Opengear Smart Out-of-Band Solutions

Out of Band Management and Beyond

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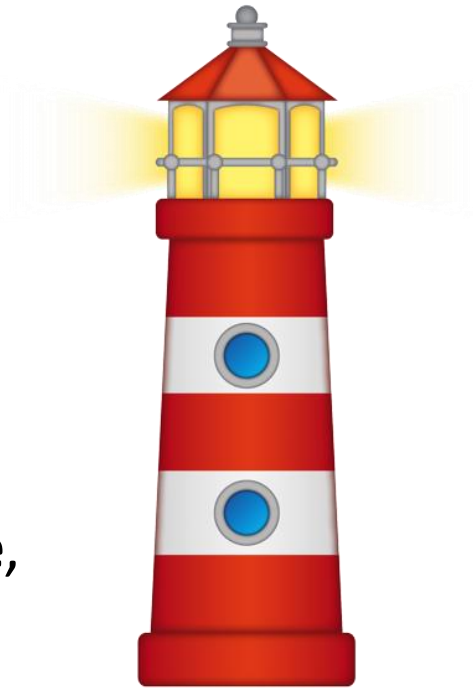
CEO Reweb – Opengear Distributor

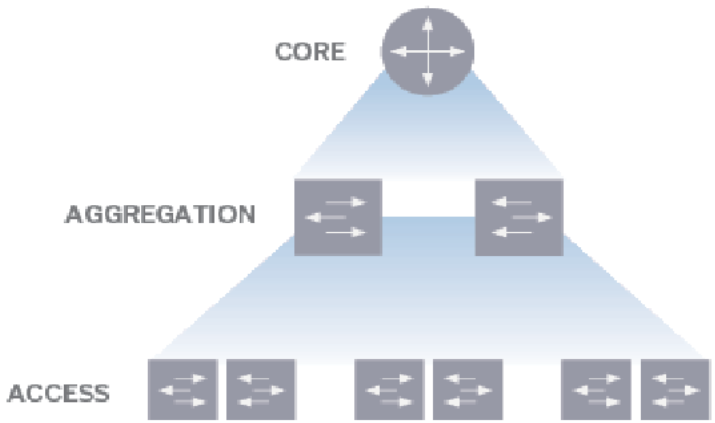
Our Value Proposition

THE NETWORK RESILIENCE PLATFORM is based on the presence and proximity of a **NetOps** or **Smart OOB (Out-of-Band)** node at every IT location, centrally orchestrated through a **Centralized Access Portal** called Lighthouse.

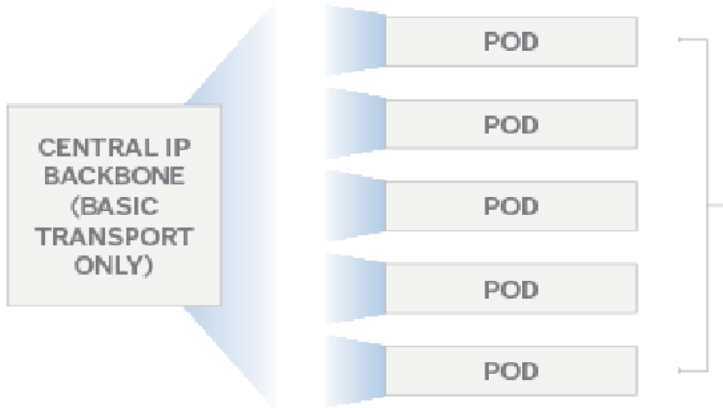


THE NETWORK RESILIENCE PLATFORM provides **secure remote access** to your critical network devices **through a separate management plane**, with the ability to **automate NetOps processes**, such as **securely deploying and provisioning devices**, advanced log management, configuration and firmware lifecycle management and **Remote IP devices access** to edge locations.

Data center network design: Traditional vs. pod



Traditional design



Core-and-pod design

Each pod:

- is largely self-contained
- has two or more network switches
- has around 100-400 ports total (recommended)

SOURCE: BIG SWITCH

The Resilience Platform

Smart Out-of-Band
Network Resilience
NetOps Automation

Why is it Important ?
What Solution ?
How does it Work ?

