

# XaaSIO Cloud Management Platform (CMP)

## The Enterprise Standard for Unified Cloud Governance, Operations, and Optimization

### EXECUTIVE SUMMARY

Modern enterprises are navigating an unprecedented expansion of their digital footprint across multiple public clouds, private virtualized environments, and containerized platforms. This heterogeneity creates significant challenges: operational silos, unpredictable cost overruns, critical security gaps, and impeded business agility.

### ARCHITECTURAL SPECIFICATIONS

#### Category Detailed Specification

#### Deployment Model

- Virtual Appliance: Pre-configured Templates.
- Multi-Site Deployment: Geographically distributed regions with independent operation capability.

### INTRODUCTION

Enterprise cloud adoption is no longer a question of "if" but "how many." Managing this hybrid multi-cloud reality introduces immense complexity, leading to security gaps, cost overruns, and operational inefficiencies.

XaaSIO Cloud Management Platform (CMP) is the enterprise standard for regaining control. It is a centralized control plane that delivers automated provisioning, granular governance, and financial accountability across your entire IT estate. By providing a unified experience for both operators and consumers of cloud, XaaSIO CMP transforms cloud from a technical challenge into a strategic advantage, enabling faster innovation while ensuring security, compliance, and cost-efficiency.

### DETAILED CAPABILITIES & FUNCTIONAL SPECIFICATIONS

#### RESILIENT & HIGHLY AVAILABLE ARCHITECTURE

XaaSIO CMP is engineered for mission-critical enterprise deployment with a focus on continuous availability and disaster recovery.

**Multi-Site Active/Active Deployment:** Supports geographically distributed deployments where each site can operate independently during network partitions or a central site failure, ensuring uninterrupted local operations.

**High Availability (HA) Configuration:** All core management services are deployed in an active/passive or active/active clustered configuration with automatic failover, eliminating single points of failure.

**Fault-Tolerant Design:** The platform's microservices architecture ensures that the failure of a single component does not cascade, maintaining overall system stability.

**Disaster Recovery Setup:** Includes integrated capabilities for data replication and recovery procedures to a secondary site, ensuring business continuity.

## High Availability

- Active/Passive and Active/Active clusters for core services.
- Automated failover and self-healing capabilities.

## Integrated Database

- High-performance, embedded PostgreSQL.
- Support for external PostgreSQL clusters.

## Security Protocols

- TLS 1.2+ encryption for all data-in-transit and APIs.
- OAuth 2.0, OpenID Connect, SAML 2.0.
- MFA for all administrative access.

## Supported Hypervisors & Clouds

VMware vSphere, Red Hat Virtualization, Microsoft Hyper-V, OpenStack, Amazon EC2, Microsoft Azure, Google Cloud Platform, Nutanix, Kubernetes/OpenShift.

## UNIFIED CLOUD SERVICE DELIVERY (IAAS, PAAS, BAAS)

Deliver a full stack of cloud services through a unified, automated, and governed framework.

### Infrastructure as a Service (IaaS):

**Virtual Private Cloud (VPC):** Provision secure, logically isolated networks with dedicated compute, storage, and security resources.

**Automated Provisioning:** On-demand provisioning of virtual machines, containers, networks, storage volumes, and security policies through predefined templates and blueprints.

### Universal Infrastructure Agnosticism: Unified management across:

- **Cloud:** Amazon EC2, GCP, IBM, Azure, Azure Stack, Oracle Cloud, VMware VCloud, XaaSIO OpenStack, Red Hat OpenStack, OpenStack, Nutanix.
- **Infrastructure:** OpenStack Platform Director, Red Hat Virtualization, VMware vCenter, IBM Power HMC, oVirt.
- **Physical Infrastructure:** Lenovo Xclarity, Cisco Intersight, Redfish.
- **Containers:** Amazon EKS, Azure Kubernetes Service, Google Kubernetes Engine, IBM Cloud Kubernetes Service, OpenShift, Oracle Kubernetes Engine, VMware Tanzu, Kubernetes.
- **Automation:** AWX, Ansible Tower Automation, Foreman Configuration, IBM Terraform Configuration.

### Platform as a Service (PaaS) & Backup as a Service (BaaS):

**Extensible Service Catalog:** Pre-built and customizable catalogs for database services, application runtimes, middleware, and backup policies.

**API-Driven Integration:** Seamlessly integrates with PaaS frameworks (e.g., Red Hat OpenShift) and leading backup solutions to deliver these services as native offerings.

**Lifecycle Management:** Automated deployment, scaling, updating, and decommissioning of platform services and backup jobs.

## ADVANCED LIFECYCLE & ORCHESTRATION ENGINE

Manage the complete lifecycle of resources from request to decommissioning with powerful automation.

## FEATURES OF A XAASIO CLOUD MANAGEMENT PLATFORM (CMP)

### Multi-Cloud & Hybrid Cloud Management

- A CMP allows organizations to control resources across public, private, and hybrid cloud environments from a single console.
- This prevents vendor lock-in and ensures flexibility to use the best cloud for each workload.

### Self-Service Provisioning

- Users can quickly deploy VMs, containers, or services from a catalog without IT intervention.
- Reduces wait times and enables faster innovation for developers and business teams.

### Automated Orchestration & Workflows

- Automates repetitive tasks like provisioning, patching, scaling, and backup.
- Ensures consistency in operations, reducing manual errors and saving time.

**Unified Self-Service Portal:** A single web-based portal for users to request and manage infrastructure (VMs, networks, storage), platforms (databases, middleware), and services across private and public clouds.

