Configuration) Collected May 10, 2015 10:39:20 AM (Latest Configuration)

Compare Save Mode Save Only Differences

**Job Details**

Show Differences Only Export All Differences

- Target Properties
- DB2 System**
- DB2 Product
- DB2 Partitions
- DB2 Instance
- Registry Settings
- DB Manager Configuration : Capac
- DB Manager Configuration : Partit
- DB Manager Configuration : Data

Filter Results Remove Filter

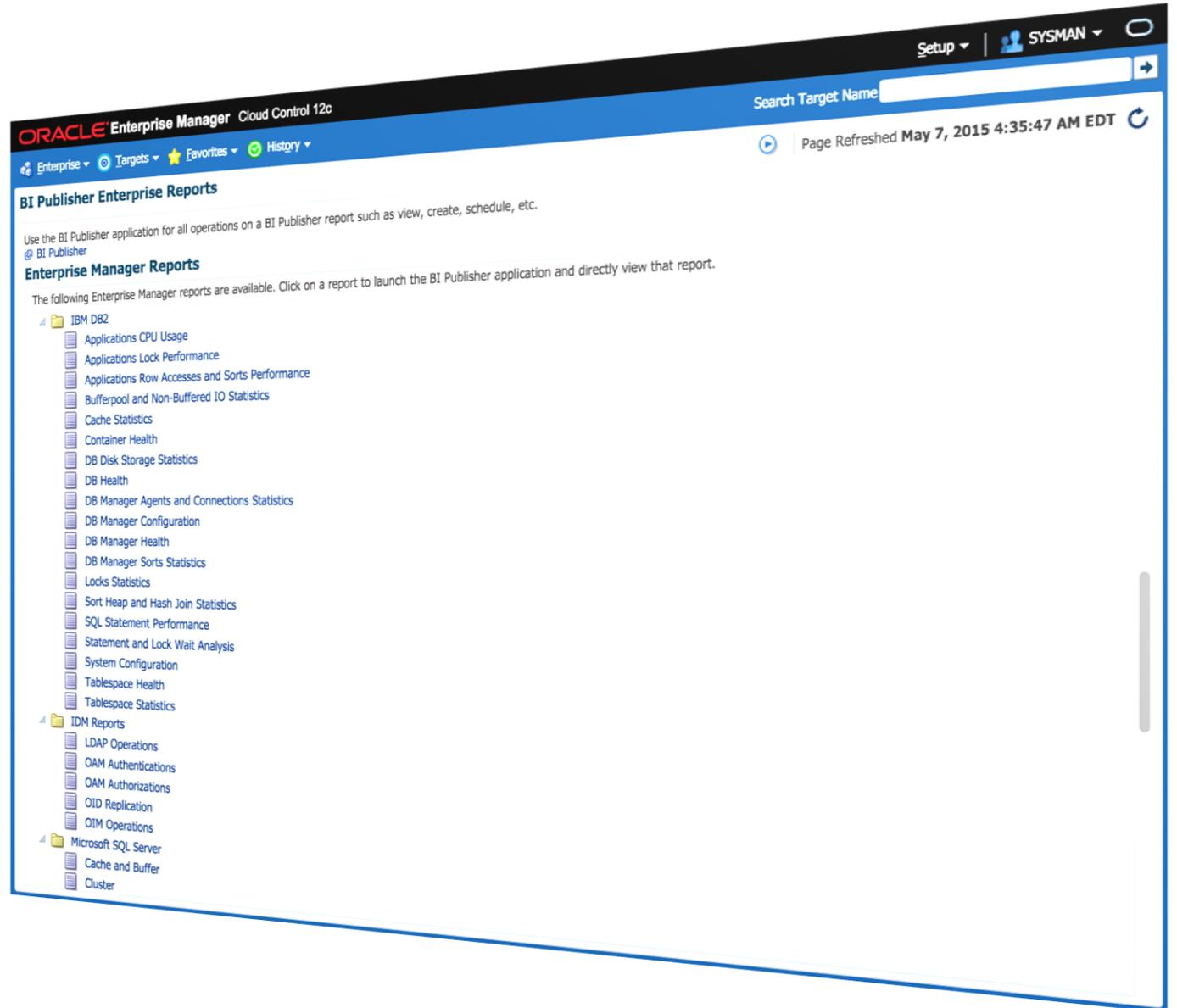
Result	Configuration Property Name	First	Second
✘	OS Type	Linux	SunOS
✘	Product	2	Generic_147148-26
✘	Version	6	5.10
✘	Total Memory (MB)	5910	4096