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The Network Resilience Platform

RESILIENCE
Opengear ***Smart* OOB™** combined with 4G-LTE Failover to Cellular delivers always-on resilient connectivity and remote management

SECURE
Security configurations and precautions that ensure IT security policies are continuously enforced

INTELLIGENCE
Integrated Intelligence with alerting mechanisms, auto-remediation, log analysis, PDU management and advanced switching & routing

AUTOMATION
Opengear solutions leverage standard tools like Docker, Git, Ansible, Python and APIs to automate NetOps-style workflows

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Apply the Corporate Security Policy to the OOBM Network

- An Out-of-Band access is a back-door to

  Managed Devices in production
- Nodes can be connected to Internet

  - Confidentiality
  - Integrity
  - Availability
  - Auditing

Secure encryption Protocols (IPSec, OpenVPN, SSH, HTTPS)
Individual Security enforcement on each serial port
RBAC policy for granular group access policy
Integrated 3rd party AAA directories (Radius, TACACS and LDAP)

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Stateful Firewall with a default DENY policy
Brute force Protection
Code auditing & Vulnerability testing
TPM Chipset

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High Availability of Lighthouse
Highest MTBF on the market
Power Redundancy on all hardware
Network Redundancy on all nodes

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Audit logs for all Opengear components
Configurable detailed Logging for each serial port
3rd party log management or SIEM solution feeding (Traps, Syslog…)
Remote real-time Log gathering through the OOBM Network

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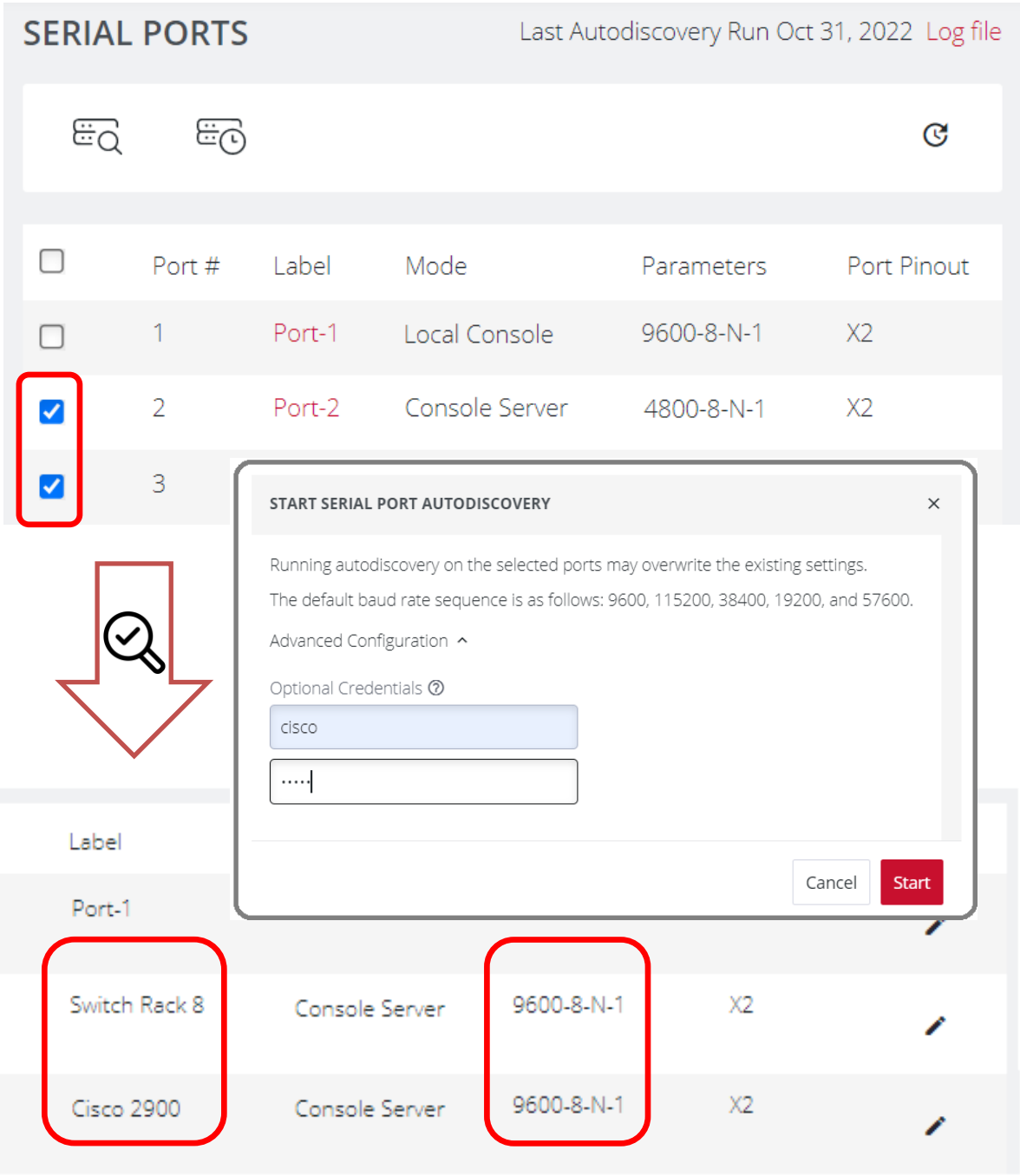
Automatic Port Discovery

