Hewlett Packard Enterprise

Mutualink accelerates nationwide public safety interoperability growth with HPE Moonshot

Delivers secure, on-demand voice, video and data interoperability solution

Objective
Accelerate speed to deployment of virtualized application to meet growing customer demand, increase modular scalability and reduce footprint

Approach
Migrate from traditional rack servers to HPE Moonshot System with HPE ProLiant m300 Servers to run virtualized instances of Mutualink's interoperability solution anywhere, any time
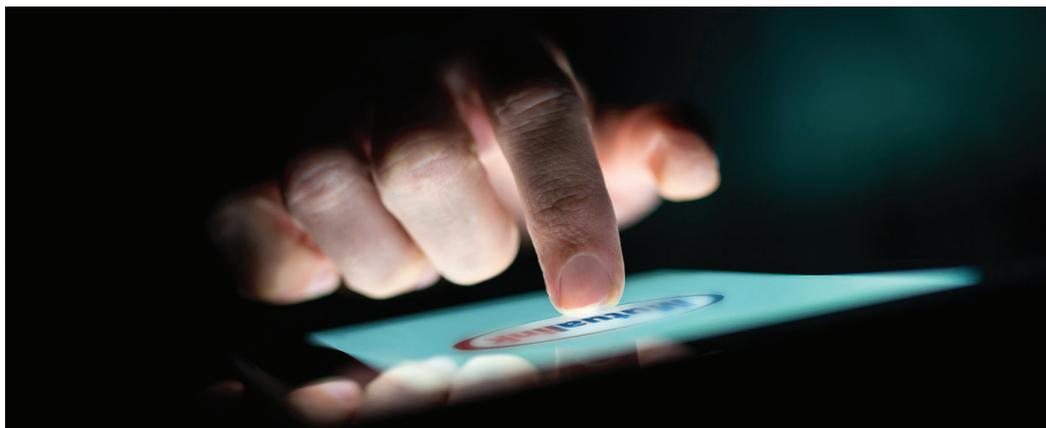
IT Matters
• Enabled Mutualink to run four times as many instances of its application in the same space as traditional rack servers

• Eliminated wasted capacity by matching compute resources more precisely to customer workloads

• Reduced power and cooling costs substantially

• Enabled on demand spin-up and assignment of secure session instances

Business Matters
• Enabled Mutualink to respond to customer needs in minutes rather than hours

• Strengthened competitive advantage by providing quicker value to customers

• Provided economical scale-out solution to support global business expansion

With the success of its unique communications interoperability and multimedia sharing solution, Mutualink was growing rapidly. To accommodate customer requests for cloud based delivery and meet accelerating growth, Mutualink selected the HPE Moonshot System.

Imagine an emergency response scenario where police on the scene with situational awareness cannot communicate to firefighters inside a burning building. The danger and frustration is unthinkable today, yet less than two decades ago this was a common dilemma among organizations with disparate communications systems and devices. Thankfully Mutualink solved the issue.

Mutualink created an IP-based multimedia virtual network that enables secure interoperability among any existing radio, video, telephone, and IP sensory equipment, as well as next-generation communication technology. While other interoperability solutions came on the scene, Mutualink was different because of its "serverless" architecture. Being serverless, the Mutualink solution enables communications across

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— Jim Cahill, Engineering Operations Manager, Mutualink

disparate systems and jurisdictions, yet allows each organization connected over the network to retain complete control of its own systems. All data is encrypted for the utmost security, and selectively multicasted to maximize bandwidth efficiency.

Mutualink originally deployed Linux-based hardware appliances at each customer site to enable peer-to-peer communications across its network. However, this imposed a number of requirements on the customer's IT organization to set up system interfaces, router connections, and Internet connectivity, which slowed installations. To meet customer requests to streamline deployment and eliminate internal resource demands, the company developed a secure cloud-based solution running on traditional rack servers in Mutualink's data centers. This approach provided customers with virtual appliances accessible through a secure virtual private network (VPN), allowing users to easily communicate using their land mobile radios, smart phones, tablets, and other devices, and also share real time video and data.

