

Manage the Manager: Tips on How to Best Manage Oracle Enterprise Manager 12c

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ORACLE

Total Cloud Control

ORACLE
ENTERPRISE MANAGER **12^c**



Complete Cloud Lifecycle Management



Expanded Cloud Stack Management



Superior Enterprise-Grade Management

Agile, Automated

Optimized, Efficient

Scalable, Secure

Safe Harbor Statement

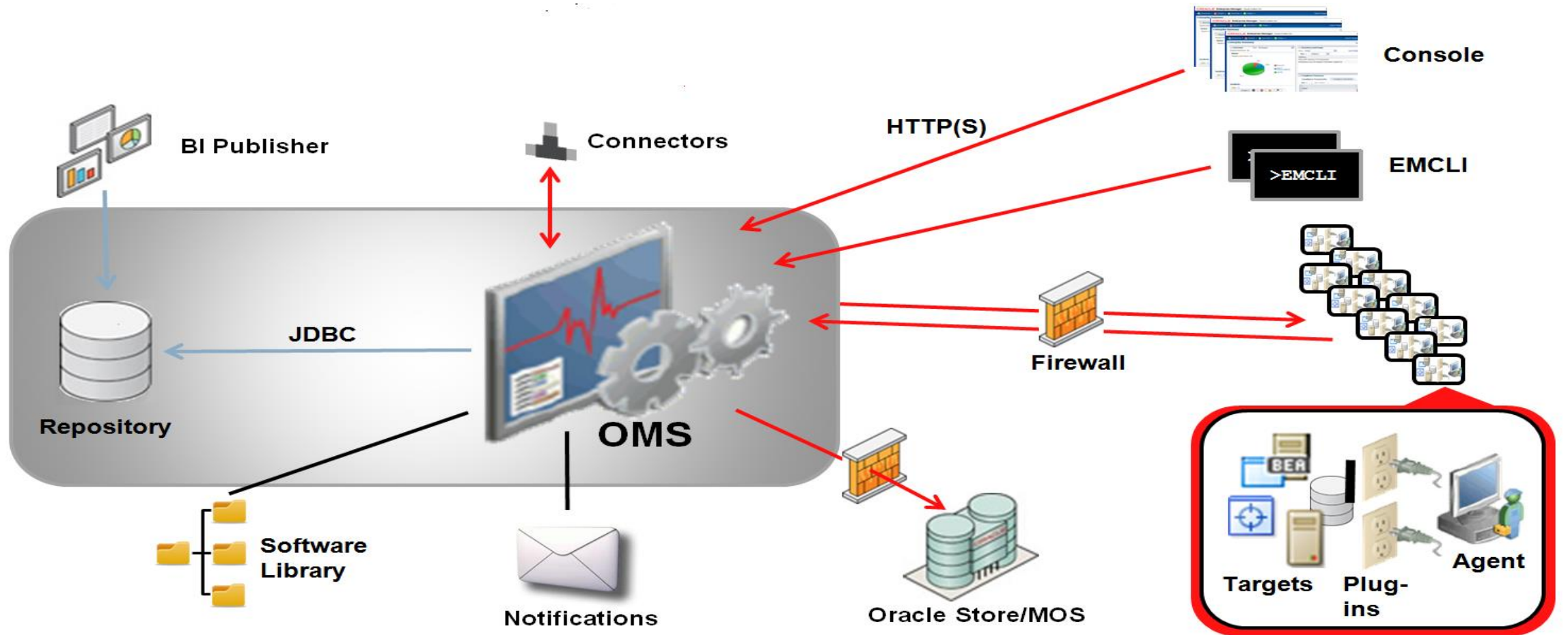
The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

Program Agenda

- 1 Architecture Overview of Enterprise Manager
- 2 Critical Subsystems and its monitoring with Self-monitoring features
- 3 High Availability and Disaster Recovery

Architecture Overview

Overall Architecture and Components





CRITICAL SUBSYSTEMS AND ITS MONITORING WITH SELF-MONITORING FEATURES

Critical Subsystems

- 1 Loader Subsystem
- 2 Job Subsystem
- 3 Console Subsystem
- 4 Agent Subsystem
- 5 Notification Subsystem

Loader Subsystem

Agents



Backlog

Synchronous
Upload of data

OMS



Repository

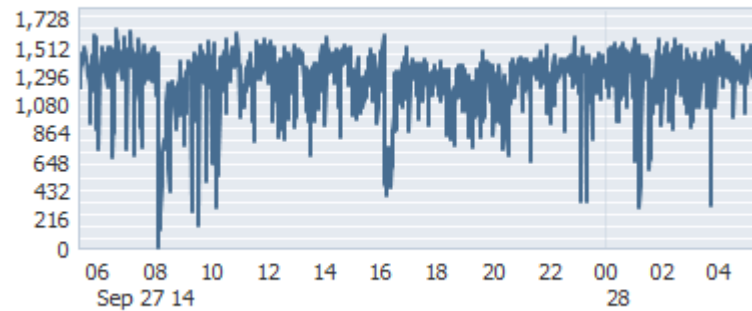
- Responsible for processing the data collected by the agent and uploading it to the Repository
- Its efficiency greatly impacts performance and health of overall system
- Does synchronous uploading of data
- Under heavy load, OMS prioritizes uploading of data
 - Preference given to agents with higher agent priorities like Mission Critical and Production
 - Agents with lower priorities are asked to backoff by OMS for a specific time period
 - Backlog accumulates at the agents

Loader Subsystem Monitoring

Checking Loader Performance

- Monitor the Loader performance charts in Setup > Manage Cloud Control > Management Servers

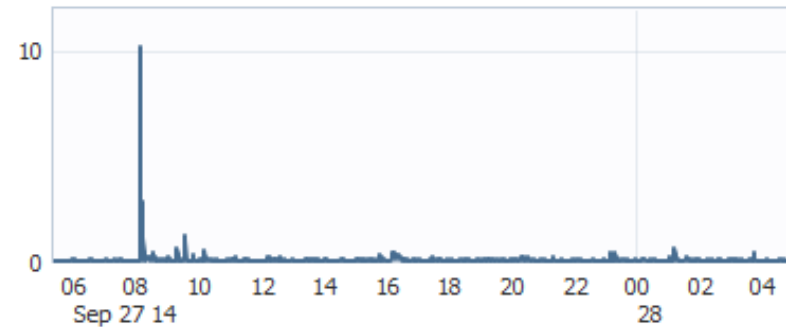
Throughput(Rows processed per second) ⓘ



■ Throughput(Rows processed per second)

Indicates the loader processing time
Look for consistent increase over a time period

% Utilized Capacity ⓘ



■ % Utilized Capacity

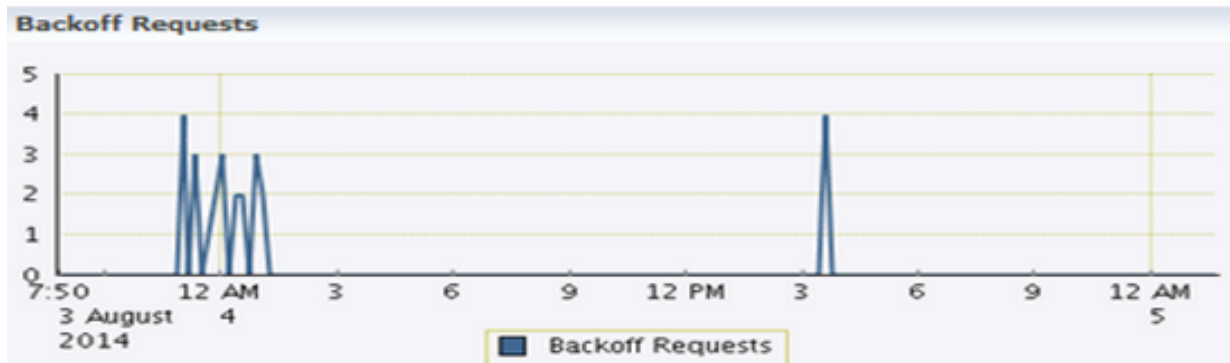
Current loader CPU utilization
Lower value indicates loader throughput is efficient

- Contact oracle support if the loader consistently running at more than 85% utilization capacity

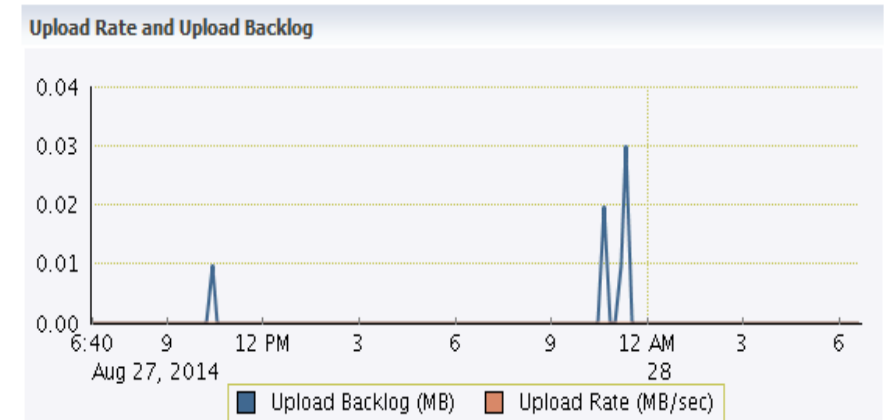
Loader Subsystem Monitoring

Checking Agent Backlog

- Monitor the Upload Backlog and Backoff charts in Setup > Manage Cloud Control > Health Overview



