

DataStax Enterprise

The always-on, distributed cloud database

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Agenda

1 Intro to DataStax

2 Key Facts DataStax Enterprise

3 Hands-On Agenda today

From validation to momentum.

450+
Employees

Founded in April 2010

Santa Clara • San Francisco • Austin •
London • Paris • Berlin • Tokyo • Sydney

\$190M
Funding

ClearBridge
Investments

COMCAST VENTURES

CROSS CREEK
ADVISORS

CROSSLINK
CAPITAL

DFJ

SCALE
Venture Partners

LIGHTSPEED
VENTURE PARTNERS

MERITECH
CAPITAL PARTNERS

KPCB | KLEINER
PERKINS
CAUFIELD
BYERS

NEXT WORLD CAPITAL

(Series E – Sept. 2014)

500+
Customers

NETFLIX **eBay** **ING** 

SAFEWAY  **TARGET** 

CapitalOne  **British Gas**  **UBS** 

Microsoft  **MACQUARIE** 

CISCO  **SONY**  **COMCAST** 

30% + 

Forbes

2016 World's Best
100 Cloud Companies

Gartner

Ranked #1 in multiple operational
database categories

DataStax Enterprise Forms The Operational Data Layer



Meets All Requirements

- Scalable
- Always-on
- Distributed
- Real-time
- Context
- Data autonomy

Expert support

- SLAs from business hours to 24x7x365
- Covers production and non-production environments
- Scheduled health checks for assistance on architecture, design, and tuning
- Certified service packs that keep your software up to date
- Hot-fix support for emergency situations



DataStax Managed Cloud

A Fully Managed, Secure Architecture

- DSE on AWS with Managed Provisioning and Scaling by DataStax
- 24x7x365 Coverage, Lights-Out Management
- System Configuration and Tuning to Meet Customer Specific Requirements
- Architecture Advisory Services, Guidance and Best Practices



DataStax Enterprise Operations

- Automate what no one likes – backups, repairs
- REST API to work in your world
- Instantly manage your cluster, scaling up or down at a moment's notice
- Monitor your cluster and follow best practices, ensuring a secure environment

OpsCenter



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Then vs Now: Legacy vs Post Relational



Why NoSQL Databases?

- Business Continuity
- Scalability
- Reduced Complexity
- Parallelization

DataStax Enterprise (DSE)

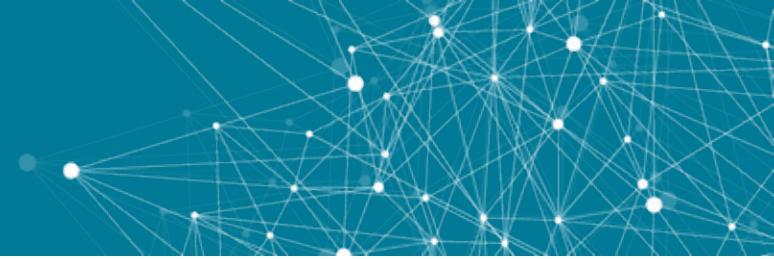
Powering the Right-Now Enterprise

Built on Apache Cassandra™,
the **always-on, distributed cloud database**
designed for the hybrid cloud

- Advanced Performance
- Operational Simplicity
- Developer Productivity
- Advanced Security



