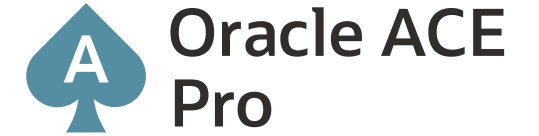


Great love or just a flirt?

On a first date with Oracle Enterprise Manager 24ai.

Martin Berger – Data Platforms

martin.x.berger@accenture.com



Tech Architect Manager

Kestenholz / Jurasüdfuss / Schweiz

2 Junior-DBAs (10 & 12)

Firefighter / 2nd in command

E-Biker

Cloud Enthusiast



martinberger.bsky.social



www.martinberger.com

ASG DATA PLATFORMS

WHY? We are the game changer for our client's data platform projects

HOW? Maximum automation, maximum efficiency, maximum quality!

WHAT? We build innovative data platforms based on our blueprints, assets and tools.



3 key benefits

- 1 Architecture expertise from hands-on projects
- 2 Delivery of tailor-made data platforms
- 3 Integrated Teams - Like a Rowing team, perfect alignment and interaction.



Tools and Blueprints

Key enabler for the implementation of modern data platforms at a high speed and quality.

Continuous Optimization

Tools and Blueprints are continuously optimized to the customer and project's needs.

Expertise

Expert group for modern data platforms from technical implementation to project management and organization

Agenda

- 01** It's here
- 02** Setup
- 03** Architecture
- 04** New Features

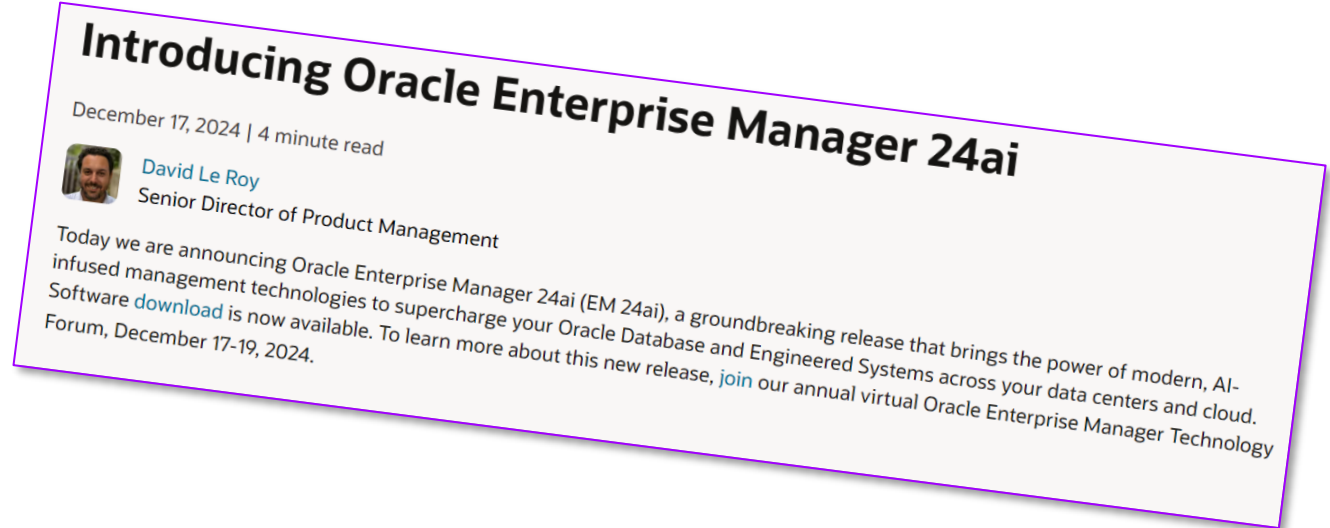


It's here

It's here

20 New Features:

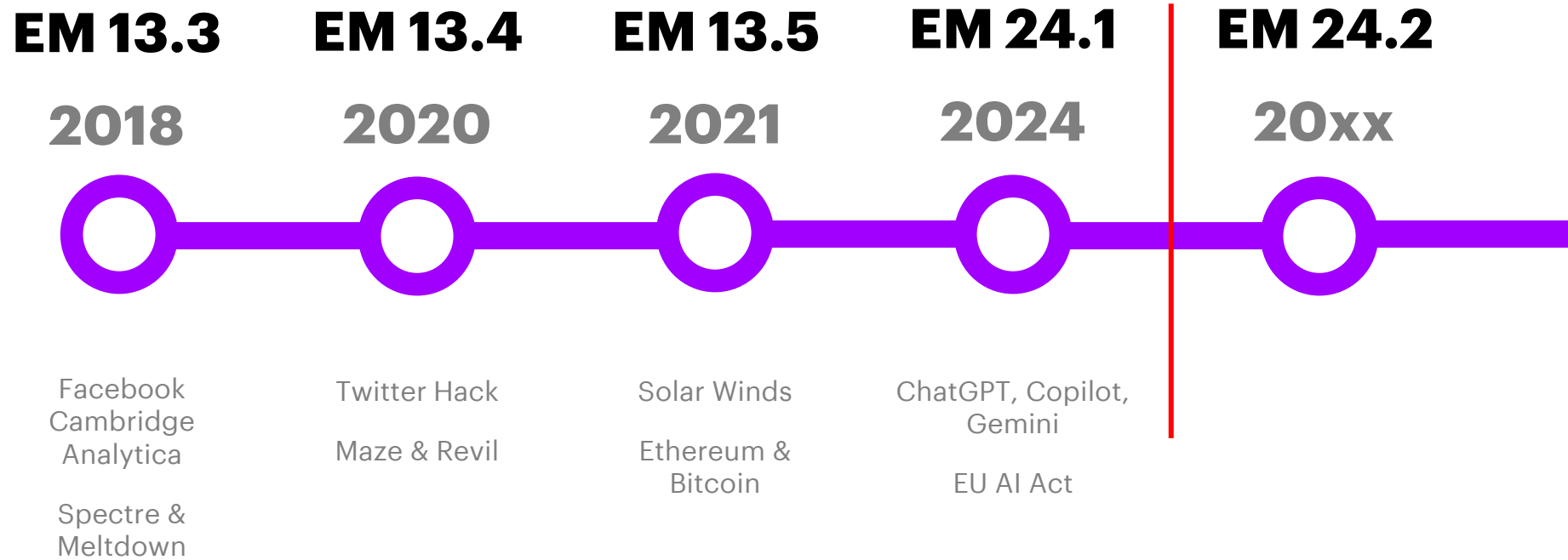
- Zero Downtime (ZDT) Monitoring
- New Navigation Menu
- Monitoring Using Remote Agents
- New Job System Console
- REST APIs for Blackouts Management
- and many more...



