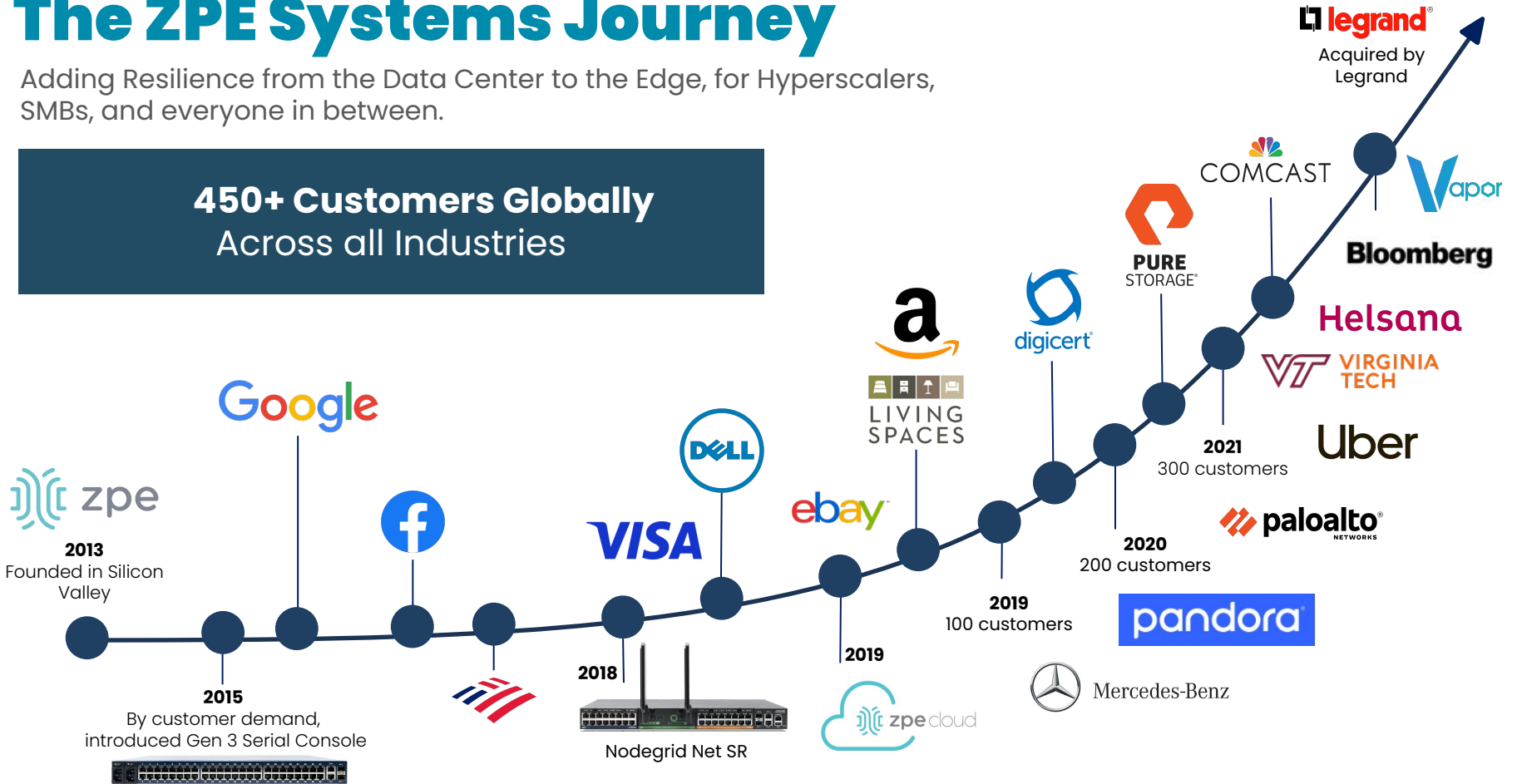# Making Networks Hard to Fail And Easy to Recover

How Gen 3 Out-of-Band and Isolation Bring Resilience to IT

The ZPE Systems Journey

Adding Resilience from the Data Center to the Edge, for Hyperscalers, SMBs, and everyone in between.