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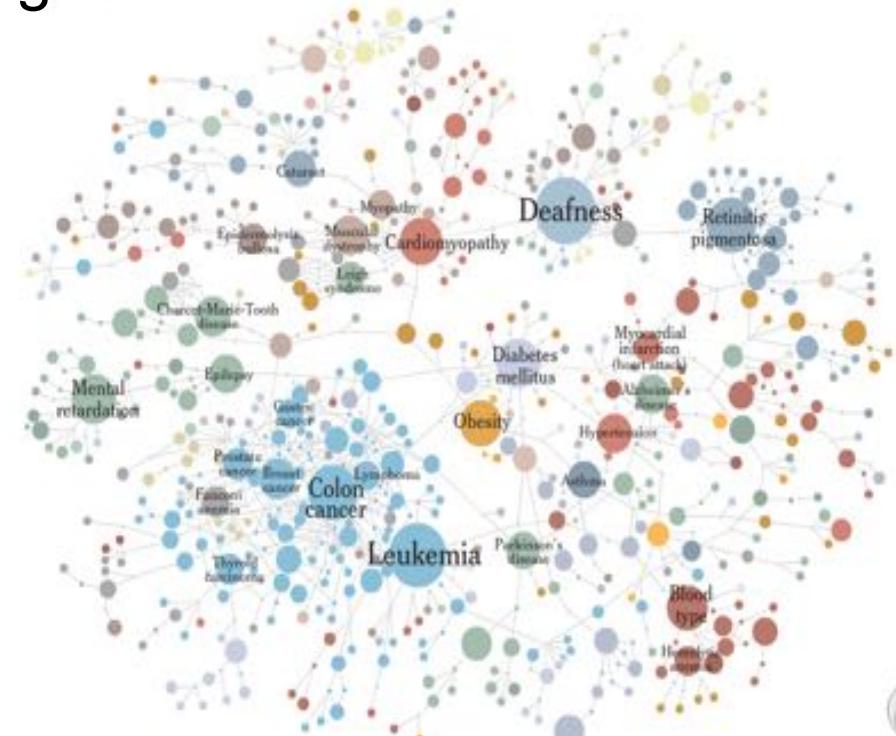


Multi Model & Mixed Workload

A scalable, distributed graph database

Optimized for storing, traversing and querying complex graph data in real time

- Value data between relationships
- DSE Analytics and Search integrated
- Perfect for use cases: Customer360, Recommendations, Fraud Detection



DSE Advanced Security



Unified Authentication

- External validation of authorized users
- Leverages Kerberos & LDAP/AD
- Single sign-on to all data domains



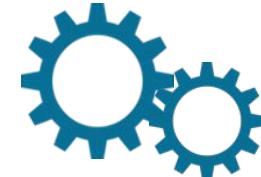
Transparent Data Encryption

- Protects sensitive data at rest via encryption
- No changes needed at app level



