Accelerating from ideas to innovation

Modern Data Center

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DCS | Infrastructure Solution Group

D&LL Technologies

IT is facing disruption & opportunity everywhere

AI explosion

81% report that AI and generative AI will significantly transform their industry.[1]

Multicloud strategy

91% face challenges building a multicloud strategy to support innovation.[1]

Data growth & usage

21% compound annual growth rate (CAGR) of data over five years to reach **221,000+** exabytes by 2026.[2]

Rising energy consumption

200% increase in data center power consumption by 2030.[3]

Evolving threat landscape

83% have been impacted by a security attack in the past 12 months.[1]

1. *Innovation Catalysts, Dell Technologies, February 2024*
2. *IDC WW Global DataSphere and Global StorageSphere Structured and Unstructured Data Forecast, 2022-2026*
3. *McKinsey & Company, Investing in the rising data center economy, January 2023 (US-based analysis)*

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Meeting IT challenges today & tomorrow

AI Explosion	Multicloud Strategy	Data Growth & Usage	Rising Energy Consumption	Evolving Threats

GenAI Use Cases

Natural Language Search

Support Assistant

Design & Data Creation

Code Generation

Document Automation

Simplify and accelerate your GenAI journey with the right technologies, services and partners

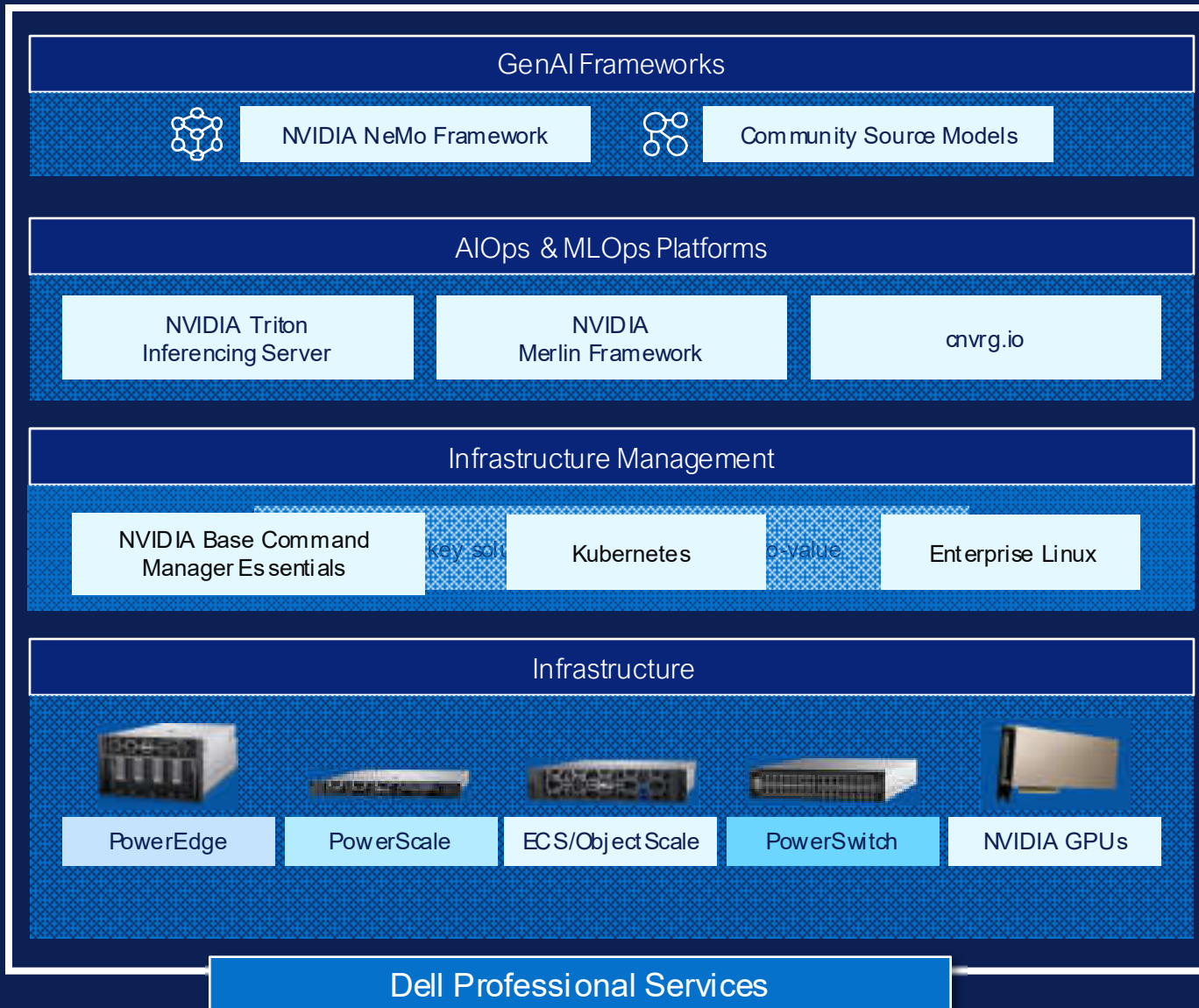Create better outcomes with GenAI solutions tailored to your unique business