450+ Customers Globally
Across all Industries

2013
Founded in Silicon Valley

2015
By customer demand, introduced Gen 3 Serial Console

2018
Nodegrid Net SR

2019

2019
100 customers

2020
200 customers

2021
300 customers

Acquired by Legrand

COMCAST

PURE STORAGE

Vapor

Bloomberg

Helsana

VIRGINIA TECH

Uber

paloalto NETWORKS

Pandora

Mercedes-Benz

digicert

amazon

LIVING SPACES

ebay

VISA

DELL

Google

zpe

zpe cloud

Life as an IT Admin

Outcome	Challenges	Gaps
Day Zero **Installation Day** Bring Sites up quickly	*"How much time will this take?"* *"How do I bring up a new site with less staff and cost"*	**Lack of Staff** 83% understaffed

Life as an IT Admin

zpe

Outcome	Challenges	Gaps
Day Zero **Installation Day** Bring Sites up quickly	*"How much time will this take?"* *"How do I bring up a new site with less staff and cost"*	**Lack of Staff** 83% understaffed
Day Two **Ongoing Operations** Keep Everything Running	*"Will this change break the system?"* *"How do I Eliminate configuration drift?"*	**Lack of Confidence** 320+ days to patch

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Life as an IT Admin

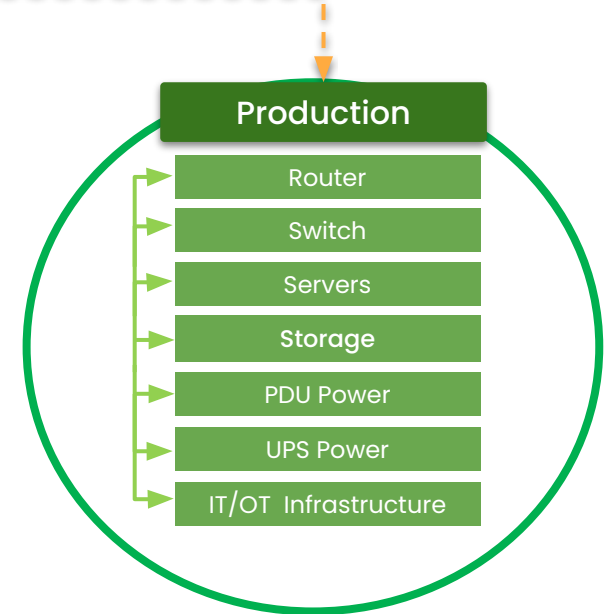| Outcome	Challenges	Gaps
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Doomsday **Unplanned Outages** Minimize damage and downtime	*"How fast can I recover?"* *"How can I quickly rebuild my Infrastructure?"*	**Lack of Recovery Capability** $5.04M+ in damages per instance

