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Kubos Leverages Replicated To Provide Air Gap Installs to Their Most Security-Conscious Customers

KUBOS

Company Details
Industry Satellite Management

Kubos is bringing the software revolution to space. By providing a robust set of satellite management and data collection services, Kubos has set its sights on the great unknown by decoupling physical infrastructure from satellite operation. This architecture empowers their customers to focus more on managing spacecraft while benefiting from a reduced operational overhead.

Their flagship product, Major Tom, is built on a robust ecosystem of tools and services that bring critical information and functionality to spacecraft operations. Major Tom connects to virtual satellites, flatsats, engineering models, and orbiting spacecraft all from a single dashboard, providing a universal platform for every aspect of satellite operations. Major Tom also seamlessly integrates with 3rd party ground services such as ground networks, mission analysis, and mission planning suites, analytics platforms, and other critical pieces of ground-based infrastructure.

The Problem

Kubos' mission is to bring modern software development and practices to the space industry by providing a robust set of API gateways and seamless integrations. Major Tom helps companies visualize, understand, and control data across their entire space and ground infrastructure through a cloud-native architecture and robust integrations with external applications and services.

These standard cloud connections work fine for most of their customers. Still, when Kubos began to generate interest from military and government contracts around the globe, they soon realized that the requirements and policies in place to operate Major Tom under strict security protocols requiring on-premise/physical access wouldn't allow for data transmission through the cloud.

As if communicating with satellites wasn't hard enough, Kubos now faced packaging their software for deployment into an air gapped environment — a task that they had not previously undertaken.

As Tyler Browder, CEO and Co-Founder of Kubos, recalls, "We knew that shipping into air gap environments was going to be particularly hard, especially to military bases that we couldn't get to easily, even if we needed to."

When posed with spending the internal resources necessary to build out air gap functionality, Kubos set out to look for a solution that would allow them to accommodate even the strictest of ground control environments.

> "Without Replicated, we would have had to walk away from these contracts. We found a good way to open up our total addressable market with Replicated."

Tyler Browder
Chief Executive Officer and Co-Founder

The Solution

Kubos' research led them to Replicated, a Kubernetes application delivery and management platform. Replicated provides commercial and open source tools to streamline the distribution and management of 3rd-party applications to complex enterprise environments — even air gapped ones.

"Replicated solved our problem immediately," said Paul Jungwirth, a software developer helping lead DevOps at Kubos. "Not only can we now provide an air gap solution for our customers, but Replicated keeps our on-prem offering easy and consistent with the rest of our product."

Kubos is now free to ship their Major Tom software to customers in an air gapped environment with little additional overhead. Adding to that, Replicated allows Kubos to troubleshoot customer problems from across the world by providing a robust set of Day 2 support tools.

As Paul puts it, "Replicated has really helped when it comes to any air gap customer problems. I can stand up a test instance, reproduce our customers' problems, and come up with solutions before getting on a call from across the globe."

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Paul Jungwirth
DevOps Lead

The Future

When asked about how Kubos would have proceeded had they not found an air gap solution, Tyler puts it simply. "Without Replicated, we would have had to walk away from these contracts. We found a good way to open up our total addressable market with Replicated, and it allows us to target some unique opportunities in the future as less-spacefaring nations or areas with little internet connectivity begin to embrace spacecraft management."

As Kubos grows, they can now ship Major Tom to any customer environment, even those with the strictest security needs. With their air gap deployment issues solved, Kubos can now get back to what's important – providing ground control teams with cutting-edge satellite communication technology.

Paul concludes, "Nowadays, I wouldn't recommend that anyone set up their own cluster for air gap installs. Just use Replicated."

To learn more about how Replicated can empower your enterprise software, please schedule a demo today.