Protect and sustain your success on a trusted foundation that keeps you in control

Dell Validated Designs for AI

PowerEdge XE-Series

ECS

PowerScale

PowerSwitch Z-Series

PowerEdge R-Series
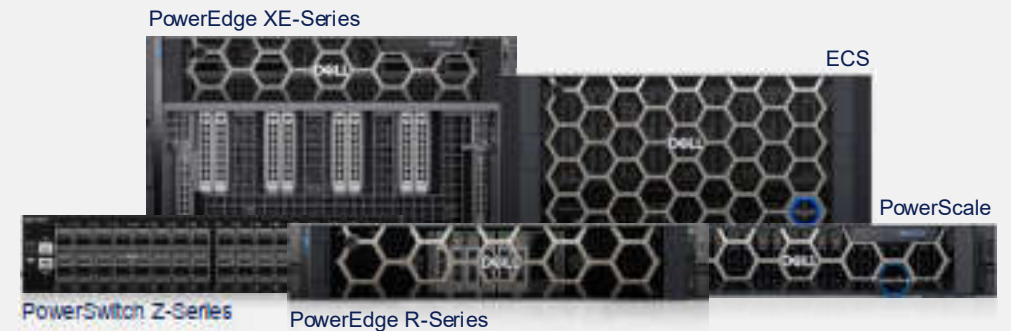
Networking   **Compute**   **Storage**

Professional Services for Generative AI

Strategize, implement, adopt and scale GenAI use cases across your business

Bring AI to your data

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Dell Validated Design for GenAI with NVIDIA

Delivering a better outcome by customizing the model

GenAI Frameworks

NVIDIA NeMo Framework

Community Source Models

AIOps & MLOps Platforms

NVIDIA Triton Inferencing Server

NVIDIA Merlin Framework

cnvrg.io

Infrastructure Management

NVIDIA Base Command Manager Essentials

Kubernetes

Enterprise Linux

Infrastructure

PowerEdge

PowerScale

ECS/Object Scale

PowerSwitch

NVIDIA GPUs

Dell Professional Services

Tested and proven configurations reducing deployment times and risk

Scalable design approach with a choice of consumption models

Powerful acceleration-optimized compute with future-ready bandwidth

Support massive amounts of unstructured data with flexible networking speeds

Deploy clusters with 1000s of nodes using industry-leading latency and data throughput

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Modern Data Center
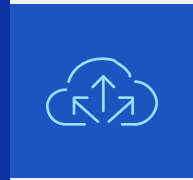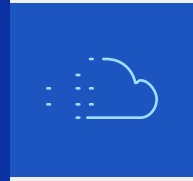# Meeting IT challenges today & tomorrow