Overall Back-off Requests in the Last 10 Mins



Overall Upload Backlog (MB) and (Files)
Overall Upload Rate (MB/sec)

- Incase of consistent increase in Back-off requests / Backlog
 - Check that load is evenly distributed across all OMS with Loader Statistics Report (Reports / Information Publisher)

Loader Subsystem Monitoring

Checking Agent Backlog

- Uneven load on specific Management Server :Check if SLB configuration is set to Round-Robin algorithm
 - Permitted deviation tolerance : 10 – 20 %

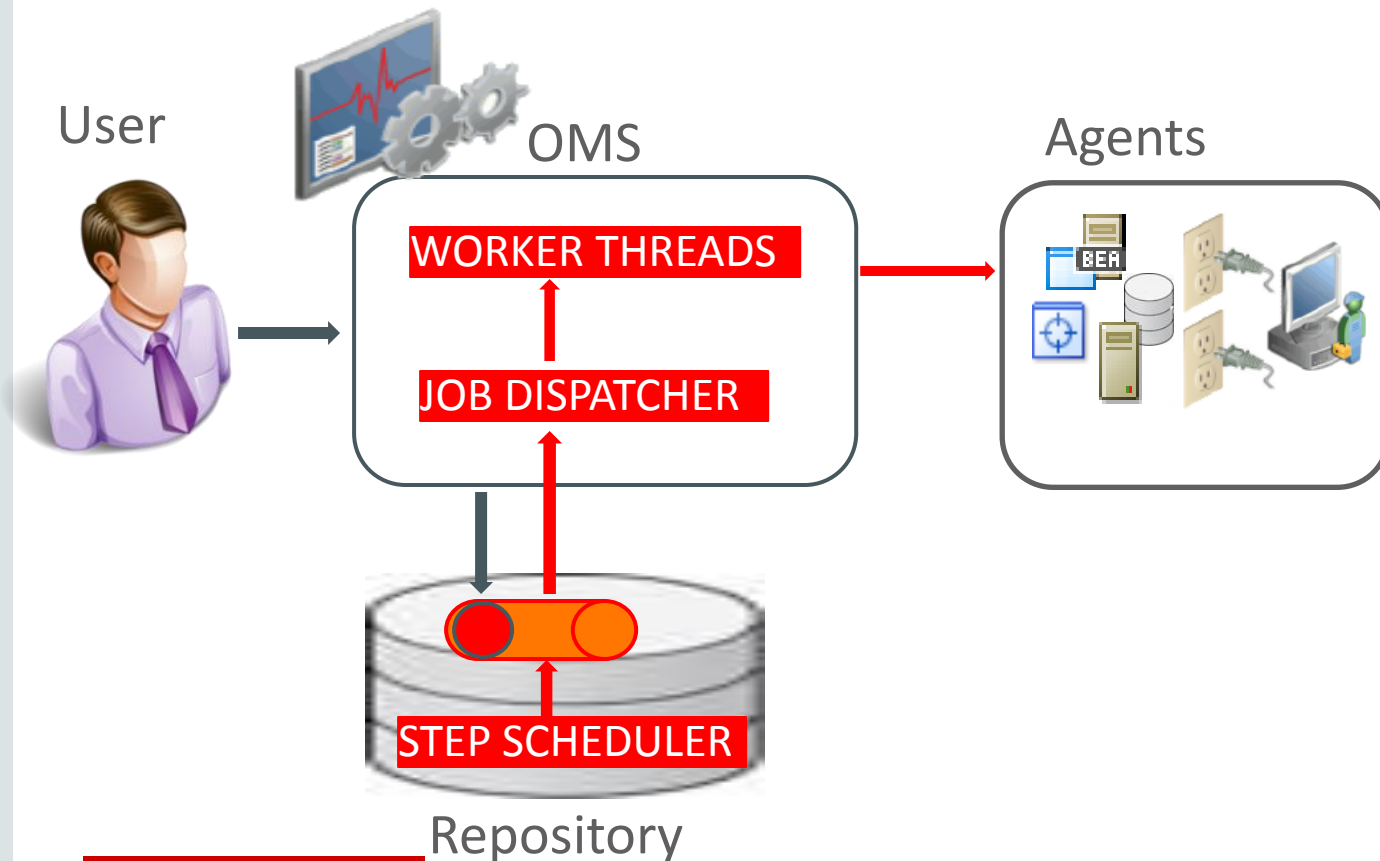
Loader Performance (Last 1 Hour)

Management Service	Channel ▲	Total rows processed	Rows processed (per Sec)	Rows processed (per Sec per Thread)	Number of backoff requests	Number of agents backed off
acmx1176.oracleoutsourcing.com:4889_Management_Service	D	1,165,312	1,557.571	38.939	269	1
acmx1177.oracleoutsourcing.com:4889_Management_Service	D	1,139,705	1,517.119	37.928	269	1

**Deviation
tolerance
10-20%**

- General Advice
 - It is normal to have some amount of Agent being backed off
 - Keep an eye on consistently growing large number of agents backed off

Job Subsystem



- Anything that is scheduled and automated uses the job subsystem. Eg: Scheduling Blackouts, Template apply applications
- Very crucial sub-component
- Critical processes in the Job System
 - Step Scheduler:
 - Responsible for processing the job steps that are ready to run and marks it "Ready"
 - Job Dispatcher:
 - Picks the steps marked "ready" for execution. Dispatches job steps to job worker threads
 - Workers threads:
 - Take work from the Job Dispatcher and send it to the appropriate agent
 - Different thread pools for job types


Job Subsystem Monitoring

Setup > Manage Cloud Control > Health Overview

■ Monitor Jobs Backlog(Steps)

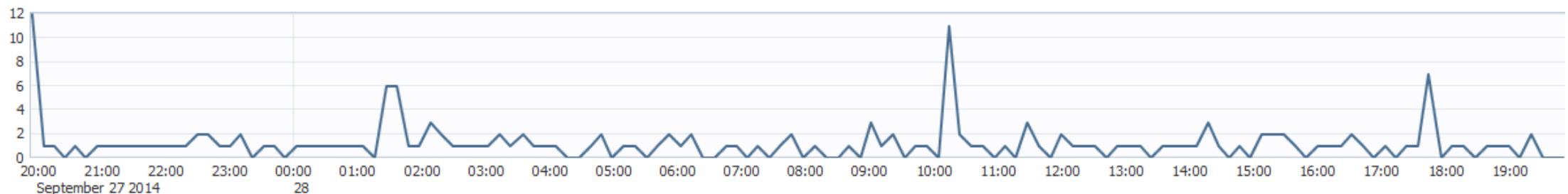
- Indicates number of Job steps past its scheduled execution time.
- If this number is high and has not decreased for long period, it indicates job system is not functioning normally.
- Indicates Job engine resources are unable to meet inflow or indicate abnormal processing of specific jobs because it is stuck for unusual periods
- Rate of change of backlog is more important than absolute backlog numbers

Job System Status

Step Scheduler Status 
Job Backlog (steps) 11

Click

Job Step Backlog

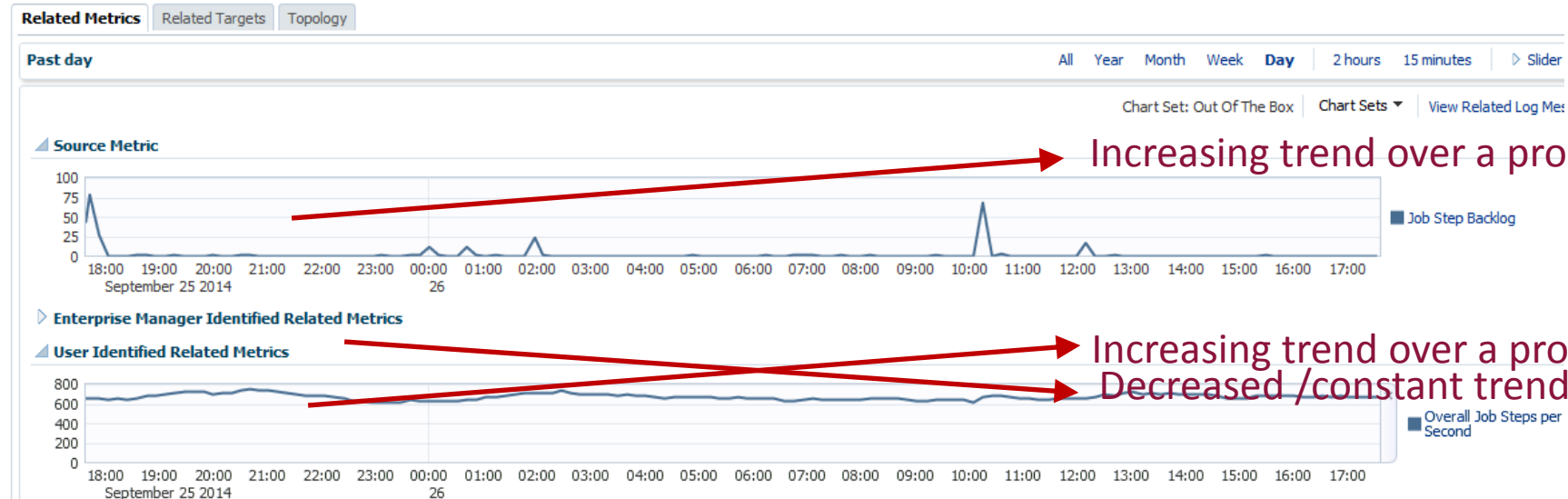


Job Subsystem Monitoring

Setup>Manage Cloud Control>Health Overview>Monitoring>All Metrics> Repository Job Scheduler Performance