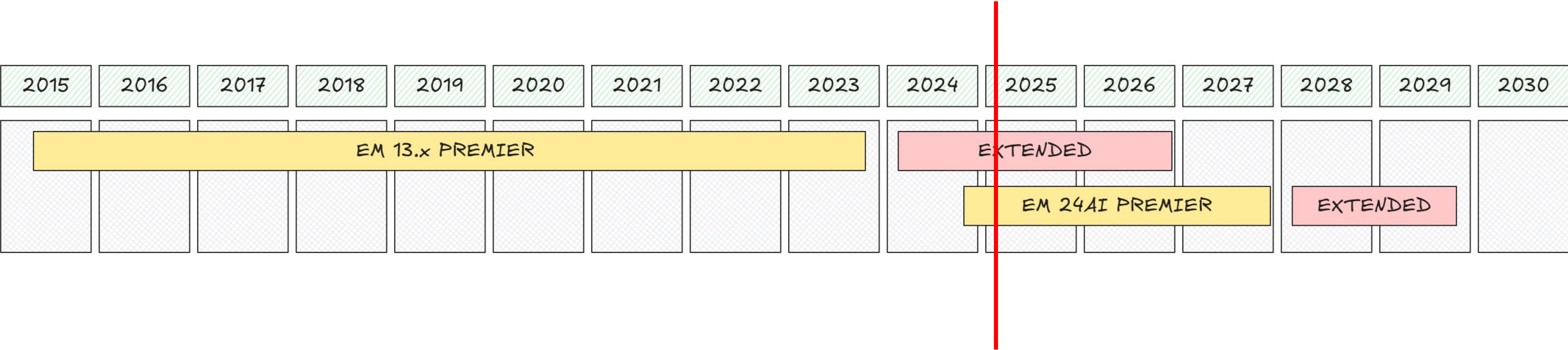
Link

<https://docs.oracle.com/en/enterprise-manager/cloud-control/enterprise-manager-cloud-control/24.1/emcon/new-features-release.html#GUID-1F9951DF-5115-46C3-BE3F-C2620216FA6C>

Timeline



Lifetime Support Policy



Release Schedule of Enterprise Manager Releases and Patchsets (Doc ID 793512.1)

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



Setup

Where to get

- oracle.com (Oracle Software Delivery Cloud)

Oracle Enterprise Manager Downloads

Oracle Enterprise Manager 24ai Release 1 (24.1.0.0.0) **New!**

Software Download



Oracle Enterprise Manager 24ai Release 1 (24.1.0.0.0)

Download Instructions

[Readme instructions for Linux x86-64](#)

[Readme instructions for Microsoft Windows x64 \(64-bit\)](#)

Note: The software download link will take you to the edelivery site, which instructions for each platform.

Software

☒ Enterprise Manager Base Platform - OMS 24.1.0.0.0

<input checked="" type="checkbox"/>	V1046953-01.zip	Oracle Enterprise Manager 24ai Release 1 (24.1.0.0.0) for Linux x86-64 (3 of 5) for (Linux x86-64), 1.8 GB
<input checked="" type="checkbox"/>	V1046952-01.zip	Oracle Enterprise Manager 24ai Release 1 (24.1.0.0.0) for Linux x86-64 (2 of 5) for (Linux x86-64), 1.4 GB
<input checked="" type="checkbox"/>	V1046954-01.zip	Oracle Enterprise Manager 24ai Release 1 (24.1.0.0.0) for Linux x86-64 (4 of 5) for (Linux x86-64), 1.6 GB
<input checked="" type="checkbox"/>	V1046955-01.zip	Oracle Enterprise Manager 24ai Release 1 (24.1.0.0.0) for Linux x86-64 (5 of 5) for (Linux x86-64), 1.6 GB
<input checked="" type="checkbox"/>	V1046951-01.zip	Oracle Enterprise Manager 24ai Release 1 (24.1.0.0.0) for Linux x86-64 (1 of 5) for (Linux x86-64), 1.5 GB

Infrastructure Requirements

-	Evaluation or Simple Installation	Advanced Installation (SMALL)	Advanced Installation (MEDIUM)
Configuration	1 OMS <100 Targets <10 Agents <3 Concurrent User Sessions	1 OMS <1000 Targets <100 Agents <10 Concurrent User Sessions	2 OMSes ≥1000 but <10,000 Targets ≥100 but <1000 Agents ≥10 but <25 Concurrent User Sessions
CPU Cores/Host	2	4	6
RAM	10 GB	10 GB	12 GB
Hard Disk Space	28 GB	28 GB	28 GB
Temporary Directory Hard Disk Space	14 GB	14 GB	14 GB
Oracle WebLogic Server JVM Heap Size	1 GB	1.7 GB	4 GB