# 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

The screenshot displays the Oracle BI Publisher Enterprise interface. At the top, there is a navigation bar with the Oracle logo, 'BI Publisher Enterprise', a search bar, and links for 'Administration', 'Help', and 'Sign Out'. Below this is a secondary navigation bar with 'Home', 'Catalog', 'New', 'Open', and 'Signed In As sysman'. The main content area is titled 'Applications Lock Performance' and includes a 'Target Name' dropdown set to 'nod-db105-sles11' and an 'Apply' button. The report title 'Applications Lock Performance' is prominently displayed, followed by a subtitle: 'This page shows the data related to IBM DB2 Database Applications Lock Performance. Top 10 Applications Based on Average Lock Wait Time (ms)'. A table with 7 columns (Agent Id, SQL Statement, Application Name, Average Lock Wait Time (ms), Locks Held, Lock Timeouts) lists the top 10 applications. The table data is as follows:

Agent Id	SQL Statement	Application Name	Average Lock Wait Time (ms)	Locks Held	Lock Timeouts
5683		db2fw1	0	0	0
5684		db2fw0	0	0	0
5687		db2lused	0	0	0
5705		db2pcsd	0	0	0
5697		db2wimd	0	0	0
5699		db2stmm	0	0	0
5703		OEM Plug-in	0	2	0
5692		db2taskd	0	0	0

# Reports Configuration

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

**ORACLE BI Publisher Enterprise** Search All Home Catalog New

DB Manager Configuration Target Name: nod-db105-sles11 Apply

### DB Manager Configuration

This page shows the data related to IBM DB2 Database DB Manager Configuration.

DB Manager Capacity		DB Manager Database Instance	
ASL Heap Size (4KB):	15	Error Capture Level:	3
Monitor Heap Size (4KB):	90	Data Directory Path:	/home/db2inst1/sqllib/db2dump/
Audit Buffer Size (4KB):	0	Notify Level:	All Important information(no immediate action required)
Java Heap Size (4KB):	2048	System Monitor Switches:	80
Max Files Open:	-1	Comm. Bandwidth (Mbps):	1
Agent Priority:	100	Max No. of DB:	32
Max Agents:	0	Sys Admin Group Name:	DB2IADM1
Max Concurrent Agents:	0	CPU Speed (MIPS):	.001
Agent Pool Size:			
Initial Agent Pool Size:			

**ORACLE BI Publisher Enterprise** Search All Administration Home Catalog New Open

System Configuration Target Name: nod-db105-sles11 Apply

### System Configuration

This page shows the data related to IBM DB2 Database System and Registry Settings Configuration.

System Configuration		Product Overview		
Server Name:	nod-db105-sles11	Database Path	Product Name	Version
OS Type:	Linux	/home/db2inst1/db2inst1/NODE0000/SQL00001/MEMBER0000/	AESE	10.5
OS Version:	2	/home/db2inst1/db2inst1/NODE0000/SQL00001/MEMBER0000/	AWSE	10.5
OS Release:	6	/home/db2inst1/db2inst1/NODE0000/SQL00001/MEMBER0000/	ESE	10.5
Total CPUs:	2	/home/db2inst1/db2inst1/NODE0000/SQL00001/MEMBER0000/	WSE	10.5
Configured CPUs:	2			
Total Memory (MB):	5910			

Instance Name	Number of Partitions	Bit Size	Release Number	Service Level	Build Level	Temporary Fix	Fix Pack
db2inst1	1	64	0604010E	DB2 v10.5.0.3	s140203	IP23551	3

Name	Value	Is Aggregate	Aggregate Name	Level
DB2ADMINSERVER	dasusr1	False		Global
DB2AUTOSTART	YES	False		Instance
DB2COMM	TCPIP	False		Instance
DB2INSTDEF	db2inst1	False		Environment
DB2SYSTEM	nod-db105-sles11	False		Global

