

Come ottenere dai **dati** il
massimo del loro **valore**
grazie alle **soluzioni** di
Dell Technologies
per i **Big Data**

Bologna, 25 ottobre 2019

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Unstructured Data Solutions

DELLTechnologies

Key Digital Transformation Initiatives

BIG
DATA



DIGITAL
EXPERIENCES



INTERNET
OF THINGS



ML/AI



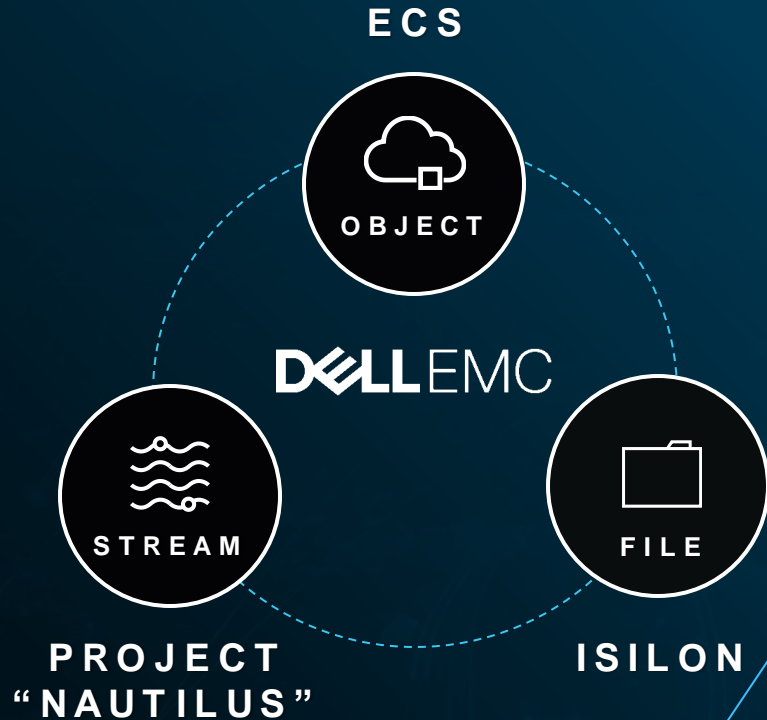
DATA POWERS THEM ALL

80% of Data is Unstructured



3 data types that have different characteristics

Unstructured Data Vision



UNIFIED
DATA LAKE



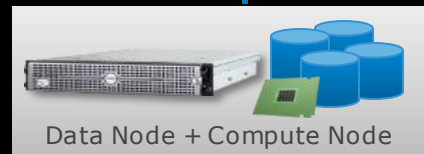
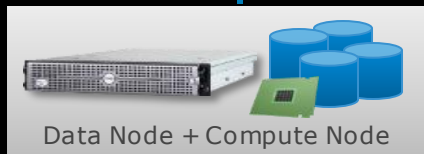
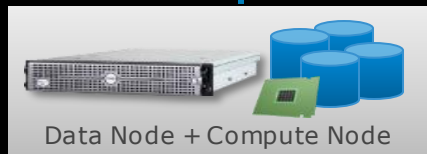
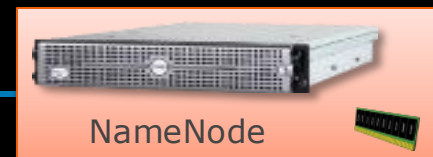
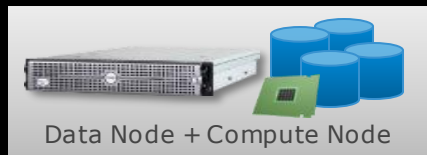
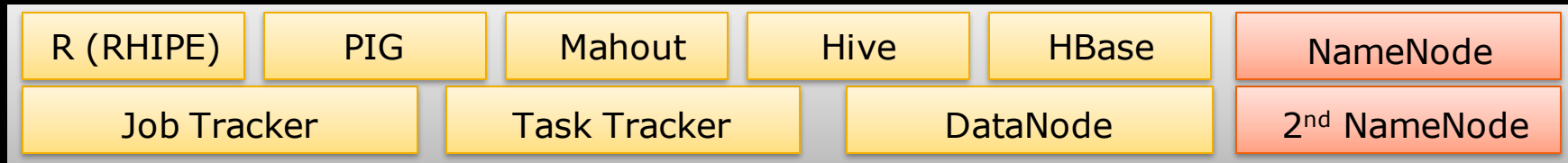
SIMPLICITY
AT SCALE