Data Auditing

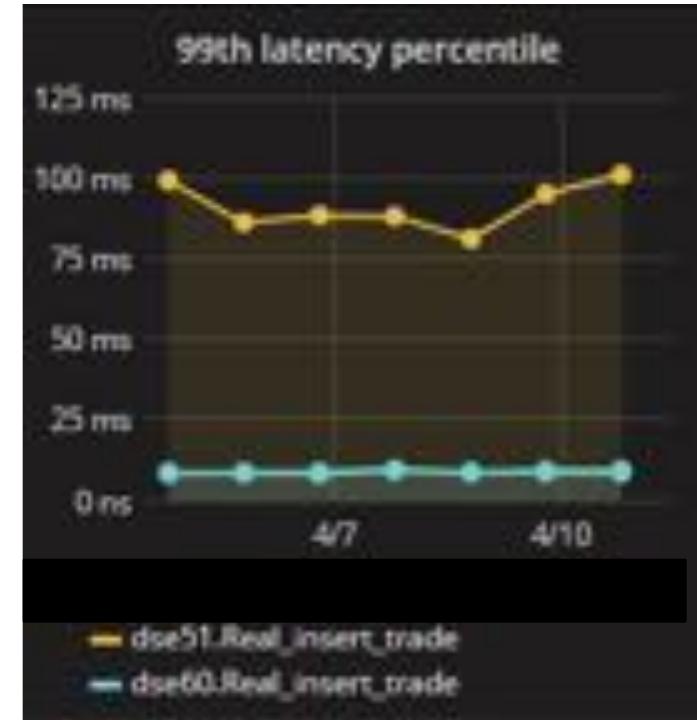
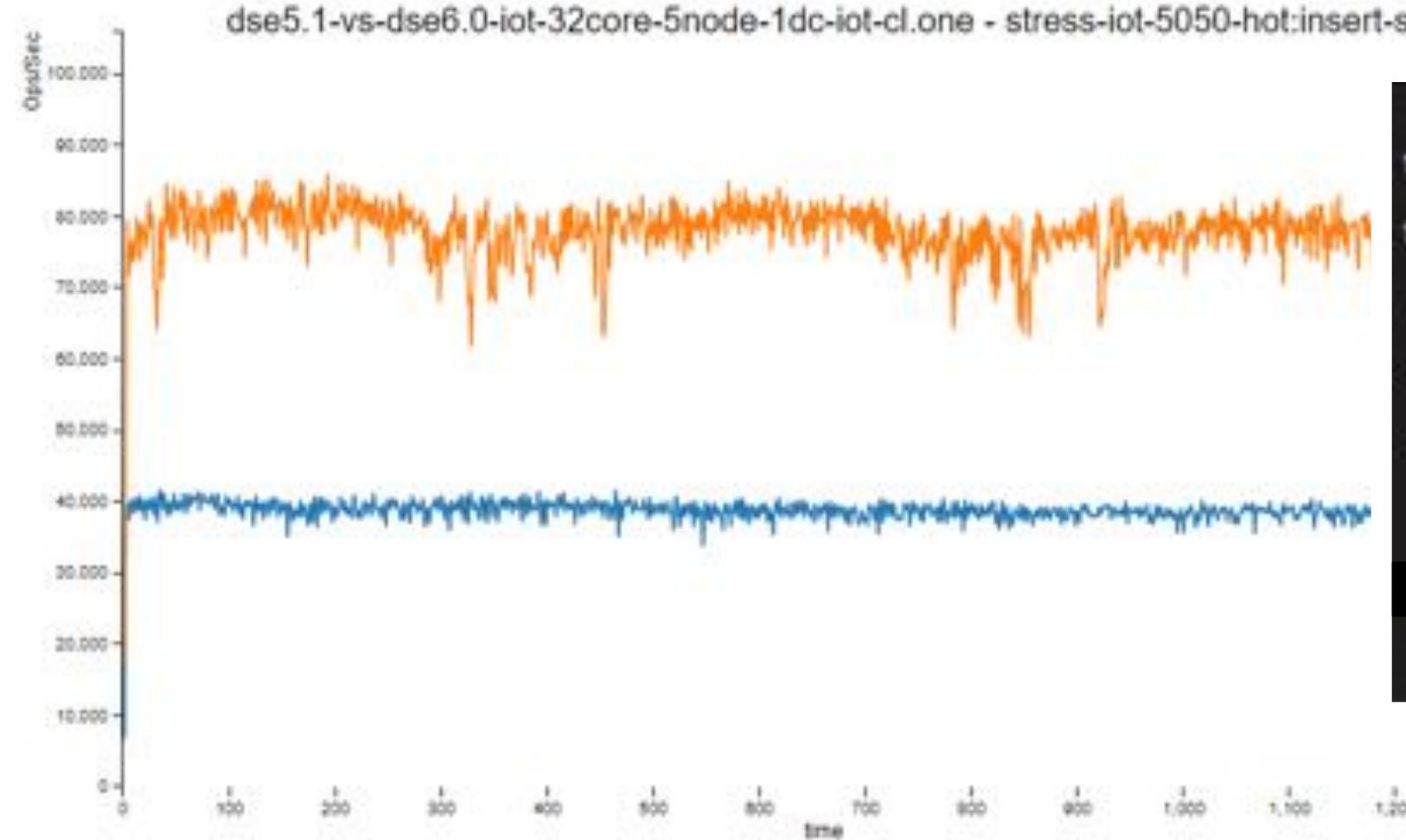
- Audit trail of all accesses and changes
- Control to audit only what's needed
- Uses log4j interface to ensure performance & efficient audit



Drivers

- Accommodating all DSE features
- Parameterized statements
- SSL encryption to secure traffic between the driver and DSE nodes.
- AuthProvider

Advanced Performance: 2x faster than DSE 5.1



Advanced Performance: DSE Analytics 3x faster

DSE Spark Connector with:

- Increased performance and optimizer enhancements
- Custom join strategies
- Implicit use of DSE Search
- Structured Streaming to Cassandra

AlwaysOn SQL support for Spark SQL via ODBC/JDBC

- Supports external BI/ETL/other tool connectivity
- Unified Authentication with DSE
- Security improvements via proxy execution