Traditional Way To Manage
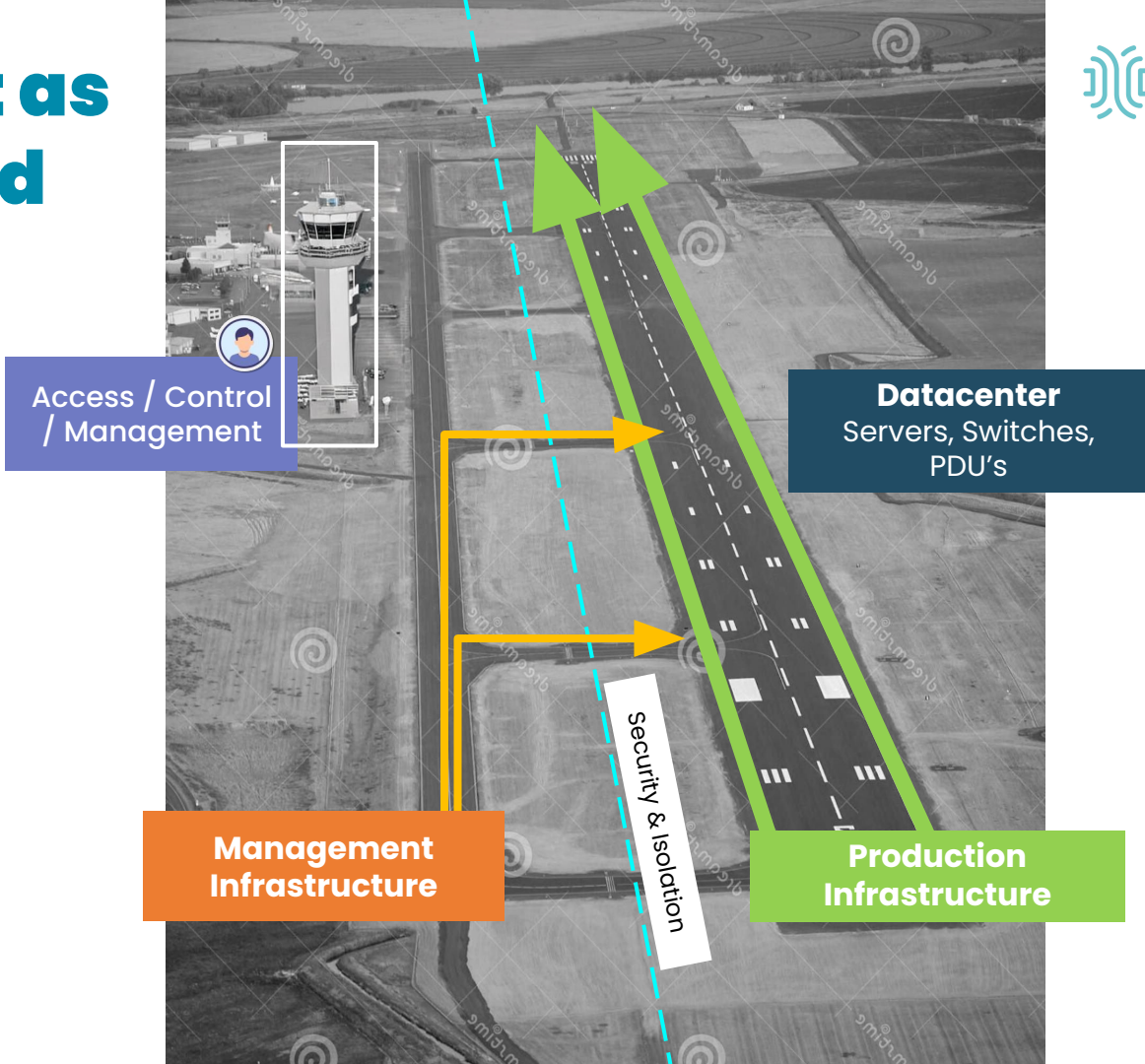
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IT Admin

Gaps
Management plane goes down when primary network goes down
No way to recover failed devices
Fragile security posture
Easy to fail but hard to recover!

Production

- Router
- Switch
- Servers
- Storage
- PDU Power
- UPS Power
- IT/OT Infrastructure

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Same Concept as an Access Road

Think of the **Isolated Management Infrastructure (IMI)** as an access road.

It is your direct line of access to the **Production Infrastructure** should you need it.

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Access / Control / Management

Datacenter
Servers, Switches, PDU's

Security & Isolation

Management Infrastructure

Production Infrastructure

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Isolated Management Infrastructure (IMI)

AI Ops

zpe cloud

Remote Access

Remote Admin

IT Admin

ZPE Systems
Nodegrid Net SR

Zero-trust Segmentation

Advantages
Isolated Independent of production
Dedicated For management only
Secure Zero-trust design
Always Available Multiple WAN Links

Isolated Management Infrastructure (IMI)

Completely Independent Management Network

Production

- Router
- Switch
- Servers
- Storage
- PDU Power
- UPS Power
- IT/OT Infrastructure

IMI is Recommended by...

