VMware Previews vSphere Integrated Containers and Photon Platform to Accelerate Cloud-Native Apps in the Enterprise

- *VMware vSphere Integrated Containers to Provide Developers with Production-Grade Container Infrastructure*
- *VMware Photon Platform Optimized to Run Cloud-Native Applications in Greenfield Environments; VMware Photon Controller to be Open Sourced*
- *Bundling of VMware Photon Platform and Pivotal Cloud Foundry to Speed the Deployment, Integration and Management of Cloud-Native Applications*

SAN FRANCISCO, Aug. 31, 2015 – Today at VMworld® 2015, VMware, Inc. (NYSE: VMW) introduced two new technology previews – VMware vSphere Integrated Containers and VMware Photon Platform – to empower enterprise IT operations teams to deliver containers in production on-premises and on VMware's public cloud, VMware vCloud® Air™.

VMware is expanding its cloud-native technology portfolio with two new projects that promise to improve the developer experience for building applications using container technology while addressing enterprise IT requirements. VMware's cloud-native technology portfolio is being designed to meet IT requirements across security and isolation, service-level agreements, data persistence, networking services and management.

"Today, VMware is announcing foundational infrastructure that will enable customers to deploy cloud-native applications in production with confidence," said Ray O'Farrell, chief technology officer and chief development officer, VMware. "It's all about choice. Customers will be able to jumpstart their container initiatives on top of their existing VMware vSphere environments or consume new infrastructure designed specifically for cloud-native applications."

VMware vSphere Integrated Containers: Accelerating Enterprise Container Initiatives
Unveiled today as a technology preview, VMware vSphere Integrated Containers will enable IT teams to support any application, including containerized applications, on a common infrastructure.

The technology can accelerate container initiatives by enabling IT teams to take advantage of their existing investments in VMware infrastructure, people, processes and management tools. The solution will also empower developers with the flexibility, portability and speed containers deliver. VMware vSphere Integrated Containers will easily integrate with other container ecosystem solutions including CoreOS Tectonic, Docker, Kubernetes, Mesosphere's Data Center Operating System and Cloud Foundry.

VMware vSphere Integrated Containers represents a complementary set of cloud-native technologies featuring Project Bonneville, Project Photon OS (formerly Project Photon), and VMware's Instant Clone technology (a feature of VMware vSphere 6) that will bring together the best of VMware vSphere with containers.

With VMware vSphere at its foundation, the new offering will help IT operations team meet the following enterprise requirements for containers:

- **Security and Isolation –** Assuring the integrity and authenticity of containers and their underlying infrastructure, Project Bonneville, a technology preview, isolates and starts up each container in a virtual machine with minimal overhead using the Instant Clone feature of VMware vSphere 6.

- **Storage and Data Persistence** – While many container services are stateless today, customers have the desire to enable stateful services to support cloud-native databases. VMware vSphere Integrated Containers will enable provisioning of persistent data volumes for containers in VMware vSphere environments. This will enable IT operations and development teams to take advantage of the speed and portability of containerized applications in conjunction with highly resilient VMware vSphere storage, including VMware Virtual SAN™ and VMware vSphere Virtual Volumes™-enabled external storage.

- **Networking** – VMware NSX™ supports production container deployments today. With VMware NSX, IT can apply fine-grained network micro-segmentation and policy-based security to cloud-native applications. Additionally, VMware NSX provides IT with greater visibility into the behavior of containers. Finally, with VMware NSX, containers can be integrated with the rest of the data center, and can be connected to quarantine, forensics and/or monitoring networks for additional monitoring and troubleshooting.

- **Service-Level Agreements (SLAs)** – IT teams will be able to assure service-level agreements for container workloads with VMware vSphere Distributed Resource Scheduler as well as reduce planned and unplanned downtime with VMware vSphere High Availability and VMware vSphere vMotion®.

- **Management** – Administrators will be able to use VMware vCenter Server™ to view and manage their containers without the need for new tools or additional training through Project Bonneville, which will enable the seamless integration of containers into VMware vSphere. Customers can further achieve consistent management and configuration compliance across private and public clouds using the VMware vRealize™ Suite.

By bringing together all the necessary capabilities into a single solution to run enterprise-class containers in production, VMware will help IT organizations to accelerate time to value, reduce risk and enable long-term viability for their container initiatives. Additionally, IT teams will have tremendous choice and flexibility over the hardware, operating systems and third-party software certified for VMware vSphere. VMware's cloud-native technologies will be demonstrated at VMworld (booth #1229).

Introducing the Photon Platform: Purpose-Built for Running Cloud-Native Applications
For DevOps and software as a service (SaaS) organizations, running cloud-native applications at scale requires a container-optimized platform developed for high churn workloads and an API-first model. VMware will today demonstrate the VMware Photon Platform, which is purpose-built to meet this emerging need and features "just the right level of functionality" to run cloud-native applications at scale. Showcased as a technology preview, the VMware Photon Platform is designed for DevOps teams planning to build out large pools of commodity computing capacity that solely run cloud-native applications. DevOps teams will have a choice of open container orchestration frameworks including Docker Swarm, Kubernetes, Mesos and Cloud Foundry to run on the platform. The technology – components of which will be open sourced – will also support

dynamic continuous integration environments, platform as a service (PaaS) or SaaS deployments, and sizable data analytics clusters running Hadoop or Spark.