Supported Operating Systems

- Oracle Linux 9
- Red Hat Linux 9
- Oracle Linux 8
- Red Hat Linux 8
- Oracle Linux 7 (ULO+)
- Red Hat Linux 7 (ULO+)
- SUSE Linux Enterprise 15
- SUSE Linux Enterprise 12 (SP3)
- Solaris SPARC 11.4+
- IBM AIX 7.3
- IBM AIX 7.2
- Microsoft Windows

Search Results: Enterprise Manager Base Platform - OMS 24.1.0.0.0

[Certification Search](#) [Edit Search \(Enterprise Manager Base Platform - OMS 24.1.0.0.0\)](#)

Certification Results


Displaying Enterprise Manager Base Platform - OMS 24.1.0.0.0 Certifications. Group by Show

View [Share Link](#)

Certified With	Number of Releases / Versions
Operating Systems (4 Items)	
IBM AIX on POWER Systems (64-bit)	2 Versions (7.3, 7.2)
Linux x86-64	8 Versions (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)
Microsoft Windows x64 (64-bit)	3 Versions (2022, 2019, 2016)
Oracle Solaris on SPARC (64-bit)	1 Version (11.4)

EM 24ai: Checklist For Upgrading Enterprise Manager Cloud Control from Version 13.5 to 24.1 (Doc ID 3043081.1)

- Database Release Upgrade 19.22 or higher
- Undeploy unused plugins like Big Data Appliance
- Verify Jobs

 **EM 24ai: Checklist For Upgrading Enterprise Manager Cloud Control from Version 13.5 to 24.1 (Doc ID 3043081.1)**

In this Document

- [Purpose](#)
- [Scope](#)
- [Details](#)
 - [OMS OS Requirements](#)
 - [Hardware and Package Requirements](#)
 - [Memory Requirements](#)
 - [Prerequisites](#)
- [References](#)

APPLIES TO:

Enterprise Manager Base Platform - Version 24.1.0.0.0 and later
Information in this document applies to any platform.

PURPOSE

This document is intended as a checklist that describes many of the preparatory actions required to ensure a successful upgrade of Enterprise Manager (EM) Cloud Control 13.5.0.0.0 to version 24.1.0.0.0. This information may supplement the planning, prerequisite, and procedural requirements, which also still apply, described in the following

EM Prereqkit Utility

- Consolidated repository database and system prerequisite related checks
- Reporting
- Graphical or Silent Mode
- Auto-Fix option to reduce the manual effort
- Simple execution of the prerequisite kit (OUI and Silent) before install or upgrade process
- SYS or non-SYS user

○ ○ ○

```
oracle@trinity:~/ [oms24c1] ./em24100_linux64.bin EMPREREQ_KIT=TRUE
```



Install as NON-SYS

- To avoid using the SYS user for the upgrade, choose the 'non-SYS' user option and provide the necessary user details.
- Ensure the username begins with 'SYSMAN_' followed by your chosen username.
- The installer will set up this user in the repository database, utilizing it for preliminary execution tasks and subsequently for upgrading the OMS.

The screenshot shows the 'Database User Details' window in the Oracle installer. On the left is a navigation pane with the following steps: Installation Types, Software Updates, Prerequisite Checks, Installation Details, **Database Connection Details**, **Database User Details** (highlighted), Database Prerequisite Check, Plug-in Upgrade, Extend WebLogic Server Dom, Port Configuration Details, Review, Install Progress, and Finish. The main area has two radio buttons: 'Perform Upgrade using SYS user' (unselected) and 'Perform Upgrade using non-SYS user' (selected). Below the radio buttons, there is explanatory text for the non-SYS option. Two input fields are present: 'DB Username' with the text 'SYSMAN_V' and 'DB Password' with masked characters. At the bottom right, there is a 'Messages:' label above a text area. The bottom of the window contains a 'Help' button on the left and '< Back', 'Next >', 'Upgrade', and 'Cancel' buttons on the right.

Database User Details

Installation Types

Software Updates

Prerequisite Checks

Installation Details

Database Connection Details

Database User Details

Database Prerequisite Check

Plug-in Upgrade

Extend WebLogic Server Dom

Port Configuration Details

Review

Install Progress

Finish

☐ Perform Upgrade using SYS user

(SYS is the default user in the repository database for upgrade.)

☒ Perform Upgrade using non-SYS user

(The non-SYS user option is to avoid using a SYS user for upgrade. If the specified user does not exist, the installer will create a non-SYS user with a username starting with SYSMAN_<username> in the repository database.)

DB Username: SYSMAN_V

DB Password:

Messages:

Help < Back Next > Upgrade Cancel

Upgrade Strategies

Step-by-Step

- Upgrade and migration planning
- Migrating to new hardware, new data center
- Move 1:1
- Parallel agents

Least Critical

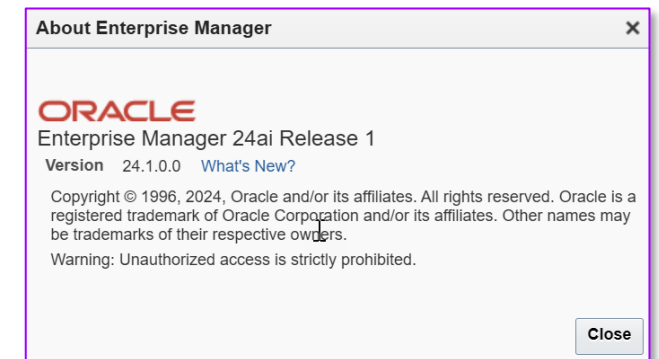
- By criticality
- DEV system upgrade
- NON-PROD system upgrade
- PROD system upgrade

