Isilon/ECS – aspekty techniczne

Warszawa, 17.10.2017

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Isilon Business Momentum

>3.2 Exabytes Shipped
Calendar 2016

>8000 Customers

#1 In Scale-Out NAS
Now in All-Flash

>17% YoY Customer
Growth

OneFS™

Gartner   Recognized Leader   **IDC**

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Isilon - The Recognized Leader

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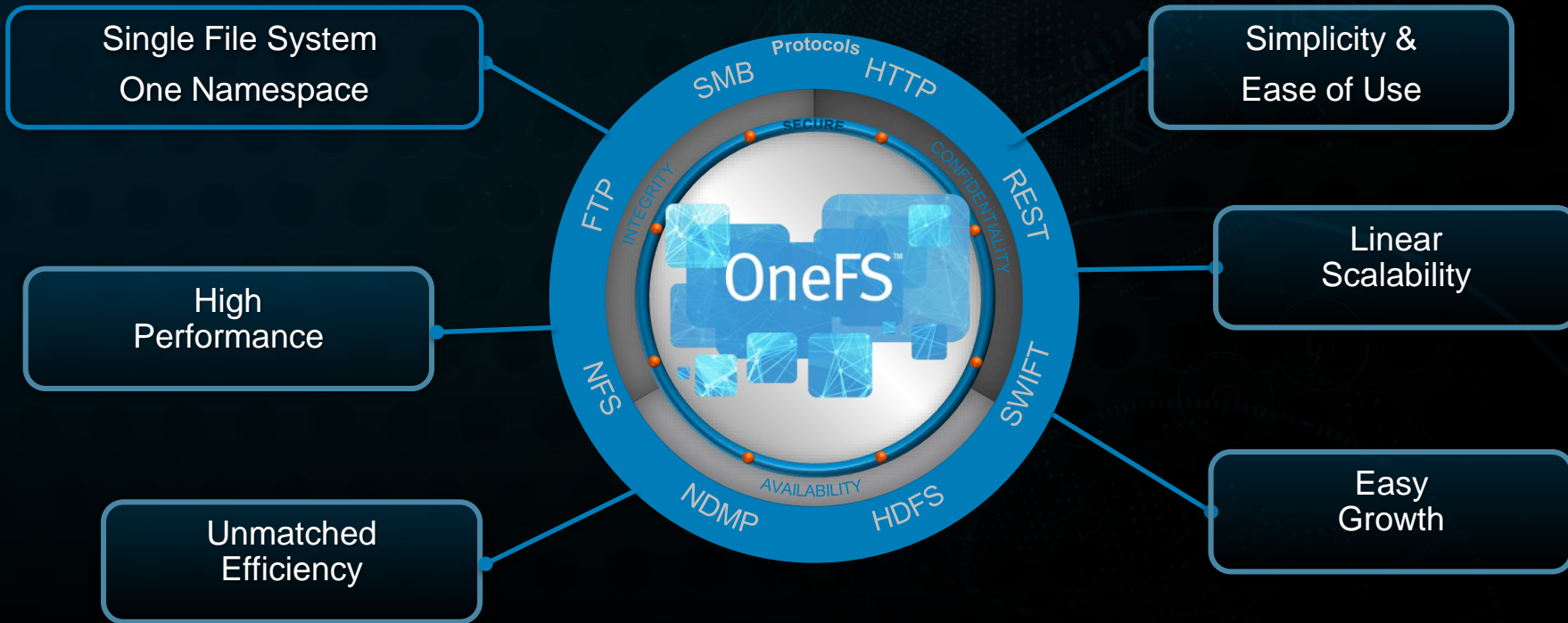# Unstructured Data: Industry Challenges