Apache Spark 2.2 including Structured Streaming



Operational Simplicity

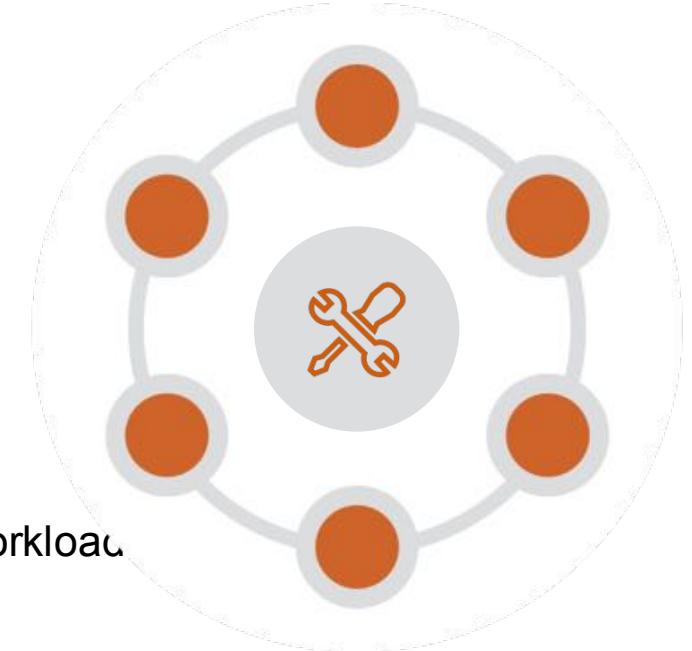


DSE NodeSync

- Automatically resolves data inconsistencies among nodes
- Little to no need for manual repair operations intervention
- Runs continuously and efficiently on the cluster
- Part of DSE Server foundation

DSE TrafficControl

- Delivers advanced resiliency that ensures DSE nodes stay online under extreme workload



Upgrade Service

- Automatically keeps DSE clusters up to date with latest patch releases
- Downloads software updates onto servers or staging area
- Applies updates in rolling restart fashion so no downtime is experienced

