

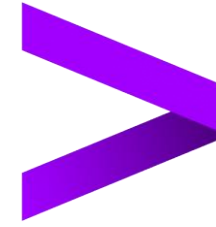
Oracle Enterprise Manager EM24ai

Oracle Enterprise Manager 24ai - Be the Patchinator!

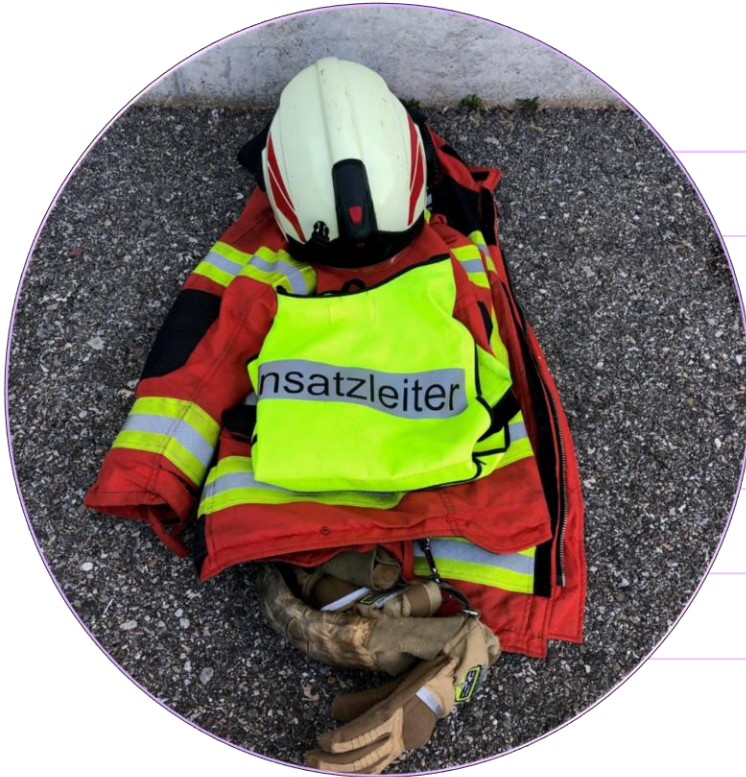
Martin Berger

Martin Berger

martin.x.berger@accenture.com



Oracle ACE
Pro



Database Platforms - Data Eng, Mgmt & Governance Mgr

Kestenholz / Jurasüdfuss / Schweiz

2 Junior-DBAs (11 & 13)

Firefighter 2nd in command

E-Biker / Running-Beginner

Cloud Enthusiast



martinberger.bsky.social



www.martinberger.swiss





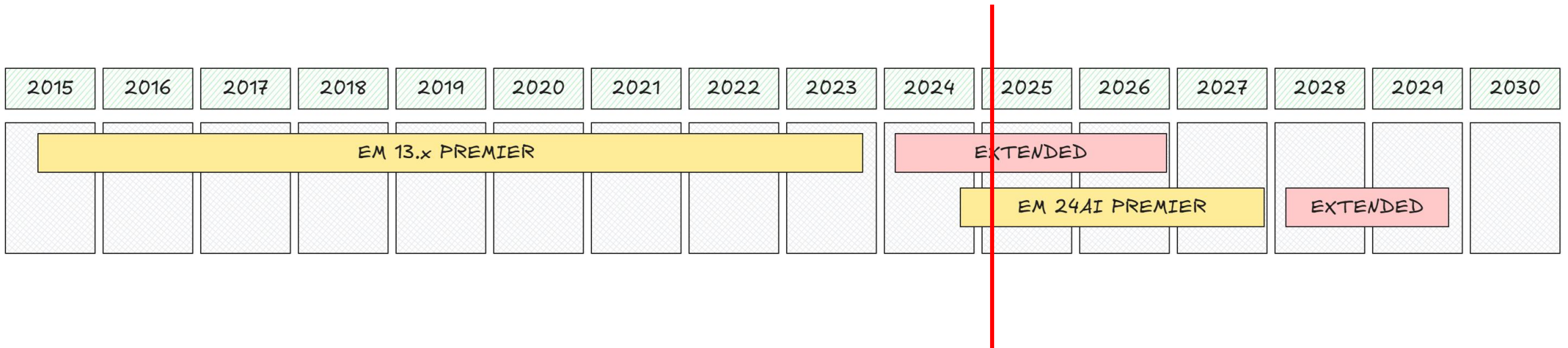
DON'T LIE TO ME... I CAN SEE THE MISSING RU

Agenda

- 01** Basics
- 02** OMS RU
- 03** OMS Holistic
- 04** Agent
- 05** Misc

Basics

Lifetime Support Policy



Primary Note for Enterprise Manager Certification and Lifetime Support Policy (Doc PNEWS2124)

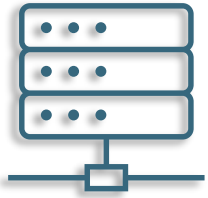
13.5: Long term waived extended support till Dec 2026

24: Premier support till end of Dec 2027 and extended support till end of Dec 2029

Sustaining is in state Indefinite



Enterprise Manager Main Components



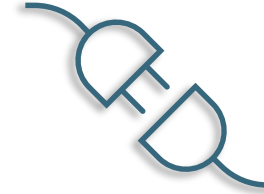
Oracle Management
Server



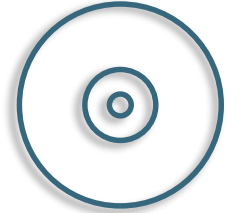
Repository
Database



Agent



Plug-Ins

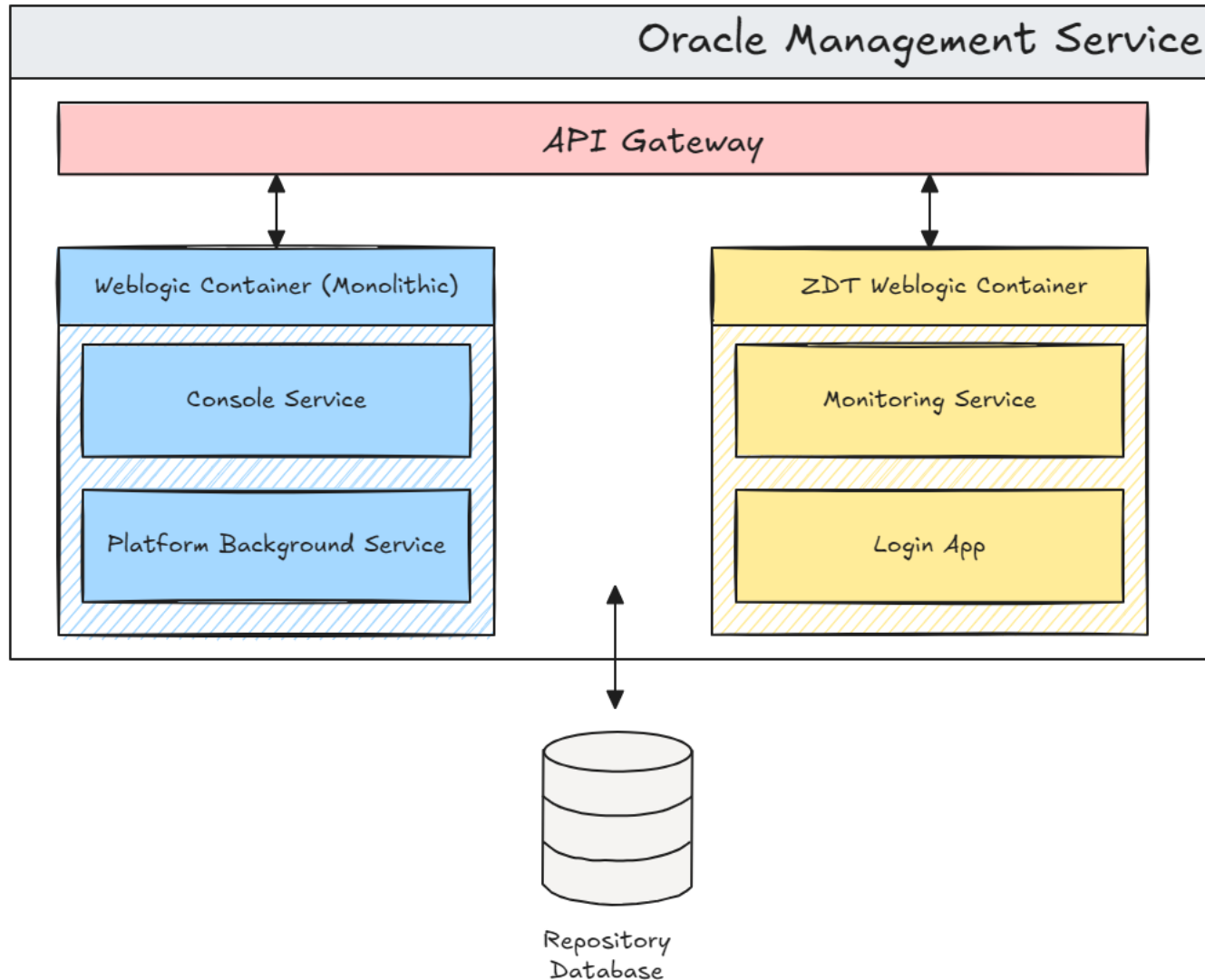


Operating System

24ai - Zero Downtime (ZDT) patching

- Allows applying Enterprise Manager 24ai Release Updates (RUs) while the OMS remains **online**.
- Ensures continuous monitoring of critical targets during planned maintenance windows and engage **rules**.
- Uses the **omspatcher** utility to patch the OMS without service interruption.
- Leverages Oracle Database **Edition-Based Redefinition** (EBR) to update EM schema components in a separate edition while EM is actively in use.

ZDT OMS - Architecture



Two Containers

- Traditional WebLogic container
- ZDT WebLogic container for uninterrupted monitoring

API Gateway

- Single entry point for UI traffic, API calls, Agent upload

Under the Hood – A New Weblogic Domain

ORACLE WebLogic Server Administration Console 12c

Security warnings detected. Click here to view the report and recommended remedies.

Home Log Out Preferences Record Help

Welcome, weblogic Connected to: EMExtDomain1

Change Center

View changes and restarts

Click the *Lock & Edit* button to modify, add or delete items in this domain.

Lock & Edit

Release Configuration

Domain Structure

EMExtDomain1

- Domain Partitions
 - Partition Work Managers
- Environment
 - Servers**
 - Clusters
 - Coherence Clusters
 - Resource Groups
 - Resource Group Templates
 - Machines
 - Virtual Hosts
 - Virtual Targets
 - Work Managers
 - Concurrent Templates

How do I...

- Create Managed Servers
- Clone servers
- Delete Managed Servers
- Delete the Administration Server
- Start and stop servers
- View objects in the JNDI tree

System Status

Health of Running Servers as of 7:45 PM

Summary of Servers

Configuration Control

A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration.

This page summarizes each server that has been configured in the current WebLogic Server domain.

Customize this table

Servers (Filtered - More Columns Exist)

Click the *Lock & Edit* button in the Change Center to activate all the buttons on this page.

