

## REPORT REPRINT

# Robin Systems builds infrastructure-aware, application-defined approach from containers

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Using a combination of container-based compute, scale-out storage and management, Robin Systems spreads its wings to stand out in the crowded enterprise container management and orchestration space.

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Robin Systems provides container-based virtualization of enterprise applications along with storage and management to support an application-defined datacenter approach. The three-year-old company leverages containers to offer compute, scale-out storage and an application-aware fabric controller for management and orchestration, to improve infrastructure efficiency and application performance. Robin Systems works closely with key partners including Docker and Cisco and targets enterprise organizations, particularly those with data-intensive applications.

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## THE 451 TAKE

Robin Systems is among the smaller vendors in the evolving enterprise software container ecosystem and also among the players that has been able to take a fresh approach to application development and deployment using containers. This appeals to enterprise customers that are interested in leveraging containers but cautious of vendor lock-in. While its focus on container management and orchestration puts Robin Systems in a crowded, highly competitive field, the company's focus on data-intensive applications and storage helps to set it apart. Robin Systems is also well positioned as container adoption matures in the enterprise, where organizations are using both system containers and application containers and moving increasingly to production.

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## CONTEXT

Robin Systems is a three-year-old software provider that leverages containers to offer enterprise compute, storage and orchestration for improved application lifecycle and resource utilization, particularly for data-centric applications. Robin Systems says its software is centered on deriving value from the advantages of software containers such as Docker that allow applications to be packaged in a self-contained manner. The company is led by veterans of Altera, Oracle, Veritas and VMware, including CEO Premal Buch, CTO Partha Seetala, Vice President of Engineering Cheng Tang and Chief Marketing Officer Sushil Kumar. Key partnerships for Robin Systems include Docker and Cisco with both supporting joint customers with Robin Systems. The company has raised more than \$23m in funding from investors that include Clear Ventures, Hasso Plattner Ventures and DN Capital. Robin Systems has 45 employees. The company forecasts that with about 15 enterprise customers, it expects to achieve a \$10m annual revenue run rate by mid-2017.

Robin Systems touts its software for both stateless, so-called cloud-native applications, as well as stateful, data-rich enterprise applications. For the former, Robin Systems says containers enable more simplicity with complex application dependencies and portability to build, ship and deploy on a variety of infrastructures. For enterprise applications, Robin Systems promises lighter-weight, high-performance virtualization, higher density than VMs, bare-metal performance with multi-tenancy, and simplified operations by cutting VM and OS sprawl. Robin Systems leverages both application containers such as Docker for stateless applications and system containers, such as LXC, for enterprise, data-centric applications.

## PRODUCTS

Robin Systems' software offering consists of three main components built on containers for compute, scale-out storage and an application-aware fabric controller that serves as the brain for all of the components. The software, which runs on commodity hardware, is intended to simplify application lifecycle management, drive hardware and infrastructure efficiency with reduced waste, and improve performance for data-centric applications.

Key capabilities of Robin Systems' software center on simplified application cluster deployment, extension, scale-up, snapshots and cloning, as well as automated container failover and automatic storage node failure recovery and disk repair. Robin Systems' application-driven infrastructure fabric management software also provides SLA management, policy enforcement, scheduling and runtime health to support the application configuration process with placement and migration plans, data lifecycle management, planning and projections, reports and visualization. Another key feature of the software is application manifests, which are YAML-style JSON files describing complete application topology, lifecycle operations and QoS requirements. Manifests are created with Ansible-driven automation scripting and applications can be deployed together in bundles.

By allowing users to control resources and enforce policies at the compute, network and storage layers and divide resources among clusters and applications based on business priorities, Robin Systems guarantees predictable application QoS with capped and minimum input/output operations per second (IOPS) at the container level. This can provide predictable application performance and prevent resource hogging. Robin Systems' QoS controls also support resource pools with soft partitioning of resources into pools of compute and storage nodes; resource reservations to carve out CPU, memory and other resources for mission-critical applications; and application shares to dynamically distribute resources among applications.