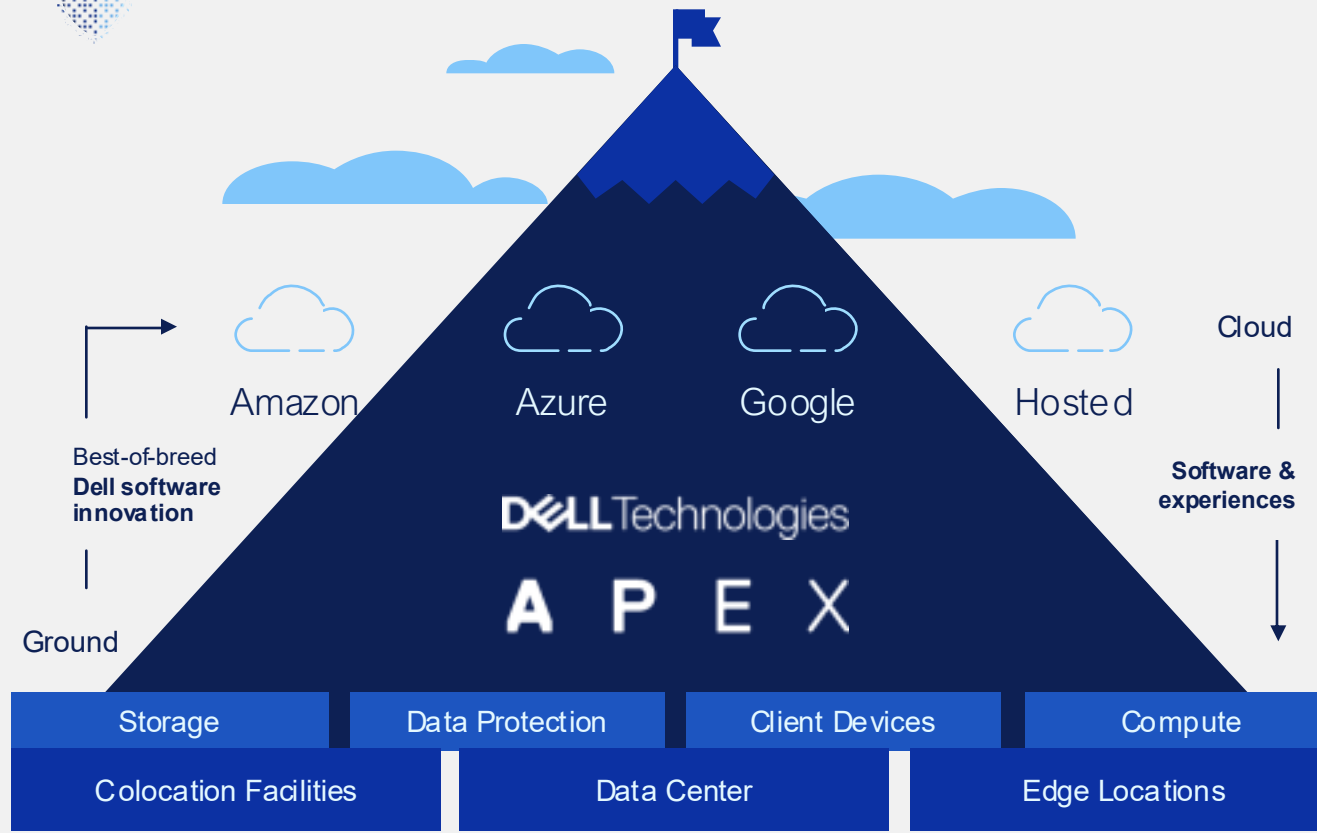| AI Explosion | **Multicloud Strategy** | Data Growth & Usage | Rising Energy Consumption | Evolving Threats |

Get the best of both worlds with Dell Technologies: on-premises & public cloud

Leverage a consistent Dell software experience in the cloud & bring cloud benefits to your on-premises environments

Take advantage of APIs, modules & Kubernetes integration to support cloud-native apps

Cloud Smart Discovery

Optimize and right-size your multicloud environment

Cloud

Amazon   Azure   Google   Hosted

Best-of-breed **Dell software innovation**

Software & experiences

DELLTechnologies

A P E X

Ground

| Storage | Data Protection | Client Devices | Compute |
| Colocation Facilities | Data Center | | Edge Locations |

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APEX Cloud Platforms

Built For Your Multicloud Future

Public Cloud

Integrated & Automated

Red Hat   Microsoft Azure   vmware

Common Infrastructure

Automated M&O ⟷ Compute ⟷ Enterprise SDS

Data Center   Edge

DELLTechnologies

APEX Cloud Platforms

Built For Your Multicloud future

Public Cloud

Integrated & Automated

Red Hat   Microsoft Azure   vmware

Common Infrastructure

Automated M&O   Compute   Enterprise SDS

Data Center   Edge

CONTROL

Free your data from ecosystem lock-in with shared universal storage layer

Optimize workload placement to meet enterprise SLAs and security needs

CHOICE

Extend and optimize your choice of cloud ecosystem on-premises

Accelerate productivity with familiar operational and developer experiences

CONSISTENCY

Achieve operational excellence with extensive and unique automation

Flexibly extend data and applications across multicloud environments

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Meeting IT challenges today & tomorrow

