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***Aparna Systems Emerges from Stealth Mode to Announce the Industry’s First  
Open Software “Cloud-in-a-Box” Solution***

*The Orca  $\mu$ Cloud™ Delivers the High Performance and High Availability Needed in Today’s  
Mission-critical Service Provider and Enterprise Applications*

**San Jose, CA (NFV World Congress 2017) – May 1, 2017 – [Aparna Systems](#)** today announced the Orca  $\mu$ Cloud and Orca  $\mu$ Server™—the industry’s first open software [Cloud-in-a-Box](#) solution to converge compute, storage and networking resources in a compact, energy-efficient system. In addition to offering industry-leading high density and scalability, with support for up to 10,000 cores per rack, the  [\$\mu\$ Cloud systems](#) deliver the high performance and high availability needed in distributed, edge, aggregation and core environments. The system-level architecture provides an optimal configuration without the need for “rack and stack” engineering, while the use of merchant silicon and open software enables the Cloud-in-a-Box to be used in bare metal, containerized and virtualized applications. Aparna Systems will unveil and demonstrate the Orca  $\mu$ Cloud and Orca  $\mu$ Server this week in Booth 41 at [NFV World Congress](#) May 3 - 5 at the San Jose Double Tree Hilton.

“Aparna’s Cloud-in-a-Box has the potential to be a real game-changer in a variety of applications,” according to Michael Howard, senior research director and advisor for Carrier Networks at IHS Markit. “This is particularly true at the edge of the network, including in central offices, where carriers have struggled to find a practical and affordable way to deploy adequate compute and storage resources. The system’s high density and design innovations combine to also drastically improve scalability and energy efficiency compared to blade servers.”

The  $\mu$ Cloud system addresses a persistent problem in the industry caused by the way the cloud has turned server clusters into amorphous “black boxes” that make it difficult, if not impossible, to match hardware and software to achieve peak performance. With its non-stop, high-

performance architecture, the Cloud-in-a-Box provides an easier and more cost-effective way to scale compute and storage resources in mission-critical applications from the edge to the core.

### ***Orca $\mu$ Cloud and $\mu$ Server Products***

Two models of the Orca  $\mu$ Cloud system are currently available: the 4060 with slots for up to 60  $\mu$ Servers and the 4015 with slots for up to 15  $\mu$ Servers. Both  $\mu$ Cloud systems are packaged in a 4U NEBS-compliant chassis with dual, hot-swappable AC/DC power supplies, and include a GPS clock to support applications that require precise timing, such as time series databases. Both systems are also equipped with dual, hot-swappable active/active switches that deliver 20 Gbps of bandwidth per  $\mu$ Server and an aggregate uplink capacity of 640 Gbps (2 switches x 8 ports at 40 Gbps each). This design is what gives the model 4015 its fully fault-tolerant, non-stop, non-blocking performance. These ultra-converged Cloud-in-a-Box systems offer unprecedented CPU core density (10,000 cores per rack with the 4060), energy efficiency (less than 75 Watts per  $\mu$ Server), and high intra-cluster bandwidth.

The Orca  $\mu$ Servers are available in two models: the Oserv8 with 8 cores and the Oserv16 with 16 cores. Both  $\mu$ Servers are packaged in a hot-swappable cartridge form factor that is about the size of a 3.5-inch hard disk drive. Both utilize Intel Broadwell Xeon processors, DDR RAM and dual SATA or NVMe solid state drives (SSDs). Storage I/O is non-blocking based on its support for both SATA at 12 Gbps (6 Gbps per SSD) and NVMe at 64 Gbps (32 Gbps per SSD), with latencies of 100 microseconds ( $\mu$ s) and 10  $\mu$ s, respectively.

The ultra-convergence of compute, storage and network resources optimized for peak performance in a configurable, compact server cluster enables Aparna's Cloud-in-a-Box system to deliver a savings of up to 40 percent in capital and operational expenditures, and to reduce the need for rack space and power by up to 80 percent compared to clusters built with rack or blade servers.

### ***Cloud-in-a-Box Applications***

The Orca  $\mu$ Cloud system is purpose-built for environments with limited availability of space, power and/or cooling. The high density and energy efficiency combine to make the Cloud-in-a-

Box especially well-suited for edge and distributed computing needs found in both service provider and enterprise environments.

“Our network performance analytics platform requires us to detect problems and identify root causes in real-time, and Aparna’s Cloud-in-a-Box enables us to do that in a self-contained system with a remarkably small footprint,” claims Charles Barry, PhD, co-founder and chief technical officer at Jolata. “We also value how the  $\mu$ Cloud system scales cost-effectively, and the integrated GPS clock that provides the accurate timing and synchronization needed to analyze traffic being captured by our many sensors distributed throughout the network.”

Its open software architecture and non-stop high performance make the Cloud-in-a-Box suitable for virtually any networking, computing or storage application, including Fog and Multi-access Edge Computing, databases, data analytics, the Internet of Things, artificial intelligence and machine learning.

“Aparna’s open software architecture and support for ONIE [Open Network Install Environment] make the Orca  $\mu$ Cloud system an ideal platform for our OcNOS software,” said Atsushi Ogata, president and CEO at IP Infusion. “The OcNOS open network operating system is designed to help network operators reduce costs, increase agility and deploy new network services faster, and these objectives align perfectly with the ones Aparna Systems has established for its Cloud-in-a-Box.”

The need for compact systems like Aparna’s  $\mu$ Cloud was identified in the [Cisco Global Cloud Index: Forecast and Methodology, 2015–2020](#): “Network closets and micro data centers are growing in number and importance as internet-connected sensors and devices proliferate and remote users demand faster access to information. In response, organizations will turn to pre-configured micro data center solutions that support fast deployment, greater standardization and remote management across distributed IT locations.”

“We chose to launch the company at NFV World Congress because the Cloud-in-a-Box is ideal for carrier-class applications from the edge to the core,” said Sam Mathan, Aparna’s CEO and co-founder. “We expect the system’s industry-leading high density, coupled with its high performance and high reliability, will make the  $\mu$ Cloud systems especially popular for edge

computing and aggregation applications. Of course, these same capabilities are also important in the enterprise, where the ability to scale compute and storage resources is often constrained by available data center space and power.”

### ***Product Availability and Pricing***

The Orca  $\mu$ Cloud model 4015 and model 4060 systems, and the Oserv8 and Oserv16  $\mu$ Servers are all available for customer shipment. Pricing for entry-level configurations of the  $\mu$ Cloud model 4015 system begins at \$49,500.

### ***About Aparna Systems***

Aparna Systems is making breakthrough advances in cloud density, efficiency and price/performance through the ultra-convergence of compute, storage and networking resources. The company’s open software Orca  $\mu$ Cloud™ and  $\mu$ Server products provide a high density, high performance and high availability Cloud-in-a-Box solution for distributed and edge computing applications. The Orca  $\mu$ Cloud’s compact, energy efficient design also minimizes the need for space, power and cooling in central data centers. The privately held company is headquartered in Fremont, CA. For more information visit [www.aparnasystems.com](http://www.aparnasystems.com) or email [info@aparnasystems.com](mailto:info@aparnasystems.com).