Big Bang

- All in one maintenance window
- All component upgrade

Upgrade

- EM 24ai: How to Upgrade OEM from 13.5 to 24.1 Using Silent Method - (Doc ID 3048211.1)
- EM 24ai: How to Upgrade OEM from 13.5 to 24.1 (Doc ID 3046610.1)
- EM 24ai: Checklist For Upgrading Enterprise Manager Cloud Control from Version 13.5 to 24.1 (Doc ID 3043081.1)
- SRDC - Collecting Logs for Enterprise Manager 13c or 24ai OMS Migration and Cloning Issues (Doc ID 2718087.1)
- Fernando Simon blog post:
 - <https://www.fernandosimon.com/blog/upgrade-em-from-13-5-to-24ai-24-1-0-0-0>



Supported Upgrade Paths

Source	Intermediate	Intermediate	Target
13.5			24.1
13.3 / 13.4	13.5		24.1
12.1.0.5	13.3	13.5	24.1

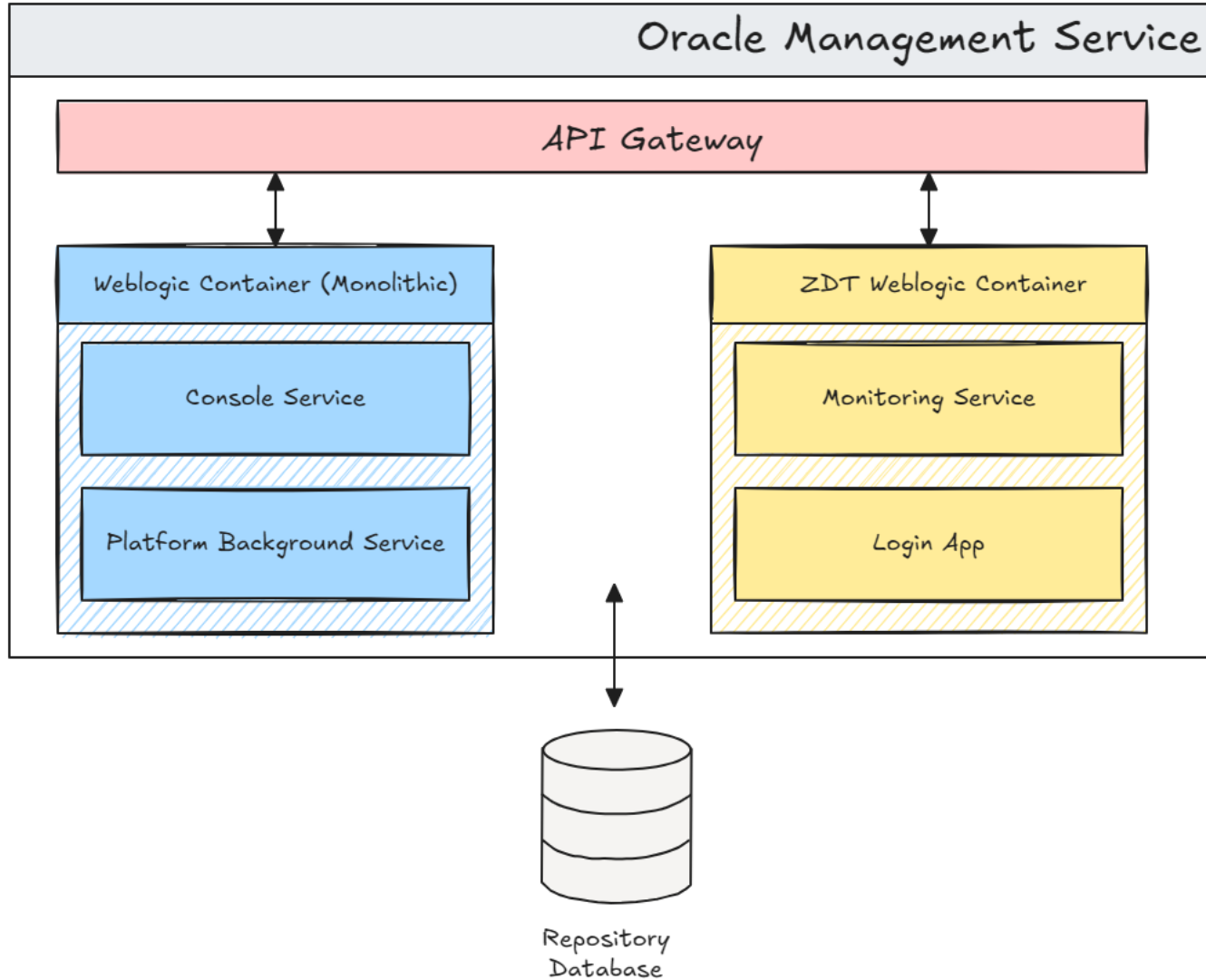


Patching

**No Release Update
available.**

Architecture

24AI Architecture



■ Simple Setup

- 2 x WLS Admin Server
- 2 x WLS Deployment
- 1 x API Gateway Server
- 1 x Repository Database

24ai Components

○ ○ ○

TYPE (Cluster DG)	: SID/PROCESS	STATUS	HOME	[2025-03-24 14:32:15]
DB-instance (N N)	: EMREPO	open	/u01/app/oracle/product/19.0.0/dbhome_1	
Listener	: LISTENER	up	/u01/app/oracle/product/19.0.0/dbhome_1	
Agent	: emagent24_2410	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	/u01/app/oracle/middleware/gc_inst/user_projects/domains/EMExtDomain1/nodemanager	
WLS node	: 1	up	/u01/app/oracle/middleware/gc_inst/user_projects/domains/GCDomain/nodemanager	