New Clone Delete

Showing 1 to 2 of 2 Previous Next

☐	Name	Type	Cluster	Machine	State	Health	Listen Port
☐	EMEXT_ADMINSERVER(admin)	Configured			RUNNING	OK	7001
☐	EMEXT_OMS1_ZDT	Configured		EMEXT_MACHINE	RUNNING	OK	7601

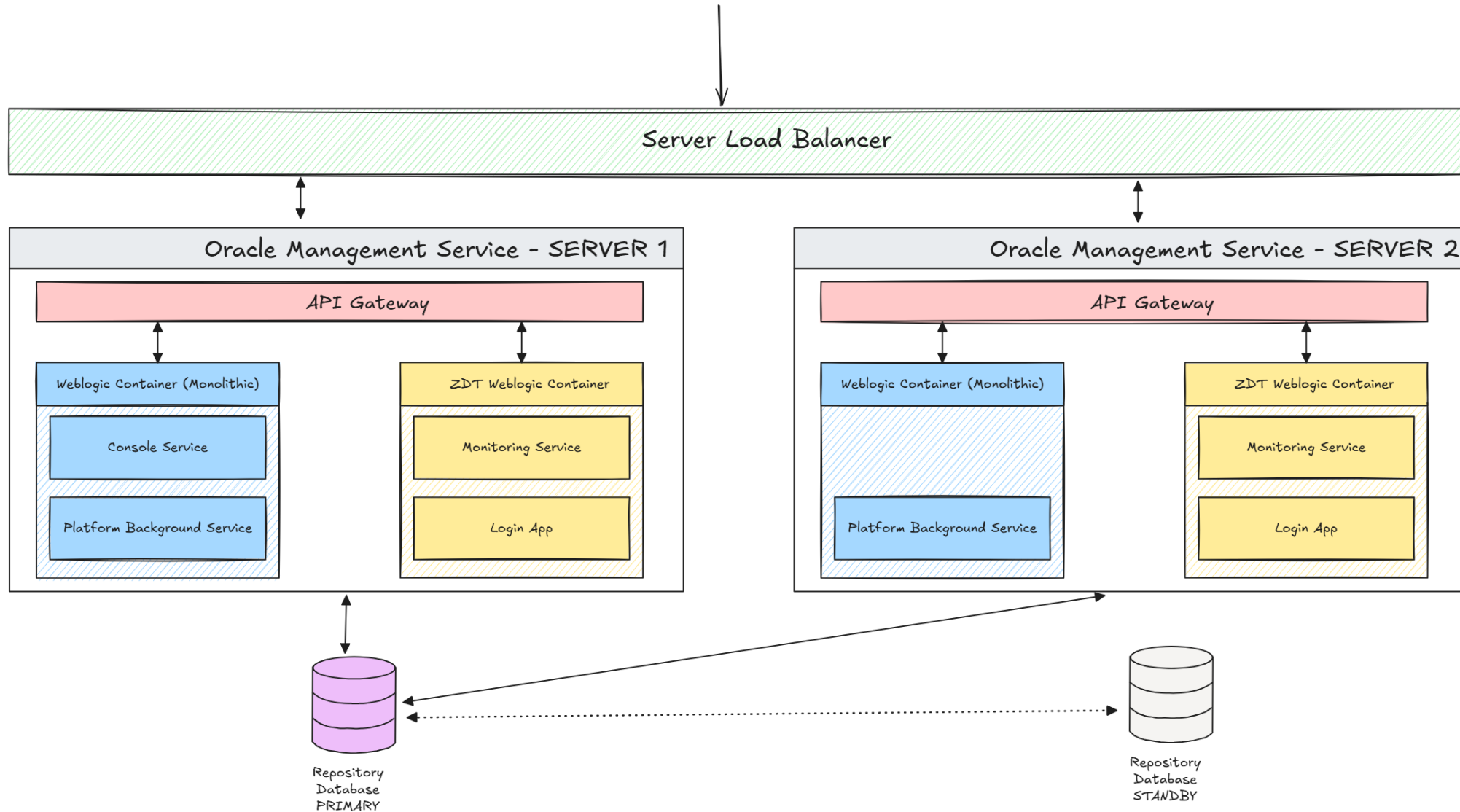
New Clone Delete

Showing 1 to 2 of 2 Previous Next

https://oms-kestenholz.internal:7016/console/console.portal?_nfpb=true&_pageLabel=CoreServerServerTablePage



EM24ai - Multi OMS



ZDT Architecture

db* basenv

```
[opc@oms-kestenholz ~]$ sudo su - oracle
```

TYPE (Cluster DG)	SID/PROCESS	STATUS	HOME	[2026-11-20 11:57:49]
API Gateway	:	up	/u01/app/oracle/middleware/ext_oms_home/apigateway	
Agent	: emagent24	up	/u01/app/oracle/agent/agent_inst	
WLS admin	: EMEXT_ADMINSERVER	up	/u01/app/oracle/middleware/ext_oms_home/wlserver	
WLS admin	: EMGC_ADMINSERVER	up	/u01/app/oracle/middleware/oms_home/wlserver	
WLS mgmt	: EMEXT_OMS1_ZDT	up	/u01/app/oracle/middleware/ext_oms_home/wlserver	
WLS mgmt	: EMGC_OMS1	up	/u01/app/oracle/middleware/oms_home/wlserver	
WLS node	: 1	up	<REDACTED>/user_projects/domains/EMExtDomain1/nodemanager	
WLS node	: 1	up	<REDACTED>/user_projects/domains/GCDomain/nodemanager	

Which Monitoring Fits Best

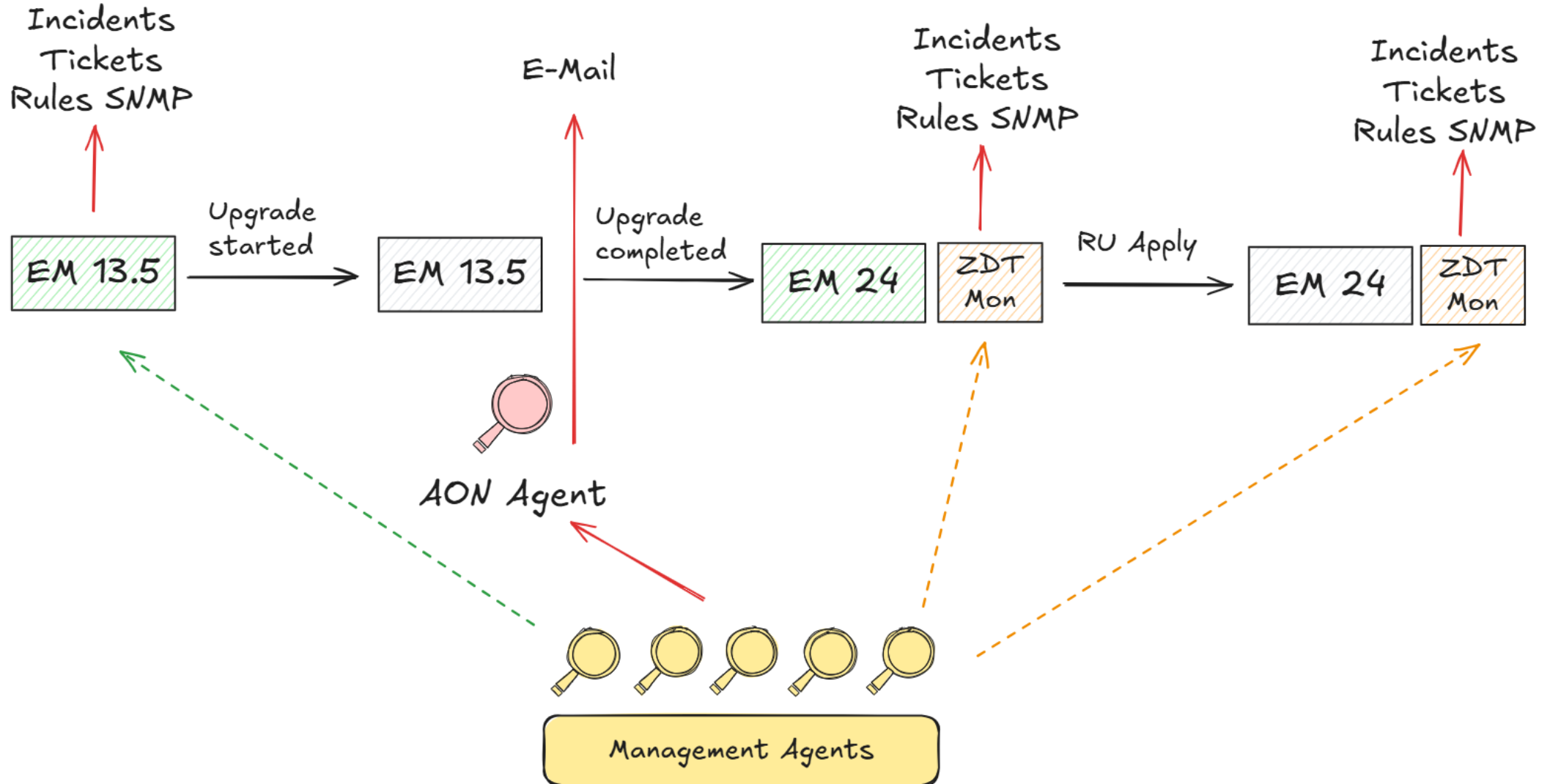
Always-On (AOM)

- Target availability only
- Email only to Contact
- Separate Repository
- Critical Alerts
- Fits for 13.5 > EM24ai Upgrade

Zero Downtime (ZDT)

- Honors incident rule sets
- Event compression
- Multiple notification channels
- Ticketing Connectors
- Event Connectors

Ensure Monitoring during EM24ai Upgrade



Your Choose

ONLINE or OFFLINE



Online or Offline Mode

Online Mode – Internet Connection

- YES:
 - Search and download patches from MOS
 - Access community information, knowledge articles, service requests.

Offline Mode – No Internet Connection

- NO:
 - Search and download patches from My Oracle Support.
 - View additional information about the patch.
 - Access community information, knowledge articles, service requests.

Offline Patching

Go online for optimal usability. Allow Enterprise Manager to connect to My Oracle Support to download patches, get the latest health checks, download self-updates and more. This is a one-way connection and outside services cannot connect to Enterprise Manager. No customer data is sent from Enterprise Manager to Oracle.

Connection ☐ Online
☒ Offline



Do not Patch EM 13.5 to latest version when...

- ...you want to upgrade your EM to version 24ai – or: you wait for RU 08

Release Update

13.5 RU 29

13.5 RU28

13.5 RU 27

13.5 RU 26

13.5 RU 25

13.5 RU 22 through RU 24

Minimum Upgrade Path to Version 24ai

24ai RU 08 or later (estimated April 26)

24ai RU06 or later

24ai RU 04 or later

24ai RU 02 or later

24ai RU 01 or later

24.1 Base Release or later

Holistic or Release Update

Release Update



OEM Fixes and Features



ZDT Supported



OMS Core, Agent, Plugins

Holistic



Weblogic, JDK, ADF etc.



No ZDT Support



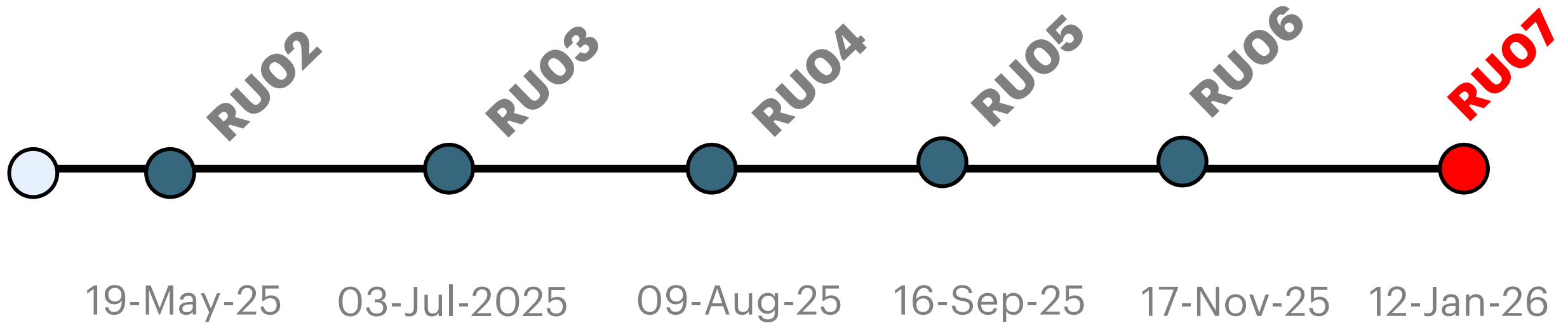
Quarterly released



Minimum RU required

OMS Release Update

Oracle Management RU Timeline



Enterprise Manager Cloud Control Updates: List of Available RUs (Release Updates) and PSUs (Patch Set Updates) (Doc KB222111)

New Features by Enterprise Manager 24ai Release

RU01	5
RU02	7
RU03	12
RU04	9
RU05	5
RU06	11
RU07	8

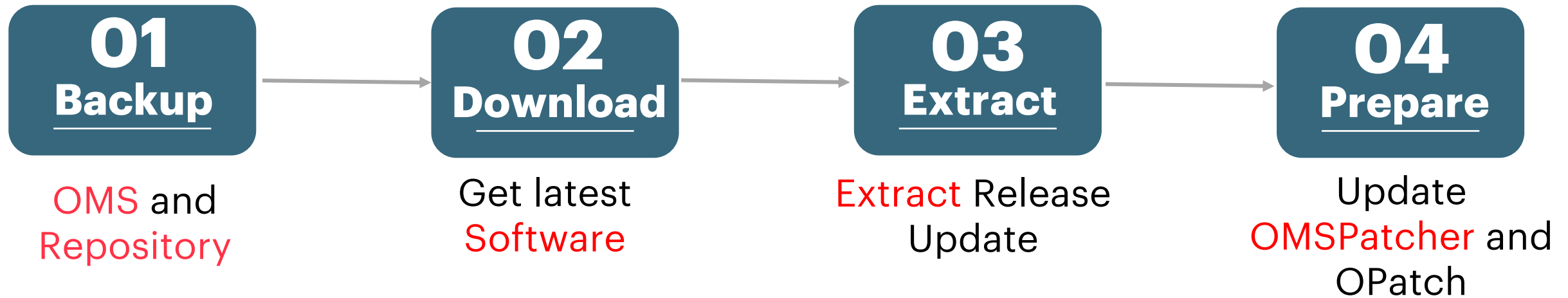
← Ask EM Improvements

Enterprise Manager 24ai Main Release Update List (Includes Plug-ins) - KA1271

Latest 24ai OMS Release Update	Version (Release Date)	EM 24ai OMS RU Bug List Note
Patch 38532004 You need to upgrade the omspatcher to the latest version per the instructions in My Oracle Support Note: KB371380	RU 07(13-Jan-2026)	- 24ai Enterprise Manager Cloud Control Base Platform Periodic Release Update (RU) 07 Bug List - KB865127

Latest 24ai Agent Release Update	Agent RU Version (Release Date)	EM 24ai Agent RU Bug List Note
Patch 38532036 Verify the correct version of agent patcher (See Patch's README)	RU 07(13-Jan-2026)	- Enterprise Manager Cloud Control Management Agent 24ai Release Update (RU) 07 Bug List - KB865136

Oracle Management Server - Preparation



Always verify the readme document to ensure correct OMSPatcher and Opatch version.