AI Explosion	Multicloud Strategy	**Data Growth & Usage**	Rising Energy Consumption	Evolving Threats

Tier 2/3 apps   Analytics   Databases   AI / ML

Manage more data with fewer resources via embedded automation & AIOps

Continuously scale up and/or out to keep pace with data growth

Leverage best-in-class performance to meet the demands of data intensive analytics, AI & machine learning workloads
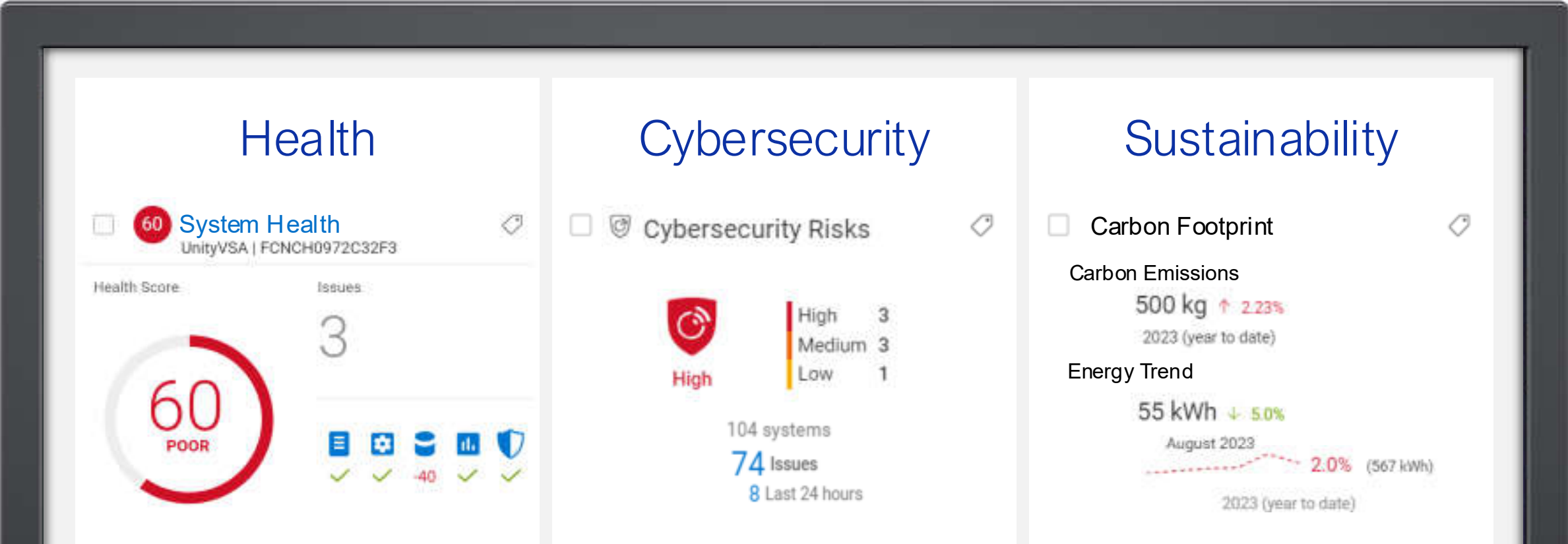
Block

File

Scale Up

Object

SDI

Optimize for Infrastructure | Keep Dell systems optimized & configured for continuous peak performance

Scale Out

CloudIQ AIOps

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The evolution to next-gen AIOps: CloudIQ

Health

60 System Health
UnityVSA | FCNCH0972C32F3

Health Score   Issues

3

60
POOR

✓   ✓   -40   ✓   ✓

Cybersecurity

Cybersecurity Risks

High

High	3
Medium	3
Low	1

104 systems

74 Issues

8 Last 24 hours

Sustainability

Carbon Footprint

Carbon Emissions
500 kg ↑ 2.23%
2023 (year to date)

Energy Trend
55 kWh ↓ 5.0%
August 2023

2.0%   (567 kWh)