API Gateway

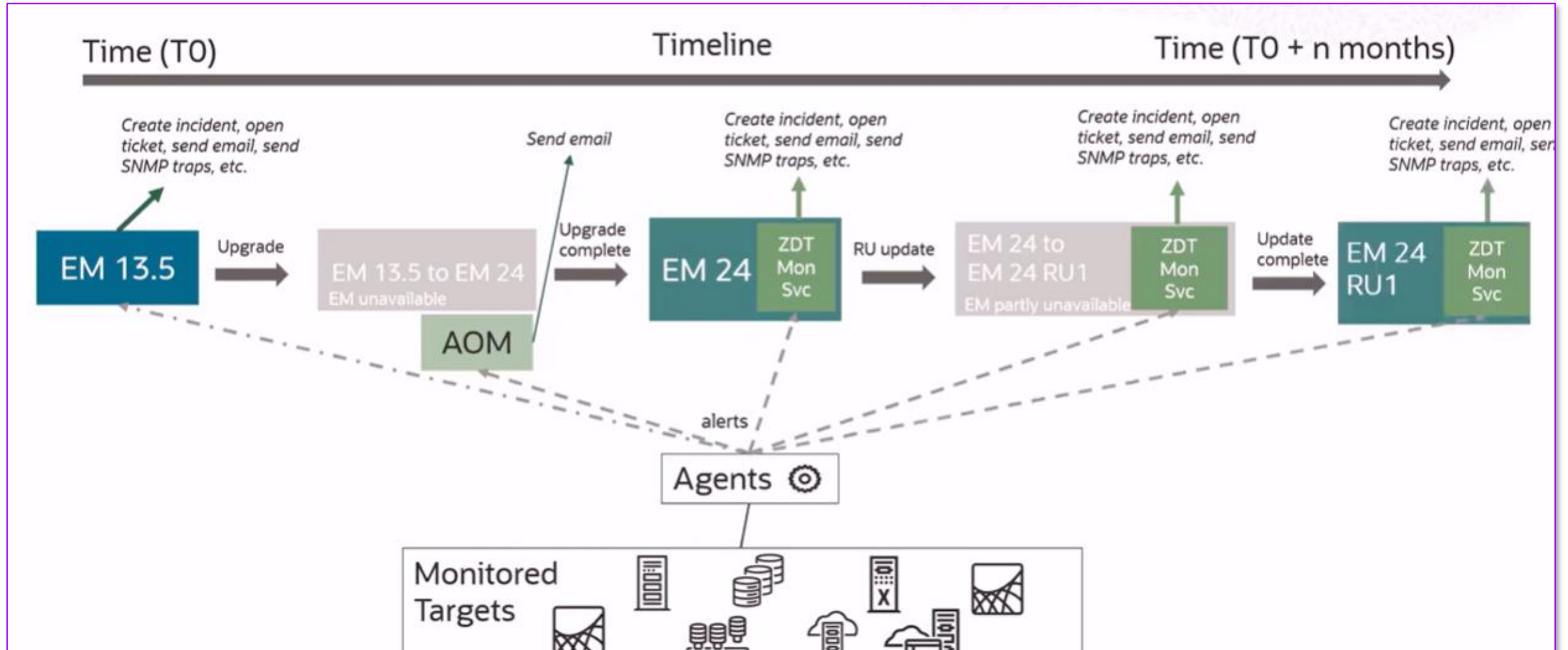
○ ○ ○

```
oracle      6793      1  0 Mar18 ?      00:07:07
/u01/app/oracle/middleware/oms_home/oracle_common/jdk/bin/java -
Doracle.jdbc.autoCommitSpecCompliant=false -Djava.security.egd=file:///dev/urandom -Xmx512M -XX:+UseG1GC
-XX:ErrorFile=/u01/app/oracle/middleware/gc_inst/em/apigateway_inst/logs/HS_ERR_PID%p.log -
Xloggc:/u01/app/oracle/middleware/gc_inst/em/apigateway_inst/logs/gc.log -XX:-OmitStackTraceInFastThrow -
XX:+HeapDumpOnOutOfMemoryError -
XX:HeapDumpPath=/u01/app/oracle/middleware/gc_inst/em/apigateway_inst/logs/heap_dump -
XX:+PrintGCDateStamps -XX:+PrintFlasgsFinal -jar
/u01/app/oracle/middleware/ext_oms_home/apigateway/lib/em-platform-apigway-api-24.1.0.0.0.jar server
/u01/app/oracle/middleware/ext_oms_home/apigateway/conf/server-config/em.conf
```

EM 24ai Zero Downtime (ZDT) Monitoring (1)

- New feature in Enterprise Manager 24ai – successor of Always-On Monitoring (AOM)
- Provides continuous monitoring and alerting during planned EM maintenance.
- Key features:
 - Event management and processing
 - Event compression
 - Incident creation
 - Notifications, including integration with event and ticketing systems
- Operates seamlessly during Release Updates (RU).
- Part of Oracle Management Service (OMS).

From AOM to ZDT



Which monitoring fits best?