EDA
Storage Doubling
Every 2 Years

Life Sciences
2X Capacity Growth
Every 12 Months

M+E
Ever Increasing
Resolutions
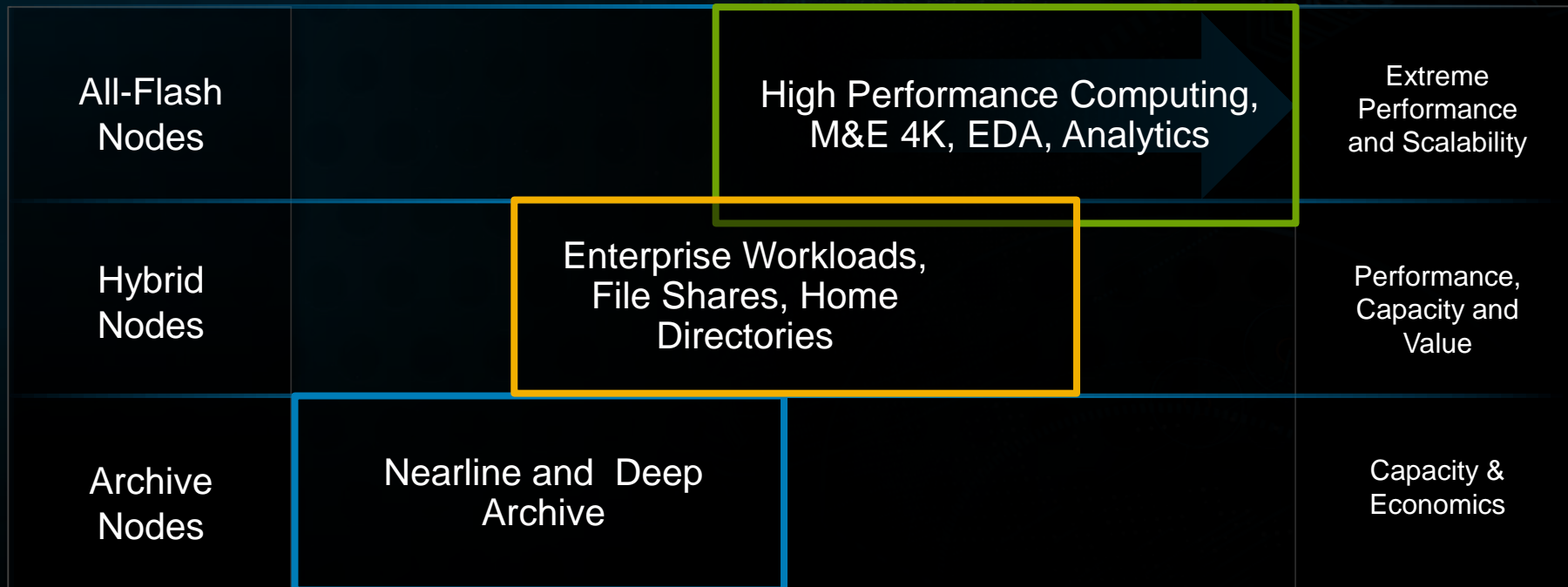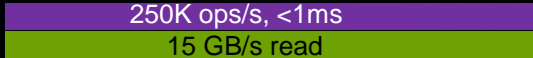
Enterprise
Faster Outcomes
Lower Costs

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Isilon and OneFS

Single File System
One Namespace

High
Performance

Unmatched
Efficiency

Simplicity &
Ease of Use

Linear
Scalability

Easy
Growth

Protocols

SMB HTTP REST SWIFT HDFS NDMP NFS FTP

SECURE INTEGRITY CONFIDENTIALITY AVAILABILITY

OneFS™

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Isilon Workload Consolidation

Social & Next-Gen

Hadoop & Analytics

Surveillance

Home Directories & File Shares

Archive & Backup Target

Transaction

Application Test

Content

Sync & Share

BLOBS

Design, Test & Manufacture

Next-Gen Application

Data Monetization

Marketing M&E

Protocols
SMB   HTTP
SECURE
FTP   INTEGRITY   CONFIDENTIALITY   REST
ISILON
NFS   SWIFT
NDMP   AVAILABILITY   HDFS

splunk>

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Isilon Scale-Out NAS Family

All-Flash Nodes		High Performance Computing, M&E 4K, EDA, Analytics	Extreme Performance and Scalability
Hybrid Nodes	Enterprise Workloads, File Shares, Home Directories		Performance, Capacity and Value
Archive Nodes	Nearline and Deep Archive		Capacity & Economics