■ Problem Trend Analysis of 'Job Step Backlog' and 'Overall Job Steps per Second' metric

Problem Analysis



- If Job Step Backlog and Overall Jobs per Second shows increasing trend, indicates work load is high. Job engine resources are not able to keep with inflow. Increase the resources
- If Job Step Backlog is increasing but Overall Jobs per Second is not, it indicates abnormal processing of specific job

Job Subsystem Monitoring

Setup / Manage Cloud Control / Management Services > Job System(More Details...) > Job Dispatcher details

- Monitor Thread Pool Utilization if inflow of work is high, backlog is consistently high
 - If the Avg. Steps Dispatched/Min is HIGH and Avg. Threads Available is less than 50% of Configured Threads for a specific pool, increase the thread pool size for each of the OMS
 - If the Avg. Steps Dispatched/Min is LOW, Avg. Threads Available is also LOW, this typically means that either a thread is stuck/hung
 - Refer to Appendix for Sizing Recommendations of thread pool size
 - Contact Support for triaging stuck threads

Job Dispatcher

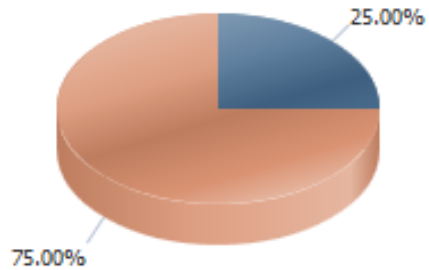
Dispatcher Utilization (%) 3
Throughput (steps dispatched/min) 0.2731

Thread Pool Utilization			
Thread Pool	Configured Threads	Avg Steps Dispatched/Min	Avg Threads Available
User Short	25	0	25
User Long	12	0	12
System Critical	25	0.18	24.92
System Normal	10	0.09	9.97
Internal	10	0.82	10

Console Subsystem Monitoring

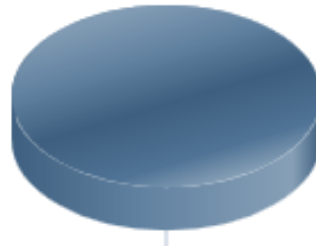
- Setup>Manage Cloud Control>Health Overview>OMS and Repository >Monitoring > Page Performance

▲ Current Page Accesses and Sessions Distribution across OMS



Page Accesses (per 10 min)

■ admx1176.oracleoutsourcing.com:488...
■ admx1177.oracleoutsourcing.com:488...

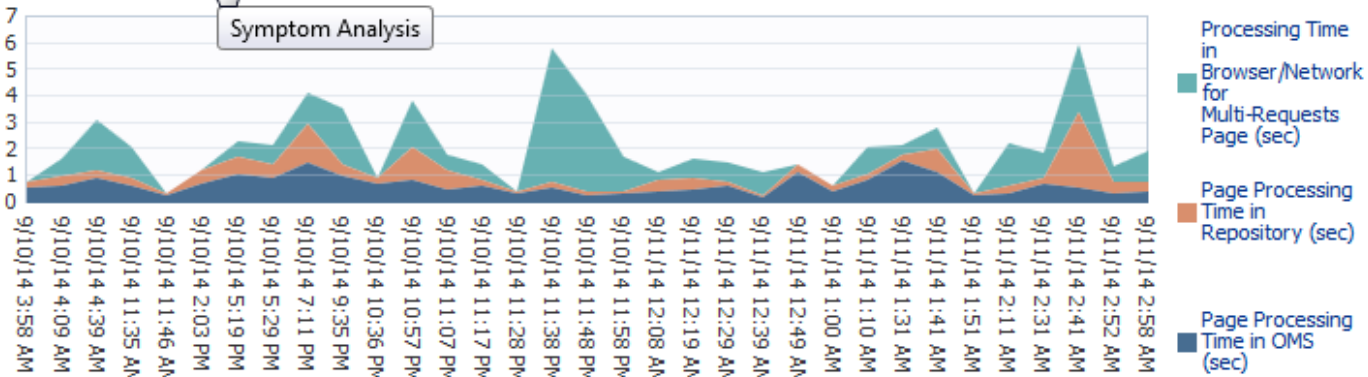


HTTP Sessions

■ admx1177.oracleoutsourcing.com:488...

▲ Page Processing Time

Overall statistics



- Monitoring console performance

■ General Advisories

- Proactively check that page access and session load is evenly distributed across OMS

- Check SLB configuration if not

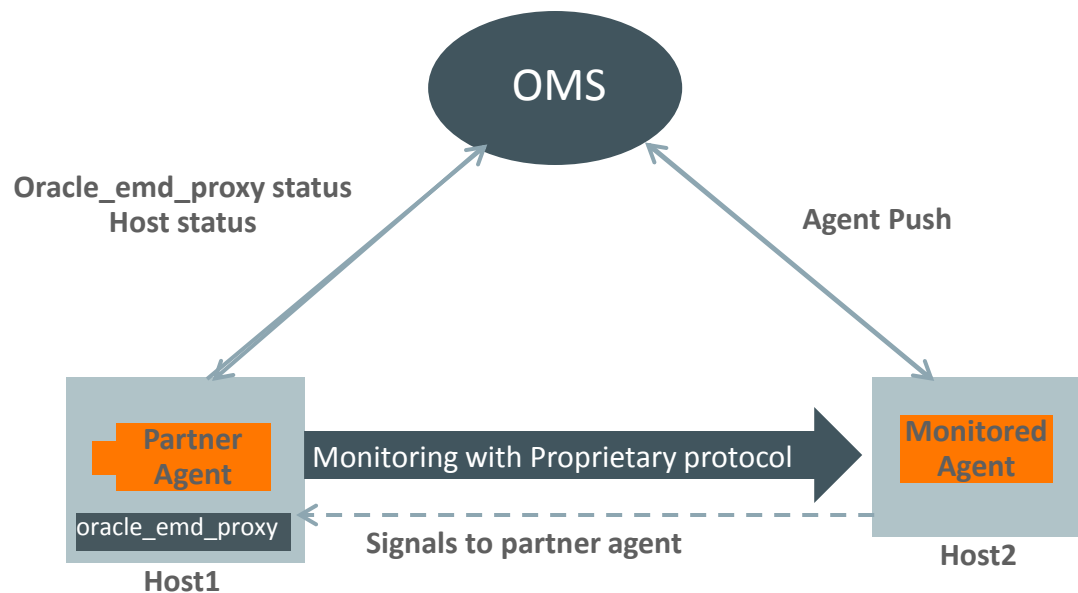
- Check the presence of Symptom Analysis Icon in Overall Tab and use this feature to narrow down the cause of slow performing pages

- Icon appears only when metric “Page Processing Time (sec)” exceeds the threshold

- Symptom analysis can be done on overall page processing and individual pages










- Break-down of processing time by layers helps narrow down the issue

Agent Subsystem Monitoring With Partner Agent



- Partner agent is an agent which in addition to all of its regular functions, monitors the status of its assigned Management Agent and its host
- Algorithm of automatic partner agent assignment by OMS
 - Agent should be pingable from agent it is going to monitor
 - Preference is given to agents belonging to the same subnet
 - Agent should be a 12.1.0.4 Agent
 - Agent should be monitoring less than 10 (Configurable) agents
- One can change the partnership explicitly with emcli "manage_agent_partnership"









Agent Subsystem Monitoring With Partner Agent

SCENARIO	TARGETS	STATUS OF TARGETS
Agent is shutdown gracefully and not under blackout	AGENT	Down 
	HOST	Up (Unmonitored) 
	MONITORED TARGET	Agent Down 
If AGENT goes down unexpectedly and host is up (and not under blackout)	AGENT	Agent Unreachable 
	HOST	Up (Unmonitored) 
	MONITORED TARGET	Agent Unreachable 
If Partner Agent is not available (Host or Agent is down)	AGENT	Agent Unreachable 
	HOST	Agent Unreachable 
	MONITORED TARGET	Agent Unreachable 