- Serial Ports
  - Speed and Name Discovery Scan
  - Name discovery possible on password protected managed devices
- IP
  - LLDP
  - CDP



Cisco Switch or Router

DEPLOY

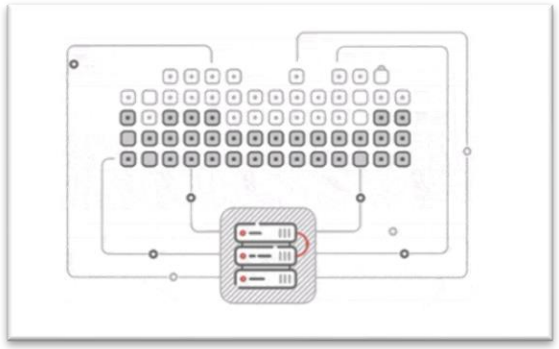
Enable the first day

- Save time on physical and virtual network deployment with Zero Touch Provisioning
- Securely store network configs and image files
- Save time with cellular enabled *Smart* OOB devices

MANAGE

Deliver value everyday

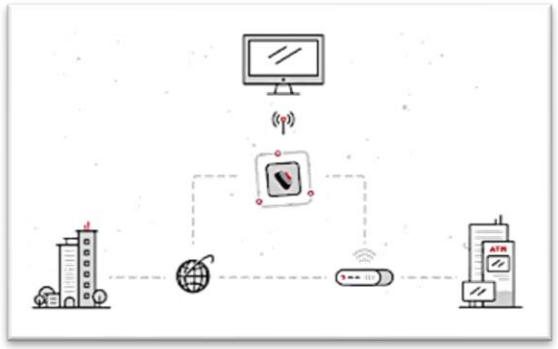
- Presence and proximity to managed devices
  - Secure physical connection to physical appliances
  - Secure virtual connection to virtual appliances
- Hosting platform (Docker) for applications and scripts
- Independent OOB network for managing and monitoring your network infrastructure



REMEDIATE

Minimize the worst day

- Network resilience with Smart OOB™ and failover to cellular
- Secure access to physical and virtual devices when the network is down
- Expedite access to affected infrastructure and automate recovery



Best Practices

Centralized Access
Double Attachement
4G Failover
Automation

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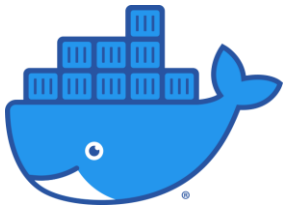
NetOps Automation

- More and more complex Networks
- Budgets getting thigher
- Higher requirements and expectations
- Overloaded Teams



Imagine

- You could periodically backup configurations as close as possible to your devices
- It could be possible to have real time access to logs for non accessible devices
- That patch, firmware and updates could be managed without relying on the network
- Users on remote locations could smoothly keep on working during WAN outages
- You could install any tools you need ad-hoc without provisioning a Server or VM
- …

Dockerhub

Do people use Docker ?
1Billion+ Downloads just on these 3 examples would prove yes! And that's a lot of engineers.

If your Cell phone was an Opengear node, then Docker containers would be apps and Dockerhub the App store

python DOCKER OFFICIAL IMAGE — 1B+ Downloads, 8.0K Stars

Updated 5 days ago

Python is an interpreted, interactive, object-oriented, open-source programming language.

Windows | Linux | mips64le | PowerPC 64 LE | IBM Z | x86-64 | ARM | ARM 64 | 386

mysql DOCKER OFFICIAL IMAGE — 1B+ Downloads, 10K+ Stars

Updated 7 days ago

MySQL is a widely used, open-source relational database management system (RDBMS).