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Isilon Scale-Out NAS Family

		Performance (Per Chassis)	Capacity Range (Per Chassis)	
All-Flash Nodes	F800	250K ops/s, <1ms 15 GB/s read	96 TB — 924 TB	Extreme Performance and Scalability
Hybrid Nodes	H600	120K ops/s 12 GB/s read	72 TB — 144 TB	Performance, Capacity and Value
	H500	5 GB/s read	120 TB — 480 TB	
	H400	3 GB/s read	120 TB — 480 TB	
Archive Nodes	A200		120 TB — 480 TB	Capacity & Economics
	A2000		800 TB	

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ISILON

Future-Proof, Modular Chassis

All Flash, Hybrid and Archive Nodes

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Isilon Next Gen Platform: Compute

Node 4 Node 3 Node 2 Node 1
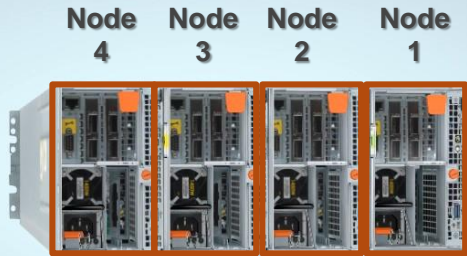
Features

- 4 Nodes in 4U Chassis

- Intel Broadwell CPU: Optimized Compute to Drive Ratios

- Up to 6 TB Cache per Node

- No Single Points of Failure

- Networking Flexibility: Infiniband, 10GbE/40GbE

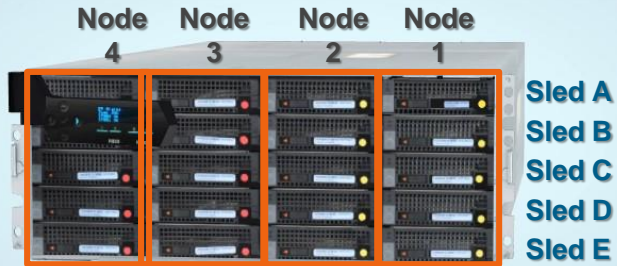DELLEMC

Isilon Next Gen Platform: Compute

Benefits

- 4:1 Reduction in RU

- Optimized IOPS and Throughput

- Future-Proof, Enduring Design: Snap-In Next Gen Compute, Networks

- New Levels of Modular, Hot-Swappable Serviceability

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Isilon Next Gen Platform: Storage

Features

- From 72TBs to 924TBs in 4U

- 5 Drive Sleds per Node. 3 to 6 Drives per Sled

- Front Aisle, Hot Swap Sleds and Drives

- Media Flexibility: Flash, SAS and SATA

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Isilon Next Gen Platform: Storage

Benefits

- Start Small and Scale

- Breakthrough Density

- Simplified Serviceability and Upgrades

- Future-Proof Storage

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Unconstrained Scale

Push-Button Linear Scaling

Under 60 Seconds

Transparent to Users and Applications

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TCO Optimization: Simplicity and Ease of Use

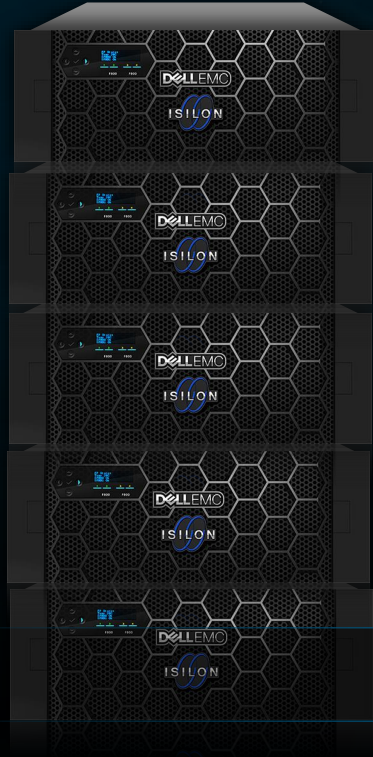## Single File System Spans All Nodes

- Automation:

  NO manual intervention

  NO reconfiguration

  NO server or client mount point or application changes

  NO data migrations

  NO RAID

Directories and Files Striped Across Cluster

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TCO Optimization : AutoBalance Capacity and Performance

BALANCED

EMPTY

FULL

BALANCED

EMPTY

FULL

BALANCED

EMPTY

FULL

BALANCED

EMPTY

FULL

BALANCED

AutoBalance Across Nodes

- Automation Balances Data

  Reduces Costs, Complexity, Risk

  Eliminates Hot Spots

  NO data migrations

  NO RAID

Delivers Over 80% Storage Utilization

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TCO Optimization: Policy-Based Automated Tiering

OneFS™

Extreme Performance NAS Tier

Enterprise NAS Tier

Cold Archive Object Tier
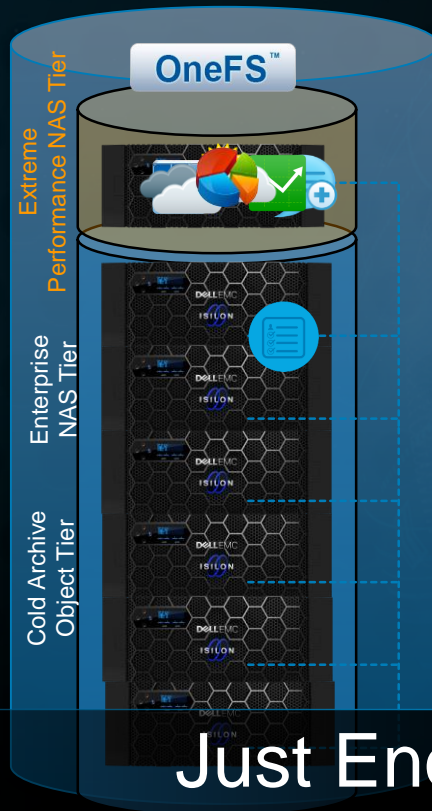
HIGHEST PERFORMANCE

LOWEST TCO

- Tier Between Performance, Enterprise and Archive Nodes
- Transparent to Users and Applications

Just Enough Flash

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Enterprise Grade Features

Data Protection & Efficiency

SnapshotIQ
Fast, Efficient Data Backup And Recovery

SyncIQ
Fast And Flexible Asynchronous Replication For DR

SmartConnect
Policy-based Client Failover With Load Balancing

SmartLock
Policy-based Compliance and WORM Data Protection

SmartDedupe
Data Deduplication to reduce storage costs

Data Management

Search
Fast, Heuristic Queries on Files and Metadata

SmartPools
Policy-Based Automated Tiering
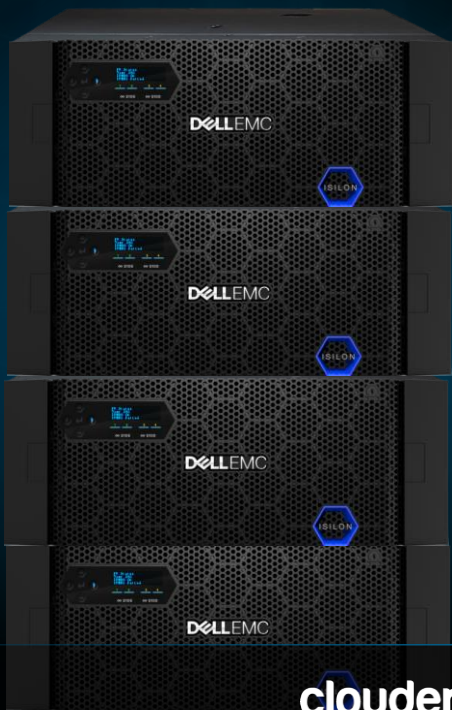
SmartQuotas
Quota Management And Thin Provisioning

InsightIQ
Performance Monitoring And Reporting

CloudPools
Cloud-scale Capacity

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Enterprise Grade Features: In-Place Analytics

Native HDFS

Speeds Time to Insight

Enterprise Data Protection for Hadoop

Lower costs
- Eliminates dedicated Hadoop infrastructure

Increase flexibility
- Simultaneous support for any Apache-compliant Hadoop distribution

cloudera **Hortonworks** **Pivotal** **splunk>** **IBM**

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Edge – Core - Cloud Flexibility