- Target statuses with partner agent mentioned in table
- Partner agent accesses the monitored agent and host with a proprietary protocol
 - Can convey to the OMS whether the monitored agent goes DOWN
 - Can determine if the host of the monitored agent is UP or DOWN
- Agent status detection done immediately (few seconds).
- Host status change detection when the agent is down done every minute







Agent Subsystem-Agent Unreachable Troubleshooting

Sub status added to provide more diagnostic details

Common Scenarios	Sub status Description	Troubleshooting Tips
Down Agent Down  	Agent was brought down in error /brought down as part of planned maintenance.	If agent was brought down in error, restart it from the agent homepage.If agent was brought down as part of planned maintenance, consider creating a blackout on the agent.
Up Unmonitored  	Currently this sub status is set only for host target with real time partner agent deduction. Host is up but its agent is shutdown.	If agent is down, do “emctl start agent”. To triage agent issue, go to its agent homepage and run the Symptom Analysis tool located next to the Status field.
Cannot Write to File System 	Agent cannot write to file system due to permission issue.	Check that OS user who owns the agent process has write access to agent instance directory.
Collections Disabled 	Agent Collections have been disabled. The Agent will no longer collect any metric for the managed targets.	Check that Agent can upload to OMS with “emctl upload”. Check loader statistics report for loader health.
Disk Full 	Agent file system is full.	Check that Agent can upload to OMS with “emctl upload”. Re-check the count of pending files using the command ‘emctl status agent’ to verify if they have reduced.
Post Blackout 	Agent is unreachable as its first severity has not yet come after blackout end.	To triage agent issue, go to its agent homepage and run the Symptom Analysis tool located next to the Status field.

Agent Subsystem-Agent Unreachable/Pending Diagnosis

Sub status added to provide more diagnostic details

Common Scenarios	Sub status Description	Troubleshooting Tips
Blocked Manually 	Agent has been blocked manually.	Unblock the Agent from console -Setup > Manage Cloud Control > Agents
Blocked (Plug-in Mismatch) 	Agent has been blocked for communication with OMS due to Plug-in mismatch.	If Agent has been restored from a backup perform an Agent Resync 'emcli resyncAgent'.
Blocked (Bounce Counter Mismatch) 	Agent has been blocked for communication with OMS due to Bounce Counter mismatch.	If Agent has been restored from a backup perform an Agent Resync 'emcli resyncAgent'.
Agent Misconfigured 	Agent is configured for communication with another OMS or OMS Agent time skew is noticed or Consecutive metadata /severity upload failure	Check Agent configuration to ensure the Agent is communicating with the correct OMS.Re-secure the agent with 'emctl secure agent'
Communication Broken 	Agent is unreachable due to communication break between agent and the OMS.	Address the network latency , port being blocked or proxy related issue.
Under Migration 	Agent is unreachable as it is under migration (2 system upgrade) from pre 12 to 12C.	Migrate the agent and then start the agent.

Note: Refer to Appendix for General Troubleshooting steps for Agent Unreachable

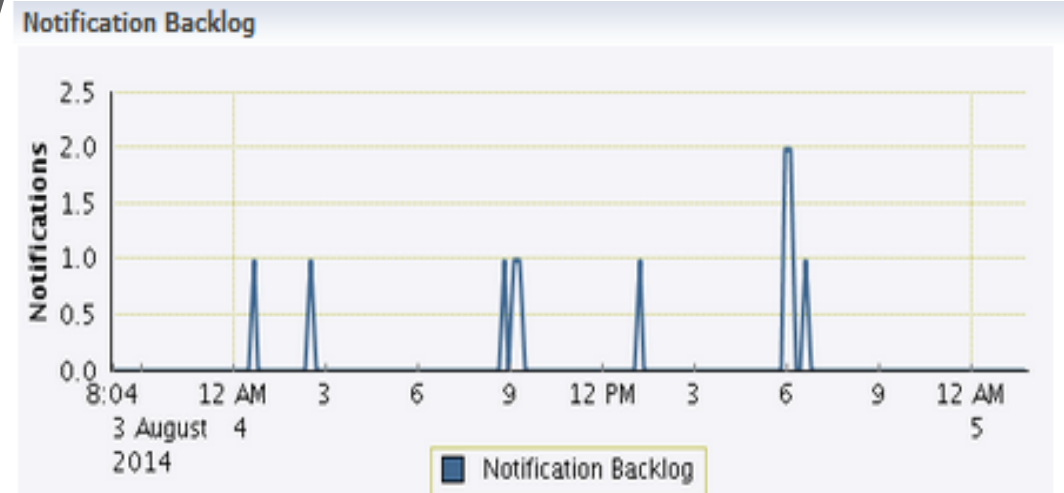
Notification Subsystem Monitoring

- Notification system allows you to notify Enterprise Manager administrators when specific incidents, events, or problems arise
- A backlog in notifications can cause a delay in alerts being sent, or a missing alert all together
- If notifications are not getting delivered
 - Check your external systems that are configured to receive notifications
 - For email/pager - Is the email gateway configured and working?
 - For OS Command and PLSQL, check the external systems that they may connect to
 - Contact Oracle Support if external systems are not working as expected.
 - Find the specific events in Incident Manager console for non-informational events
 - If it is not found, likely to be an event publishing issue.
 - If found in Incident Manager, verify the rule definition

Notification Subsystem Monitoring

Setup > Manage Cloud Control > Health Overview

- Check Notification delivery backlog
 - Look for consistent increase
 - Key Metrics to monitor
 - Notifications Processed (Last Hour)
 - Pending Notifications Count
- If **Pending Notifications Count** remains high over a period of time [such as an hour], check **Notifications Processed (Last Hour)**
 - If it is making good progress, there could be temporary load and it will resolve itself soon
 - If it is not making good progress, there could be stuck queues in notification system/ out-of-date incident rules. Contact Oracle Support



Few Other Critical Subsystems(Appendix)

- 1 Events Subsystem
- 2 Repository Metrics Collection Jobs
- 3 Repository Health
- 4 Repository Scheduler Jobs
- 5 Metric Rollup Jobs

A woman with long brown hair and glasses is sitting at a wooden table in a cafe. She is wearing a brown leather jacket over a blue patterned scarf and is talking on a black mobile phone. There are several papers and a laptop on the table in front of her. In the background, another person is sitting at a table, and there are large windows. The overall scene is a professional yet relaxed office environment.

HIGH AVAILABILITY AND DISASTER RECOVERY

High Availability

- Critical components in Enterprise Manager infrastructure are:
 - **Repository** - Persistent store for all Enterprise Manager data
 - **OMS** - Central application accessed by Agents and end-users
 - **Software Library** - Filesystem repository used to store software entities
- All of the above should be configured for High Availability if availability of Enterprise Manager is critical

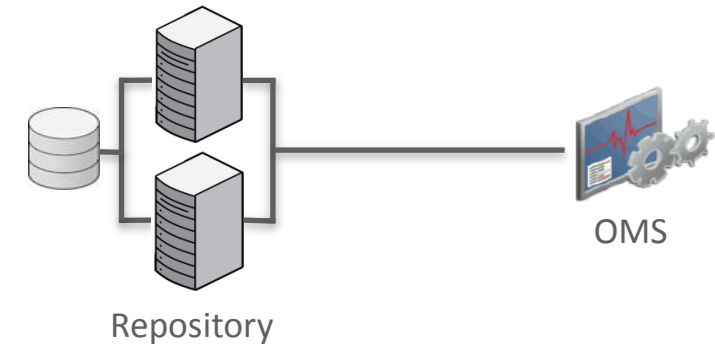


High Availability

Repository

- Oracle RAC provides a standard HA solution for the EM repository

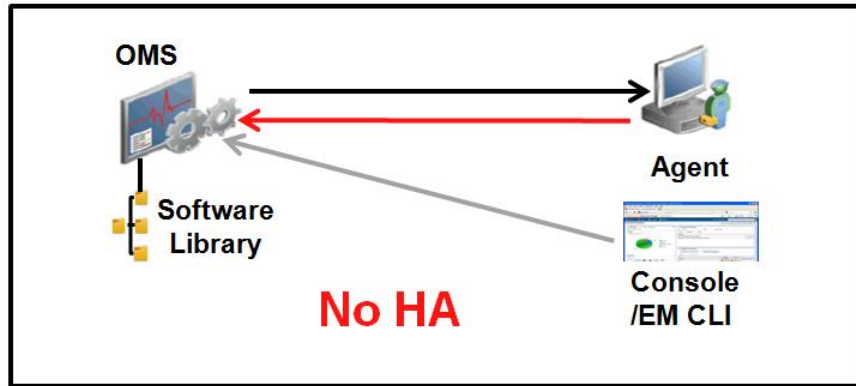
- Best Practice: Configure RAC prior to EM installation
- Best Practice: Use SCAN and role –based DB Services for OMS to Repository connect strings