Backup First

- Repository Database by **RMAN**
- Enterprise Manager by **EMCTL**
- Monitoring Templates, Metric Extensions, Incident, Reports

Export OMS Configuration

```
$ emctl exportconfig oms  
-dir /u01/app/oracle/admin/em24aioms/backup
```

Export Ruleset

```
$ emcli export_incident_rule_set  
-rule_set_name=TEST_RULESET -rule_set_owner=sysman  
-export_file="/tmp/"
```



OMSPatcher - Patch 19999993

- Read the README – Section 2: Prerequisites

Show Version

```
$ORACLE_HOME/OMSPatcher/omspatcher version  
OMSPatcher Version: 13.9.24.9.0  
OPlan Version: 12.2.0.1.160sysModel build: Tue Apr 28  
18:16:31 PDT 2020  
OMSPatcher succeeded.
```

OMSPatcher – Update

Copy and Extract

```
$ export ORACLE_HOME=/u01/app/oracle/middleware/oms_home

$ /u01/app/oracle/middleware/oms_home/OMSPatcher/omspatcher version
OMSPatcher Version: 13.9.24.1.0
<REDACTED>

$ cd /u01/app/oracle/middleware/oms_home
$ mv OMSPatcher OMSPatcher_old

$ cp /u01/app/oracle/stage/p19999993_241000_Generic.zip .
$ unzip p19999993_241000_Generic.zip

$ /u01/app/oracle/middleware/oms_home/OMSPatcher/omspatcher version
OMSPatcher Version: 13.9.24.8.0
<REDACTED>
```

OPatch - Update

Java jar

```
$ cd /u01/app/oracle/stage/oms-ru05 && unzip p28186730_1394221_Generic.zip
$ export ORACLE_HOME=/u01/app/oracle/middleware/oms_home

$/u01/app/oracle/middleware/oms_home/OPatch/opatch version
OPatch Version: 13.9.4.2.17
OPatch succeeded.

$ $ORACLE_HOME/oracle_common/jdk/bin/java -jar
/u01/app/oracle/stage/6880880/opatch_generic.jar -silent
oracle_home=$ORACLE_HOME

$ /u01/app/oracle/middleware/oms_home/OPatch/opatch version
OPatch Version: 13.9.4.2.21
OPatch succeeded.
```

Release Update Apply - Traditional versus ZDT

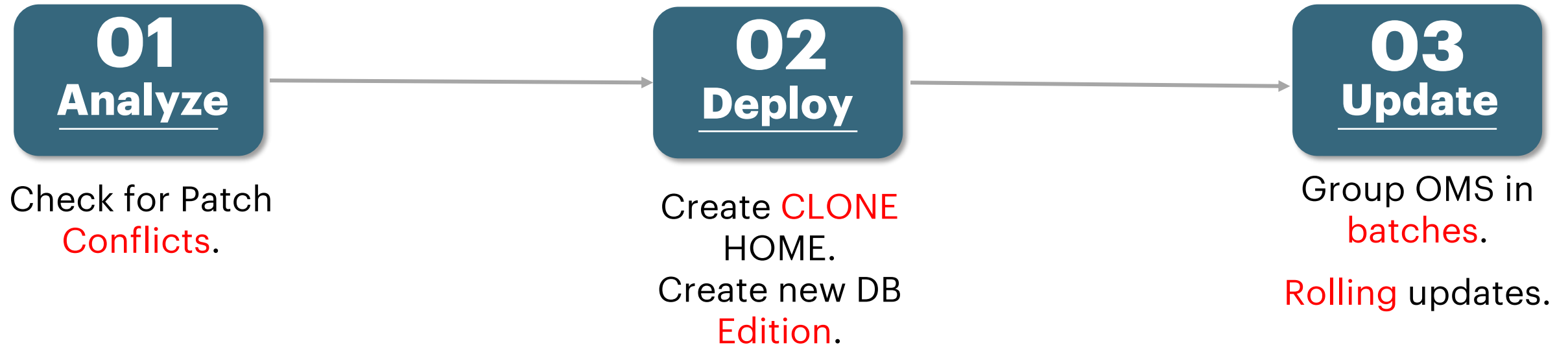
Traditional

- ☐ unzip Patch
- ☒ omspatcher apply -analyze
- ☒ emctl stop oms
- ☒ omspatcher apply

ZDT

- ☐ unzip Patch
- ☒ omspatcher deploy -analyze
- ☒ omspatcher deploy
- ☒ omspatcher update

Oracle Management Server – Patching ZDT



Always run OMSPatcher with flag -analyze to verify system readiness!

Property File 1/2

- OMS automated patching requires the WebLogic Administration Server URL and credentials for patching and configuration detection, as it manages the Managed Server hosting the OMS.
- To avoid re-entering credentials during patching, you can store them in a property file and reuse them with OPatch.

Step 1 – Create Keys

```
mkdir -p /u01/app/oracle/admin/em24aioms/wlskeys
cd /u01/app/oracle/admin/em24aioms/wlskeys

$ORACLE_HOME/OMSPatcher/wlskeys/createkeys.sh -oh $ORACLE_HOME -
location /u01/app/oracle/admin/em24aioms/wlskeys
```

Property File 2/2

Step 2 – Get Information

```
$ $ORACLE_HOME/bin/emctl status oms -details
```

Step 3 – Create File, add URL

```
$ cat em24aioms.properties
```

```
AdminServerURL=t3s://oms-allinone.internal:7102
```

```
AdminConfigFile=/u01/app/oracle/admin/em24aioms/wlskeys/config
```

```
AdminKeyFile=/u01/app/oracle/admin/em24aioms/wlskeys/key
```

ZDT Command Order

Deploy -analyze

```
$ORACLE_HOME/OMSPatcher/omspatcher deploy -analyze -property_file  
/u01/app/oracle/admin/em24aioms/etc/24ai.properties
```

Deploy

```
$ORACLE_HOME/OMSPatcher/omspatcher deploy -property_file  
/u01/app/oracle/admin/em24aioms/etc/24ai.properties
```

Update

```
$ORACLE_HOME/OMSPatcher/omspatcher update -property_file  
/u01/app/oracle/admin/em24aioms/etc/24ai.properties
```

OMSPatcher – Status Verification

EMCLI Method

```
$ $ORACLE_HOME/OMSPatcher/omspatcher status
```

OMSPatcher Automation Tool

Copyright (c) 2024, Oracle Corporation. All rights reserved.

<REDACTED>

Patch ID: 38532004

Action: Update

Deployment Mode: Rapid Platform Update

Update Status: Successful

Deploy Status: Completed

Start Time: Mon Feb 02 14:05:25 CET 2026

End Time: Mon Feb 02 14:37:43 CET 2026

Deploy Execution Time: 75 Minutes

Update Execution Time: 32 Minutes

OMSPatcher succeeded.

OMS Holistic

Release Update First

Holistic	Release Update
APRIL 2026 Holistic Patch 3770256	RU 01 Patch 37466946
July 2026 Holistic Patch 38194787	RU 03 Patch 37826012
Oct 2026 Holistic Patch 38544618	RU 05 Patch 38155872
Jan 2026 Holistic Patch 38864999	RU 07 Patch 38532004



Patch by order, Release Update before Holistic Patch!



Holistic Command

OEM 24AI: How To Apply/Rollback Holistic Patch On OEM 24.1 (Doc ID 3082475.1)

OMS Components Only

```
$ORACLE_HOME/OMSPatcher/omspatcher apply  
/u01/app/oracle/stage/38194787 -spb_patch
```



AIX only

OMS JDK Included

```
$ORACLE_HOME/OMSPatcher/omspatcher apply  
/u01/app/oracle/stage/38194787 -spb_patch -jdk_update  
<jdk_location>
```

Content Excerpt

linux64_patchlist.txt

```
$ORACLE_BASE/stage/38544618/binary_patches/fmw_dbclient/linux64/  
$ORACLE_BASE/stage/38544618/binary_patches/ohs/linux64/  
$ORACLE_BASE/stage/38544618/binary_patches/oss/linux64/  
$ORACLE_BASE/stage/38544618/binary_patches/adf/generic/  
$ORACLE_BASE/stage/38544618/binary_patches/coherence/generic/  
$ORACLE_BASE/stage/38544618/binary_patches/fmw_thirdparty/generic/  
$ORACLE_BASE/stage/38544618/binary_patches/jdbc/generic/  
$ORACLE_BASE/stage/38544618/binary_patches/owsm/generic/  
$ORACLE_BASE/stage/38544618/binary_patches/rda/generic/  
$ORACLE_BASE/stage/38544618/binary_patches/webcenter/generic/  
$ORACLE_BASE/stage/38544618/binary_patches/wls/generic/
```


Agent

Introduction

Agent Patches fresh Installation

```
./agentpatcher lspatches
AgentPatcher Automation Tool
Copyright (c) 2021, Oracle Corporation. All rights reserved.

AgentPatcher version : 13.9.24.0.0
OUI version          : 13.9.4.0.0
Running from          : /u01/app/oracle/agent/agent_24.1.0.0.0
Log file location     : /u01/app/oracle/agent/agent_24.1.0.0.0/cfgtoollogs/agentpatcher/opatch2026-03-09_21-02-30PM_1.log

Component Name/Version      Component Type  System Patch  (Sub)-Patches  Patch Description
-----
oracle.rsa.crypto/12.2.1.4.0 Core            N/A          37087476       WLS PATCH SET UPDATE 12.2.1.4.240922
oracle.jrf.dms.common/12.2.1.4.0 Core           N/A          37087476       WLS PATCH SET UPDATE 12.2.1.4.240922
oracle.sysman.agent.ic/24.1.0.0.0 Core           N/A          37121017       Non System patch Tracking <REDACTED>
oracle.pki/12.2.1.4.0      Core           N/A          37096063       OSS 19C BUNDLE PATCH 12.2.1.4.241001
oracle.ldap.rsrf/12.2.1.4.0 Core           N/A          37096063       OSS 19C BUNDLE PATCH 12.2.1.4.241001
oracle.jse.dms/12.2.1.4.0  Core           N/A          37087476       WLS PATCH SET UPDATE 12.2.1.4.240922
<REDACTED>
```



Agents installed by **Add Target** are not patched.
Solutions: a) Patch Plan or b) Golden Image.