The virtualized solution was a huge success and Mutualink began growing rapidly—so rapidly that its data center facilities were running out of physical space. Plus, the time

required to procure, install, and provision rack servers was still too long to keep up with demand. So the company looked for an alternative solution.

Mutualink considered offerings from other vendors but had difficulty finding an ideal configuration. Also, the Company needed a first class, global support infrastructure. Its expanding list of customers are leading first responder and emergency response agencies that rely on interoperable communications in emergency situations. Mutualink needed a vendor it could count on 24/7 anywhere in the world.

Jim Cahill, Mutualink's engineering operations manager, explains, "When we saw the Hewlett Packard Enterprise (HPE) Moonshot System, we loved it. The ability to just plug in cartridges and scale in a quickly growing, distributed architecture was ideal for our needs. Since our customers rely on Mutualink technology to make life or death decisions in times of crisis, reliability and resilience is essential. Choosing HPE and Moonshot answered the call in all critical respects."

Hits the sweet spot for performance and efficiency

Mutualink initially deployed 15 HPE ProLiant m300 Servers in one HPE Moonshot 1500 Chassis to run its virtualized communication interoperability application. With that system quickly reaching capacity, the company is deploying additional ProLiant m300 servers and Moonshot 1500 chassis in production.

Mutualink runs thousands of virtual instances of its application in lightweight CentOS Linux environments (called containers) on the ProLiant m300 servers. With the flexibility of HPE Moonshot, the company can easily add servers to support additional containers as necessary.

"The beauty of HPE Moonshot is we can incrementally add capacity as customer orders are received," says Cahill. "We just pop another cartridge in the drawer—there's no cabling needed. Because the ProLiant m300s

are stateless we can bring up an application instance on any cartridge that's available and the Moonshot System will automatically load-balance. Most importantly we can duplicate a secure sovereign asset architecture that delivers not only logical security through multi-layered dynamic encrypted sessions, payload and advanced mutual authentication but also physical partition security. In this respect, Mutualink is unique in ensuring total physical and logical isolation for customers who need high level security but desire cloud-like on-demand delivery. With load balancing and virtual instance capability we also are layering in multiple levels of redundancy and resiliency, providing the best of all worlds."

He adds, "We don't need a lot of heavy-duty data processing, just the ability to efficiently move data streams in and out of our network. Considering the balance of processing power and price point, the ProLiant m300 really hit the sweet spot for our virtualized application."

Customer at a glance

Hardware
• HPE Moonshot System

• HPE ProLiant m300 Servers

• HPE Moonshot 1500 Chassis

Software
• CentOS 6.5

Delivers quicker value to customers

With HPE Moonshot, Mutualink can now run four times as many instances of its application in the same space as traditional rack servers—1,600 with HPE Moonshot compared to 400 on rack servers. This not only frees up much more data center space for growth but also equates to substantial savings in power and cooling costs.

In addition, since HPE Moonshot servers are workload-optimized, Mutualink is able to improve utilization by matching computer resources much more precisely to customer needs and also meet distinct security requirements.

Perhaps the most significant benefit of HPE Moonshot is Mutualink's ability to satisfy customer requests much more quickly with an easy-to-scale solution.

Cahill points out, "Our move to virtual appliances allowed Mutualink to get customers up and running within hours compared to days with a hardware approach. Moonshot has taken that ability to another level by enabling us to respond to customers in just minutes. There's no doubt that providing quicker value to our customers is key to our competitive advantage, especially in how it can conform to our distributed, secure peer based architecture. That's one of the big factors in why our solution has been so successful."

A system to grow with

With business continuing to grow at a brisk pace, Mutualink is looking to further strengthen high availability and expand its reach globally. By adding HPE Moonshot Systems to multiple data centers, the company will soon be able to bring up instances of its application anywhere, any time on a very large scale.

Cahill concludes, "HPE Moonshot gives us the flexibility and the efficiency to run our solution wherever it makes the most sense for our customers. It also gives us the ability to bring instances up or down as quickly as needed, whether that's to handle a workload spike or avoid downtime for maintenance windows or system problems. HPE Moonshot is really a system we can grow with."

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