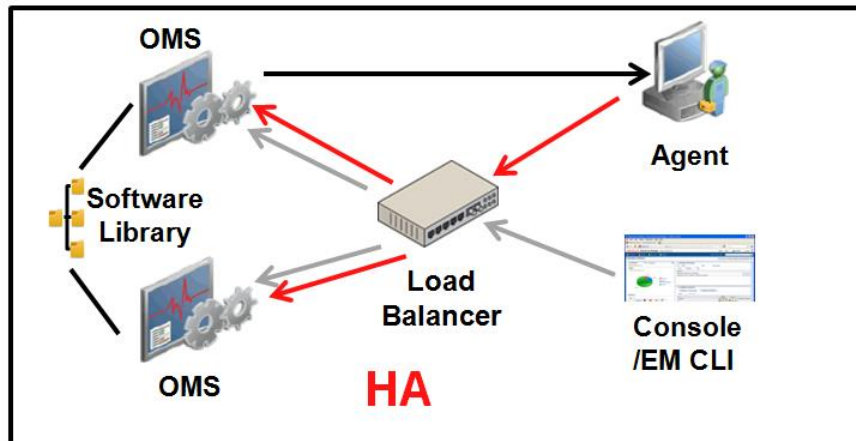
- Advantage of Role-based database services with Oracle RAC

- Can automatically control the startup of database services on databases by assigning a database role - PRIMARY / PHYSICAL_STANDBY / LOGICAL_STANDBY / SNAPSHOT_STANDBY
- Refer whitepaper [Best Practises for Highly Available Oracle Databases](#) for details

High Availability OMS

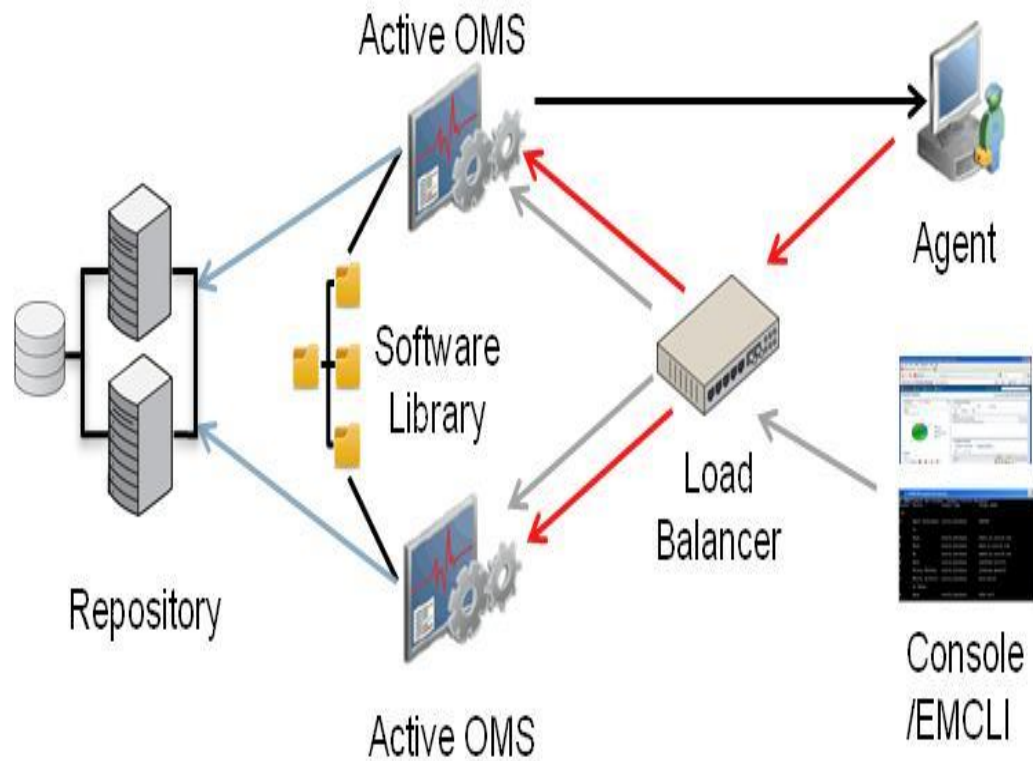


- Additional OMSs can be deployed behind a Server Load Balancer (SLB) for OMS High Availability



- Agents and Users communicate with OMS via load balancer

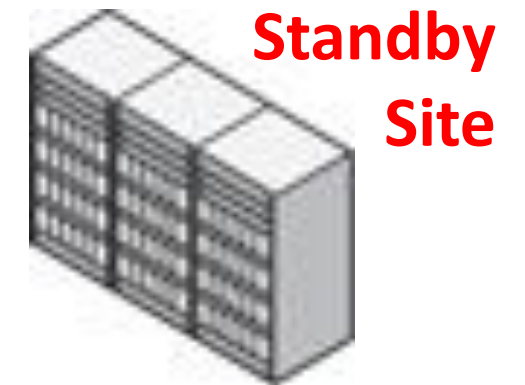
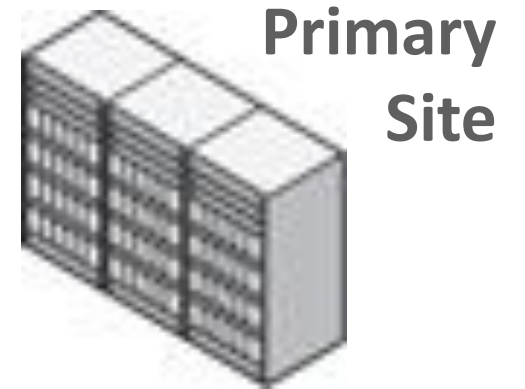
High Availability End-To-End Topology



- All OMS, Repository and Software Library components are active within the same Data Center
- Software Library must be accessible Read/Write from all active OMSs
- Software library should be deployed on highly available storage
- Not a Disaster Recovery (DR) solution

Disaster Recovery

- Protects applications from catastrophic failures
- Keeps data on primary site synchronized with a standby
- Allows applications to failover to the standby site



Disaster Recovery

Repository

- Data Guard Physical Standby Database provides Disaster Recovery solution for Repository
- Use Data Guard Broker to manage switchover/ failover of database
- Best Practise: Configure OMS connect descriptor with scan names and role-based services of primary and standby data centers

```
■ (DESCRIPTION_LIST=  
  (LOAD_BALANCE=off) (FAILOVER=on)  
  (DESCRIPTION= (CONNECT_TIMEOUT=5)(TRANSPORT_CONNECT_TIMEOUT=3)(RETRY_COUNT=3)  
    (ADDRESS_LIST= (LOAD_BALANCE=on)  
      (ADDRESS=(PROTOCOL=TCP)(HOST=PRIM_SCAN)(PORT=1521)))  
      (CONNECT_DATA=(SERVICE_NAME=DB_ROLE_SERVICE))))  
  (DESCRIPTION= (CONNECT_TIMEOUT=5)(TRANSPORT_CONNECT_TIMEOUT=3)(RETRY_COUNT=3)  
    (ADDRESS_LIST= (LOAD_BALANCE=on)  
      (ADDRESS=(PROTOCOL=TCP)(HOST=STBY_SCAN)(PORT=1521)))  
      (CONNECT_DATA=(SERVICE_NAME=DB_ROLE_SERVICE))))
```

Primary Site
(active)



Standby Site
(passive)



**Data Guard
Physical Standby**

Disaster Recovery

OMS

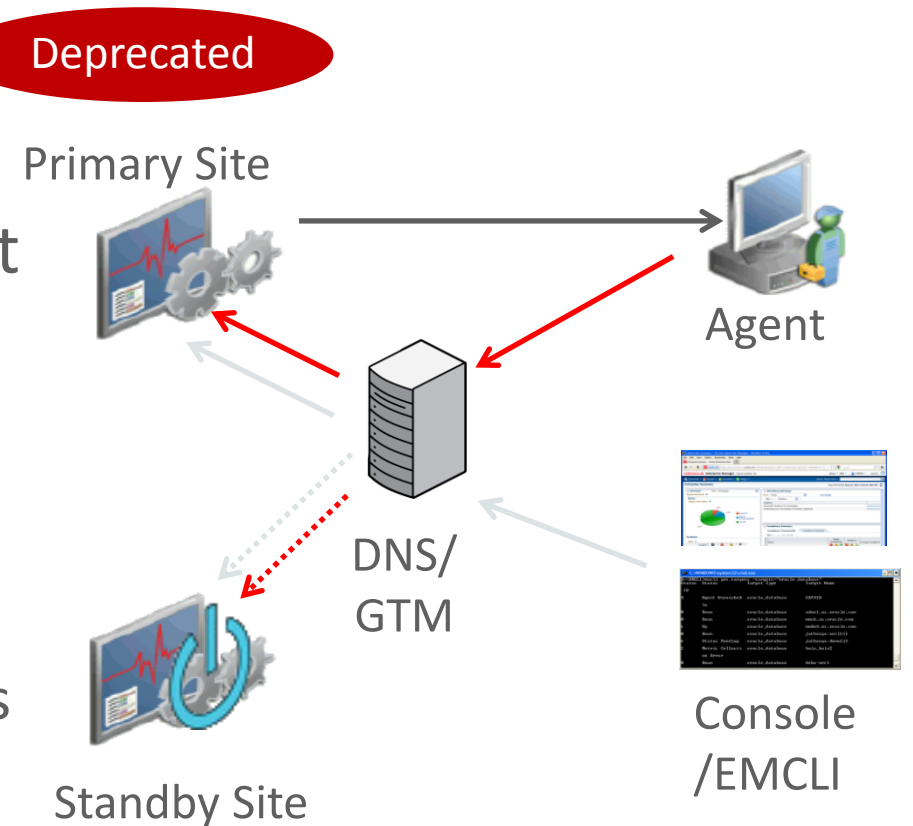
- Deploy Standby (Passive) OMSs on Standby Site

