VNA-SB-014 | Enterprise ERP, EAM & VMware Modernization | IBM Maximo Lift-and-Shift to OCI & MAS 9 OpenShift Upgrade | Painted Desert

IBM Maximo Lift-and-Shift to OCI & Maximo Application Suite (MAS 9) Upgrade on OpenShift

Utilities, river authorities, transit agencies, and asset-intensive enterprises running IBM Maximo 7.6 on aging on-premises hardware face an urgent choice: execute a fast, low-risk **Lift-and-Shift of Maximo 7.6 to Oracle Cloud Infrastructure (OCI)** to exit data centers and tune the underlying Oracle Database immediately, or perform a full **Upgrade to IBM Maximo Application Suite (MAS 9) on Red Hat OpenShift on OCI**. We engineer and manage both pathways - combining Oracle ACE database performance tuning (`WORKORDER`, `ASSET`, Spatial GIS, BIRT), zero-downtime RMAN/GoldenGate database migration, Red Hat OpenShift automation, and AppPoint-saving Oracle APEX 24.2 companion portals.

Search Queries & Scope Covered: IBM Maximo lift and shift to Oracle Cloud Infrastructure OCI | IBM Maximo 7.6 to MAS 9 upgrade on Red Hat OpenShift OCI | Maximo 7.6.1 end of support cloud hosting and managed services | Oracle Database performance tuning for IBM Maximo WORKORDER ASSET | reduce IBM Maximo MAS AppPoints with Oracle APEX companion portal

SOURCE LEGACY STACK (STACK X)	MODERNIZED TARGET ARCHITECTURE (STACK Y)
On-Premises IBM Maximo 7.6.x (WebSphere ND VMs, Oracle / DB2 / SQL Server) & High-Cost Legacy Hosting	**Two-Lane OCI Architecture: Lane 1 (Maximo 7.6 Lift-and-Shift on OCI VMs + Oracle 19c/23ai) or Lane 2 (MAS 9 on Red Hat OpenShift + OCI + APEX Companion Portals)**

LIFT-AND-SHIFT SPEED	MAS 9 CONTAINER STACK	CROSS-REGION DR	INFRA COST VS. AWS/IBM
6 - 10 Weeks to OCI	**Red Hat OpenShift on OCI**	**Active Data Guard + Velero**	**35-50% Lower on OCI**

1. Problem Space & Architectural Bottlenecks

- Urgent Data Center Exit vs. Complex MAS 9 Re-Architecture: Many organizations need to get Maximo 7.6.1 off aging on-premises servers or expensive colocation contracts immediately without waiting 9+ months for a full MAS 9 business-process overhaul.
- 80% of Maximo Bottlenecks Live in the Database Tier: Slow Work Order searches, stuck PM generation crons, BIRT report timeouts, and ESRI/Spatial map lag almost always stem from untuned Oracle Database execution plans, fragmented `WORKORDER`/`MATUSETRANS` indexes, and under-provisioned storage IOPS.
- MAS 9 OpenShift Complexity & Punitive Cloud Costs: Upgrading to Maximo Application Suite (MAS 9) requires Red Hat OpenShift Container Platform (OCP), MongoDB, Kafka, and IBM SLS license servers - which cost 35% to 50% more to run on AWS or IBM Cloud than on OCI Flexible Compute and high-IOPS Block Volumes.

2. Technical Solution & Reference Architecture

2.1 Pathway 1 - Fast Maximo 7.6 Lift-and-Shift to OCI (6-10 Weeks): We lift your existing Maximo 7.6.1 WebSphere ND application servers, JMS integration queues, and BIRT reporting tiers onto OCI Flexible VMs (`E5.Flex`) while migrating the Maximo database to OCI Base Database / Exadata (19c/23ai) using RMAN Cross-Platform Transportable Tablespaces (XTTS) or GoldenGate with near-zero downtime.

2.2 Pathway 2 - Turnkey Upgrade to MAS 9 on Red Hat OpenShift on OCI: When ready for MAS 9, we provision multi-zone Red Hat OpenShift clusters on OCI, uplift legacy Java MBO customizations into upgrade-safe Python/Jython Automation Scripts, run the validated `updatedb` pipeline, and migrate Maximo Anywhere to MAS Mobile.