2023 (year to date)

Evolution from simple metrics to actionable insights

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Modern Data Center
Meeting IT challenges today & tomorrow

AI Explosion	Multicloud Strategy	Data Growth & Usage	**Rising Energy Consumption**	Evolving Threats

Refresh legacy hardware to consolidate your footprint & meet sustainability goals

Deploy Dell's leading ENERGY STAR products to reduce energy costs

Take advantage of design breakthroughs from thermals to variable speed fans & liquid cooling technologies for greater savings

Get Efficient Assessment | Understand the efficiency gains you can get with Dell

ENERGY STAR & Dell Technologies

291 models of desktops / laptops | **121** monitors & displays | **46** server models | **23** storage products | **33** networking switches*

4:1
Enterprise storage data reduction guarantee

55:1
PowerProtect data reduction guarantee

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Modern Data Center
Meeting IT challenges today & tomorrow

AI Explosion	Multicloud Strategy	Data Growth & Usage	Rising Energy Consumption	**Evolving Threats**

Build a resilient data foundation on trusted Dell infrastructure

Minimize disruption with a comprehensive data protection portfolio

Defend against ransomware & cyber attacks with advanced data vaulting

Cyber Resiliency Assessment

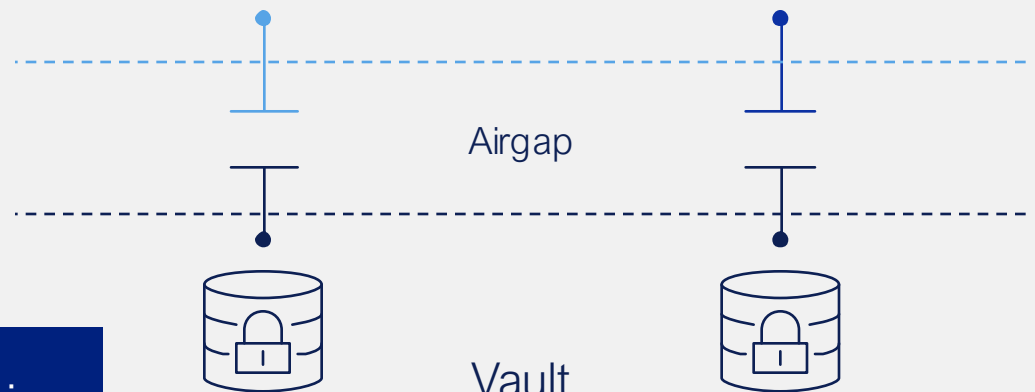Understand your cyber vulnerabilities and receive actionable remediation recommendations

Primary Storage

Unstructured Data Storage

Backup Appliance

Airgap

Vault

On-premises | Colocation Facility | Public Cloud

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AI Powered | Built for a Zero Trust World | Cyber Recovery Expertise