- Standby OMS using Standby WebLogic Domain **Deprecated**
- Standby OMS using Storage Replication

- Use DNS / Global Traffic Manager to redirect

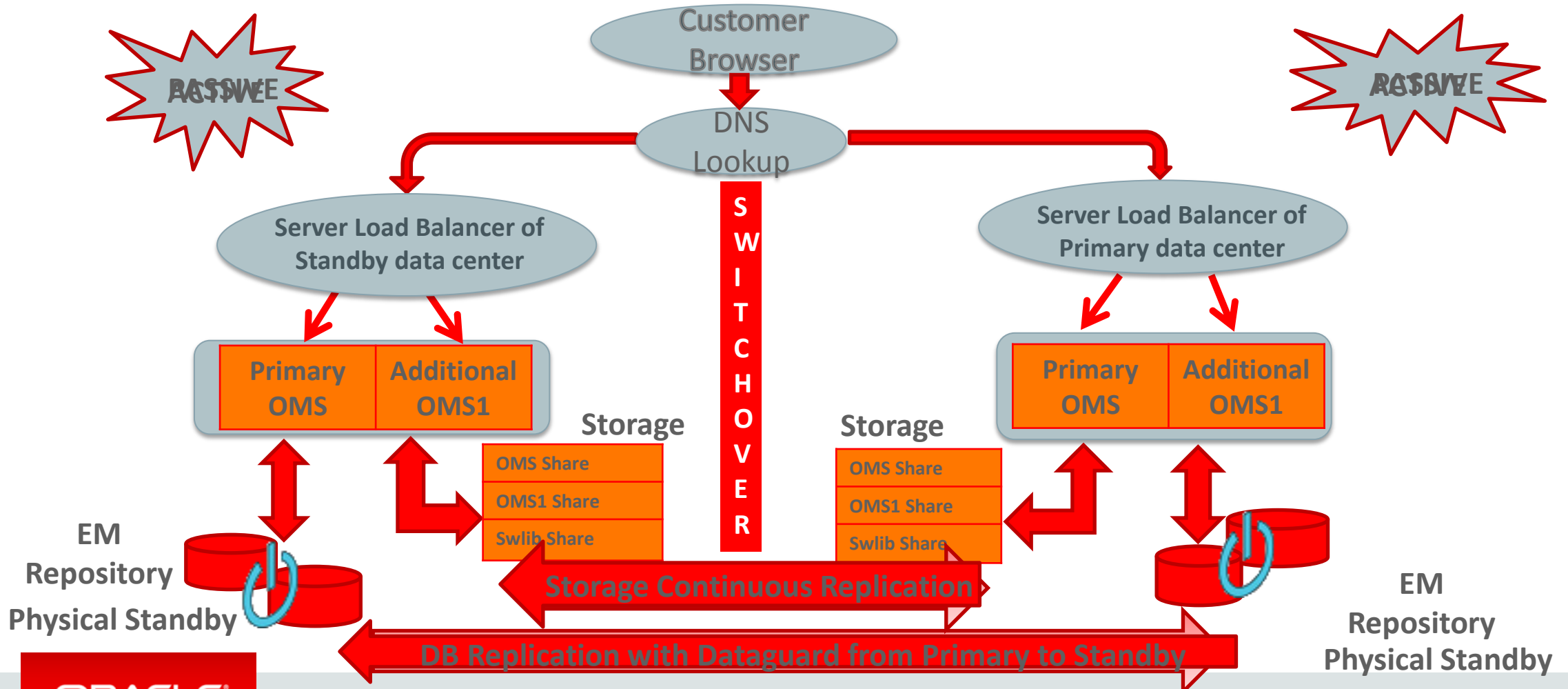
- Best Practice: Storage Replication is recommended method

- No manual application of Plug-ins or OMS patches at Standby Site
- No rebuild of Standby site needed after upgrades



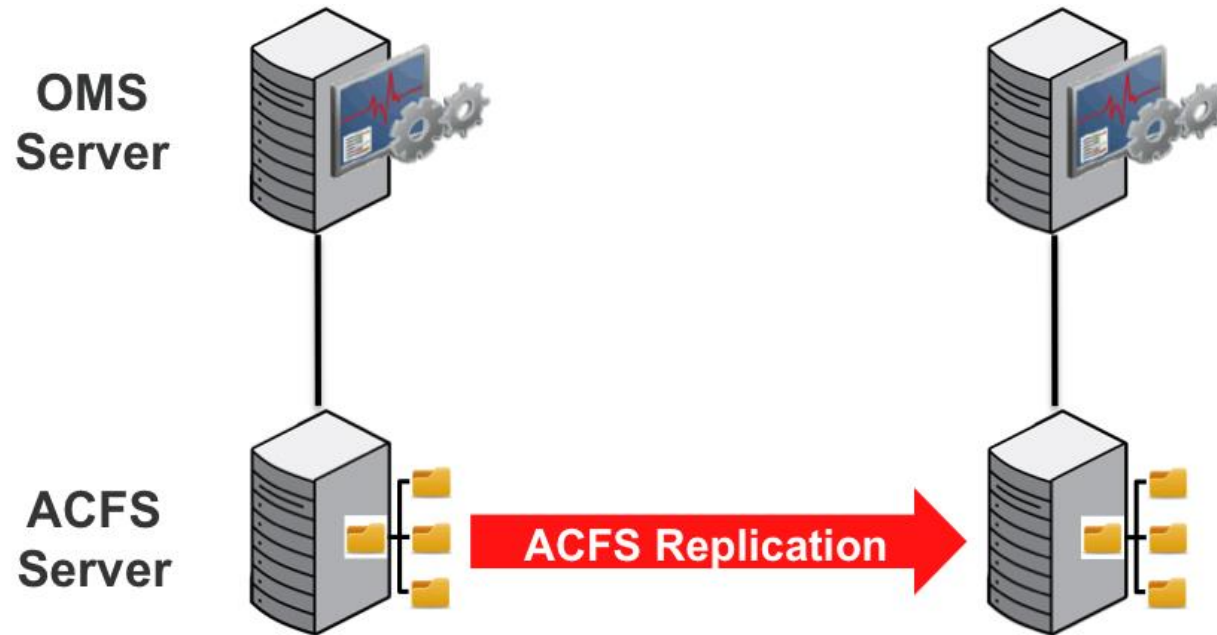
Enterprise Manager High Availability Level 4 Solution

Recommended Solution for High Availability and Disaster Recovery with Storage Replication



ACFS Replication

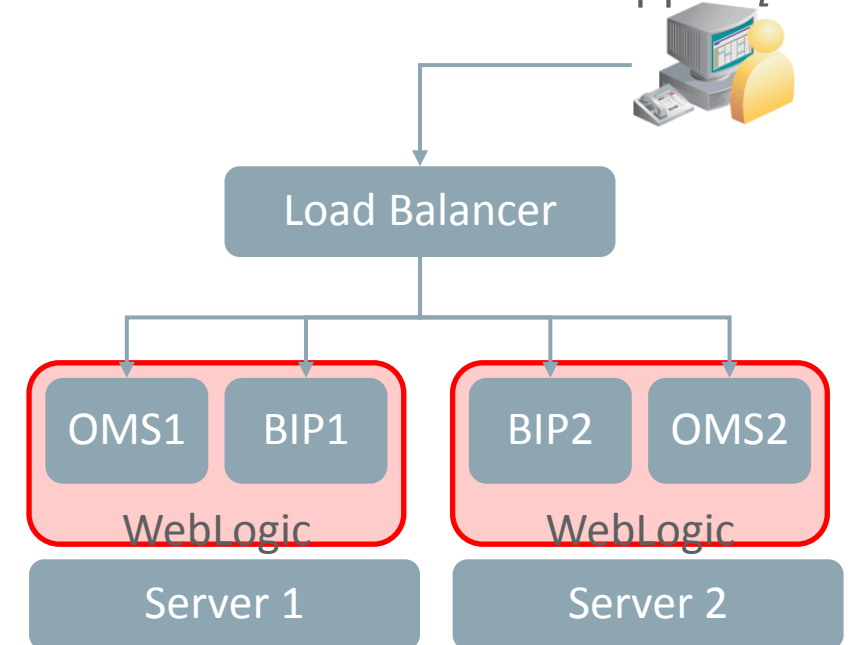
Alternate to using External Storage Appliances