EXTRACT VALUE
FROM DATA

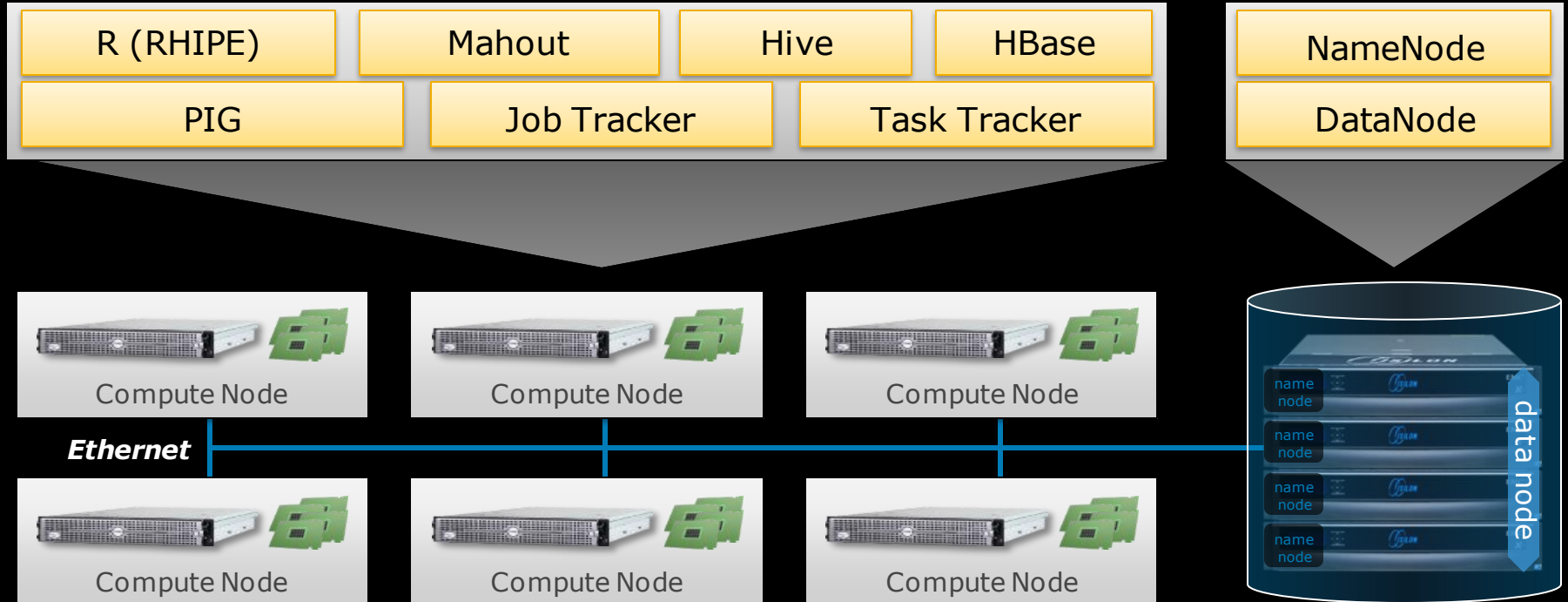


Hadoop Architecture - Traditional

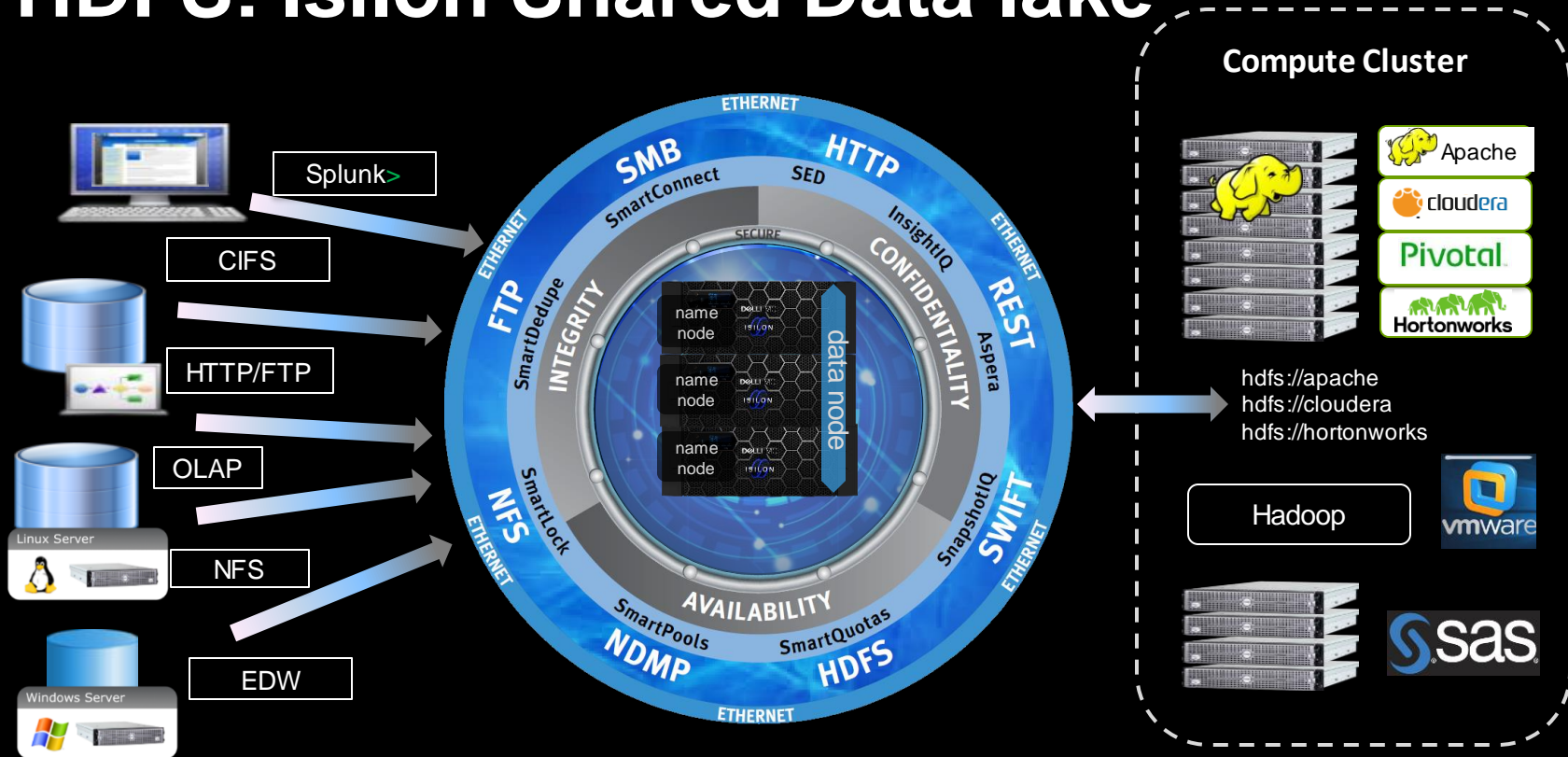


Ethernet

Hadoop Architecture with Isilon



HDFS: Isilon Shared Data Lake



Analytics Solution Accelerators

★ = Verified Reference Architectures
★ = Ready Solutions With ISV
★ = Integrated Solutions

Analytics Applications



Machine Learning
And Deep Learning



Flexible Compute



Existing Server
Infrastructure



Compute &
Converged



Hyper-Converged
w/ NW



Hyper-Converged

Isilon



Enterprises

- ✓ Minimize cost
- ✓ Minimize risk
- ✓ Focus on use cases
- ✓ Focus on apps

Big Data – Case Study - Energy

Situazione iniziale:

- Le misurazioni venivano fatte giornalmente e caricate da un portale una volta al mese
- I file misure venivano appoggiati su una share
- Era necessario un ETL per caricare i file misure su un Oracle RAC
- Elaborazione di report con dati aggregati

Evoluzione richiesta:

- Effettuare le misurazioni ogni 15 minuti (96 al giorno)
- Gestire un flusso e una quantità di dati circa 100 volte superiore
- Aggiungere dei processi di “quality check”
- Elaborazione di report più dettagliati con dati aggregati, confronti con lo storico, trends, ecc.