Online or Offline

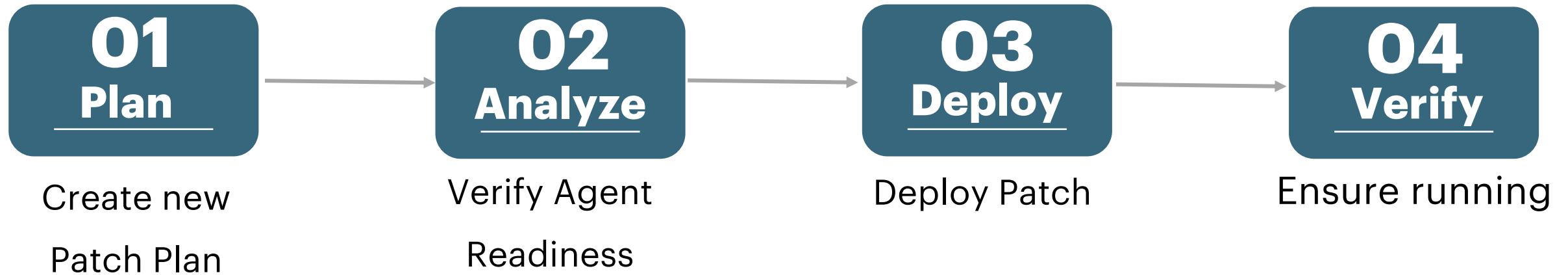
Online

- ☒ Create Patch Plan
- ☐ Apply
- ☐ Rollout

Offline

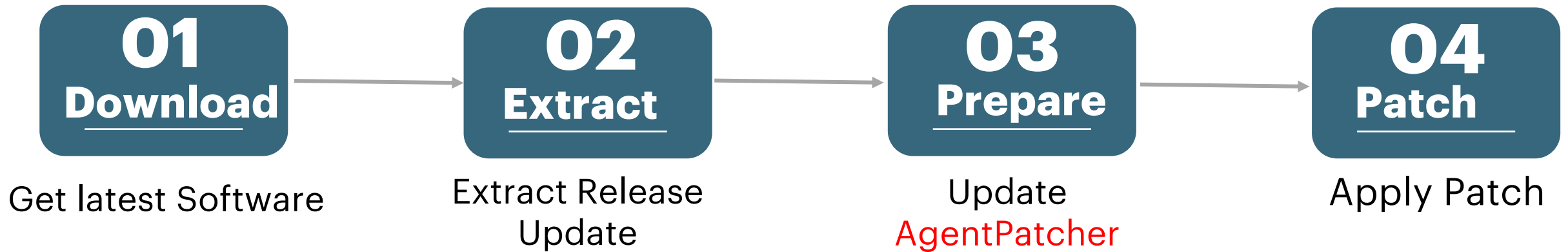
- ☒ Update Agentpatcher
- ☐ Apply
- ☐ Rollout

Oracle Management Agent – Online Patching



Automated Management Agent Patching Using Patch Plans is the Oracle recommended way.

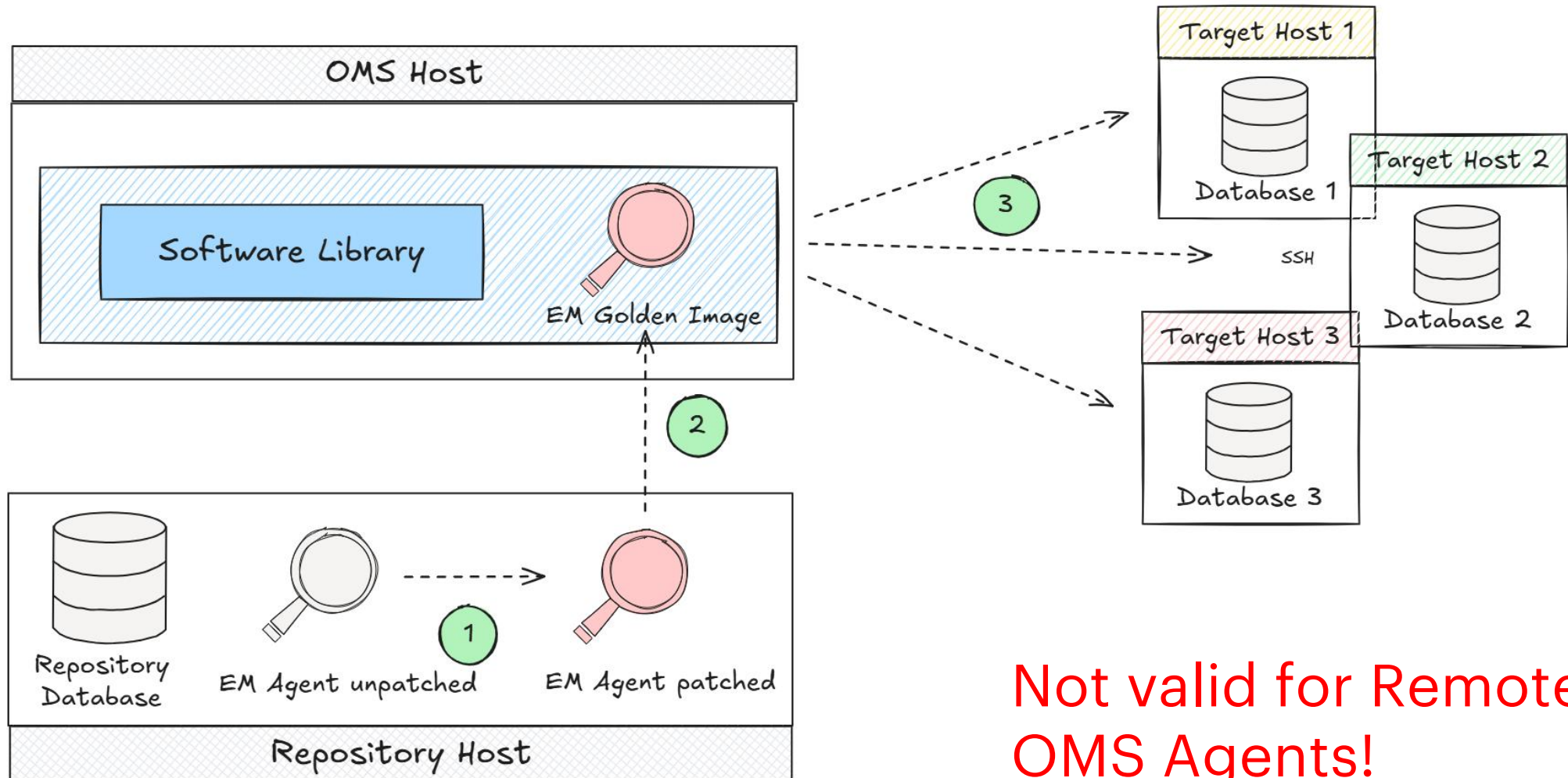
Oracle Management Agent – Offline Patching



Run AgentPatcher

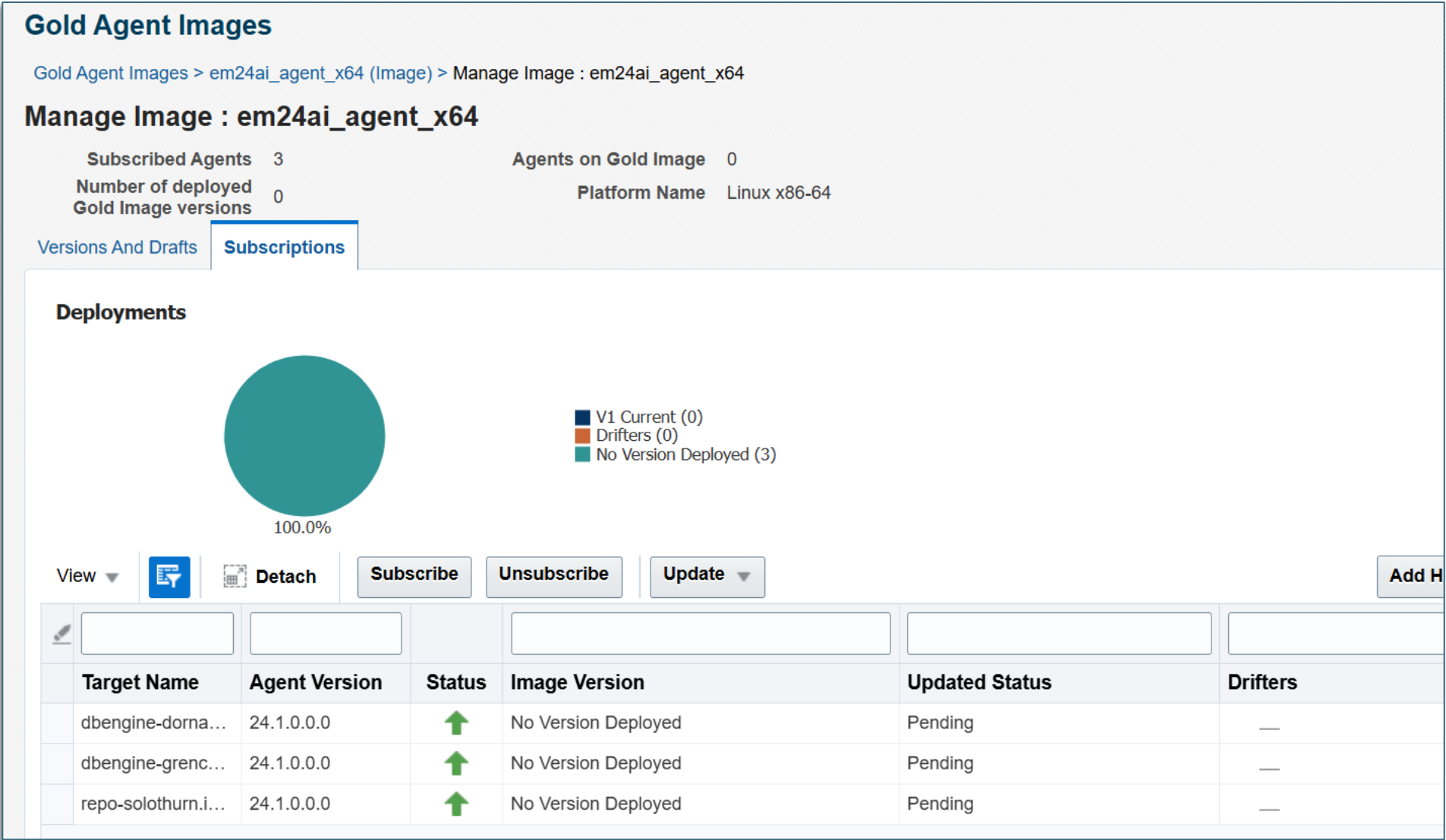
```
$ cd /u00/app/oracle/stage/agent-ru07/37996858
$ $ORACLE_HOME/AgentPatcher/agentpatcher apply
```

Management Agent Patching with Golden Image



Not valid for Remote or OMS Agents!

Golden Image EM24ai Dashboard



Exclude Logs in Golden Images

Exclude Logs

```
$ emcli create_gold_agent_image -image_name="Linux_x86_64" -  
version_name="RU07" -source_agent= "oms-allinone.internal:3872" -  
exclude_files="agent_24.1.0.0.0/cfgtoollogs/*"
```


Update Agent JDK - 3084500.1

EM 24.1 AI: How to Use the Latest Certified JDK 8 Update with 24.1 Agents - KB518379

BEFORE

```
$ $AGENT_HOME/oracle_common/jdk/bin/java -version  
java version "1.8.0_431"  
Java(TM) SE Runtime Environment (build 1.8.0_431-b10)  
Java HotSpot(TM) 64-Bit Server VM (build 25.431-b10, mixed mode)
```

AFTER

```
$ $AGENT_HOME/jdk/bin/java -version  
java version "1.8.0_471"  
Java(TM) SE Runtime Environment (build 1.8.0_471-b26)  
Java HotSpot(TM) 64-Bit Server VM (build 25.471-b26, mixed mode)
```

Offline Plan Patching via Software Library

- Upload patch and metadata XML file to Saved Patches
- Create patch plan
- Apply patch
- Always initiated from OMS
- One single point of view

Saved Patches

Use this page to view a list of patches stored in the Software Library, search patches of your interest, upload these patches to Oracle products monitored in Enterprise Manager, create a [patch plan](#). For information available in the Enterprise Manager [Documentation Library](#).

TIP To upload batches of patches or to upload a multi-part patch, use the EM CLI verb "upload_patch"

View ▾

Upload

Delete

Search Patch Name

Patch Name	Description	Release
33355570	AgentPatcher patch of version 13.9.25.1.0 for Enterprise Manager 24.1.0.0.0 (Patch)	24.1.0.0.0
38155875	Oracle Enterprise Manager 24ai Release 1 Update 5 (24.1.0.5) for Oracle Management Agent (Patch)	24.1.0.0.0

Create New Plan

Plan Name *

Add

Target Name	Target Type	Oracle Home	Host Name
oms-allinone.in...	Agent	/u01/app/oracle/...	oms-allinone.internal



Plug-Ins

Plug-In Self-Update

Example OMS Plugin List RU 01

```
$ emcli list_plugins_on_server
OMS name is oms-allinone.internal:4889_Management_Service
Plug-in Name                               Plugin-id                               Version
[revision]
```

Oracle Cloud Framework	oracle.sysman.cfw	24.1.1.0.0
Oracle Database	oracle.sysman.db	24.1.1.0.0
Oracle Fusion Middleware	oracle.sysman.emas	24.1.1.0.0
Systems Infrastructure	oracle.sysman.si	24.1.1.0.0
Oracle Exadata	oracle.sysman.xa	24.1.1.0.0



They are always included in RU. (other) Plugins must be updated manually or by Self-Update portal.