- ACFS storage replication requires Grid Infrastructure to be installed for a Cluster
- ACFS Filesystem created for OMS install and software library on ACFS server and this is exported using NFS
- Filesystem mounted on another node(OMS server) and EM installed here
- Similar setup on second ACFS server with another ACFS filesystem to be used as a standby
- Established ACFS replication between the primary and standby ACFS servers
- Refer to [Section 18.7 of Advanced Installation Guide](#) for configuration details

BI Publisher High Availability

- With EM12c R4, BI Publisher is bundled and installed by default
 - BIP needs to be configured using the 'configureBIP' script
 - BIP supports Enterprise Manager HA scale out
 - BIP can be configured on all OMS nodes to increase reporting capacity
 - This does not provide failover, in case one of the BIP instances fails or is otherwise stopped *[Fixed in future]*.
- Recommendations:
 - Configure BIP on the first OMS node, before cloning it
 - Always configure BIP on all OMS nodes, and ensure that BIP is always UP, when that node's OMS is also up
 - BI Publisher is supported only with storage replication based solution for Disaster Recovery. Not functional with Standby OMS with Weblogic Domain method

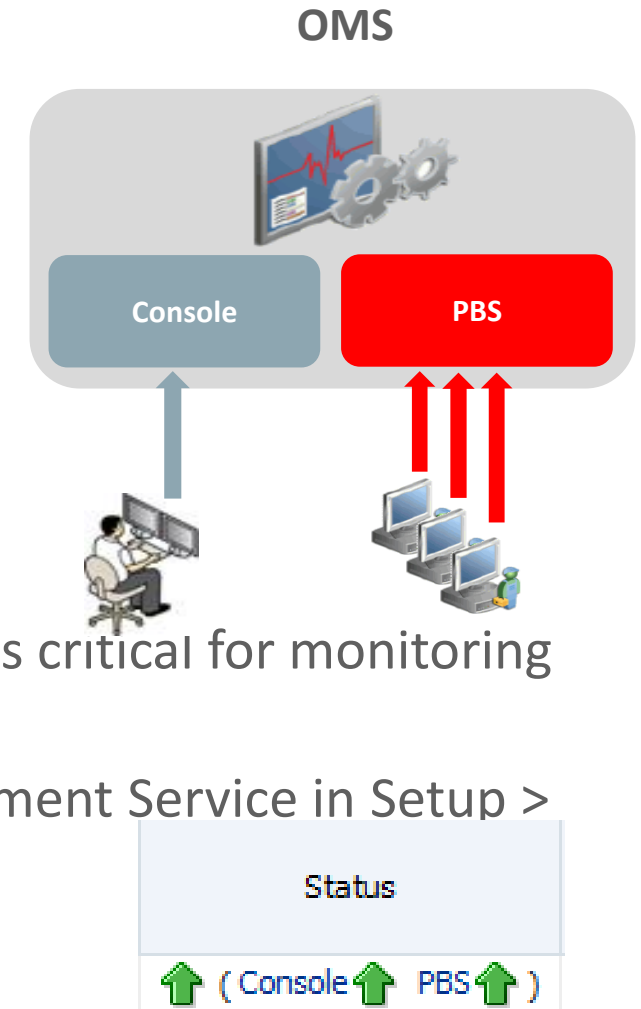


Appendix

Architecture Overview

Oracle Management Service (OMS)

- Central Enterprise Manager Application
 - Source of truth for all management
 - Receives and processes data from Agents
 - Uses repository as persistent store for information
- Comprises 2 Weblogic Server application deployments
 - **Console** – Provides UI and Target Specific Management
 - **Platform Background Services (PBS)** – A set of background services critical for monitoring and management
- Verify status of Console and PBS is marked as UP for each Management Service in Setup > Manage Cloud Control > Management Services



Architecture Overview

Repository

- Most critical part of EM system
 - Deploy with performance and availability in mind
- Persistent store for data collected from the managed Targets
 - Performance and Availability Metrics
 - Configuration and Compliance Information
- Used to store a variety of Enterprise Manager configuration information such as:
 - users and privileges
 - job definitions



Repository

Architecture Overview

Agents

- Collect monitoring and configuration data from the targets and store locally in XML files
 - Collected data uploaded at scheduled intervals to Management Service using HTTP/HTTPS
 - XML files are purged once data has been uploaded
- Execute tasks on behalf of Enterprise Manager users
 - Real-time data collections
 - Jobs
 - Deployment Procedures




Agents

Job Subsystem Monitoring

Sizing Recommendations of thread pool size

- Sizing Recommendations of pool size for Large Configuration with 2 or 4 OMS nodes
- Default pool size configuration for Small and Medium configuration
- In case of major resource issues, contact Oracle Support for guidance on adding additional threads



Parameters	Value
oracle.sysman.core.jobs.shortPoolSize	50
oracle.sysman.core.jobs.longPoolSize	24
oracle.sysman.core.jobs.longSystemPoolSize	20
oracle.sysman.core.jobs.systemPoolSize	50
oracle.sysman.core.conn.maxConnForJobWorkers	144

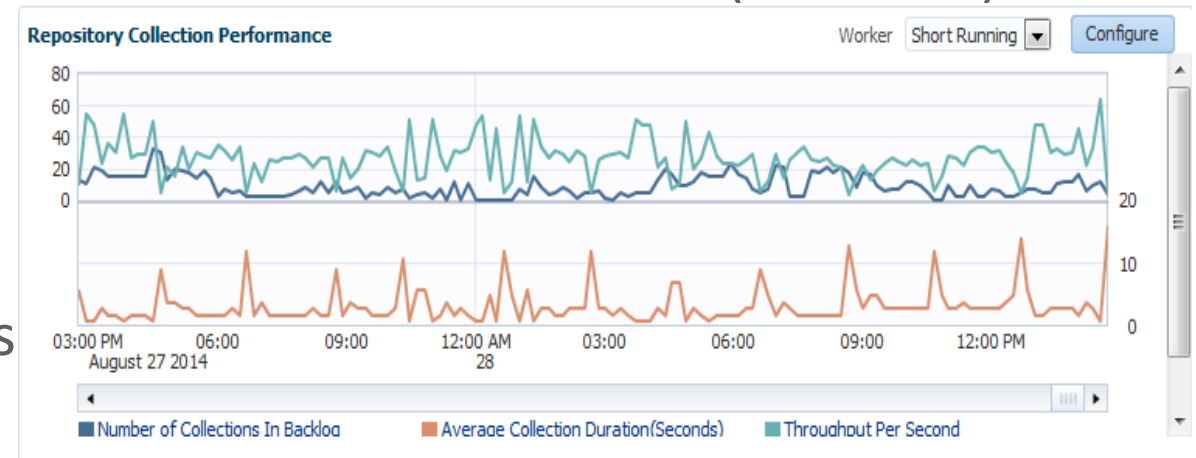
Event Subsystem Monitoring

Setup / Manage Cloud Control / Health Overview / OMS and Repository Menu /Monitoring –All Metrics

- Responsible for processing the events published by different components in the system
- Key Metrics to check event backlog -Total Events Pending and Total Events Processed (Last Hour)
- If **Total Events Pending** remains high [over an hour].
 - Check metrics **Total Events Processed (Last Hour)**
 - If it is making good progress(count is high), there could be temporary load –ignore
 - When pending count continues to be high, it should sustain a minimum processing of 1000 events per every 10 minutes
 - If it is not making good progress, there could be stuck queues in event system
 - Check the queue statistics in “**Event Status**” metric group to detect problem in AQ
 - Contact Support for triaging issues in AQ /queues

Repository Metric Collection Jobs Monitoring

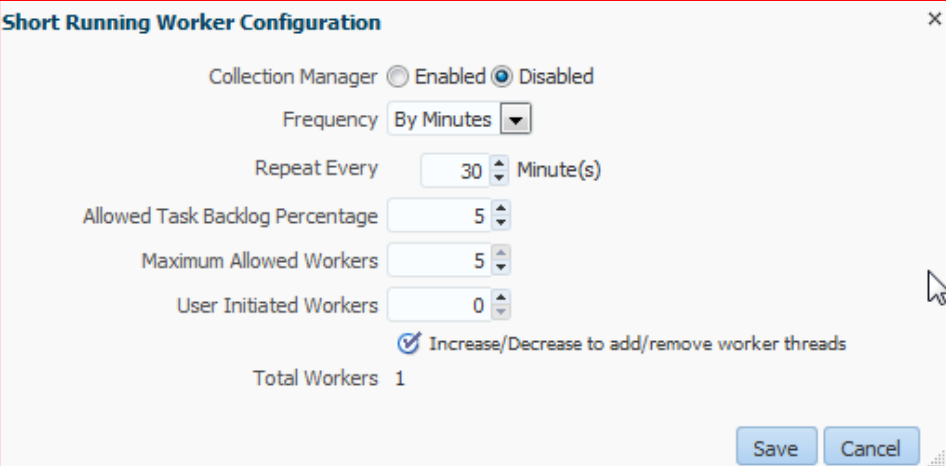
- Repository metric jobs are sub divided into long and short running tasks
 - Some collection workers (Default 1) process the short tasks and some (Default 1) process long tasks
- Key Indicators of its performance
 - Repository Collection Performance Chart
 - Repository collection performance metrics
 - Key Metrics
 - Average Collection Duration (seconds)
 - Collections Processed
 - Repository Collection Task Performance
 - Run Duration (Seconds)