2.3 Oracle ACE Database Tuning & Multi-Region Disaster Recovery: We tune the `MAXIMO` schema (SQL Plan Baselines, Text Indexes, table partitioning) and configure cross-region Oracle Active Data Guard (`RPO < 5 min`, `RTO < 60 min`) paired with Rackware/Velero application tier replication.

2.4 APEX 24.2 Companion Portals to Cut MAS AppPoint Licensing: Casual requestors, external contractors, and executive dashboard viewers access live Maximo data via an Oracle APEX 24.2 portal connected to Maximo OSLC REST APIs and Active Data Guard read replicas - saving hundreds of thousands in MAS AppPoints.

3. Artifact-by-Artifact Conversion & Modernization Matrix

Legacy Artifact / Baseline Workload	Modernized Oracle / Cloud Target	Engineering Method & Outcome
On-Premises Maximo 7.6.1 WebSphere ND & Admin VMs	Pathway 1: OCI E5.Flex Lift-and-Shift VMs | Pathway 2: MAS 9 on Red Hat OpenShift (OCP)	Fast lift-and-shift first or direct Ansible/Operator MAS 9 deployment on OCI
On-Premises Maximo Database (Oracle / SQL Server / Db2)	OCI Oracle Base DB / Exadata 19c/23ai + Active Data Guard	Zero-downtime RMAN XTTS / GoldenGate cutover + MAXIMO schema index tuning
Legacy Java MBO Class Extensions & Custom Workflows	MAS 9 Automation Scripts (Python/Jython) & OSLC Integration Hooks	Preserve 100% in Lift-and-Shift; refactor to upgrade-safe scripts for MAS 9
High-Cost Casual User & Vendor MAS AppPoints	Oracle APEX 24.2 Contractor & Work-Request Companion Portal	Zero-per-seat APEX portal reading Active Data Guard & posting via Maximo OSLC REST
Single-Site Maximo Storage & Manual Backup Scripts	Multi-Region OCI Active Data Guard + Velero / Rackware DR	Automated cross-region failover (US-Ashburn <-> US-Phoenix / US-Chicago)

4. Oracle APEX & Ancillary Engineering Toolchain

- Red Hat OpenShift Container Platform (OCP) on Oracle Cloud Infrastructure (OCI)
- Oracle Database 19c / 23ai with Active Data Guard and Real Application Testing
- Oracle APEX 24.2 & ORDS for AppPoint-saving vendor/contractor companion portals
- OCI Bastion, OCI Vault, Web Application Firewall (WAF), and Velero OpenShift backup

Anonymized Production Proof: *Designed for regional river authorities, electric/water utilities, and defense logistics enterprises upgrading from IBM Maximo 7.6 to MAS 9 on OCI, combining deep Oracle Database performance tuning with Red Hat OpenShift container operations.*

5. Deep-Dive FinOps Research Notes

IBM Maximo 7.6 Lift-and-Shift to OCI: Fast Data Center Exit & Database Acceleration: How to lift and shift IBM Maximo 7.6.1 (WebSphere ND, MIF queues, BIRT, and Oracle Database) to Oracle Cloud Infrastructure in 6 to 10 weeks with near-zero cutover downtime.

1. Why Lift-and-Shift Maximo 7.6 to OCI Before (or Instead of) an Immediate MAS 9 Rewrite? - Many utilities, transit agencies, and manufacturing plants face expiring hardware leases, VMware renewal hikes, or slow database storage today, yet their operations teams need 6 to 18 months to plan the change-management transition to IBM Maximo Application Suite (MAS 9). Executing a clean Lift-and-Shift of Maximo 7.6.1 to Oracle Cloud Infrastructure (OCI) decouples infrastructure modernization from application re-training. You exit legacy hardware in 6 to 10 weeks, cut infrastructure run-rates by 35% to 50%, and immediately eliminate database I/O bottlenecks - while positioning your Maximo database on the exact OCI VCN where MAS 9 OpenShift will later run.