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OpsCenter



Developer Productivity

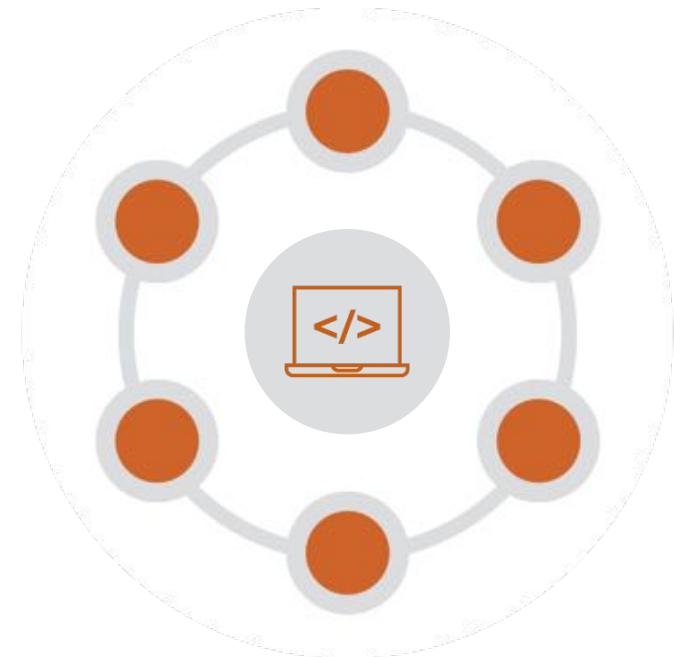


DataStax Studio and Developer Tools

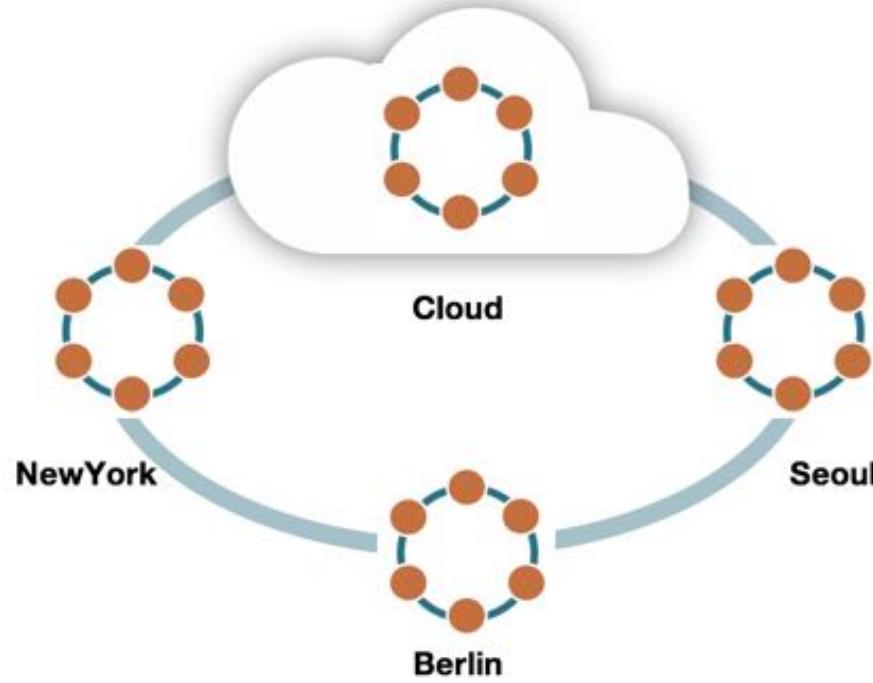
- DSE Analytics/Spark support in DataStax Studio
- Export/Import of DataStax Studio notebooks
- Seamless integration into further Notebook Tools
 - Zeppelin, Jupyter, RStudio (SparkR)

Bulk Loader

- Up to 4x faster than community utilities
- Simplifies data loading and unloading
- Supports CSV and JSON formats
- Command-line interface
- Available as part of DSE and standalone

