

# Universal Resource Broker

## Workload Optimization for Batch, Mesos & Containerized Services

### UNIFIED WORKLOAD OPTIMIZATION FOR BATCH, BIG DATA, MESOS FRAMEWORKS AND SERVICES

The Universal Resource Broker is a software solution that allows distributed application frameworks written for Apache Mesos to run seamlessly on Univa Grid Engine or Kubernetes clusters. This open-source solution enables massive scalability of resources and multiple big data frameworks, supports mission-critical processes and lays the foundation for the Internet of Things.

The Universal Resource Broker allows enterprises to create a single, virtual high throughput, hyperscale compute pool from distributed data center resources by integrating batch, low-latency workload, containerized services and big data frameworks in a single distributed highly available cluster.

Enterprise data centers that deploy the Universal Resource Broker can harness advanced optimizations and greater flexibility, resulting in new efficiencies and reduced costs.

### KEY FEATURES AND CAPABILITIES

#### Workload Optimization

The Universal Resource Broker provides organizations with a complete solution to distribute applications and services more efficiently, faster and with lower overall costs.

#### Flexibility of Frameworks

With minimal disruption, the Universal Resource Broker supports any framework for which a Mesos integration exists, e.g. Spark, Hadoop, Storm, Marathon, Chronos, Aurora, and Hudson/Jenkins. The Universal Resource Broker runs on Kubernetes, or for users requiring additional policy controls, Univa Grid Engine, providing the ability to mix and match diverse workloads.

#### Mixed Workloads

Management and scheduling of multiple workloads including batch jobs, low-latency, containerized and distributed applications, long running services, and big data frameworks on the same cluster.

#### Advanced Univa Grid Engine Capabilities

Universal Resource Broker enables advanced Univa Grid Engine features for frameworks such as centralized management, policy control, accounting, and monitoring.

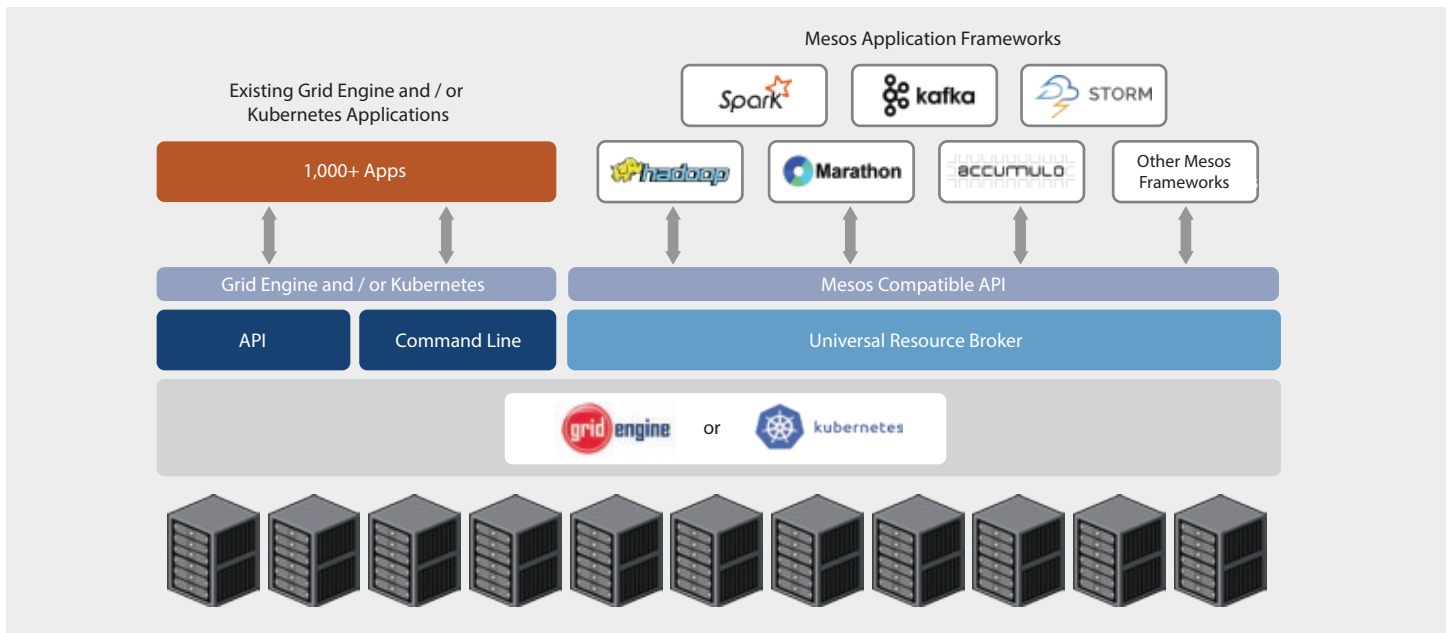
### Universal Resource Broker Management Highlights

- Advanced policies and lifecycle management
- Your choice of Kubernetes or Grid Engine clusters
- Centrally manage distributed applications, data center services and big data frameworks
- Extensive, unified accounting and reporting with Univa Grid Engine with Univa Unisight
- Run and manage existing Apache Mesos frameworks with high availability and automatic service fail-over
- Run with Navops Command on Kubernetes for additional scheduling controls

### Supports Heterogeneous Machine Types and Architectures

- Run and manage bare-metal servers, leverage virtual machines, public or private cloud, or Docker containers
- Deploy on Unix, Linux, or with Grid Engine, on Microsoft® Windows®
- Your choice of Kubernetes environments including Google Container Engine™, Red Hat® OpenShift, Rancher and others

## Universal Resource Broker Component Architecture



By extending Grid Engine and Kubernetes clusters to support a variety of Mesos frameworks, the Universal Resource Broker provides freedom of choice. Users can run Universal Resource Broker supported frameworks on their choice of cluster manager to maximize flexibility, simplify administration and reduce infrastructure costs.

Sites with more sophisticated workload requirements can optionally deploy Navops Command on Kubernetes, enabling Grid Engine, Mesos frameworks (via the Universal Resource Broker) and containerized workloads to all seamlessly share resources on the same cluster for a true mixed workload environment.

### Benefits

- Efficiently manage and optimize multi-tenant, dynamically partitioned workloads within a single cluster
- Leverage the proven Univa Grid Engine platform for policy control, scheduling, and resource allocation
- Support Mesos application frameworks on Kubernetes
- Comprehensive accounting and reporting
- No disruption to end user workflows
- No need to statically partition cluster for HPC, Kubernetes and big data workloads

## About Univa

Univa is the leading innovator of workload management products that optimize performance of applications, services and containers. Univa enables enterprises to fully utilize and scale compute resources across on-premise, cloud, and hybrid infrastructures. Advanced reporting and monitoring capabilities provide insights to make scheduling decisions and achieve even faster time-to-results. Univa's solutions help hundreds of companies to manage thousands of applications and run billions of tasks every day. Univa is headquartered in Chicago, with offices in Canada and Germany. For more information, please visit [univa.com](http://univa.com).



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