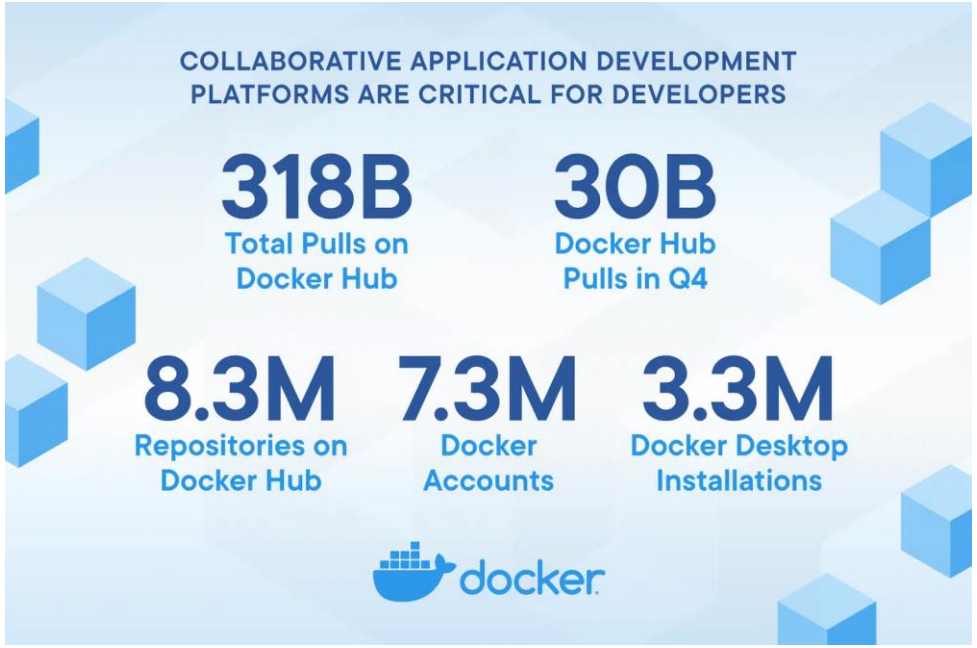
Linux | x86-64 | ARM 64

ubuntu DOCKER OFFICIAL IMAGE — 1B+ Downloads, 10K+ Stars

Updated 14 days ago

Ubuntu is a Debian-based Linux operating system based on free software.