■ Always-On Monitoring (AOM)

- Target availability
- Critical alerts
- Email only to «Downtime Contact»
- Separate repository
- Upgrade EM 13.5 > EM 24ai
- Manual notification enabling

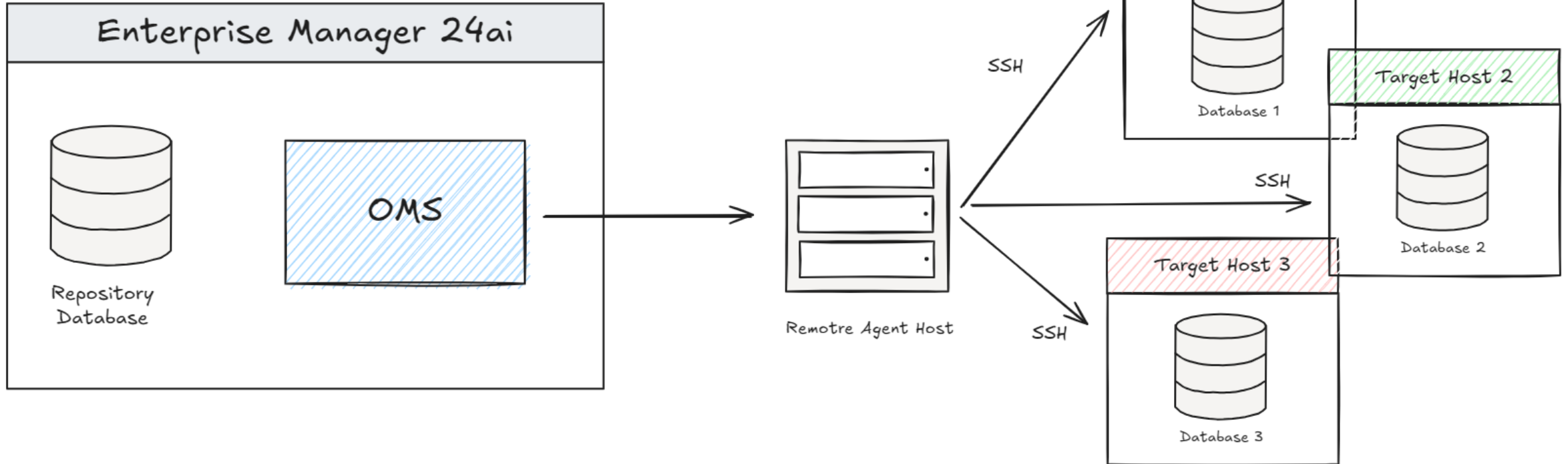
■ Zero Downtime Monitoring (ZDT)

- Honors incident rule sets
- Event compression
- Multiple notification channels like mail, SNMP, webhook, slack
- Ticketing connectors
 - ServiceNow, Jira, Pager Duty
- Event connectors
 - Microsoft SCOM, Tivoli Netcol

New Features

Remote Agent (1)

One Agent manages multiple hosts & targets



EM24ai: Remote Agent FAQ (Doc ID 3055953.1)



Remote Agent (2)

- Install Oracle Enterprise Manager Agent on remote host first, then add target. host(s)

ORACLE Enterprise Manager 24ai

Search target names and menus


SYSMAN

Add Targets Manually

Page Refreshed Mar 25, 2025 1:17:28 PM CET

Overview

Add Host Targets




Install Agent on Host

View Agent Installation Results

Add host targets by installing an agent on that host. You can track the agent installation process and view its status.

Remotely Monitor Host Targets




Install Remote Agent on Host

Add Host Targets to Remote Agent

View Remote Agent and Host Addition Results

Remotely monitor host targets without installing an agent on each host. To achieve this, identify a host and install the remote agent. Add host targets to be remotely monitored by the remote agent. Track and view the status of this process.


Add Non-Host Targets Using Guided Process



Add Using Guided Process

Run guided discovery on a host to find manageable targets. Choose to promote some or all discovered targets to become managed.

Add Non-Host Targets Manually



Add Target Manually

Add targets by explicitly specifying monitoring properties.

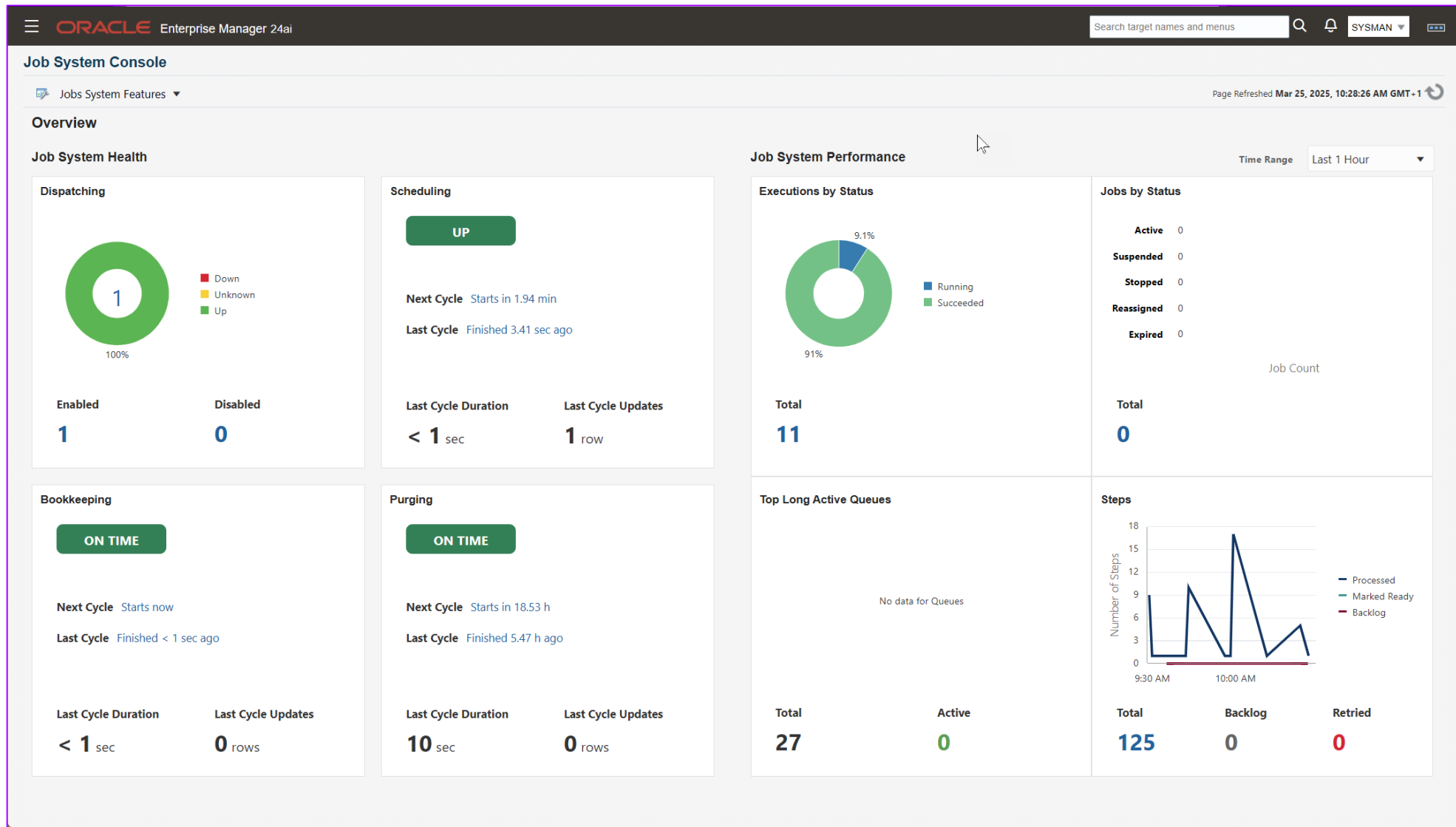
Add Remote Host Summary: ADD_REMOTE_HOST_SYSMAN_Mar_24_2025_9:32:37_AM_CET