Self Update – Email Me

ORACLE Enterprise Manager 24ai

Search target names and

Incident Rules - All Enterprise Rules

A rule set is collection of rules that applies to a common set of objects, for example, targets, jobs, and templates. A rule contains a set of automated actions to be taken on specific events, incidents or problems.

▶ Event Compression Policies are enabled

Actions ▾View ▾

Create Rule Set...ViewEdit...Delete...

E-mail ▾

Import...Export...

Simulate RulesReorder Rule Sets...

Name	Description	Enterprise Rule Set	Owner	Enabled	Use Event Compression Policy
▶ Incident management rule set for all targets	Rule set to create and manage inci				
◀ Event Management Rule set for Self Update	Rule set to manage Self Update ev	✓	System Generated	Yes	Rule Level Compres
Notification Rule for New Updates	Rule to notify on availability of new updates.	2.001		Yes	Yes

- E-mail Me
- Do not E-mail Me
- E-mail another administrator ...
- Do not E-mail administrator ...



Misc

Notes and Patches Good to Know

- **KB410267**

13.5,24ai: How to Upgrade AgentPatcher to the Latest Version

- **KB371380**

EM 24ai: How To Upgrade Enterprise Manager 24.1 OMSPatcher Utility to the Latest Version

- **KB410267**

13.9.4.2.22 FOR EM 13.5/24.1 AND FMW/WLS 12.2.1.4.0, 14.1.1.0.0, 14.1.2.0.0 AND IDM 14.1.2.1 (Patch)

Offline - Catalog

- To get patch recommendations in offline mode, upload the latest catalog file in OEM.

Offline Patching

 **Information**

Success: Connection is saved as offline mode.

Go online for optimal usability. Allow Enterprise Manager to connect to My Oracle Support to download patches, get the latest health checks, download self-updates and more. This is a one-way connection and outside services cannot connect to Enterprise Manager. No customer data is sent from Enterprise Manager to Oracle.

Connection ☐ Online ☒ Offline

Upload the catalog to keep Enterprise Manager up-to-date with patch recommendations.

Catalog No file selected.

https://updates.oracle.com/download/em_catalog.zip

EMCLI Method

```
$ emcli upload_catalog -from_host= "oms-allione-internal" -  
file="/u01/app/oracle/stage/em_catalog.zip"  
-cred_name="OMS_HOST_CRED" -cred_owner="SYSMAN"
```


Check Product Certification Matrix

▼ Linux x86-64	SLES 15, SLES 12, Red Hat Enterprise Linux 9, Red Hat Enterprise Linux 8, Red Hat Enterprise Linux 7, Oracle Linux 9, Oracle Linux 8.x, Oracle Linux 7	Operating Systems		Primary
Linux x86-64	SLES 15	Operating Systems	Certified	Primary
Linux x86-64	SLES 12	Operating Systems	Certified	Primary
Linux x86-64	Red Hat Enterprise Linux 9	Operating Systems	Certified	Primary
Linux x86-64	Red Hat Enterprise Linux 8	Operating Systems	Certified	Primary
Linux x86-64	Red Hat Enterprise Linux 7	Operating Systems	Certified	Primary
Linux x86-64	Oracle Linux 9	Operating Systems	Certified	Primary
Linux x86-64	Oracle Linux 8.x	Operating Systems	Certified	Primary
Linux x86-64	Oracle Linux 7	Operating Systems	Certified	Primary
▼ Microsoft Windows x64 (64-bit)	2022, 2019, 2016	Operating Systems		Primary
Microsoft Windows x64 (64-bit)	2022	Operating Systems	Certified	Primary
Microsoft Windows x64 (64-bit)	2019	Operating Systems	Certified	Primary
Microsoft Windows x64 (64-bit)	2016	Operating Systems	Certified	Primary

Classic Error Messages

1

OMSPatcher supports only System patch. Please check patch location input

Check Path where you run patch command.

2

Before proceeding with the release update patch, you must first apply the mandatory one-off patch bundled with the OMSPatcher utility

Happens by first RU apply, command is provided, stop OMS first as mentioned.

3

This command deploy is not the supported operation in the online patching. Execute either ('lspatches', 'update', 'rollback deploy') command ...

Already run omspatcher deploy and OMS is ready for update command.

Takeaways

Know your Versions

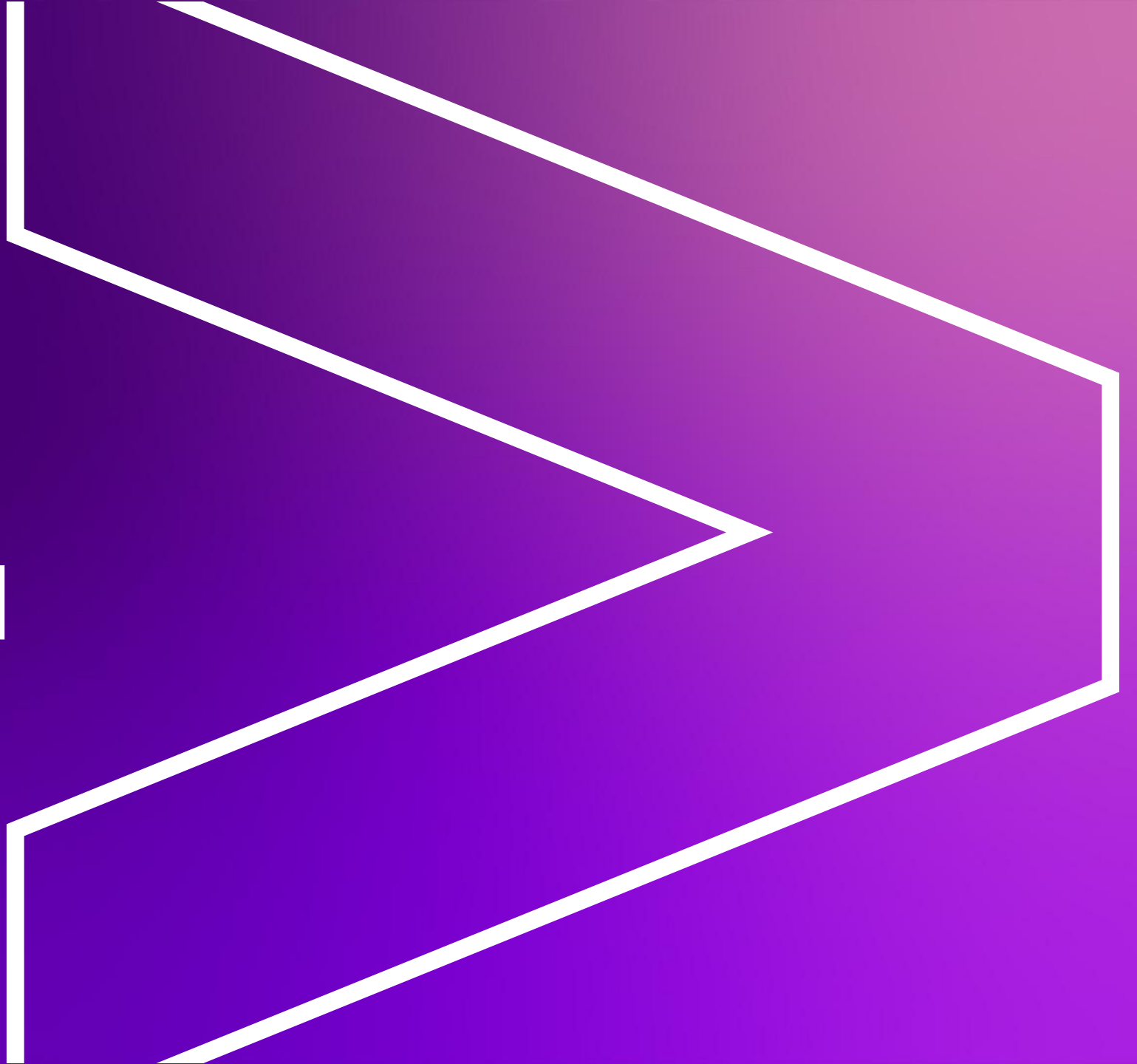
Prefer ZDT, always.

Backup. Analyze. Patch.

Use Golden Images.



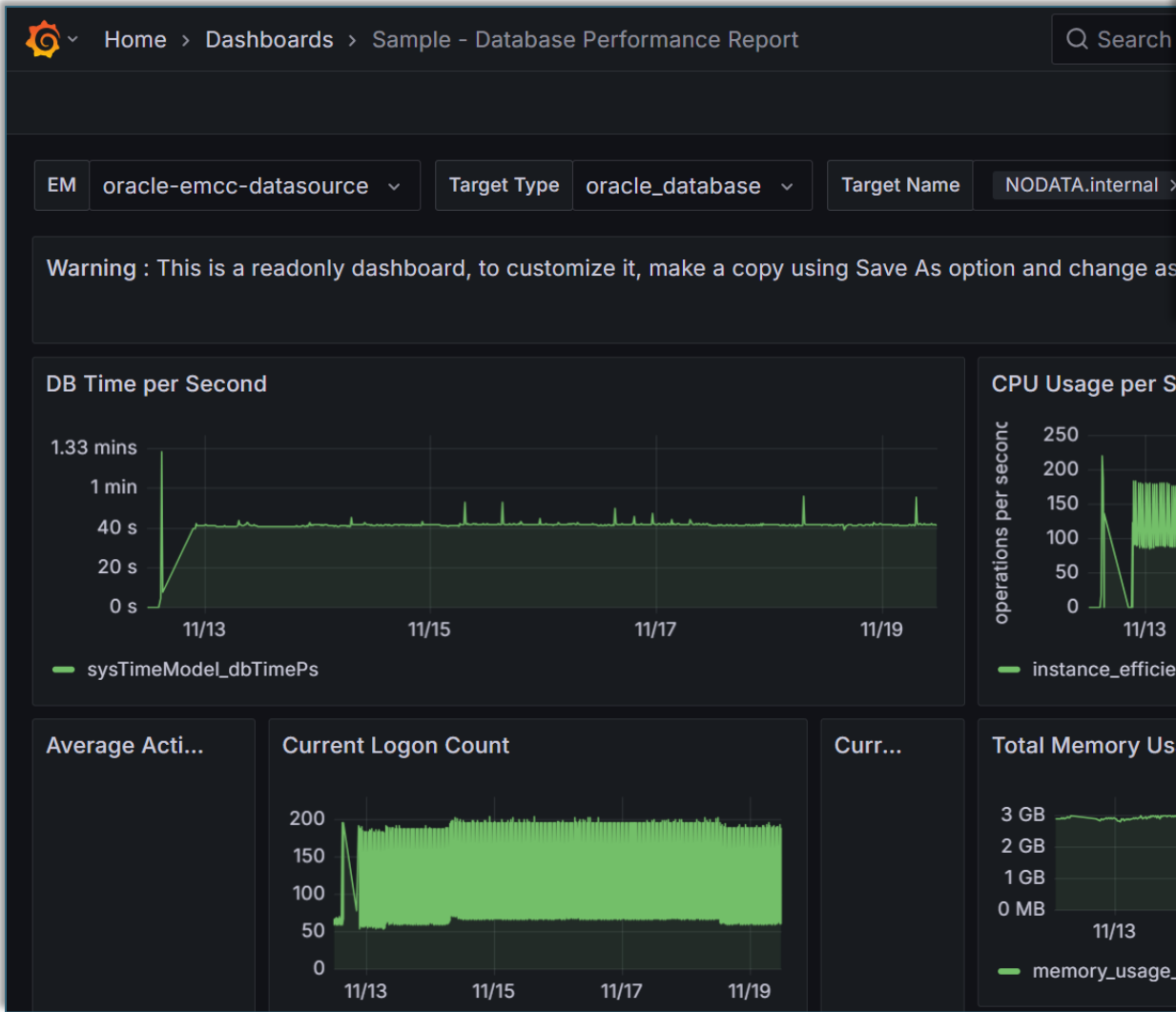
**Merci
vöuomou**



Features

I 

Grafana - OEM App





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Grafana Download page

Oracle Enterprise Manager App for Grafana

App Overview



REST API – Grab your Data

The screenshot displays the Bruno REST client interface. On the left, a sidebar shows a 'Sample API Collection' with a sub-collection 'EM24ai' containing several GET requests. The main panel shows a selected GET request to `https://oms-kestenholz.internal:7803/em/api/targets/AA2DA3D2AEEE3FF245BC13794B2DF9C0/metricGroups/memory_usage/latestData`. The 'Response' tab is active, showing a JSON response with a status of 200 OK. A red box highlights the `total_memory` value in the response.