Raccolta
misurazioni su
share NAS



Fase di ETL
su Oracle RAC



ORACLE

Elaborazione
dati aggregati



Reports finali

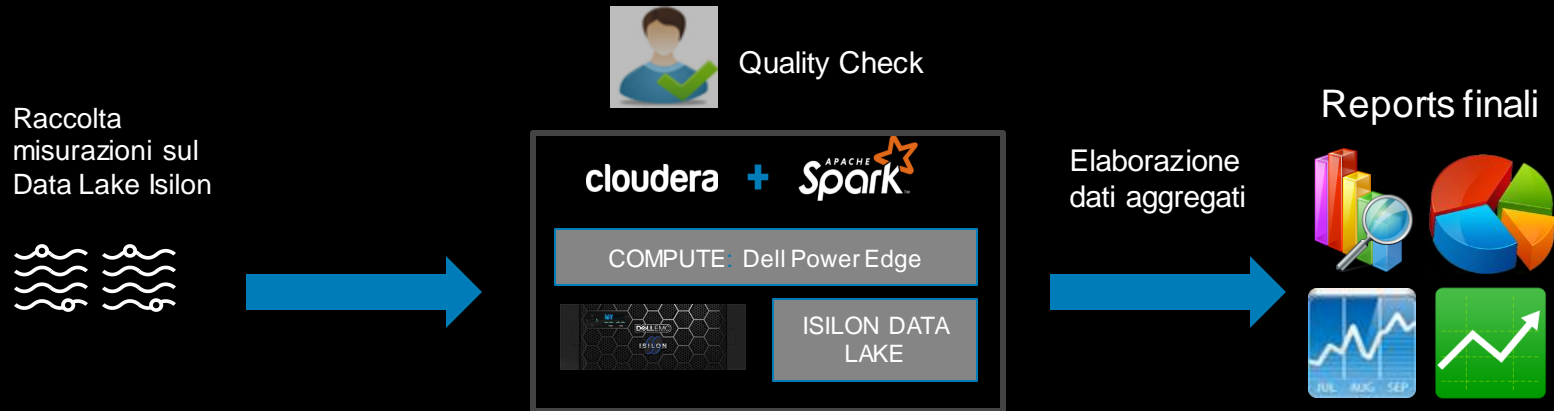


Tempo di lavorazione dal caricamento al report: **6-8 ore**

Big Data – Case Study - Energy

Nuova architettura Big Data basata su Isilon+Hadoop:

- Si è implementato un Data Lake basato su Isilon, Power Edge e Hadoop (Cloudera+Spark)
- Le misurazioni vengono caricate direttamente sul Data Lake
- Sullo stesso viene effettuato il Quality Check
- Le elaborazioni vengono effettuate tramite nuovi algoritmi, che generano report più dettagliati e affidabili



Tempo di lavorazione dal caricamento al report: < 30 minuti

DELL Technologies

Big Data – Case Study – Healthcare



Improving patient outcomes with personalized medicine

Business need

To help fight cancer and other diseases, TGen needs extremely scalable, reliable and available high-performance computing (HPC) nodes to develop personalized medical treatments.

Solution

TGen tuned its system for Genomics I/O demands by scaling its existing Dell HPC cluster to include more servers, storage and networking bandwidth so that researchers can get the IT resources they need faster without having to depend on shared systems.

Benefits

- Researchers can create more-targeted treatments at least one week faster
- Improves outcomes for more patients, including children battling neuroblastoma
- Supports 100 percent data growth and increases storage density



“Today, we help save more lives because researchers spend less time waiting for HPC resources. And it’s also easy for us to scale and customize our Dell HPC System for Life Sciences to support our unique requirements.”

James Lowey, Vice President of Technology,
Translational Genomics Research Institute



DELL Technologies



DELLEMC

Pivotal.

RSA

Secureworks®

virtustream.

vmware®