Immutability

Preserve original integrity of data

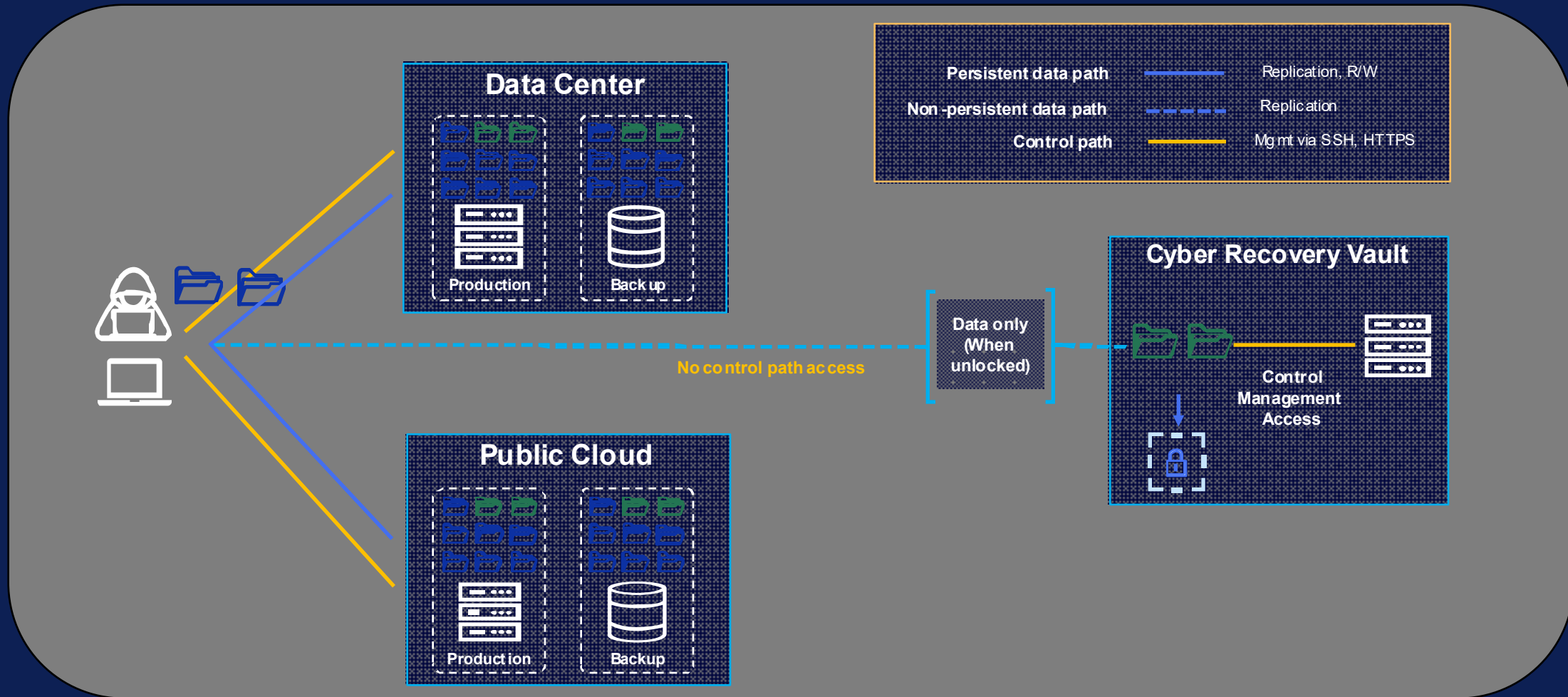**Isolation**

Physical & logical separation of data

Intelligence

AI-based ML & analytics identify threats

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The importance of Isolation

Improve on immutability by denying access

Persistent data path	———	Replication, R/W
Non-persistent data path	- - - - -	Replication
Control path	———	Mgmt via SSH, HTTPS

Data Center

Production   Backup

Public Cloud

Production   Backup

Data only (When unlocked)

No control path access

Cyber Recovery Vault

Control Management Access

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The importance of Intelligence