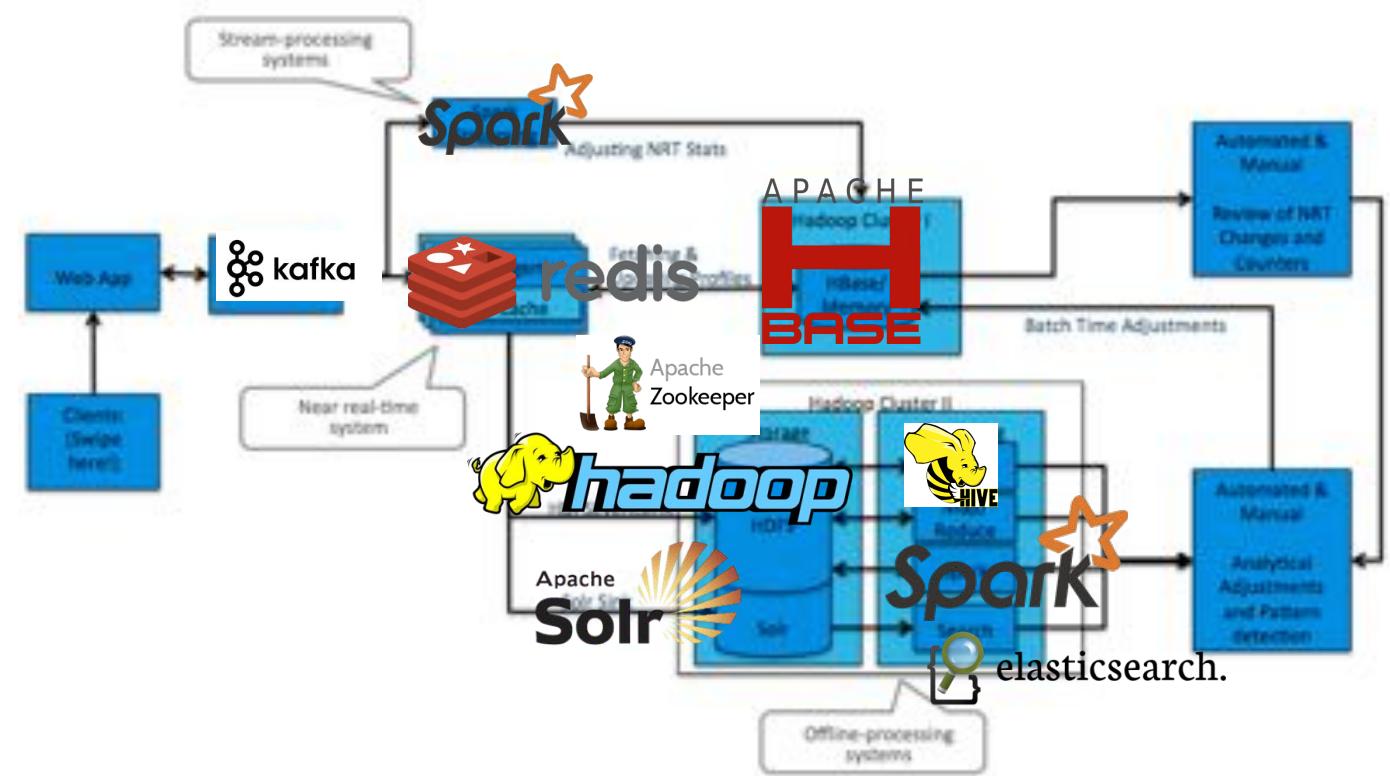


Architecture of a Modern Application



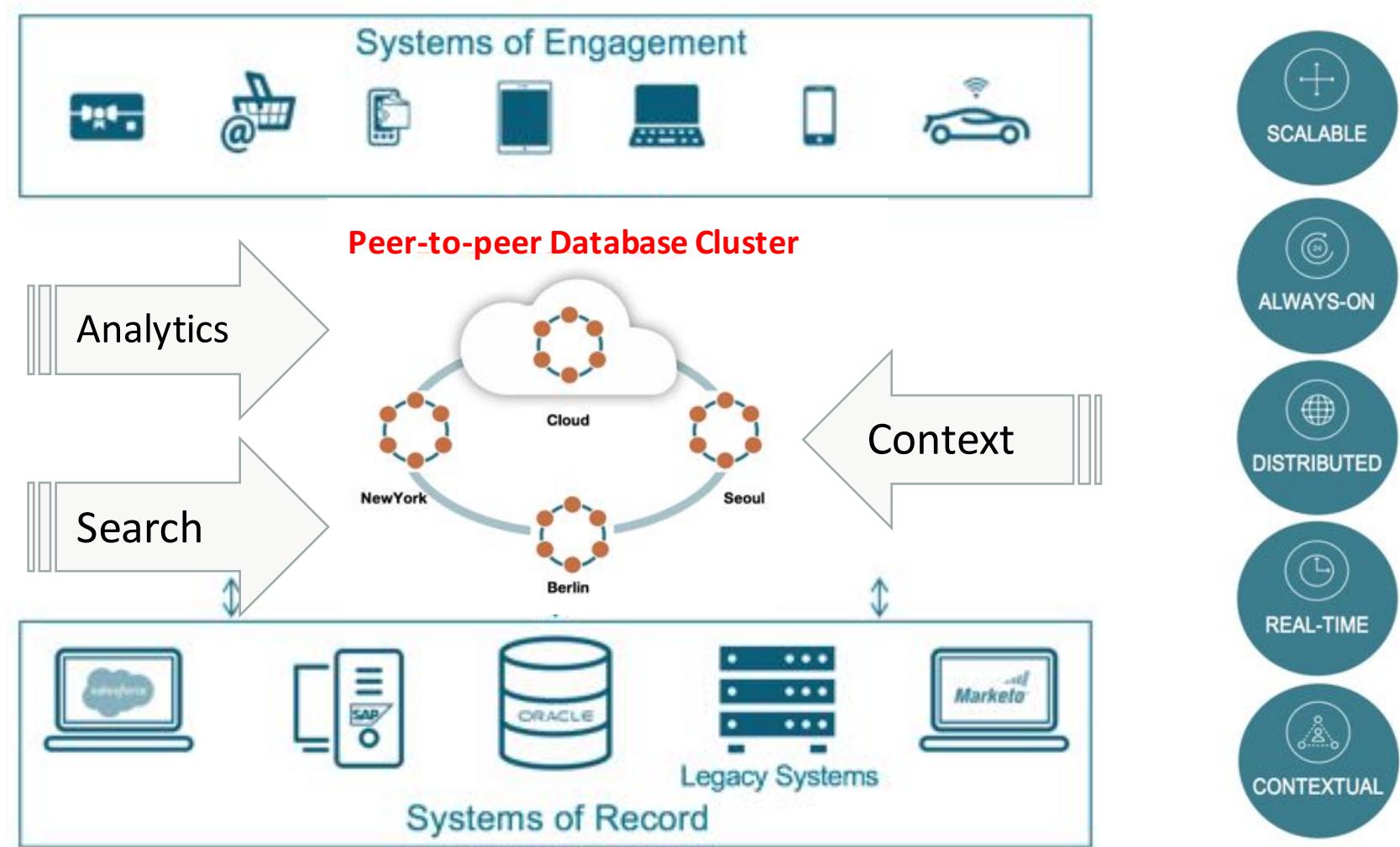
DSE is designed for:

- Multi & Hybrid Cloud
- Always On & Active-Active Multi-DC cluster
- Simplicity! No third party software needed.
 - One software installation
 - Docker Images available

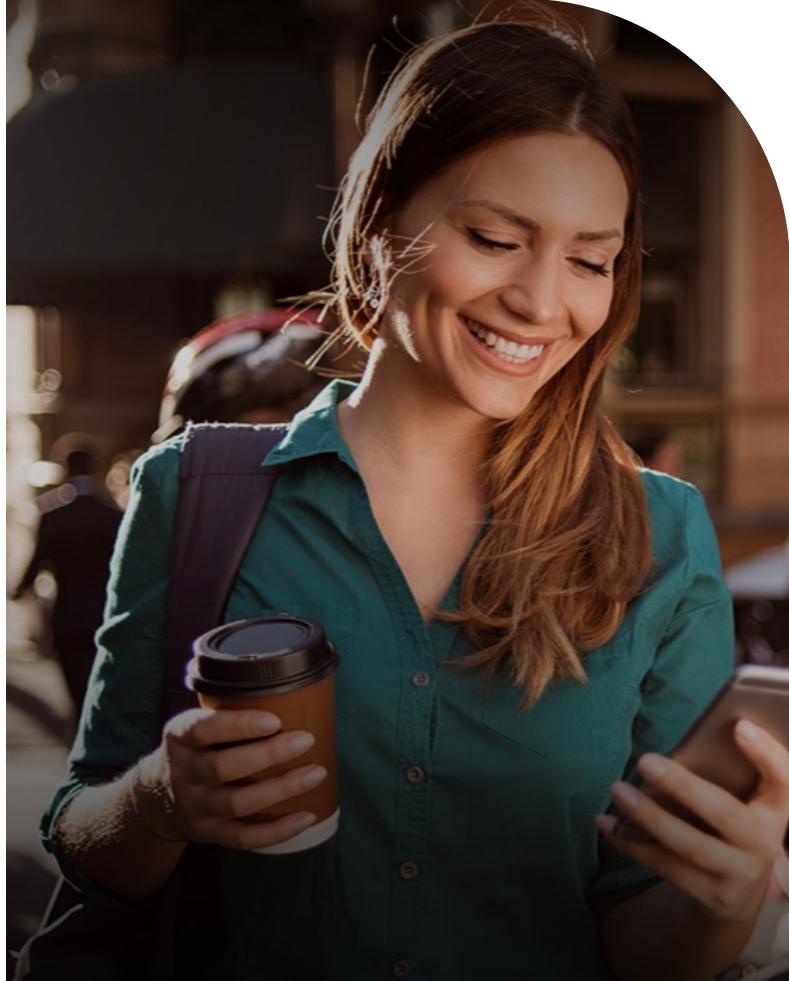


Hadoop Analytics Reference Architecture

DSE Builds The Operational Data Layer



Summary: DataStax compared to open source



- Leading open source contributions and community
- Enterprise-ready database
 - Double the performance
 - More powerful features
 - Ease-of-use: operations and development
- Comprehensive data management
 - Multi-model including graph
 - Mixed workloads
- World-class services: by the experts
 - Engineering: QA and secure software delivery
 - Customer support
 - Customer success
 - Training
 - Consulting
 - DataStax Managed Cloud

Agenda

1	Apache Cassandra™ Datenstrukturen und Replikationsmöglichkeiten
2	Workshop: Datenmodellierung mit DataStax Enterprise und Apache Cassandra
3	Workshop: Live Data Indexing mit DataStax Enterprise und Apache Solr
4	Präsentation und Demo: DataStax Enterprise Analytics mit Apache Spark
5	Präsentation und Demo: DataStax Enterprise Graph
5	Diskussionsrunde, Fragen & Antworten

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