Request Details:

- Method: GET
- URL: `https://oms-kestenholz.internal:7803/em/api/targets/AA2DA3D2AEEE3FF245BC13794B2DF9C0/metricGroups/memory_usage/latestData`
- Params: None
- Body: None
- Headers: None
- Auth: None
- Vars: None
- Script: None
- Assert: None

Response Details:

- Status: 200 OK
- Time: 5.43s
- Size: 348B

Response Body (JSON):

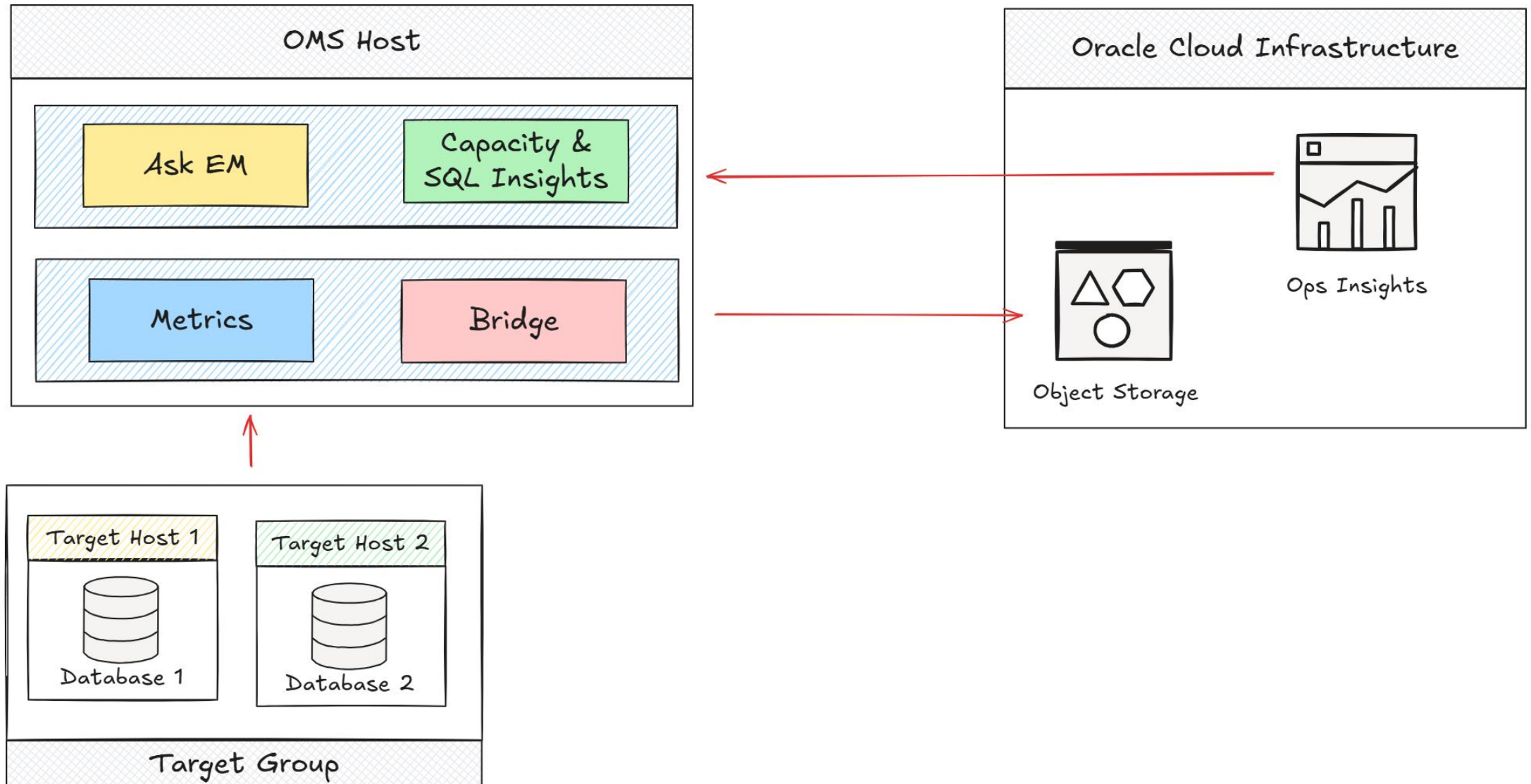
```
{
  "targetName": "NODATA.internal",
  "targetTypeName": "oracle_database",
  "targetId": "AA2DA3D2AEEE3FF245BC13794B2DF9C0",
  "metricGroupName": "memory_usage",
  "timeCollected": "2025-11-19T10:29:55.000Z",
  "items": [
    {
      "total_memory": 3053.44
    }
  ],
  "links": {
    "self": {
      "href": "/em/api/targets/AA2DA3D2AEEE3FF245BC13794B2DF9C0/metricGroups/memory_usage/latestData"
    }
  },
  "count": 1
}
```


Oracle AutoUpgrade & EMCLI Blackouts

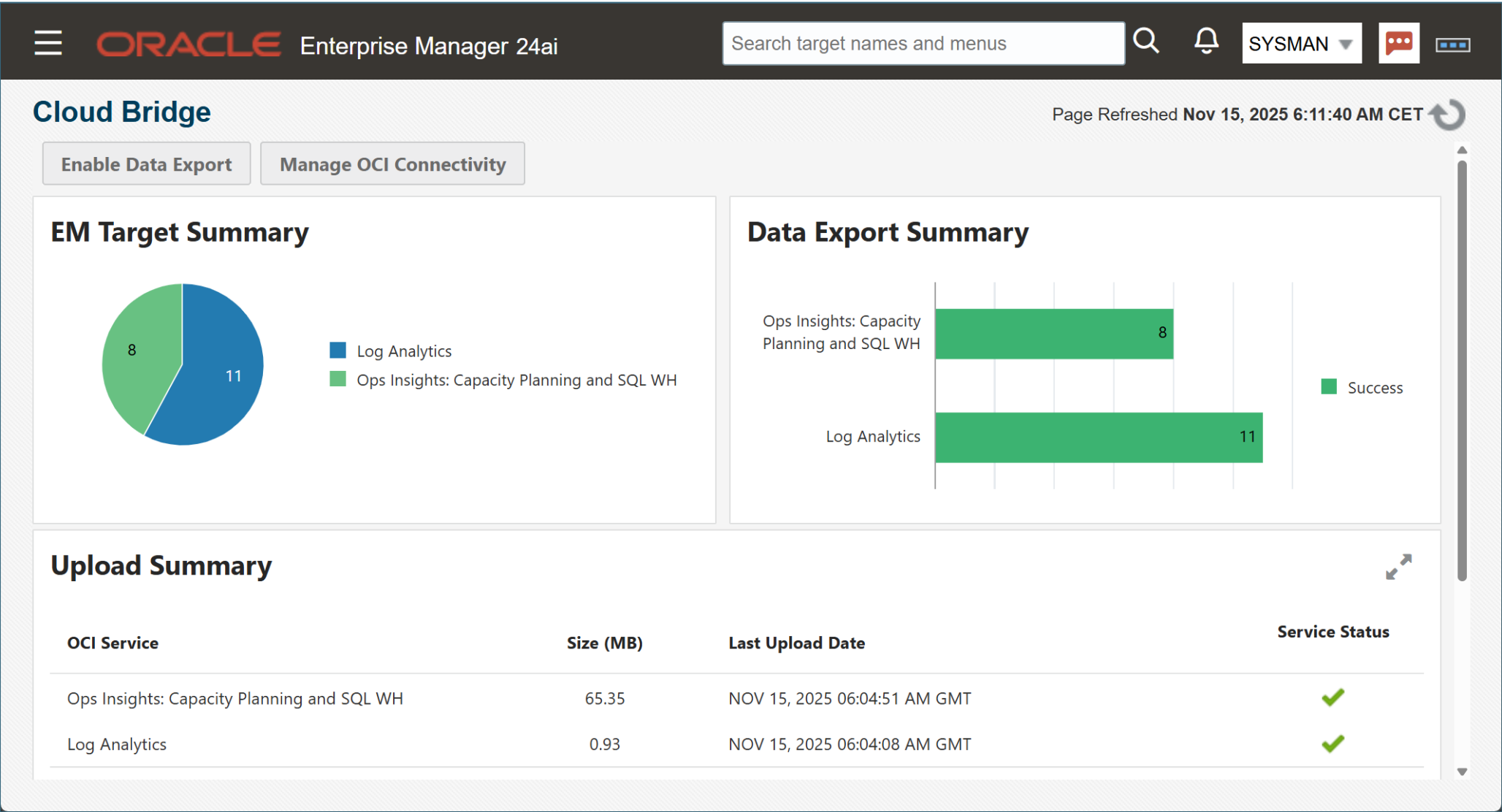
upgrade.config

```
# Global Settings
global.autoupg_log_dir=/u01/app/oracle/cfgtoollogs/autoupgrade
upg1.log_dir=/u01/app/oracle/cfgtoollogs/autoupgrade
upg1.sid=ORANGE
upg1.source_home=/u01/app/oracle/product/19.0.0/dbhome_1
upg1.target_home=/u01/app/oracle/product/19.0.0/dbhome_2
upg1.start_time=NOW
upg1.upgrade_node=dbengine02.internal
upg1.emcli_path=/u01/app/oracle/emcli
upg1.em_target_name=ORANGE.internal
upg1.em_blackout_suffix=snc1724o195
```

Ask EM & OCI Operation Insights



EM-Bridge – The OCI Integration



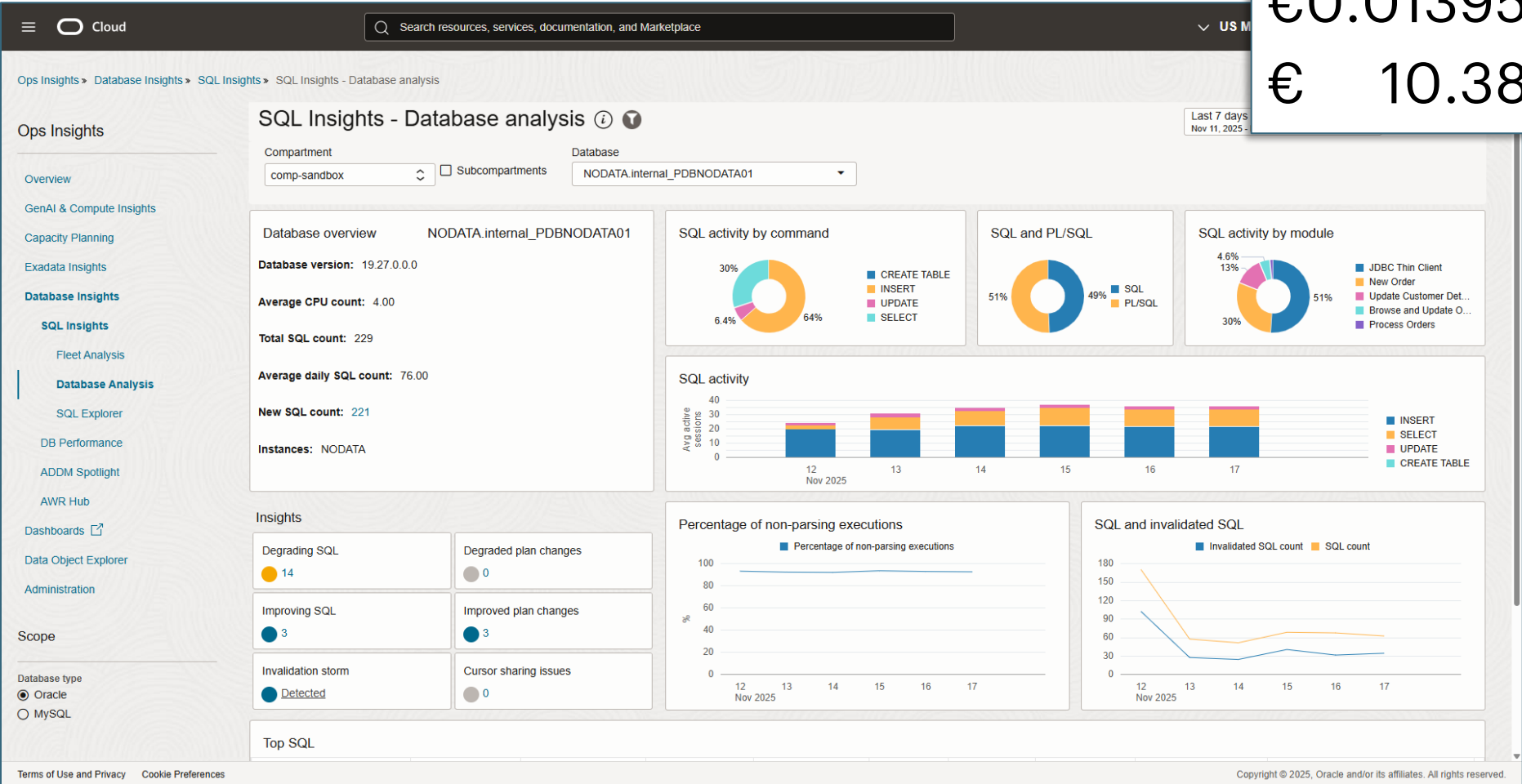
Upload Summary

OCI Service	Size (MB)	Last Upload Date	Service Status
Ops Insights: Capacity Planning and SQL WH	65.35	NOV 15, 2025 06:04:51 AM GMT	✓
Log Analytics	0.93	NOV 15, 2025 06:04:08 AM GMT	✓

OCI Operations Insights

Example for External Oracle Databases and Host

Host CPU Core Per Hour
€0.01395 pro Stunde
€ 10.38 pro Monat



Ask EM

ORACLE Enterprise Manager 24ai

Search target names and menus

SYSMAN

Time Selector

Last 24 hours

Nov 17 17:11 - Tod...