The VMware Photon Platform, which will include future integrations with VMware NSX, VMware Virtual SAN and VMware vRealize Suite, features the following technologies:

- **VMware Photon Controller** – A multi-tenant, API-driven control plane optimized for scale, churn and high-availability. Automation-savvy DevOps teams will be able to speed the creation of thousands of new containers per minute and support hundreds of thousands of total simultaneous workloads. The controller will be released as an open source project to help encourage broad input, testing and adoption from customers, partners and the community at large. The technology will also incorporate Project Lightwave, which provides enterprise-grade trust and security for containers.

- **VMware Photon Machine** – This technology will include a new ESX Microvisor based on the proven core of VMware ESXi. It also includes Project Photon OS, a lightweight Linux operating system for containerized applications and optimized for VMware environments.

VMware and Pivotal to Introduce Cloud-Native Application Solution
VMware and Pivotal offer powerful solutions for cloud-native applications for IT operations and application development teams, respectively. The two companies intend to collaborate on bringing joint solutions to market, one of which will be a joint, turnkey offering that combines VMware Photon Platform and Pivotal Cloud Foundry solution to further accelerate the deployment, integration and management of a cloud-native application development and production stack.

Supporting Quotes
"Many organizations continue to struggle with making a true transformation to a digital enterprise where differentiation largely occurs in applications and data," said Matt Eastwood, senior vice president, Enterprise Infrastructure and Datacenter Group, IDC. "IDC believes VMware's focus on cloud-native applications offer the distinct potential for the company to expand into new markets as well as grow/retain its existing customers looking to build next gen apps aimed at powering digital business transformations."

"Cloud is an important part of how SAS does business – with our customers and throughout our company," said Keith Collins, CIO, SAS. "We recognize the value cloud native design delivers in terms of improving application resiliency, elasticity and scale. This is why our new software architectures are cloud-native and why we are working with VMware to bring this type of technology to the products and services we provide our hosted customers."

Read Supporting Quotes from Ecosystem Partners

Pricing and Availability
Project Lightwave is available now as an open source project on GitHub. Project Photon OS is available now as an open source project on GitHub. VMware Photon Controller is expected to be made available as a private beta in Q4 2015.

Additional Resources
- Read the "Announcing VMware vSphere Integrated Containers and VMware Photon Platform" blog post by Kit Colbert

- [Read Pivotal's blog post](#)
- [Read](#) the "New Capabilities in Project Photon OS Technical Preview 2," blog post
- [Read](#) the "Hello Containers, Meet VMware Software-Defined Storage" blog post
- [Go to VMworld.com](#) to watch a live stream of the VMworld 2015 Keynote today 10:00 a.m. PT
- [Go to the VMworld 2015 Online Press Kit](#)
- Connect with VMware on [Twitter](#), [Facebook](#), [LinkedIn](#) and [Google+](#)

About VMware

VMware is a global leader in cloud infrastructure and business mobility. Built on VMware's industry-leading virtualization technology, our solutions deliver a brave new model of IT that is fluid, instant and more secure. Customers can innovate faster by rapidly developing, automatically delivering and more safely consuming any application. With 2014 revenues of $6 billion, VMware has more than 500,000 customers and 75,000 partners. The company is headquartered in Silicon Valley with offices throughout the world and can be found online at [www.vmware.com](#).

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Forward-Looking Statements
This press release contains forward-looking statements including, among other things, statements regarding VMware vSphere Integrated Containers and VMware Photon Platform technologies, the expected availability and features of VMware products and services comprising the cloud-native applications and portfolio, future integrations of these technologies with other technologies, benefits to customers, Project Bonneville, the intended cloud-native application collaboration with Pivotal, and the potential expansion into new markets and growth. These forward-looking statements are subject to the safe harbor provisions created by the Private Securities Litigation Reform Act of 1995. Actual results could differ materially from those projected in the forward-looking statements as a result of certain risk factors, including but not limited to (i) changes to priorities and spending allocations; (ii) adverse changes in general economic or market conditions; (iii) delays or reductions in information technology spending; (iv) competitive factors, including but not limited to pricing pressures, industry consolidation, entry of new competitors into the enterprise software and cloud computing markets, and new product and marketing initiatives by our competitors; (v) our customers' ability to develop, and to transition to, new products and computing strategies such as cloud computing and software-defined data centers; (vi) the uncertainty of customer acceptance of emerging technology; (vii) rapid technological and market changes in virtualization software and application platforms for enterprise computing; (viii) changes to product development timelines; (ix) the successful interoperability and integration of the technologies involved; (x) VMware's ability to protect its proprietary technology; and (xi) VMware's ability to attract and retain highly qualified employees. These forward looking statements are based on current expectations and are subject to uncertainties and changes in condition, significance, value and effect as well as other risks detailed in documents filed with the Securities and Exchange Commission, including our most recent reports on Form 10-K and Form 10-Q and current reports on Form 8-K that we may file from time to time, which could cause actual results to vary from expectations. VMware assumes no obligation to, and does not currently intend to, update any such forward-looking statements after the date of this release

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