**Customizable Service Catalog:** Publish a curated menu of pre-approved, standardized services with predefined sizes and configurations, ensuring consistency and compliance.

**Service Request & Approval Workflows:** Customizable workflows with financial, business, and technical approval gates, all managed through a self-service portal.

**Orchestration:** A powerful engine supports complex, cross-platform workflows using REST APIs, SOAP, PowerShell, and Ansible playbooks for zero-touch provisioning and management.

**Dynamic Resource Management:** Automatically attach/detach storage, scale compute/memory, and modify network configurations on-the-fly from the management console.

**Lease Management & Resource Reclamation:** Define resource lease times with automated notifications and de-provisioning schedules to reclaim capacity upon expiration.

## COMPREHENSIVE GOVERNANCE, SECURITY & COMPLIANCE

Maintain control and ensure security across diverse environments with policy-based automation.

**Policy-Driven Control (Policy-as-Code):** Define and enforce corporate policies for security, compliance, cost control, and operations (e.g., auto-tagging, quarantine non-compliant VMs).

**Role-Based Access Control (RBAC):** Fine-grained access control for Admin, User, and Monitor roles, with permissions customizable down to the API level.

**Centralized Identity Management:** Integrates with LDAP, Active Directory, and SAML 2.0-compliant Identity Providers (e.g., Okta) for Single Sign-On (SSO) and Multi-Factor Authentication (MFA) for all privileged accounts.

**Multi-Tenancy with Full Isolation:** Secure logical separation of resources, data, and management between tenants/customers on shared physical infrastructure with quota management.

**Token Exchange Service:** Establish trust with public cloud providers (AWS, Azure, GCP, OCI). Accept native cloud tokens and exchange them

## Service Catalog

- Pre-defined templates and blueprints for deploying common applications or infrastructure stacks.
- Helps organizations standardize environments and follow best practices.

## Cost Management & Optimization

- Provides visibility into cloud spending, generates usage reports, and suggests cost-saving measures (e.g., right-sizing, reserved instances).
- Enables chargeback /showback models, making departments accountable for their cloud usage.
- Easy 3<sup>rd</sup> party integration with external billing systems.

## Monitoring

- Provides visibility into resources using the API integration with monitoring solutions.
- Enables the end-user to view the resources utilization.

for platform-specific tokens for secure, federated access to multi-cloud resources.

## NETWORK, SECURITY & LOAD BALANCER MANAGEMENT

Software-Defined Networking (SDN) for agile and secure cloud networks.

**Virtual Network Management:** Create, delete, and update isolated networks, subnets, routers, and security groups.

**Security Policy Enforcement:** Automatically wrap VMs with security policies (firewalls) upon creation. Regularly review and audit security group configurations.

**Load Balancer as a Service (LBaaS):** Provision and configure load balancers with SSL termination/offloading capabilities through the self-service portal.

**Firewall as a Service (LBaaS):** Provision firewall services from the self-service portal using the application catalogs.

**Multi-Cloud Networking:** Create secure interconnects and overlay networks between on-premises data centers and public cloud VPCs, presenting a unified network fabric.

## COST MANAGEMENT, METERING & SHOWBACK/CHARGEBACK

Gain financial accountability and control over cloud spending.

**Unified Cost Reporting:** Aggregate and normalize cost data from all cloud providers into a single view.

**Metering & Usage Tracking:** Meter resource consumption (compute, storage, network IOPS) per tenant/customer with detailed usage reports.

**Showback & Chargeback:** Generate detailed, customizable invoices and reports for internal showback or chargeback based on resource usage and tags.

**Quotas & Budgets:** Enforce resource quotas to control costs and set budget alerts to prevent overspending.

## API-FIRST INTEGRATION & AUTOMATION

Designed for extensibility and integration with existing enterprise tools.

**RESTful API:** Every platform function is exposed through a comprehensive, well-documented REST API protected by OAuth 2.0, API keys, and TLS encryption.

**Integration Ecosystem (Native):**

- **Cloud:** Amazon EC2, GCP, IBM, Azure, Azure Stack, Oracle Cloud, VMware VCloud, XaasIO OpenStack, Red Hat OpenStack, OpenStack, Nutanix.
- **Infrastructure:** OpenStack Platform Director, Red Hat Virtualization, VMware vCenter, IBM Power HMC, oVirt.
- **Physical Infrastructure:** Lenovo Xclarity, Cisco Intersight, Redfish.
- **Containers:** Amazon EKS, Azure Kubernetes Service, Google Kubernetes Engine, IBM Cloud Kubernetes Service, OpenShift, Oracle Kubernetes Engine, VMware Tanzu, Kubernetes.
- **Automation:** AWX, Ansible Tower Automation, Foreman Configuration, IBM Terraform Configuration.
- **Network:** XaasIO OpenStack Network Manager, OpenStack Network Manager, Red Hat OpenStack Network Manager, Nuage Network Manager, VMware NSX- T Network Manager.
- **Storage:** IBM Cloud Object Storage, Autosde.

**Integration Ecosystem (3<sup>rd</sup> party via API):** Integrations for ITSM tools (ServiceNow,etc), enterprise monitoring systems, security tools (firewalls, antivirus, SIEM), identity management, Storages (Block, Object, File), Backup solution, DR solution, Billing systems, etc

**Ansible & CLI Support:** Full integration with Ansible for automation and a Command-Line Interface (CLI) for scripting and administrative tasks.

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