Databases Incidents Last 7 Days

Sever	Summary	Target Name	Target Type	Status	Create	La Updat	Owr
⊖	The pluggable database H	HRDATA_S	Plu...	New	20...	20...	-
⊖	The pluggable database H	HRDATA_S	Plu...	New	20...	20...	-
⊗	The pluggable database is	HRDATA_S	Plu...	New	20...	20...	-
⊗	The pluggable database is	HRDATA_S	Plu...	New	20...	20...	-

Databases Critical Incidents

Sever	Summary	Target Name	Target Type	Status	Create	La Updat	Owr
⊗	The pluggable database is	HRDATA_S	Plu...	New	20...	20...	-
⊗	The pluggable database is	HRDATA_S	Plu...	New	20...	20...	-
⊗	The database status is UNI	HRDATA_S	Dat...	New	20...	20...	-

Databases Fatal Incidents ⓘ

Sever	↑ Summary	Target Name	Target Type	Status	Created	Last Updated	Owner	Acknov	Escala
⊖	The pluggable database HRDATA_SITE1.internal_PDBH	HRDATA_SITE1.internal	Pluggable D...	New	2025-11-...	2025-11-...	-	No	No
⊖	The pluggable database HRDATA_SITE1.internal_CDBF	HRDATA_SITE1.internal	Pluggable D...	New	2025-11-...	2025-11-...	-	No	No
⊖	Failed to connect to database instance: Failed to connec	HRDATA_SITE1.internal	Database Ins...	New	2025-11-...	2025-11-...	-	No	No

Ask EM

Ask EM is in preview mode. We are constantly working to improve the accuracy and quality of our GenAI generated response.

Telemetry Documentation

Today at 6:10 PM

Hi! I'm your GenAI-powered EM Digital Assistant. You can ask me any question about EM. I can provide answers from the EM telemetry and share references.

Connection established 6:10 PM

Do we have a problem with a database monitored by this instance?

Today at 6:11 PM

I have some findings for your review

Open

Enter message



Ask EM

ORACLE Enterprise Manager 24ai

Search target names and menus

SYSMAN

Time Selector

Last 24 hours

Nov 17 17:13 - To...

Autonomous Transaction Processing

RESTDB

Database Instance Storage Usage (GB)

Target Name	Target Type	Value (Latest)
NODATA.internal	Database Instance	35.92
EM24AI_SITE1.internal	Database Instance	24.07
ITAB01_A.sndatabasepubli.vcncompute.c	Database Instance	3.77
HRDATA_SITE1.internal	Database Instance	3.54
ITAB02_A.sndatabasepubli.vcncompute.c	Database Instance	3.26

Autonomous Transaction Processing Storage Usage (bytes)

Target Name	Target Type	Value (Latest)
RESTDB	Autonomous Transacti...	6,170,869,760

Autonomous Transaction Processi...

bytes

7B

6B

5B

4B

3B

2B

1B

0

08:00 PM 02:00 AM 08:00 AM 02:00 PM

Nov 17, 2025

Autonomous Transaction Processing Storage Utilization (%)

Target Name	Target Type	Value (Latest)
RESTDB	Autonomous Transaction Proces...	28.74

Ask EM

Ask EM is in preview mode. We are constantly working to improve the accuracy and quality of our GenAI generated response.

Telemetry

Documentation

the EM telemetry and share references.

Connection established 6:10 PM

Do we have a problem with a database monitored by this instance?

Today at 6:11 PM

I have some findings for your review

Open

Which database monitored by this instance has the highest storage usage?

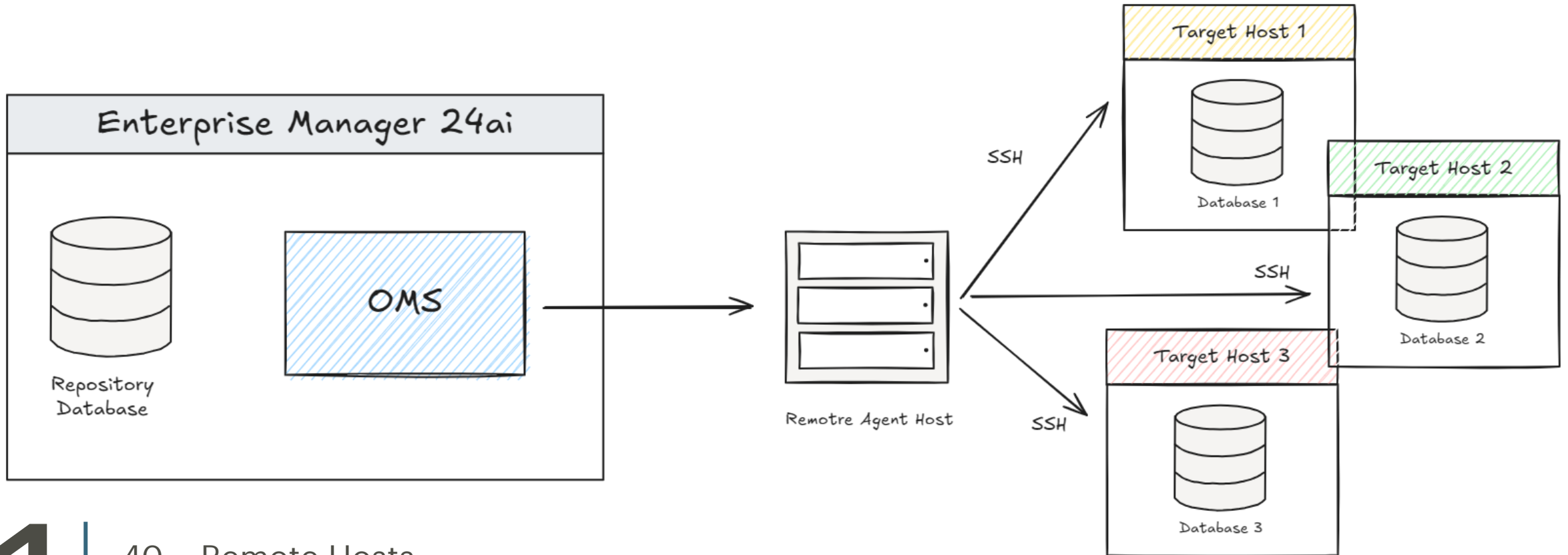
Today at 6:13 PM

Some additional findings shown on the left

Enter message



Remote Agent



- 1 40 Remote Hosts
- 80 Single Instances (CDB)
- 480 Pluggable Databases (PDBs)
- 40 RAC Databases

NON-SYS

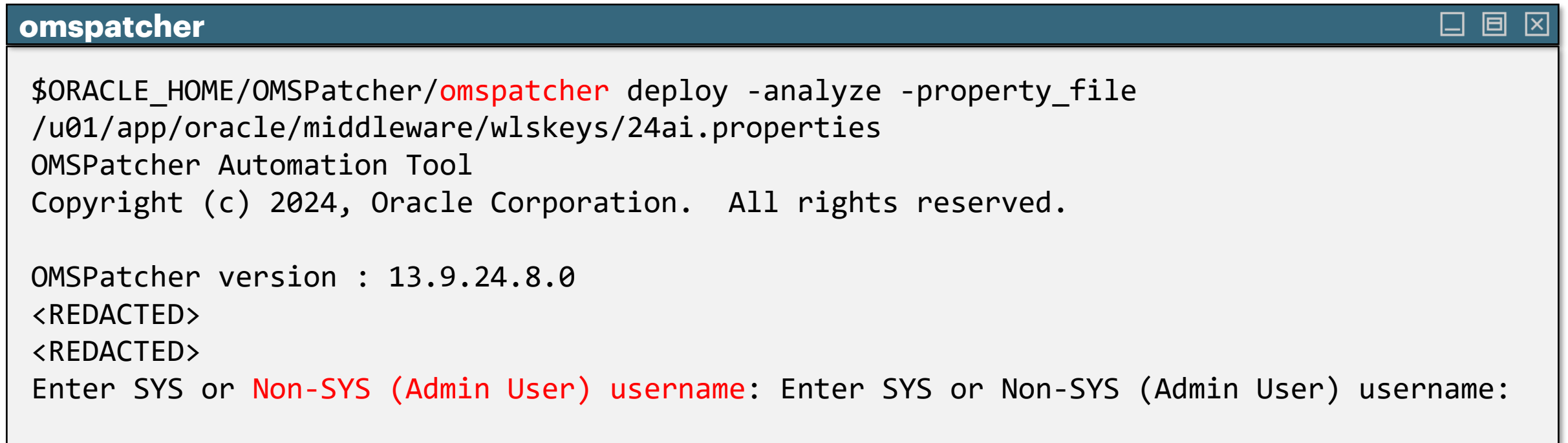
- Performs Enterprise Manager installation, configuration and patching operations. (The SYS database user is no longer required during the installation, configuration and patching).
- User is created during the execution of the ConfigureGC script (Enterprise Manager configuration).
- Naming convention: **SYSMAN_** is the username prefix.

createLCMUser.pl

```
$OMS_HOME/perl/bin/perl \  
createLCMUser.pl \  
-oh /u01/app/oracle/middleware/oms_home
```


NON-SYS

- OMSPatcher Interactive

A screenshot of a terminal window titled 'omspatcher'. The window has a dark blue header bar with the title and standard window control icons (minimize, maximize, close) on the right. The main content area is light gray and contains the following text:

```
$ORACLE_HOME/OMSPatcher/omspatcher deploy -analyze -property_file  
/u01/app/oracle/middleware/wlskeys/24ai.properties  
OMSPatcher Automation Tool  
Copyright (c) 2024, Oracle Corporation. All rights reserved.  
  
OMSPatcher version : 13.9.24.8.0  
<REDACTED>  
<REDACTED>  
Enter SYS or Non-SYS (Admin User) username: Enter SYS or Non-SYS (Admin User) username:
```

sysman.mgmt_oms_parameters

sysman.mgmt_oms_parameters

```
SQL> SELECT name, value, timestamp  
2   FROM sysman.mgmt_oms_parameters  
3   WHERE name = 'last_oms_backup';
```

NAME	VALUE	TIMESTAMP
last_oms_backup	/u01/app/oracle/stage/backup/opf_ADMIN_20261116_195812.bka	16-NOV-25