Isolated Management Infrastructure

Control Plane Network

Automation & AI

IT Manager

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IMI – HUB

Zero Trust Based Access

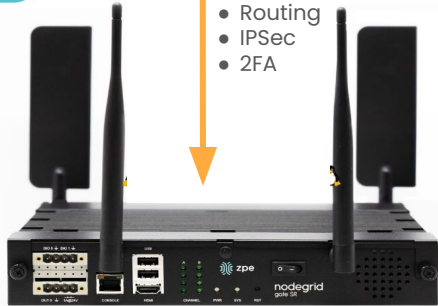DUO · okta · ADFS · SAML 2.0 · Ping identity

- Routing
- IPSec
- 2FA

ZPE Systems'
Nodegrid Gate SR

Ethernet Switch	Serial Console	WAN Routing
Salt / Ansible	Jumpbox	VM's/ Docker
4G/5G Cellular	Storage	Edge Compute

Security & Isolation

Production Infrastructure

Router

Switch

Servers

Storage

PDU Power

UPS Power

IT/OT Infrastructure

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Isolated Management Infrastructure

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Security &

Production Infrastructure

Router

Switch

IT/OT Infrastructure

Nodegrid Does it All!

Build an isolated, routed network with a single Nodegrid appliance

Day Zero, Day Two, Doomsday

Day Zero

Initial Deployment
LIVING SPACES
40+ new stores to open Only 3 IT staff Opening a new store every other week
Avoiding truck roll, Reducing costs, $75,000+ per year
Features Used: Modular hardware with LTE, Serial, Storage, Fiber Connectivity, Compute Automation ZPE Cloud

Day Zero, Day Two, Doomsday

Day Zero	Day Two

Initial Deployment	**Ongoing Operations**
LIVING SPACES	
40+ new stores to open Only 3 IT staff Opening a new store every other week	250 datacenters 7,000+ devices
Avoiding truck roll, Reducing costs, $75,000+ per year	Consistent, faster, automated deployments & patching No additional manpower
Features Used: Modular hardware with LTE, Serial, Storage, Fiber Connectivity, Compute Automation ZPE Cloud	**Features Used:** Ansible Automation Auto discovery Clustering Docker/VM Virtualization

Day Zero, Day Two, Doomsday

Day Zero	Day Two	Doomsday

Initial Deployment	Ongoing Operations	Recovery and Resurrection
LIVING SPACES		
40+ new stores to open Only 3 IT staff Opening a new store every other week	250 datacenters 7,000+ devices	Lack of resilient recovery infrastructure Quick recovery is challenging in 100 remote locations
Avoiding truck roll, Reducing costs, $75,000+ per year	Consistent, faster, automated deployments & patching No additional manpower	Quick datacenter rebuild Ransomware recovery Minimize business disruption
Features Used: Modular hardware with LTE, Serial, Storage, Fiber Connectivity, Compute Automation ZPE Cloud	**Features Used:** Ansible Automation Auto discovery Clustering Docker/VM Virtualization	**Features Used:** ZPE Cloud 4G/5G Docker/VM Virtualization Built Isolated Recovery Environment (IRE)

You Need Gen 3 Out-of-Band Management Because:

zpe

Gen 3 OOB Reduces Risk, Saves Money, and Saves Time

- Distributed Branch Office and Plant Transformation
- SD-WAN / NGFW
- Simplify up staging accelerate Colocation deployment
- IoT/OT
- EoL of existing serial consoles - Avocent ACS, Opengear IM
- Automated firmware updates and patching

Building an IMI with ZPE is a lot easier than you think!

ZPE for Hardware + Software + Cloud + Services

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Visit our Demo Stations

1. Next Gen Serial Consoles for Datacenter

2. Out-of-Band SD-WAN Recovery at the Edge

3. Automation Infrastructure

4. Services Delivery Platform

   AI-Ready Edge Deployment of VMs and Docker Agents

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