

# RackWare's Stateless Compute

## RMM KEY USES

- Web hosters
- Enterprise data centers
- Cloud computing

## RMM KEY FEATURES

- Migration capabilities across physical, virtual, and cloud platforms
- Cloud bursting across multiple public and private clouds
- Monitoring capabilities: usage and performance statistics recorded and reported on compute infrastructure for capacity management
- Policy engine to enable automated deployment of workload/ applications based on SLAs, performance, etc.
- Robust set of APIs for integration with standard and customized management frameworks

## RMM KEY ADVANTAGES

- Enables the stateless compute model for large scale data centers
- Dynamic provisioning of workload to optimized platform in real time
- Platform and workload intelligence enabling policy and SLA enforcement
- Management burden shrinks with heterogeneous fabric support

**Increase availability, reliability and flexibility, while reducing cost, for your enterprise data center by using the RackWare Management Module (RMM).**

*Industries in several vertical market segments are experiencing spiraling growth in data services. This is driven primarily by the need for increased operational visibility and oversight, more efficient access to data, and the need to mine that data for business intelligence.*

To address these requirements, enterprises are building large-scale data centers with farms of standard high volume servers. The explosion of volume servers is driving up management costs and increased complexity. The enterprise data center would like a solution, which truly provides them a vendor and compute platform agnostic model that finds ways to make existing IT equipment more efficient, allocate workloads intelligently and in a seamless way, driven by sound business logic and policies tied around them. Such a comprehensive solution does not exist today.

### “Stateless Compute” Model

Large-scale enterprise data centers today are a mix of heterogeneous hardware, operating systems, network and storage devices. Heterogeneity increases management complexity, making it a challenge to deliver IT services in a cost-efficient manner.

The enterprise data center needs to evolve to a “stateless compute model” to be able to garner the benefits of the utility compute vision. In this model, storage, applications, hypervisors, OSs, networking providers and the Cloud (via CSPs) are treated as resource objects. Work Objects such as web applications and email applications, are provisioned based on policies tied to these objects. Ideally, applications should be written once, and be capable of flowing between bare metal systems, various hypervisors within the enterprise, and external Cloud Service Providers (CSPs). The flow of

applications between the various platforms should be tied to business and technical policies relevant to the business. A stateless compute model provides inherent superior reliability, availability, and overall improved TCO, in addition to providing avenues for gaining power and cooling efficiencies in the data center.

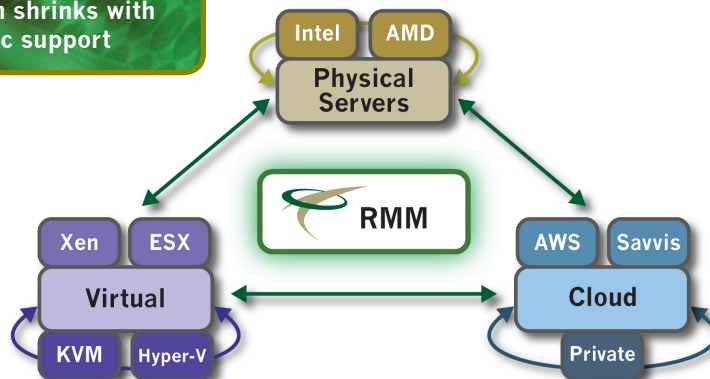
### Allows Data Centers to Scale Beyond 100,000 Servers

The RackWare Management Module (RMM) is a holistic solution enabling enterprise data centers to evolve toward a stateless compute model. This platform can be used to provision Work Objects to bare metal systems, hypervisors and CSPs – creating an easier, end-to-end, utility computing service. The RMM software is designed to implement push-button installation for existing and green field data centers, essentially creating a faultless “physical-virtual-cloud” infrastructure encompassing multiple, heterogeneous platforms.

This process can be managed in a scalable fashion from thousands of servers in a relatively small data center to 100,000+ servers in an internet-scale data center.

The RMM software has been architected from the ground up to include the appropriate hooks to enforce policies and service level agreements (SLAs) for various tiers of compute requirements. The meta-data that can be captured and maintained through this process is tremendously useful for performing audit trails of workloads and data. The RMM software can also provide a rich database of enterprise data center assets, statistics and monitoring. This data can be employed to understand resource utilization and performance characteristics of all physical, virtual and cloud resources for an enterprise.

With maintenance records and access to a rich information pool, RMM software offers a robust set of application programming interfaces (APIs) that allow easier integration into existing management frameworks and other software solutions in an enterprise. Examples include billing, identify, credentials, and patch management, and existing configuration management databases (CMDBs).



**Figure 1 RMM Encompasses Multiple, Heterogeneous Platforms**