Robin Systems' application-driven, container-aware scale-out block storage supports integrated lifecycle management, automatic provisioning, placement and protection for storage volumes, as well as per-volume data protection, encryption and compression. By de-coupling compute and storage, Robin Systems' software can also streamline data management. This is accomplished through scaled storage independent of compute, failover application nodes without data loss or redistribution, and doubled storage capacity by eliminating three-way replication with erasure coding and data sharing between clusters that minimizes data duplication.

Users of the Robin Systems software can access the application management interface through command line interface (CLI) or a user interface to help serve developers and application users as well as IT operations administrators.

## CUSTOMERS

Robin Systems reports a handful of paying customers and another 15-20 engagements with enterprises in financial services, retail and hosted services. Among its marquee customers are Kohl's and United Services Automobile Association (USAA) and Walmart is a Robin Systems user and development partner.

User and customer capabilities from Robin Systems center on reduction of VM sprawl and licensing costs by supporting multiple applications per machine, consolidation of databases and big-data applications on bare metal to avoid hypervisor performance overhead, faster performance for distributed application clusters with portability, and optimized capacity and performance capabilities via application-driven storage management.

Key use cases include consolidation of data applications such as RDBMS, NoSQL, Hadoop and Elastic Search without trading off bare-metal performance and delivering containers as a service with support for stateless and stateful applications as well as app-to-spindle control. Other Robin Systems use cases are centered on the data agility aspects of DevOps implementations and self-service data provisioning, cloning and snapshots. Enterprises are also using Robin Systems software to enhance big-data efforts through support for elastic virtual clusters, sharing data across clusters and simplified provisioning of entire pipelines, the company says.

## COMPETITION

Robin Systems competes in a number of different subsegments of the software container market, primarily in management and orchestration, data management and services and storage. In the increasingly crowded and highly competitive container management and orchestration space, Robin Systems both integrates and competes with other software, which is common based on the mixed use we've observed among both providers and users. Nevertheless, Robin Systems is competing against the other vendors in container management and orchestration, including Mesosphere with its recently open-sourced DCOS and CoreOS with its Tectonic, which integrates Kubernetes. The Kubernetes open source software pioneered by Google is backed by a number of other Robin Systems competitors as well as Google, including Red Hat with its OpenShift Container Platform and Apprenda, which acquired enterprise Kubernetes supporter Kismatic earlier this year. Although it partners closely with Docker and integrates its container software, there is also an element of competition for Robin Systems from Docker, given its integration of the Swarm container management and orchestration software with the core Docker engine. Additional rivals in container management and orchestration include Apcera, Cisco with its ContainerX acquisition, Cloud 66, HyperForm (formerly known as DCHQ), RancherLabs and Shippable.

In container data management and services, Robin Systems faces competition from vendors such as BlueData, ClusterHQ, Coho Data, Crate.IO, MapR, MariaDB and Datadog. Storage rivals for Robin Systems include established players such as EMC, Nexanta and Oracle, as well as newer providers such as Datera, Hedvig, Portworx and StorageOS. Given its focus on virtual containers, Robin Systems also competes against existing virtualization providers such as Citrix, Microsoft and VMware.

## SWOT ANALYSIS

### STRENGTHS

Robin Systems is among newer vendors addressing data management, storage and orchestration for containers, an area of enterprise and production growth.

### WEAKNESSES

The company plays across a variety of segments of the enterprise IT market and must avoid confusion about its container-based compute, storage and management capabilities.

### OPPORTUNITIES

The growth of container management and orchestration, production use of containers and data-intensive applications all provide solid growth opportunities for Robin Systems.

### THREATS

Robin Systems will have to fight for its place in the container market and faces competition from both larger and similar-sized rivals on many fronts.