Partition Number	Host Name	Logical Port	Switch Name
0			0

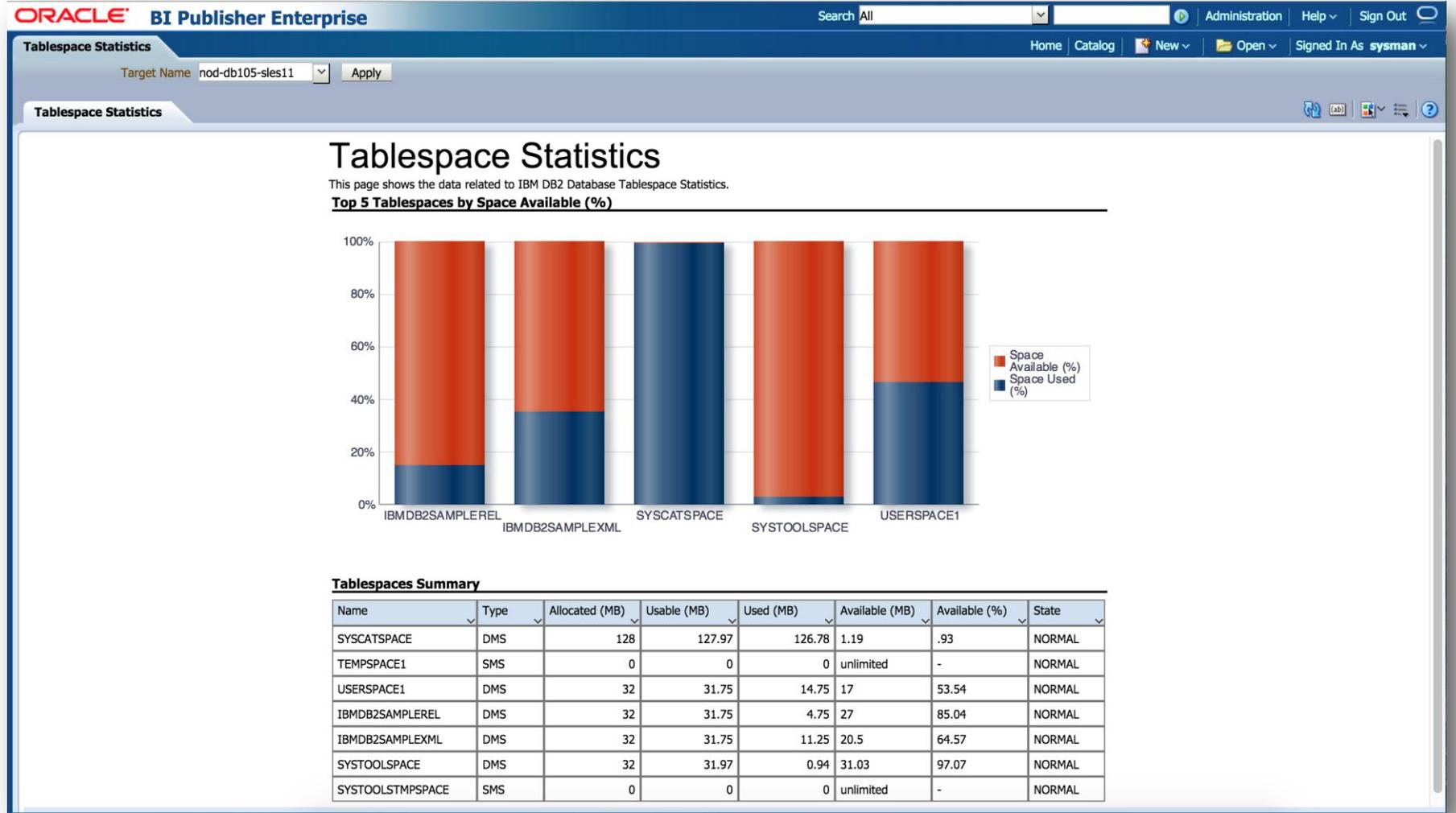
#### Manager Partitioned DB Environment

Connection Elapse Time (ms):	10
of FCM Buffers:	4096
Connection Retries:	5
Time Difference (mins):	60
Stop Timeout (mins):	10

