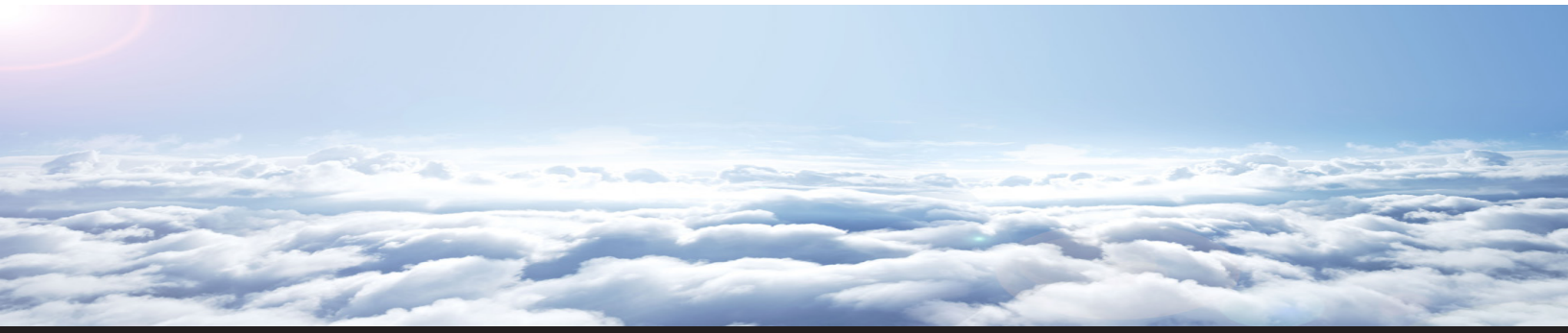
opengear

SMART SOLUTIONS FOR RESILIENT NETWORKS



Opengear Connects the Clouds to Ensure Uptime

SUMMARY

DigitalOcean

Industry:
Cloud Infrastructure/Web Hosting

Customer Profile:
DigitalOcean is a cloud infrastructure provider and the second largest hosting company in the world. The company allows users to efficiently manage their compute and networking infrastructure, delivering speed by leveraging servers that use only high-performance SSD drives and offering simplicity through intuitive controls and development frameworks.

Objectives:

- Maintain resilient connections – with dependable backup connectivity – to unmanned data center sites around the world
- Remove the need for maintenance personnel to travel to remote data center sites
- Provide the ability to remotely bootstrap an entire data center
- Maintain persistent serial connectivity during periods of maintenance

Opengear Solution:

- 48-port Opengear console servers in each data center rack for server management. At a separate tier, DigitalOcean uses an array of Opengear infrastructure managers to facilitate its out-of-band network infrastructure, featuring embedded cellular for a resilient backup management path

Results:

- Everything in the data center with a console port is managed with Opengear equipment
- Opengear is relied upon for initial site bootstrapping and the handling of any server accessibility issues through redundant cellular out-of-band connections
- Diagnostics and repairs are handled remotely, eliminating the costs and inconvenience of sending technicians to remote sites, and minimizing downtime

THE CHALLENGE

DigitalOcean guarantees 99.99% uptime for its hosting customers, necessitating a robust networking infrastructure with redundant and resilient equipment and capabilities. In the event of a connection failure – when a server goes completely offline and is inaccessible – DigitalOcean requires a dependable backup method of access that does not involve sending technicians to a remote location or relying on a mobile KVM, which can be slow, costly, and, in some cases, inadequate to the situation. Persistent serial connectivity during periods of maintenance is also a requirement, so that when a rebooting device loses connectivity a technician has the ability to reload it remotely from the console. DigitalOcean also needs a flexible networking equipment solution, with the ability to run scripts and backup and restore as needed. Solutions that necessitated adding hardware were explored, such as installing designated DRAC or iLo cards at every server, but these were determined to be too costly.

