USE CASE

Secure Remote Access

Dell's PowerProtect Cyber Recovery Data Vault Paired with Owl Data Diodes

Summary

Challenges

Need for secure, remote access into a secure vault to adjust configurations, change settings, apply software patches, and perform routine maintenance and support

Solution

Owl ReCon - Owl's bidirectional data diode that consists of two, independent, one-way paths pointed in opposite directions

Benefits

Vault operators do not need to physically access the vault and can easily and remotely access the network when necessary to perform routine updates and maintenance as quickly as possible

Cybersecurity Challenge

Some organizations require remote access into their secure data vault. Software-based, bidirectional solutions, like firewalls, can pose risk to the air-gapped architecture of the vault and introduce new threat vectors to the environment. Software-based solutions can be configured for connections and protocols of any type, initiated from either side of the vault, increasing the risk of being hacked. Organizations need the highest level of security to assure that they can safely access the vault remotely in a timely manner while minimizing risk.

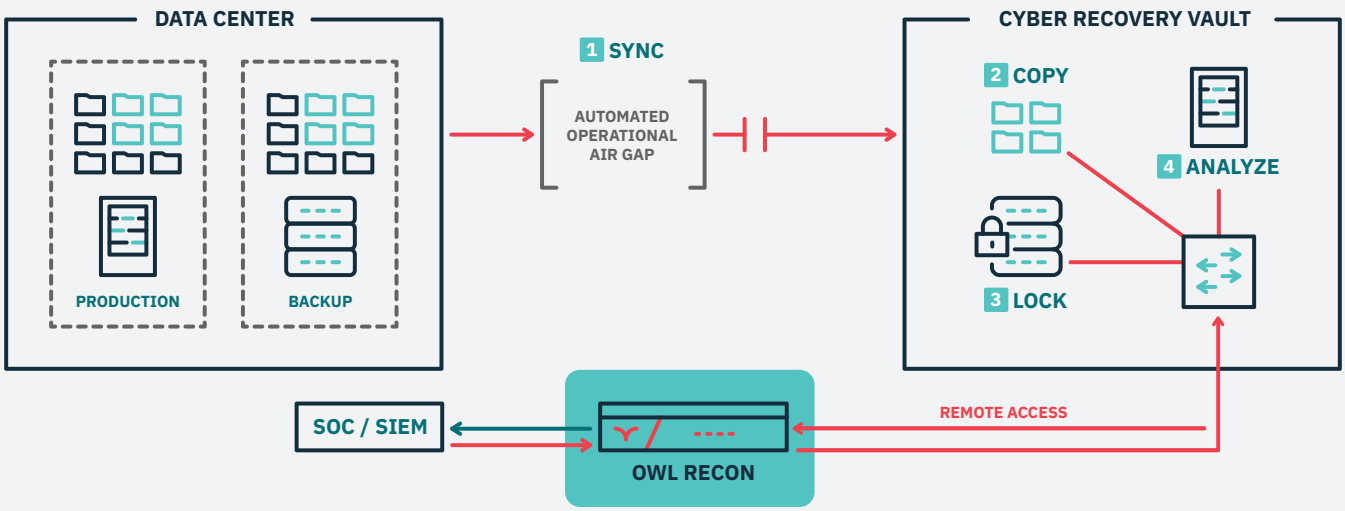
Secure Remote Access Solution

Dell has partnered with Owl Cyber Defense to provide organizations with a secure, hardware-enforced cybersecurity solution that enables organizations to remotely access a secure vault while minimizing risk.

Owl ReCon, Owl's bidirectional data diode, is comprised of two, one-way data diodes pointed in opposite directions, all in a 1U rack-mountable device. No routable information crosses the security boundary and configuration is separated for the source and destination sides, providing an additional level of administrative segmentation. Connections can only be initiated from the source side and both sides need to agree on the configuration for a TCP session to work end-to-end. Vault operators can use Owl ReCon to remote into the vault and take control of the Cyber Recovery interface to adjust configurations, apply software patches and perform routine maintenance and support.

Key Features

- → One-way only architecture – two data diodes in one device pointed in opposite directions
- → Non-routable protocol break - strips all source IP and MAC routing information to prevent unauthorized communications
- → Vault operators do not need to physically enter the vault to make changes or updates – they can remotely access the vault when needed



How It Works

The Department of Homeland Security (DHS) states, "If bi-directional communication is necessary, then use a single open port over a restricted network path". Designed to meet DHS guidance for securing bi-directional communications, Owl ReCon enables vault operators to remotely access the vault securely through hardware-enforced data diode technology, providing more security than traditional firewalls. Owl ReCon consists of two, individually isolated, one-way paths, all within a single 1U hardware appliance. Owl ReCon restricts the use of TCP/IP ports and each side of Owl ReCon must be configured and managed separately.

The TCP/IP connection can only be initiated from the source side of Owl ReCon. Administrators outside of the vault can use Owl ReCon to remote into the vault to adjust configurations, apply software patches, and perform routine maintenance and support. Client authentication ensures that only authorized users can access Owl ReCon securing the integrity of the device and data being transferred.

Technical Specifications

(per server x2)

Case

19" 1U Rackmount Chassis with 4-wire PWM

Processor

1 x Intel Xeon

Memory (RAM)

1 x 8GB DDR5 UDIMM

Primary Storage

1x 128GB SATA SSD

Power Supply

1 x 300W Flex-ATX Power Supply—US Power Cord

Input: 100~240 VAC

Estimated Normal operating usage: 120 Watts

Mounting

Rackmount ears + half-depth rackmount Sliding Rail Kit

Operating Conditions

10 - 35 C, 20% ~ 90% non operation humidity (non condensing)

Approvals/Certifications

Pending regulatory certification

Interfaces

Front: 2 USB (3.0)

Rear: 1 DB15 (VGA) 2 RJ45 (1GbE), 1 dedicated IPMI 2 Type A (USB3.2 Gen1) 1 UID button, 1 UID LED

OTO Data Diode Card: 2 RJ45 (1GbE)

Dimensions

Chassis Size:

With Mounting Ears: 482.6mm W x 257.1mm D x 44.4mm H

Without Mounting Ears: 431.8mm W x 257.1mm D x 44.4mm H

Unit Weight: 4.35 kg / 9.59 lbs.