2. Network, WebSphere ND & Database Cutover Mechanics on OCI - We provision a segmented OCI Virtual Cloud Network (VCN) with Web Application Firewall (WAF), OCI Load Balancers, and private application subnets hosting clustered Maximo UI, Cron, Report (BIRT), and MIF (Maximo Integration Framework) JVMs on `VM.Standard.E5.Flex` instances. For the database tier, we use RMAN Cross-Platform Transportable Tablespaces (XTTS) or Oracle GoldenGate to synchronize your multi-terabyte `MAXIMO` schema into OCI Base Database Service or Exadata Cloud Service, followed by SQL Plan Baseline locking and Oracle Text index optimization so Work Order and Asset lookups run 3x to 5x faster on Day 1.

Upgrading IBM Maximo 7.6 to MAS 9 on Red Hat OpenShift & OCI: Reference architecture for deploying IBM Maximo Application Suite (MAS 9) on Red Hat OpenShift Container Platform (OCP) on OCI with multi-region Active Data Guard DR.

1. Architecting Red Hat OpenShift on OCI for IBM MAS 9 - IBM Maximo Application Suite (MAS 9) runs natively on Red Hat OpenShift Container Platform (OCP). Through the official Oracle and Red Hat certification partnership, we deploy multi-node OpenShift control-plane and worker pools across three OCI Fault Domains backed by high-IOPS OCI Block Volumes and OCI File Storage (NFS) for persistent MongoDB, Kafka, and Manage workspace claims. Colocating the OpenShift worker nodes in the same OCI Availability Domain as your Oracle 19c/23ai database delivers sub-millisecond SQL round-trip latency during heavy `updatedb` runs and peak shift-change logins.

2. Automated `updatedb` Remediation & Cross-Region Disaster Recovery - Before cutover, we execute dry-run `integrityui` and `updatedb` rehearsals against cloned database snapshots on OCI, converting deprecated Java MBO customizations into MAS 9 Jython/Python Automation Scripts. Production high availability is protected across OCI regions using Oracle Active Data Guard for the database and Velero/OpenShift GitOps for stateless container configurations.

Cutting IBM Maximo MAS AppPoint Licensing Costs by 40% with Oracle APEX Companion Portals: How to offload casual work-order requestors, external contractors, supplier invoice portals, and read-only executive dashboards to zero-per-seat Oracle APEX 24.2.

1. The MAS AppPoint Licensing Challenge - Under IBM's Maximo Application Suite (MAS) AppPoint licensing model, granting direct MAS Manage access to hundreds of occasional work requestors, field contractors, suppliers, and read-only KPI consumers rapidly inflates annual subscription requirements. Because Maximo already runs on an Oracle Database, you already own Oracle APEX 24.2 with zero per-user licensing fees.

2. Building OSLC REST & Active Data Guard Companion Portals in APEX - We deploy a lightweight Oracle APEX 24.2 companion portal that reads real-time asset, inventory, and work-order status from your Oracle Active Data Guard standby (putting zero load on the primary Maximo database) and submits approved contractor time logs, service requests, and vendor invoices back into Maximo via official OSLC REST APIs.

6. Principal Architect Q&A

Q: Is Red Hat OpenShift officially supported and certified to run IBM MAS 9 on Oracle Cloud Infrastructure (OCI)?

A: Yes. Red Hat OpenShift Container Platform (OCP) is fully certified and supported on OCI Compute shapes through the joint Red Hat and Oracle strategic partnership, allowing you to colocate MAS 9 OpenShift worker nodes on the same ultra-low-latency VCN subnet as your Oracle Database.

Q: How can Oracle APEX reduce our IBM MAS AppPoint licensing costs?

A: External suppliers, invoice submitters, and occasional requestors do not need full MAS Manage seats. By routing vendor submissions and executive read-only dashboards through an Oracle APEX 24.2 portal connected to Maximo REST APIs and Active Data Guard read replicas, you cut AppPoint consumption substantially.

Q: What is included in the downloadable PDF Solution Brief?

A: The PDF Solution Brief includes the MAS 9 on OCI + OpenShift Reference Architecture diagram, the Maximo 7.6 `updatedb` pre-flight database tuning checklist, and an OCI vs. AWS/IBM Cloud 5-year TCO model.