Agent	Host	Initialization	Remote Prerequisite Check	Host Addition
remote01.internal:3872	dbengine01.internal	✓	✓	✓



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Job System Console



Autonomous Database Discovery

The image displays three overlapping screenshots of the Oracle Enterprise Manager 24ai Autonomous Database Discovery wizard, illustrating the process from search to review.

Step 1: Search and Discover

This screen shows the initial configuration options for the Autonomous Database Agent. The "Agent Details" section includes the EM Agent (trinity.internal:3872). The "OCI Details" section includes the Oracle Cloud Infrastructure Credentials (OCI_MARTINXBERGER), OCI Home Region Identifier (eu-zurich-1), OCI Subscribed Regions (Select an OCI Region), Use Advanced Search Filter (disabled), OCI Compartment (comp-sandbox), and Child Compartments (enabled).

Step 2: Select and Configure

This screen shows the selection of the database target. The "Select and Configure" section includes a filter by ADB Name, Target Name, or Group. A table lists the available targets:

ADB Name	OCI Compart...	Target Name	
<input type="checkbox"/>			
<input checked="" type="checkbox"/>	TGV3G2Z93Z021RIX	comp-sandbox	TGV3G2Z93Z021RIX

Step 3: Review and Promote

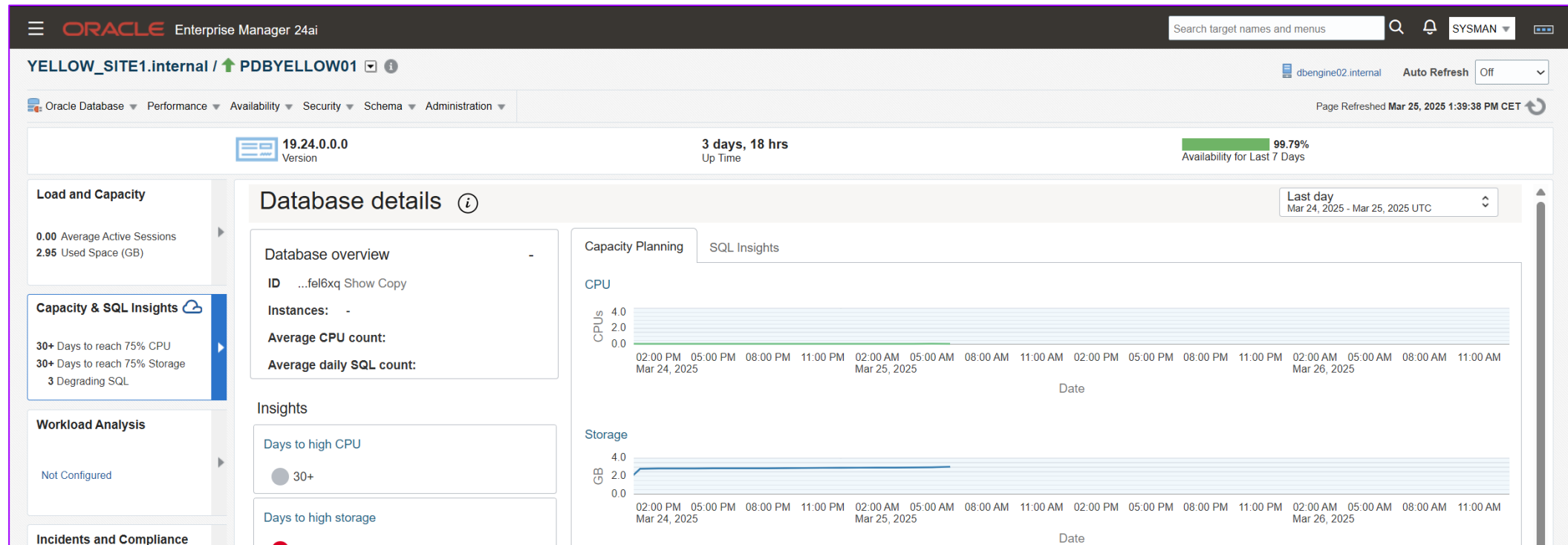
This screen shows the review of the Autonomous Database target. The "Review and Promote" section includes a table with the following data:

Target Name	State	Deployment Type	CPU Core Count	Data Storage (TB)	Workload Type	Connection Status	Created
TGV3G2Z93Z021RIX	AVAILABLE	Serverless	0	<1	Transaction Processing	✓	3/25/2025, 9:55:14 AM GMT+1

The wizard is currently on Step 3, as indicated by the progress bar and the "Review and Promote" button.