- ▲ Repository Collections Performance
 - Average Collection Duration(Seconds)
 - Estimated time for clearing current Collections
 - Number of Collections In Backlog
 - Number of Collections Processed
 - Number of Workers
 - Throughput Per Second

Repository Metric Collection Job Monitoring

- Average Collection Duration (seconds) - Indicator of the load on the repository collection subsystem
 - Two possible reasons - Number of collections have increased Or some of the metrics are taking a long time to complete
 - Check the Run Duration (Seconds) metric
 - To identify which metric is taking more than 2 mins of time(default) to execute. Threshold-able
 - If any metric is taking unusually long time, disable the specific metric to unblock.
- Check the Collections Processed metric
 - Consistently high and backlog is continuous
 - Enable Collection Manager for one-off cases
 - Configure threads if backlogs are generally high
 - Maximum workers is 5



The screenshot shows a dialog box titled "Short Running Worker Configuration". It contains the following settings:

- Collection Manager: Enabled Disabled
- Frequency: By Minutes (dropdown)
- Repeat Every: 30 Minute(s)
- Allowed Task Backlog Percentage: 5
- Maximum Allowed Workers: 5
- User Initiated Workers: 0
- Increase/Decrease to add/remove worker threads
- Total Workers: 1

Buttons for "Save" and "Cancel" are located at the bottom right.

Repository Health Monitoring

Repository Details

Database	emprod.us.oracle.com
Version	11.2.0.4.0
Archive Mode	On
Flashback Mode	Off
Last Backup	Not Available
Space Used	10.787 GB of 11.494 GB

Management Service Repository Sessions 70

General guidelines for Maximum Availability to check in repository

- Regular Backups
- ARCHIVELOG mode ON
- FLASHBACK Mode ON
- Refer to [Oracle Database High Availability Guidelines](#)

Initialization Parameter Compliance for Instance : emprod

Instance Name

Enterprise Manager Size **Medium**

Parameter Name	Current Value	Recommended Value	Compliance
open_cursors	400	300	✓
job_queue_processes	50	20	✓
db_block_size	8,192	8,192	✓
memory_target	5,368,709,120	5,637,144,576	✗
shared_pool_size	637,534,208	629,145,600	✓
processes	600	600	✓
redo log file size	2,516,582,400	629,145,600	✓

Compliance to Repository Database Setting as per [Sizing guidelines](#).

Medium Site Minimum Database Settings

Parameter	Minimum Value
processes	600
pga_aggregate_target*	1280 MB
sga_target*	4 GB
redo log file size	600 MB
shared_pool_size	600 MB
db_securefile	PERMITTED











*memory_target of 5.25 GB can be used in place of sga_target and pga_aggregate_target

Repository Scheduler Jobs Monitoring

Setup > Manage Cloud Control >Repository

- Monitor Repository Scheduler Jobs status and processing time

Repository Scheduler Jobs Status

DBMS Job Name	Status	Duration	Next Scheduled Run
Adaptive Threshold Jobs		0.01 s	Sep 16, 2014 2:00:00 PM GMT 
Agent Ping		0.02 s	Sep 16, 2014 1:31:59 PM GMT 
EM Audit Externalization Service		0.07 s	Sep 16, 2014 5:33:59 PM GMT 
Beacon Service Availability		0.03 s	Sep 16, 2014 1:31:59 PM GMT 
Change Activity Planner Task Job Monitor		0.11 s	Sep 17, 2014 12:00:00 AM GMT 

- Tips to troubleshoot if the Status of these jobs are down
 - For the repository jobs to run, the DBMS_SCHEDULER must be enabled
 - Start these jobs with pl/sql command 'exec emd_maintenance.submit_em_dbms_jobs'

Repository Scheduler Jobs Monitoring

- If a specific job is down ie broken state,
 - Query the mgmt_performance_names table as repository owner for the dbms_jobname and fetch the job id from all_jobs
 - Look for [ORA-12012](#) messages for this job id in the database alerts log and trace files for the problem to fix. Re-start the job from console
 - Contact Oracle Support if fix cannot be easily identified
- Key Metrics to gauge its performance
 - Throughput per second
 - Processing Time(% of Last Hour)
 - If Processing Time is large and the Throughput is low
 - Check for errors in database-alert.log

Management Services and Repository > All Metrics

All Metrics

Search

View

- ▶ Console Statistics
- ▶ **DBMS Job Status**
 - DBMS Job Invalid Schedule
 - DBMS Job Processing Time (
 - DBMS Job Throughput Per S
 - DBMS Job UpDown
- ▶ Event Performance
- ▶ Event Status

DBMS Job Status

Collection Schedule Every 10 Minutes [Modify](#)

Upload Interval Every Collection

Last Upload Sep 8, 2014 6:42:00 AM GMT

View

	DBMS Job Name	DBMS Job Invalid Schedule	DBMS Job Processing Time (% of Last Hour)	DBMS Job Throughput Per Second	DBMS Job UpDown
▶	Adaptive Threshol...	OK	0	0	UP
▶	Agent Ping	OK	0.03	0	UP

Metric Rollup Jobs

Setup > Manage Cloud Control >Repository

- Aggregation mechanism: Both hourly and daily rollups are done from the raw data directly
- Look out for consistently growing backlogs or prolonged execution time span
 - Configure additional rollup worker threads using configure option in Metric Rollup Performance Chart
 - If the RAC is configured in the database, to avoid RAC contention negating gain of additional threads
 - Create database service and set affinity to it for the rollup job to only run on one RAC node

Metric Data Rollup Performance



Number of rollup workers

Number of rollup worker threads to start

Maximum allowed workers : 5

Save

Cancel

Metric Rollup Jobs Monitoring


Setting affinity with RAC Configuration

- Create database service and set affinity to it for the rollup job to only run on one RAC node
 - Create database service “rollup” and set one of RAC instance as primary instance in “-r”
 - `srvctl add service -d <dbname>-s rollup -r <primary instance> -a <the the other instances> -y automatic`
 - `srvctl start service -d <dbname>-s rollup`
`srvctl status service -d <dbname>`
 - As sys user, execute `DBMS_SCHEDULER.create_job_class(job_class_name => 'ROLLUP', service => 'rollup')`
 - `GRANT EXECUTE ON sys.ROLLUP TO sysman;`
 - As sysman user, execute `DBMS_SCHEDULER.SET_ATTRIBUTE (name => 'EM_ROLLUP_SCHED_JOB', attribute => 'job_class', value => 'ROLLUP')`
 - As sysman user, execute `GC_SCHED_JOB_REGISTRAR.SET_JOB_CLASS('EM_ROLLUP_SCHED_JOB', 'ROLLUP')`


Agent Subsystem-New Agent Unreachable sub-statuses

Sub status added to provide more diagnostic details

Agent Unreachable And Status Pending Statuses

Agent Unreachable 

Down 

Agent Down 

Up Unmonitored 

Under Migration 

Cannot Write to File System 


Collections Disabled 

Disk Full 

Blocked Manually 

Post Blackout 

Blocked (Plug-in Mismatch) 

Blocked (Bounce Counter Mismatch) 

Agent Misconfigured 

Communication Broken 

Status Pending 

Target Addition in Progress 

Status Pending (Post Blackout) 

Status Pending (Post Metric Error) 

General Troubleshooting Steps for Agent Unreachable

Setup > Manage Cloud Control > Agents

- Target Status Diagnostics Report: Agent-based targets (Information Publisher report)
 - Check the Promote Status column and Broken Reason in Target Information
 - Check for latest “Clean Heartbeat UTC” time in “Agent Ping Status” table in the Report
- Ensure OMS is reachable from agent host and agent from OMS host
- Check “emctl status” for various configurations. Eg: Agent communicating with correct OMS
- Check agent upload with “emctl upload”
- Contact Oracle Supprt with these log
 - gcagent.log from agent home
 - emoms_pbs .log, emoms.log

Agents

Showing: All (118) Up (76) Down (9) Under Blackout (0) Agent Unreachable (31) Metric Collection Error (2) Blocked (0) Misconfigured (0)

View Block Unblock Start Up... Shut Down... Restart... Secure... Unsecure... Properties... Det

Name	Secure Upload	Status	Incidents				Last Successful Load	Monitored Targets
			0	2	0	0		
Slc01mei.us.oracle.com:3872	Yes		0	2	0	0	Sep 2, 2014 11:51:55 PM PDT	3
adc2120079.us.oracle.com:4455	Yes		0	0	0	0	Aug 27, 2014 4:29:54 PM PDT	3
adc6160301.us.oracle.com:3873	Yes		0	0	0	0	Sep 15, 2014 1:36:48 AM PDT	3

Symptom Analysis

Safe Harbor Statement

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