EDGE

Isilon OneFS CORE

CLOUD

CloudPools: Extending Isilon OneFS to the Cloud

IsilonSD Edge

SMB HDFS FTP REST NFS SWIFT NDMP HTTP

OneFS™

TIER
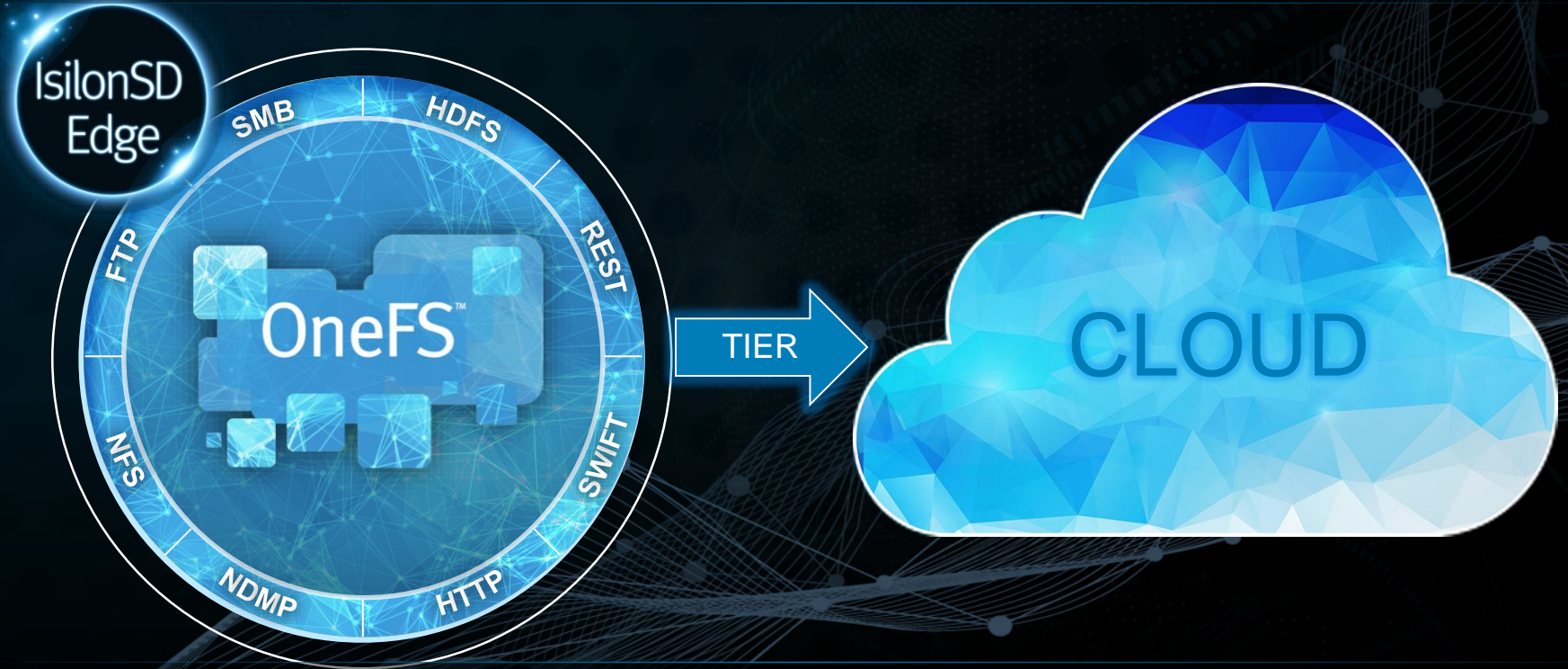
CLOUD

Private Cloud. Dedicated Cloud. Public Cloud.

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Policies Control When, Where, How You Move to Cloud

OneFS™

Extreme Performance Tier

Enterprise Tier

Archive Tier

ECS Geo-Replicated Dedicated Cloud

virtustream
Enterprise Class Cloud™

Other Public Clouds

amazon web services

Microsoft Azure

Lower TCO Than Public Cloud

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