Oracle Cloud Infrastructure: Ops Insights

- Leverage of OCI functions like *Operations Insights* (Ops Insights)
- **EM-Bridge** – upload OEM data to OCI for processing
- Backward compatibility to 13.5

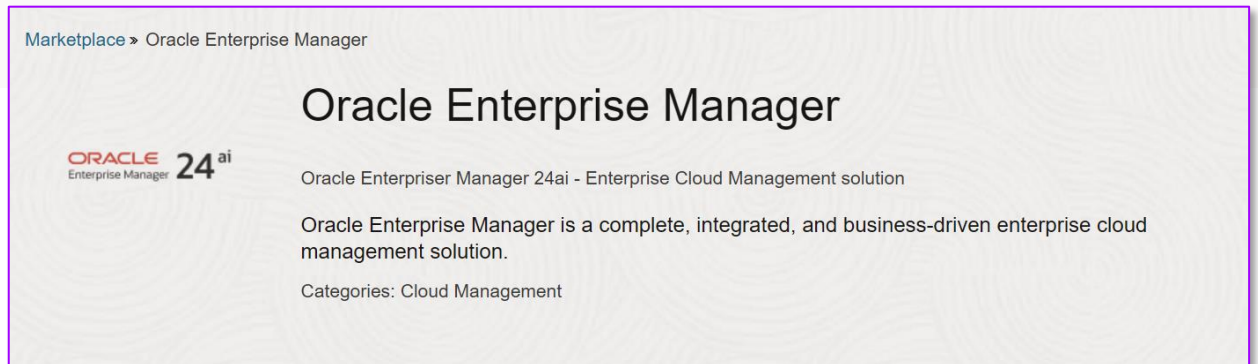


Oracle Cloud Infrastructure: Marketplace

- Quick ramp-up of a complete Oracle Enterprise setup with multiple OMS (optional).
- Version is 24ai Release 1

Enterprise Manager, Platform

New: Oracle Enterprise Manager 24ai image on the Oracle Cloud Marketplace



AutoUpgrade Tool (Doc ID 2485457.1) – Blackout

- New feature, *autoupgrade* sets OEM blackout during the upgrade process
- Requires emcli local setup (API call is an enhancement request)

Blackouts

Blackouts allow you to suspend monitoring on one or more targets in order to perform maintenance operations. Notification Blackouts only suppress the notifications on targets during the notification blackout duration. The Agent continues to monitor the target under notification blackout. Meanwhile, the OMS will show the actual target status along with an indication that the target is currently under notification blackout. To place a target under blackout, you need to have at least Blackout Target privilege on the target.

Auto Refresh: 15 seconds | Page Refreshed Mar 19, 2025 1:40:37 PM CET

View By: ☐ Targets ☒ Blackout Name

Search: Blackout Timeframe: Active | Name: | Type: All | Search

End Date Between: m/d/yyyy | And: m/d/yyyy

Name	Type	Status	Start Date	End Date	Duration	Repeat	Reason	Last Updated By
blackout_AutoUpgrade_PURPLE_snc3120ol810	Blackout	Started	Mar 19, 2025 1:40:36 PM CET	Mar 20, 2025 1:40:36	24 Hour(s)	Do Not Repeat	upgrade	AUTOUPGRADE_USER
blackout_AutoUpgrade_ORANGE_snc1724ol95	Blackout	Started	Mar 19, 2025 1:40:11 PM CET	Mar 20, 2025 1:40:08	24 Hour(s)	Do Not Repeat	upgrade	AUTOUPGRADE_USER

```
The command lsj is running every 10 seconds. PRESS ENTER TO EXIT
+-----+-----+-----+-----+-----+-----+-----+-----+
|Job#|DB_NAME|STAGE|OPERATION| STATUS|START_TIME|UPDATED|                                MESSAGE|
+-----+-----+-----+-----+-----+-----+-----+-----+
| 101| ORANGE|DRAIN|EXECUTING|RUNNING| 13:34:25| 1s ago|Create a blackout for the EM monitored t|
+-----+-----+-----+-----+-----+-----+-----+-----+
Total jobs 1
```

The Magic behind

```
○○○
oracle@dbengine02:/u01/app/oracle/emcli/ [rdbms19_2] ./emcli status
Oracle Enterprise Manager 24ai Release 1 EM CLI.
Copyright (c) 1996, 2024 Oracle Corporation and/or its affiliates. All rights reserved.
```

```
Instance Home      : /home/oracle/.emcli
Verb Jars Home     : /u01/app/oracle/emcli/./bindings/24.1.0.0.0/.emcli
Status            : Configured
EM CLI Home        : /u01/app/oracle/emcli/.
EM CLI Version     : 24.1.0.0.0
Java Home          : /opt/jdk-17
Java Version       : 17.0.2
Log file           : /home/oracle/.emcli/.emcli.log
Log level          : SEVERE
EM URL             : https://
EM user            : autoupgrade
Auto login         : true
Trust all certificates : true
```

```
○○○
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=snc1724ol95
```




Go for it!

Thank You