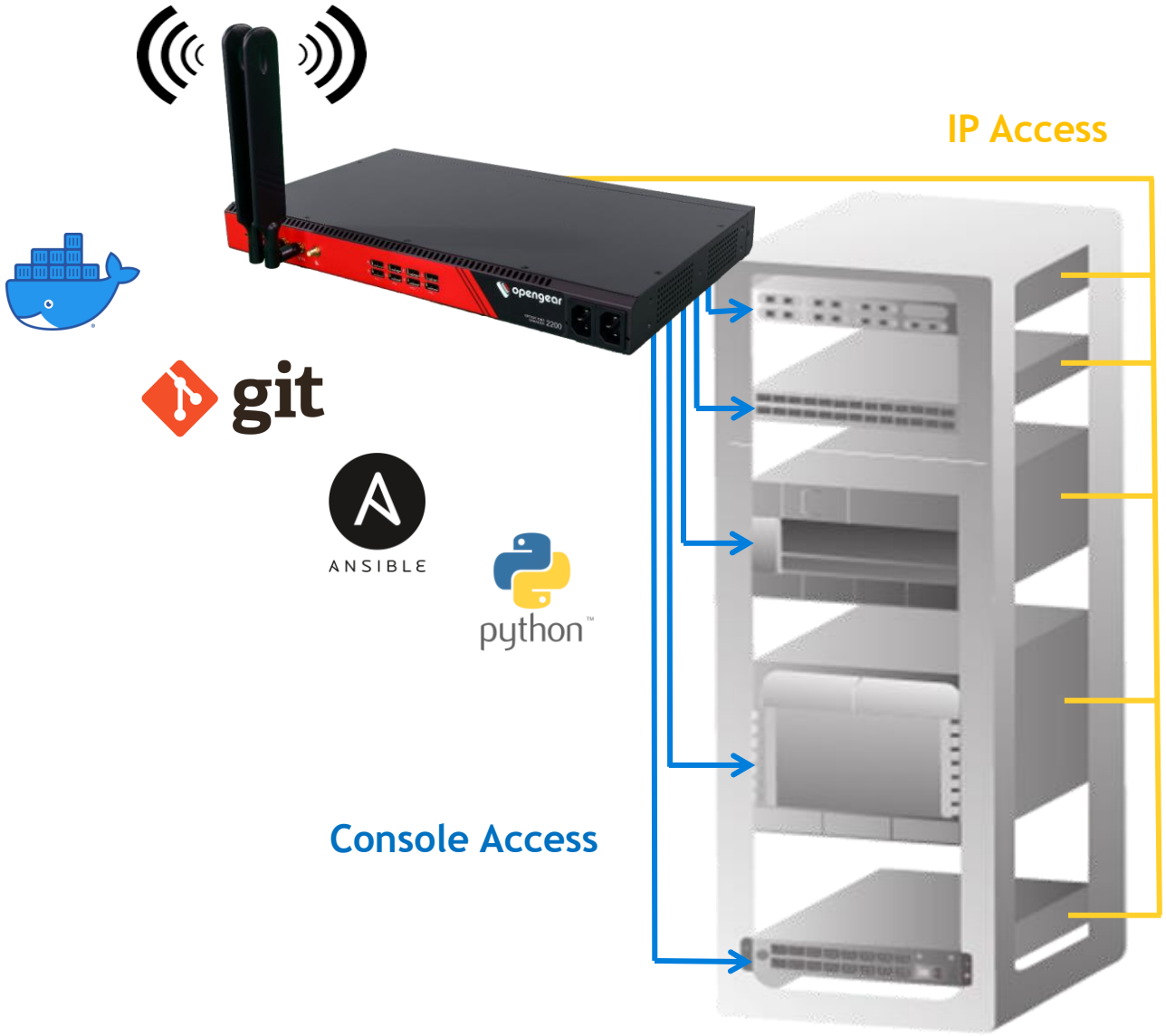
Linux | x86-64 | ARM | ARM 64 | PowerPC 64 LE | riscv64 | IBM Z | 386



