

New EMC {code} Projects Broaden EMC's Open Source Contributions

EMC Continues Forward Momentum in Open Source, Introducing "Polly" for Storage Scheduling and New Enhancements to REX-Ray Storage Orchestration Engine

News Highlights:

- EMC announces new open source initiative Polly and releases enhancements to REX-Ray
- New initiative Polly is an open source storage scheduler designed to provide storage resources for Cloud Foundry, Docker, Kubernetes and Mesos
- New enhancements to REX-Ray support additional security features, a new distributed client/server model, and integration to Polly for scheduling storage resources across container platforms

Full Story:

EMC Corporation (NYSE: EMC) today announced the latest projects in a series of open source contributions under the EMC® {code} umbrella, including the Polly™ open source framework that enables storage allocation in scheduling environments such as Cloud Foundry, Docker, Kubernetes, and Mesos. EMC also announced new integrations and enhancements to EMC's REX-Ray™ open source storage orchestration engine for containers.

EMC's Community Onramp for Developer Enablement, known as EMC {code}, was founded in 2014 with the mission to support 3rd Platform development and open source communities through contributions to critical open source projects, engagement and technical solution leadership. Since its inception, the team has released 48 projects, with the EMC {code} community contributing more than 350,000 lines of code to the open source community in 2015 alone. Through this work, EMC technologies are gaining increasing relevance to open source infrastructure communities such as Docker and Mesos. These new technologies represent an emerging and viral market for persistent applications in containers, and EMC {code} is dedicated to assuring continued relevance and affinity for EMC's software and physical infrastructure products.

Polly

Born out of the need to expose storage as a first-class citizen in scheduling environments, Polly—named for “polymorphic volume scheduling”—is an open source framework for Cloud Foundry, Docker, Kubernetes, Mesos, and others. Polly implements a centralized storage scheduling service that connects to container schedulers. It can simultaneously be used to explicitly offer resources to any number of these schedulers. Polly will be further developed to create a framework that enables the scalable offer-acceptance pattern of consuming volumes across the emerging eco-system of container and storage platforms. The ability to offer storage

with other compute resources is an evolutionary leap past other container projects, and elevates storage to become as accessible as other resources.

Container-based infrastructure represents a substantial evolution in the way applications are developed, deployed and managed in production. Adding persistence extends the types of applications that can be containerized and opens the door to new opportunities for databases, key-value stores, infrastructure services such as DNS, and more. For efficiency, the scheduler needs to understand the underlying storage infrastructure to properly allocate storage resources within orchestration engines at scale.

Previously, container schedulers focused solely on compute, memory, and network resources for container deployments. As applications within containers begin to require persistent back-end storage, the need arises for storage to be available as a scheduled resource. Polly fills this role to integrate storage as an open framework to multiple container scheduling solutions.

The open source container ecosystem is diverse, and implementations vary; a polymorphic solution, which allows code to evolve while keeping the original algorithm intact, is critical to enabling common features and approaches of integrating storage into the supportive ecosystem.

Polly's Key Features:

- Centralized control and distribution of storage resources
- Offer-based mechanism for advertising storage to container schedulers
- Framework supporting direct integration to any container scheduler, storage orchestrator, and storage platform

Polly supports the following storage platforms:

- EMC: ScaleIO®, XtremIO®, Isilon®, VMAX®
- Cloud: Amazon EC2, Google Compute Engine, OpenStack, RackSpace
- Laptop: VirtualBox

New REX-Ray Enhancements

EMC {code} also announced REX-Ray 0.4, the latest version of the EMC open source project that delivers persistent storage across containers for runtimes, such as Docker and Mesos. REX-Ray offers vendor-agnostic persistent storage for containers and provides a simple and focused architecture for enabling advanced storage functionality across common storage, virtualization and cloud platforms.

REX-Ray 0.4 contains a variety of new updates through community and developer advocate contribution including updates to driver packages, security and client/server models. This release includes significant architecture updates to REX-Ray designed to ensure greater flexibility when deploying and centrally controlling containers. As an open source project, new features and functionality will continue to be added to REX-Ray aimed at delivering value and driving the container ecosystem to help make storage directly integrate with container platforms.

REX-Ray's Key New Features:

- New optional client/server model architecture for centralization of control and Polly integration
- Compatibility with Docker 1.11 Volume API
- Support for EMC ScaleIO v2.0
- REX-Ray supports the following storage platforms:
 - EMC: ScaleIO, XtremIO, Isilon, VMAX
 - Cloud: Amazon EC2, Google Compute Engine, OpenStack, Rackspace
 - Laptop: VirtualBox

Availability

Polly 0.1 and REX-Ray 0.4 are available on [GitHub](#).

EMC Executive Quotes:

Josh Bernstein, Vice President of Technology, EMC {code}, EMC Corporation

“Open source and software-based infrastructure is becoming critical to our customers. Early adopters are seeing tremendous value through integration and operating infrastructure as code. In a challenging and quickly evolving eco-system, the EMC {code} team is making it possible for customers to leverage open source solutions and containers as a pillar in their IT strategy.”

CJ Desai, President, Emerging Technology Division, EMC Corporation

“EMC has long supported the open source community and through these new projects we’re focused on enabling the development, deployment and maintenance of modern software. With container-based technologies designed for storage allocation and management, EMC is laying the foundation for users to address some of their most pressing challenges to support innovation for 3rd Platform use cases. We’re proud of EMC’s place in the open source community and are looking forward to continued investment and contribution.”

ABOUT EMC

EMC Corporation is a global leader in enabling businesses and service providers to transform their operations and deliver IT as a service. Fundamental to this transformation is [cloud computing](#). Through innovative products and services, EMC accelerates the journey to cloud computing, helping IT departments to store, manage, protect and analyze their most valuable asset – information – in a more agile, trusted and cost-efficient way. Additional information about EMC can be found at www.EMC.com.

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new product introductions; (vi) component and product quality and availability; (vii) fluctuations in VMware, Inc.'s operating results and risks associated with trading of VMware stock; (viii) the transition to new products, the uncertainty of customer acceptance of new product offerings and rapid technological and market change; (ix) risks associated with managing the growth of our business, including risks associated with acquisitions and investments and the challenges and costs of integration, restructuring and achieving anticipated synergies; (x) the ability to attract and retain highly qualified employees; (xi) insufficient, excess or obsolete inventory; (xii) fluctuating currency exchange rates; (xiii) threats and other disruptions to our secure data centers or networks; (xiv) our ability to protect our proprietary technology; (xv) war or acts of terrorism; and (xvi) other one-time events and other important factors disclosed previously and from time to time in EMC's filings with the U.S. Securities and Exchange Commission. EMC disclaims any obligation to update any such forward-looking statements after the date of this release.