AI-based machine learning that Verifies data Integrity

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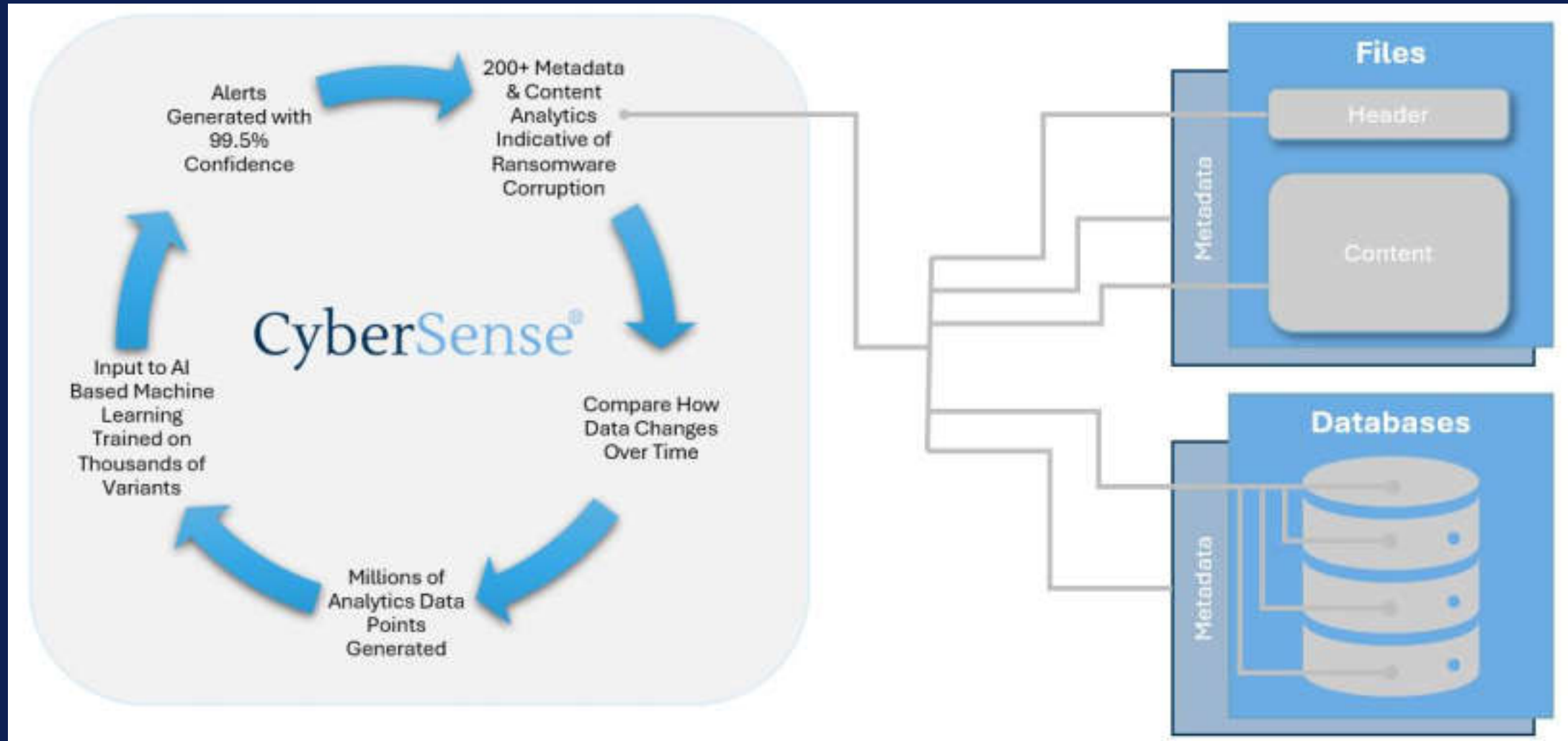
Design a Modern Data Center with Dell

Design a Modern Data Center that's smart, flexible & resilient to meet the needs of today, tomorrow & whatever comes next.

Smart	Accelerate innovation with intelligent & efficient systems.	**Flexible**	Power any workload from data center to cloud.	**Resilient**	Deliver comprehensive data protection.

Energy efficiency • Embedded automation • AIOps & observability

Multicloud by design • AI-ready infrastructure • Broad ecosystem support

Intrinsic security • Complete data protection • Advanced cyber resiliency

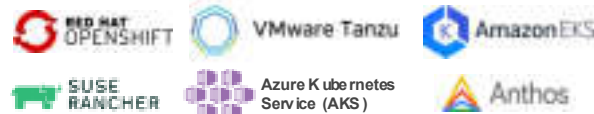**Services** — Consulting | Deployment | Support | Residency | Education

Tooling — APIs | Plugins | Modules | CSI Drivers

Independent software vendors

VERTICA • databricks • Starburst • splunk> • ELK • ORACLE • Microsoft • vmware • snowflake • Hugging Face • Augtera • SAP • ANSIBLE • Meta • NICE

CLOUDERA • DELTA LAKE • Terraform • servicenow • okta • teradata • Adobe • dremio • Secureworks • CROWDSTRIKE • IBM • kemp • AUTODESK • McAfee

Kubernetes distributions
RED HAT OPENSHIFT • VMware Tanzu • Amazon EKS • SUSE RANCHER • Azure Kubernetes Service (AKS) • Anthos

Cloud platforms
aws • Azure • Google Cloud • vmware

Silicon partners
intel • NVIDIA • Qualcomm • AMD

Colocation partners
rackspace • EQUINIX • DIGITAL REALTY • switch • DATABANK • FLEXENTIAL • CyrusOne

Best-in-class infrastructure

Block | File | Object

Storage • **Server** • **Data Protection** • **Networking** • **Hyperconverged**

DELLTechnologies | APEX — Compute & HCI • Storage • Cyber & Data Protection • Cloud Platforms • HPC • Device • Custom Solutions

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Thank you

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