A few Docker containers being used by Opengear customers

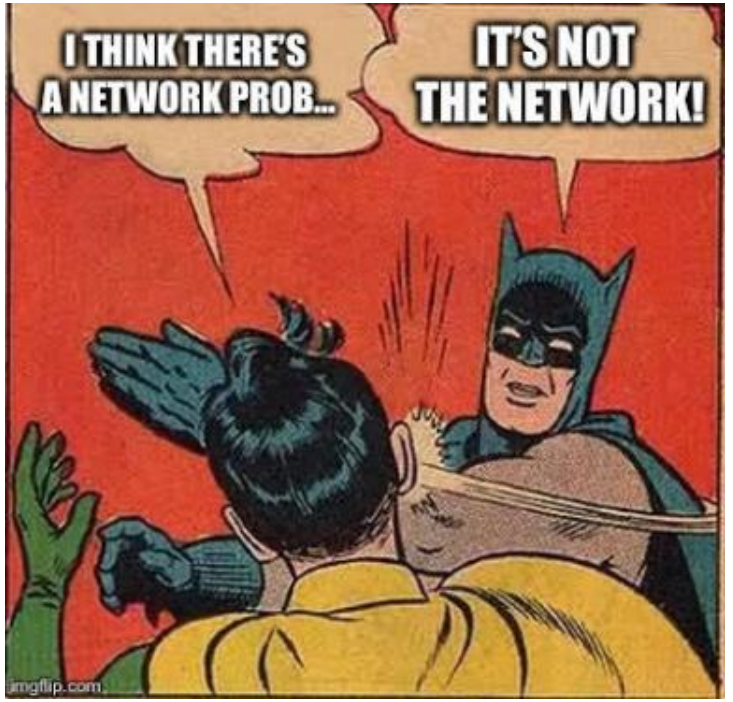
Admin

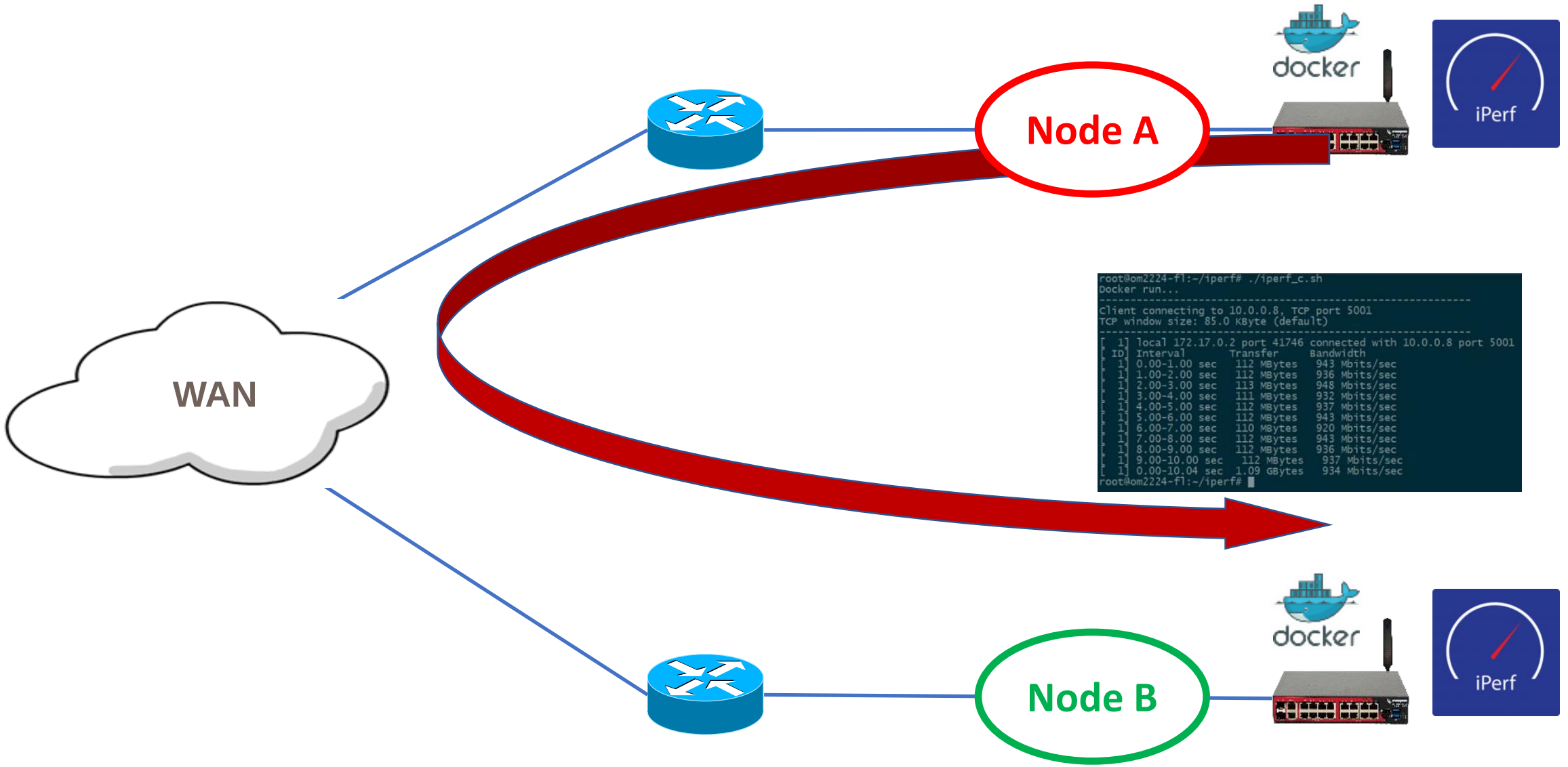
- iPerf
- DHCP
- HTTP (Apache)
- RADIUS
- BIND9 (DNS)
- AWS IoT Core
- Flask/Gunicorn