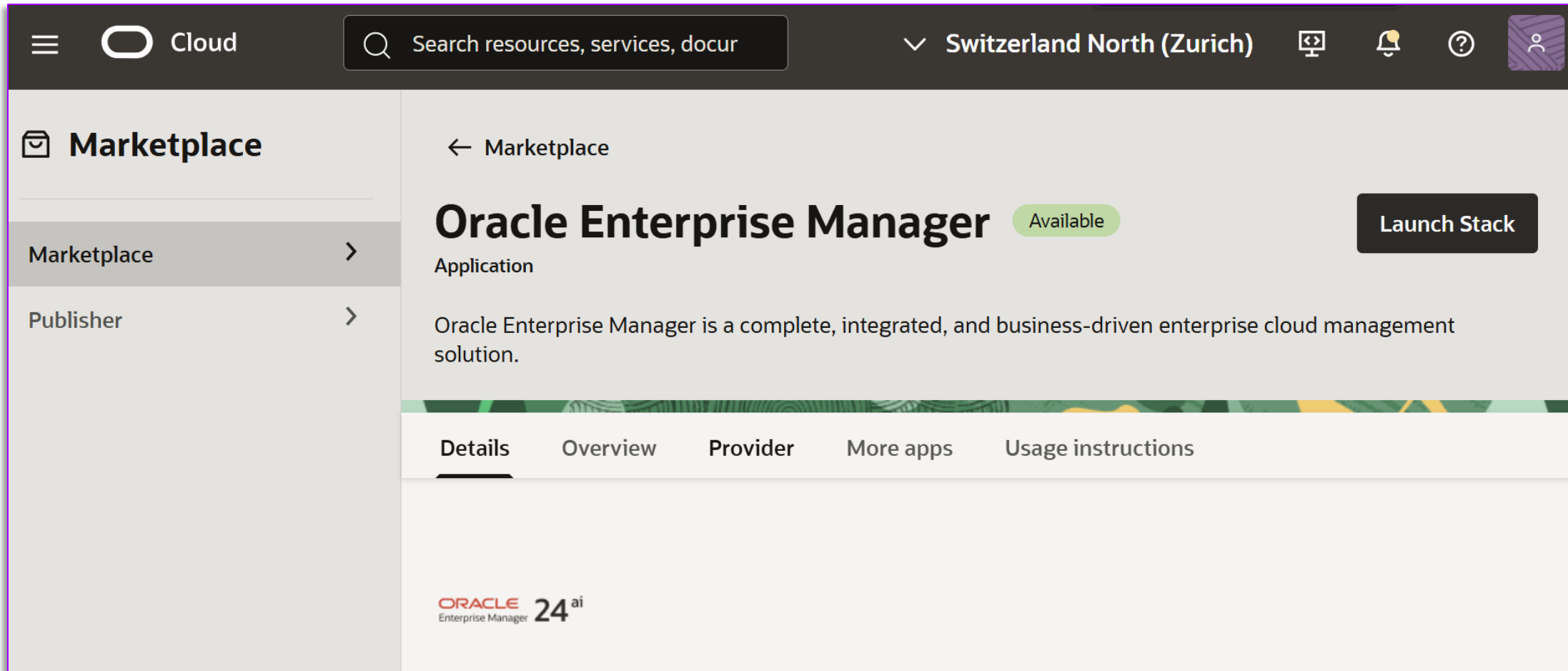
Backup Content – ZDT Included

emctl exportconfig - opf_ADMIN_20261116_195812.bka

```
oracle@oms-kestenholz:/u01/app/oracle/stage/backup/ [oms24c1] tree -L 3
```

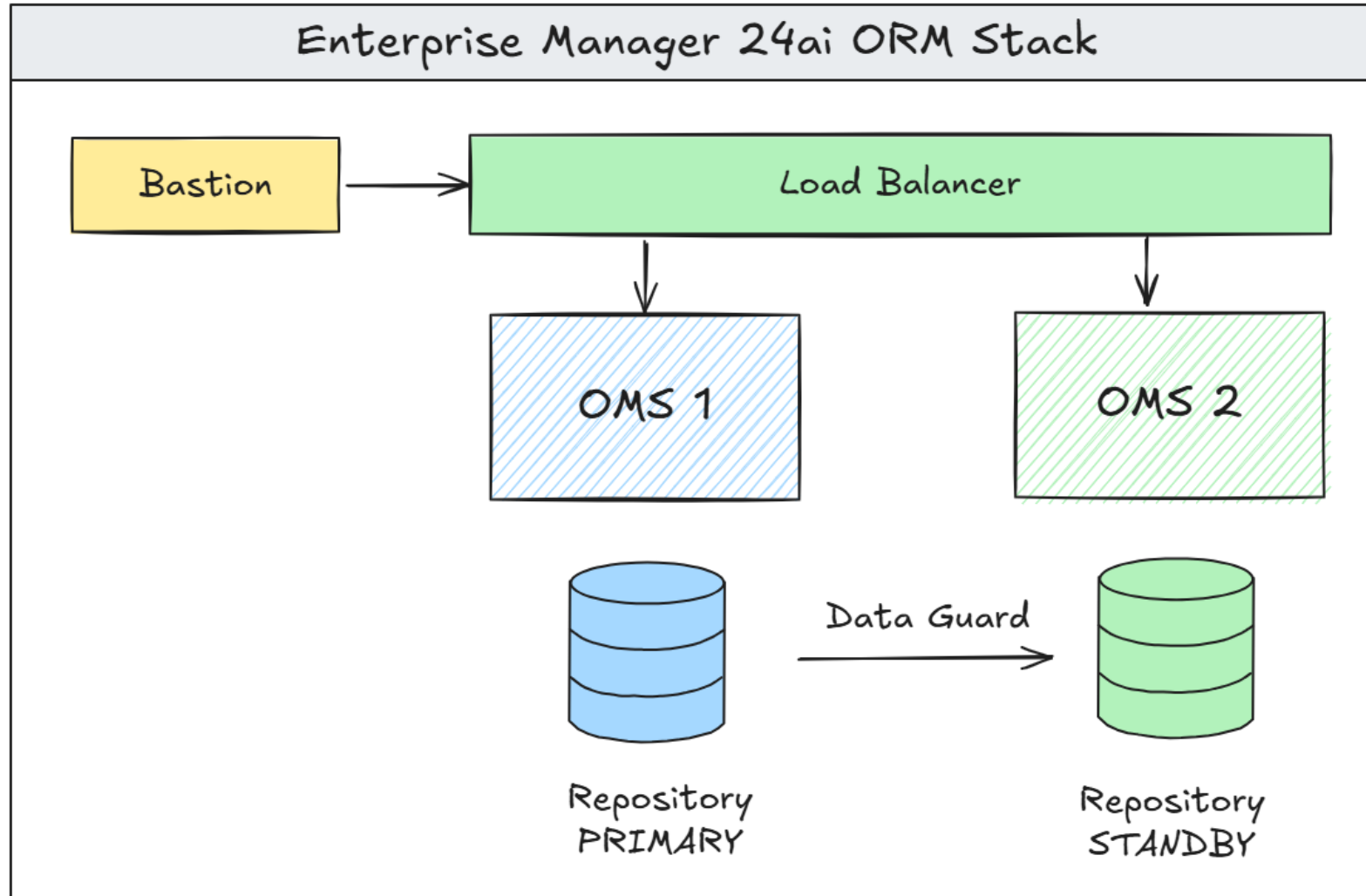
```
.
├── export.properties
├── GCDomain_backup.zip
├── omrWallets
│   └── cwallet.sso
├── opf_ADMIN_20261116_195812.bka
├── plugins.list
├── sysman
│   └── prov
│       └── agentpush
├── user_projects
│   └── domains
│       ├── EMExtDomain1
│       └── GCDomain
```

Try it out – OCI Marketplace



Pre-configured Oracle Enterprise Manager 24ai (version - 24.1RU05) with co-located Oracle database (version - 19.28.0.0) for single node configuration and OCI 2-node RAC DB system for Multi-node configuration as Oracle Management Repository (OMR).

Try it out – OCI Marketplace



Additional – Plugin Version Check

Query Plugin

```
select epv.display_name,  
       epv.plugin_id,  
       epv.version,  
       ec.dest_type  
from em_plugin_version epv,  
     em_current_deployed_plugin ec  
where epv.plugin_type not in ( 'BUILT_IN_TARGET_TYPE',  
                               'INSTALL_HOME' )  
     and ec.dest_type in ('1','2')  
     and epv.plugin_version_id = ec.plugin_version_id  
order by 1,2;
```

- 1=Agent / 2=OMS / 3=Both



Additional – Plugin Version Check EMCLI

```
RU01

- Out of the Box
oracle@oms-allinone:~/ [oms24c1] emcli list_plugins_on_server
OMS name is oms-allinone.internal:4889_Management_Service

Plug-in Name                                Plugin-id                                Version [revision]

Oracle Cloud Framework                      oracle.sysman.cfw                      24.1.1.0.0
Oracle Database                           oracle.sysman.db                      24.1.1.0.0
Oracle Fusion Middleware                   oracle.sysman.emas                    24.1.1.0.0
Systems Infrastructure                     oracle.sysman.si                      24.1.1.0.0
Oracle Exadata                            oracle.sysman.xa                      24.1.1.0.0

-> Only when DB Plugin for Agent is deployed
oracle@oms-allinone:~/ [oms24c1] emcli list_plugins_on_agent
The Agent URL is https://oms-allinone.internal:3872/emd/main/ -

Plug-in Name                                Plugin-id                                Version [revision]

Oracle Home                               oracle.sysman.oh                      24.1.0.0.0
Oracle Beacon                             oracle.sysman.beacon                 24.1.0.0.0
Management Services and Repository         oracle.sysman.emrep                  24.1.0.0.0
Oracle Fusion Middleware                   oracle.sysman.emas                    24.1.1.0.0
```



Patch Upload

- File + Metadata is best!

File Download ⓘ

Click each file name to download the selected files.

Tip: Use a Download Manager [Learn More...](#)

Oracle Enterprise Manager 24ai Release 1 Update 5 (24.1.0.5) for Oracle Management Agent(Patch:Generic Platform)

p38155875_241000_Generic.zip (147.6 MB)

Total Size 147.6 MB

Download File Metadata

View Digest Details

Close

ORACLE Enterprise Manager 24ai

Search target names and menus

SYSMAN

Confirmation

Successfully uploaded patch 33355570.

Saved Patches

Page Refreshed Mar 9, 2026 5:13:11 PM CET

Use this page to view a list of patches stored in the Software Library, search patches of your interest, upload new patches to the Software Library, and remove unwanted patches from the Software Library. If you want to apply these patches to Oracle products monitored in Enterprise Manager, create a [patch plan](#). For information about creating patch plans, refer to Oracle Enterprise Manager Lifecycle Management Administrator's Guide available in the Enterprise Manager [Documentation Library](#).

TIP To upload batches of patches or to upload a multi-part patch, use the EM CLI verb "upload_patches". For information on this verb, run the command "emcli help upload_patches".

View

+ Upload

✕ Delete

Search Patch Name

Detach

Patch Name	Description	Release	Platform(Language)	Product/Family	Update	Size
38155875	Oracle Enterprise Manager 24ai Release 1 Update 5 (24.1.0.5) for Oracle Management Agent (Patch)	24.1.0.0.0	Generic Platform (American English)	Enterprise Manager Base Platform	5+ months ago	147.6 MB
33355570	AgentPatcher patch of version 13.9.25.1.0 for Enterprise Manager 24.1.0.0.0 (Patch)	24.1.0.0.0	Generic Platform (American English)	Enterprise Manager Base Platform	1+ month ago	823.8 KB



Patch Multiple OMS – Mandatory Patch

37703206

```
$ /u01/app/oracle/middleware/oms_home/OMSPatcher/omspatcher apply /u01/app/oracle/middleware/oms_home/OMSPatcher/patches/37703206 -oh /u01/app/oracle/middleware/oms_home
OMSPatcher Automation Tool
Copyright (c) 2024, Oracle Corporation. All rights reserved.

OMSPatcher version : 13.9.24.9.0
OUI version       : 13.9.4.0.0
Running from      : /u01/app/oracle/middleware/oms_home
Log file location : /u01/app/oracle/middleware/oms_home/cfgtoollogs/omspatcher/opatch2026-03-11_07-00-44AM_1.log

OMSPatcher log file: /u01/app/oracle/middleware/oms_home/cfgtoollogs/omspatcher/37703206/omspatcher_2026-03-11_07-01-00AM_apply.log

Please enter OMS weblogic admin server URL(t3s://rh9-oms-1.sneuzurich1prod.vcneuzurich1pro.oraclevcn.com:7102):>
Please enter OMS weblogic admin server username(weblogic):>
Please enter OMS weblogic admin server password:>

Enter SYS or Non-SYS (Admin User) username: SYS
Enter 'sys' password :

*****
The below additional oms will be patched along with the primary oms :
rh9-oms-2.sneuzurich1prod.vcneuzurich1pro.oraclevcn.com

The patch is located at /u01/app/oracle/middleware/oms_home/OMSPatcher/patches/37703206. Ensure that the patch is accessible on all OMS instances from the same location.
Alternatively, locate the patch under software library, it is configured at /mnt/fss-swlib/em-swlib/
*****

Is patch location '/u01/app/oracle/middleware/oms_home/OMSPatcher/patches/37703206' accessible on all the OMS nodes? [yes|no]
```