# 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

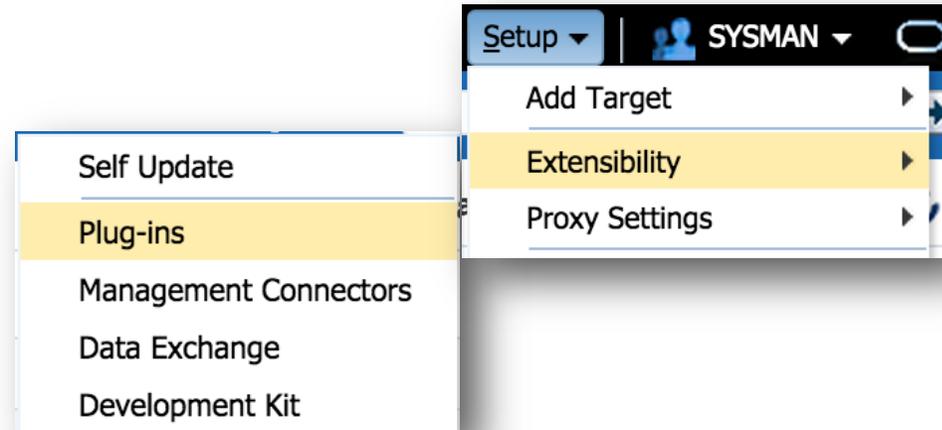
- Self Update
- Download the IBM DB2 plug-in directly from Self Update
- Delivers new features and updates
- Single console to search, download and manage target plug-ins
- Proactive notification for Oracle supplied updates if running in connected mode
- Supports Online & Offline modes
- Allows import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

Plug-in Updates					
Actions	Download	Apply	Plug-in	Search Description	
Status	OS Platform	Plug-in Name	Re	Version	Vendor
 Applied	Generic Platform	Microsoft SQLServ...	0	12.1.0.6.0	ORACLE
 Available	Generic Platform	Oracle Secure Glo...	0	12.1.0.1.0	ORACLE
 Available	Generic Platform	MySQL Database	0	12.1.0.2.0	ORACLE
 Applied	Generic Platform	Sybase ASE Datab...	0	12.1.0.4.0	ORACLE
 Applied	Generic Platform	IBM DB2 Database	0	12.1.0.4.0	ORACLE
 Available	Generic Platform	Oracle Database A..	0	12.1.0.1.0	ORACLE

# 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.



The screenshot shows the Oracle Enterprise Manager Plug-In Manager page. The page title is "ORACLE Enterprise Manager Cloud Control 12c". The page shows a table of plug-ins with columns for Name, Version (Latest Available, Latest Downloaded, On Management Server), Management Agent with Plug-in, and Description. The "IBM DB2 Database" plug-in is highlighted.

Name	Version			Management Agent with Plug-in	Description
	Latest Available	Latest Downloaded	On Management Server		
> Applications					
> Cloud					
> Databases					
IBM DB2 Database	12.1.0.4.0	12.1.0.4.0	12.1.0.4.0	2	Enterprise Manager for DB2. Plugin provides comprehensive monitoring of DB2 environments.
Microsoft SQLServer Database	12.1.0.6.0	12.1.0.6.0	12.1.0.6.0	1	Enterprise Manager for Microsoft SQL Server
MySQL Database	12.1.0.2.0			0	Enterprise Manager for MySQL Database
Oracle Database	12.1.0.7.0	12.1.0.6.0	12.1.0.6.0	2	Enterprise Manager for Oracle Database provides comprehensive management for Oracle Database and related targets such as Real Application Cluster, Automatic Storage Management (ASM) etc.
Oracle TimesTen In-Memory Database	12.1.0.3.0			0	Enterprise Manager for Oracle TimesTen In-Memory Database
Sybase ASE Database	12.1.0.4.0	12.1.0.4.0	12.1.0.4.0	2	Enterprise Manager for Sybase ASE. Plugin provides comprehensive monitoring Sybase ASE Environments.
> Engineered Systems					
> Middleware					
> Servers, Storage and Network					

# 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](http://docs.oracle.com/cd/E24628_01/install.121/e25215/toc.htm)