On demand remote performance testing

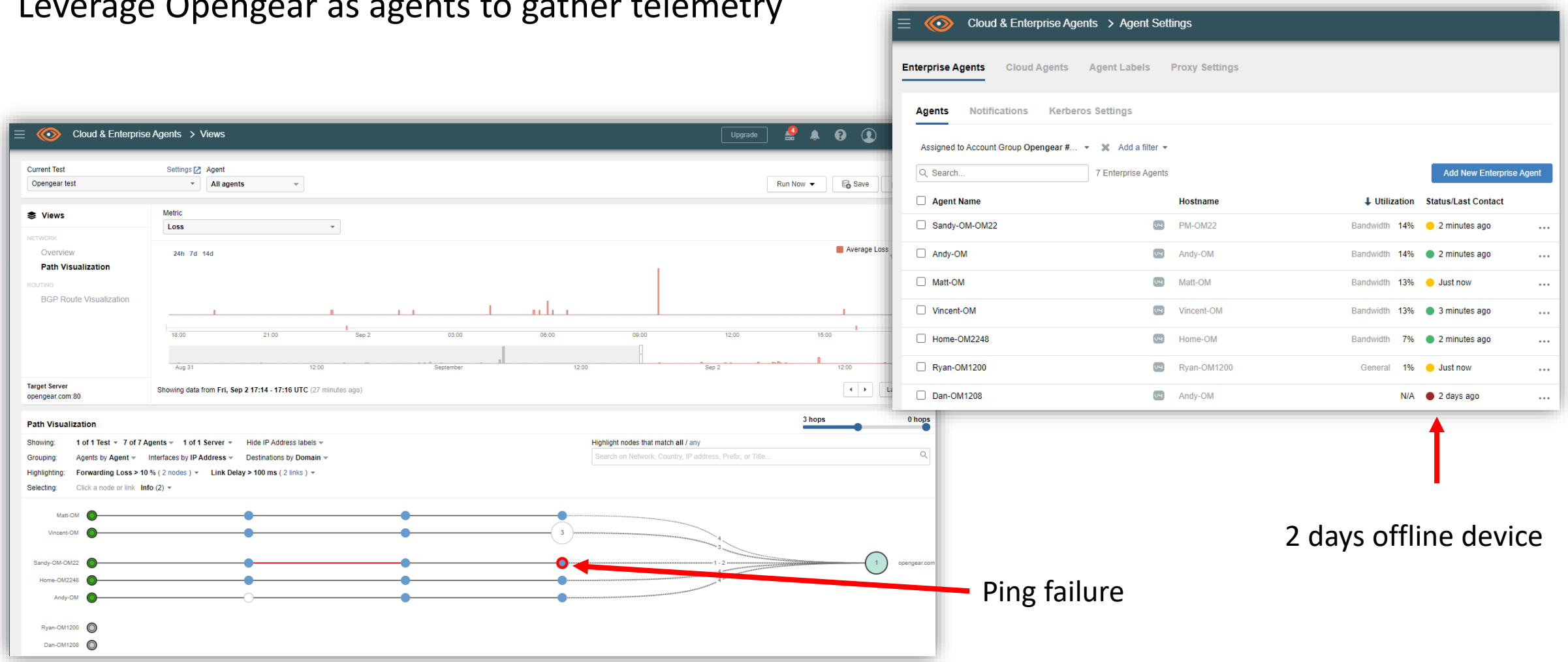
- A store manager reports a « really slow » connection when accessing inventory levels
- The Network Engineer on duty team wants to run after hours throughput tests between sites and there is no IT staff to support him
- Typically for connectivity testing, an employee with a laptop or a fixed device would need to be at each end point to conduct testing
- Luckily, they recently installed Opengear nodes at all locations so these tests can be done without on site assistance




docker
iPerf
Node A
WAN
root@om2224-fl:~/iperf# ./iperf_c.sh
Docker run...
Client connecting to 10.0.0.8, TCP port 5001
TCP window size: 85.0 KByte (default)
[1] local 172.17.0.2 port 41746 connected with 10.0.0.8 port 5001
[ID] Interval Transfer Bandwidth
[1] 0.00-1.00 sec 112 MBytes 943 Mbits/sec
[1] 1.00-2.00 sec 112 MBytes 936 Mbits/sec
[1] 2.00-3.00 sec 113 MBytes 948 Mbits/sec
[1] 3.00-4.00 sec 111 MBytes 932 Mbits/sec
[1] 4.00-5.00 sec 112 MBytes 937 Mbits/sec
[1] 5.00-6.00 sec 112 MBytes 943 Mbits/sec
[1] 6.00-7.00 sec 110 MBytes 920 Mbits/sec
[1] 7.00-8.00 sec 112 MBytes 943 Mbits/sec
[1] 8.00-9.00 sec 112 MBytes 936 Mbits/sec
[1] 9.00-10.00 sec 112 MBytes 937 Mbits/sec
[1] 0.00-10.04 sec 1.09 GBytes 934 Mbits/sec
root@om2224-fl:~/iperf#
docker
iPerf
Node B

Agent ThousandEyes « dockerized » on an Opengear node

Leverage Opengear as agents to gather telemetry

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Thank You !
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