Their Challenges:

- Develop a resilient backup connectivity method to fulfill the company's uptime guarantee
- Reliably access offline equipment in remote data centers
- Avoid the time and cost of technician travel
- Save money versus competing solutions requiring additional hardware (and licensing to activate that hardware)

Opengear's console server and infrastructure manager solutions, featuring ***Smart* OOB**™ and embedded cellular connectivity technologies, have given DigitalOcean the resilience and dependability of out-of-band access and redundant management paths – and has done so at a price point and level of reliability that made Opengear the choice over other vendors.

"We rely upon Opengear heavily for all initial site bootstrapping and to handle any problems that arise where the server is completely offline or otherwise inaccessible. With sites around the world, we don't have people at every data center all the time, so it's crucial for us to be able to get to any of our globally distributed devices at any time. Accessing and managing servers remotely is a must."

- Jeremy Stretch
Network Engineer
DigitalOcean

THE SOLUTION:

In DigitalOcean's first generation data center design, every rack includes an Opengear 48-port console server, which manages the 40+ servers on the rack. Network infrastructure sits at a different tier, on DigitalOcean's out-of-band network, where the company uses an array of Opengear infrastructure managers to feed serial consoles to all infrastructure devices, including to Opengear switches in the racks and to other Opengear equipment. DigitalOcean has recently transitioned to a second-generation data center design that utilizes new Opengear platforms, including the CM7148 Console Server and the IM7248 Infrastructure Manager (which features LTE connectivity). These devices deliver resilient networking that includes features like network UPS and environmental monitoring. The embedded cellular capability and ***Smart* OOB**™ for out-of-band management ensure that servers can always be accessed through the redundant cellular out-of band connection.

DigitalOcean has found Opengear's solutions to be more flexible, more affordable, and more reliable than competing solutions. DigitalOcean plans to incorporate Opengear into their future data center plans.

Additional benefits to Digital Ocean and their customers include:

- Allowing DigitalOcean to fulfill its 99.99% uptime guarantee
- Improved business confidence and trust, as clients know DigitalOcean will keep its services online and active even during primary connection outages
- Diagnostics and maintenance are performed quickly remotely
- Opengear's competitive pricing allows DigitalOcean to maintain its cost levels

IM7248 INFRASTRUCTURE MANAGER

- Complete and comprehensive out-of-band management with ***Smart* OOB™**.
- Built-in TFTP server & 16GB flash storage for remote configuration
- Internal 4G LTE modem and Failover to Cellular™ enables network resilience
- Top of rack deployment to monitor, access and control network, server and power infrastructure, even during network outages
- Military-spec security, FIPS 140-2 validated encryption, stateful firewall, & OpenVPN
- Environmental and physical sensor alarm notification via SMS, SNMP or Nagios
- Automatically detect and recover from network outages and repair equipment faults

"I really like Opengear's flexibility. I like that it's not only menu driven; you actually have the ability to run scripts, and, from there, you have the ability to parse the configuration. It's very programmatic with the config utility. You can go in there and, via the CLI, you can adjust the settings just like you would through the UI."

- Jeremy Stretch
Network Engineer
DigitalOcean

Opengear IM7200 Infrastructure Management Benefits:

- **Minimize MTTR and increase MTBF.** Proactive problem identification, quick notification and automated remediation reduce operating and downtime costs
- **Ensure uninterrupted availability.** Transparent automatic failover and always-on Smart OOB access keep the business up and running
- **Understand everything that affects uptime.** Monitor and control virtually everything, including the physical environment, prevent disruptions
- **Increase efficiency and reduce human error.** Equip every rack with virtual remote hands in lights-out data centers and colocation cages
- **Leverage existing tools and workflow.** Integrates with standard management tools and existing infrastructure

About Opengear:

Founded in 2004, Opengear delivers next generation intelligent solutions for managing critical IT and communications infrastructure. Opengear smart solutions equip our customers' networks with smart automation and bulletproof resilience, enabling them to optimize technical operations and secure business continuity. The company is headquartered in Sandy, Utah, has R&D operations in Australia and sales offices in Europe and USA.

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