BIG DATA UNIFIED

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September 18, 2014

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AGENDA

- WHAT WE HAVE HEARD
- RESULTS & METRICS
- PLATFORM OVERVIEW
- FS INDUSTRY PERSPECTIVE & USE CASE
- Q & A

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WHAT MATTERS:

SPEED
SCALE
ENTERPRISE GRADE

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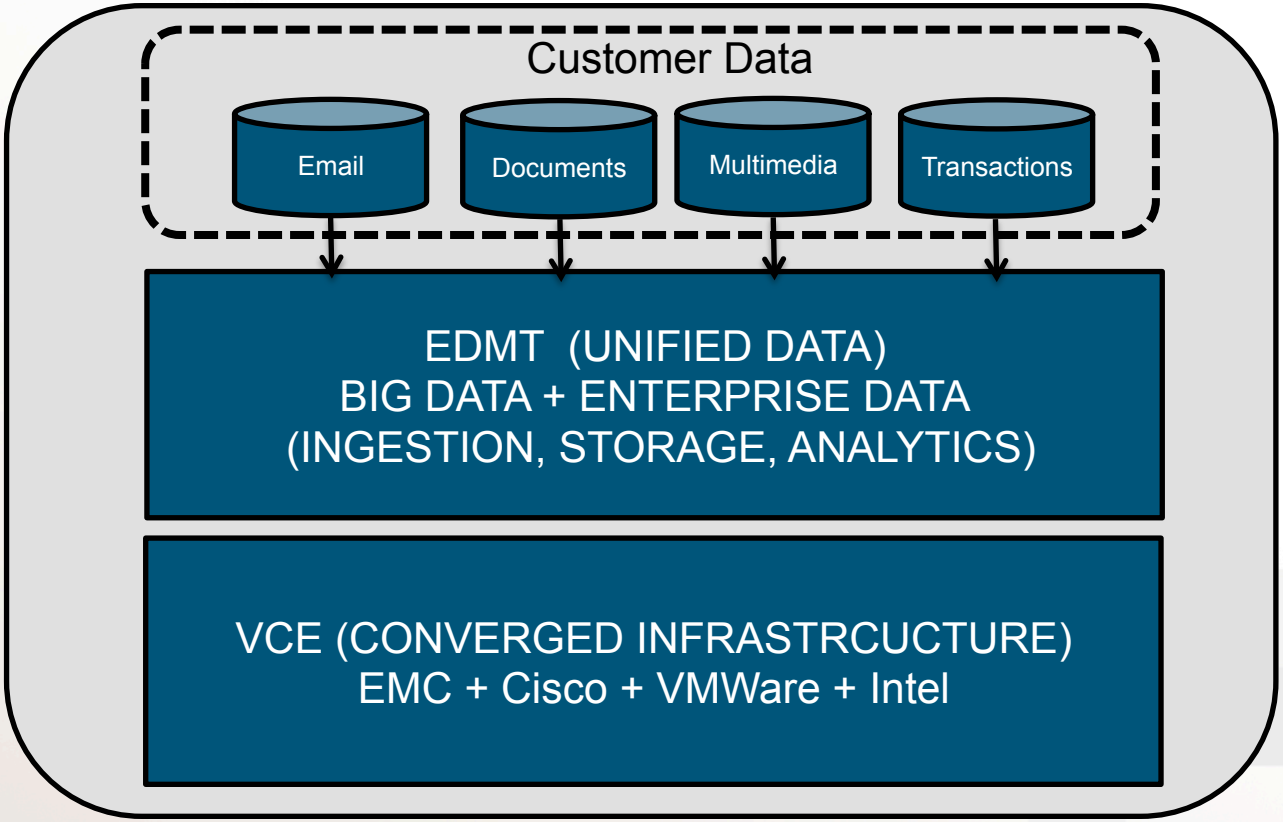
HIGH LEVEL OVERVIEW

Vblock™ Converged Analytics Platform



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DESIGN POINTS

** Deployable at Customer Site in 90 days

Fast Data Ingestion and Query

50+ M queries/day

Ingest 2 PB of Data per day

SPEED **

Enable Rapid Growth

Scale to DB 20+PB

SCALE

Proven Components

Query via SQL & R

Reside In-house

ENTERPRISE GRADE

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RESULTS & METRICS

23 PB of Unified Data

Data Types (from 30 Billion sources)	Loading speed (Billion Rows)		Total Rows Loaded (Billion)	Data Loading speed		Total Data Loaded (PB)	# servers
Load time = 7 days	per HOUR	per DAY		TB per HOUR	PB per DAY		
Smart meters, sensors (KV2/4) with **EDMT UCM**	2,298	55,164	386,148	136	3.3	22.9	11
Enterprise DB records (OLTP, DW, SAP ERP etc.)	6.5	156	1,089				2
Files (metadata + BLOB)	0.7	17	122				4
Email/SMS/twt/blog (metadata+BLOB)	0.4	9	62				2
TOTAL	**2,306**	**55,346**	**387,421**				**19**

Data Types stored, created in 1 month

- Big Data (files and messages)
- Enterprise "legacy records"
- Internet of Things

Uses standard SQL and "R" for access

- Data Variety (Any/All)
- Data Velocity (Ingestion)
- Volume Scalability (50 TB to 12,100 TB)
- Speed (Agility)
- Enterprise Grade

UNDER THE HOOD: INFRASTRUCTURE

VCE VBLOCK™

ENGINEERED | MANUFACTURED | MANAGED | SUPPORTED | SUSTAINED

AS ONE PRODUCT

Vblock is the Infrastructure
(compute, network, storage)

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FINANCIAL SERVICES BIG DATA

Key Observations:

1. More Regulation Coming
2. Regulatory Agility will be competitive differentiator
3. Institutional Quote, “Forgoing growth because of Risk Spend”

The Cost of New Banking Regulation: $70.2 Billion

ARTICLE | COMMENTS (1)

BANK OF AMERICA CITIGROUP GOLDMAN SACHS J.P. MORGAN MORGAN STANLEY

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By SAABIRA CHAUDHURI

New regulation stemming from the financial crisis has cost the six largest U.S. banks $70.2 billion as of the end of last year, according to a new study.

Between the end of last year and the end of 2007, regulatory costs rose by more than 100%–or $35.5 billion– for **Bank of America** Corp. BAC +0.36%, **Citigroup** Inc. C +0.06%, **Goldman Sachs** Group Inc., **J.P. Morgan Chase** JPM +0.53% & Co., **Morgan Stanley** MS +1.28% and **Wells Fargo** WFC +0.38% & Co., according to data from policy-analysis firm Federal Financial Analytics Inc.

One Example:

Only 205 of 398 provisions of Dodd-Frank Act have been implemented as of March, 31, 2014…

…. more to come

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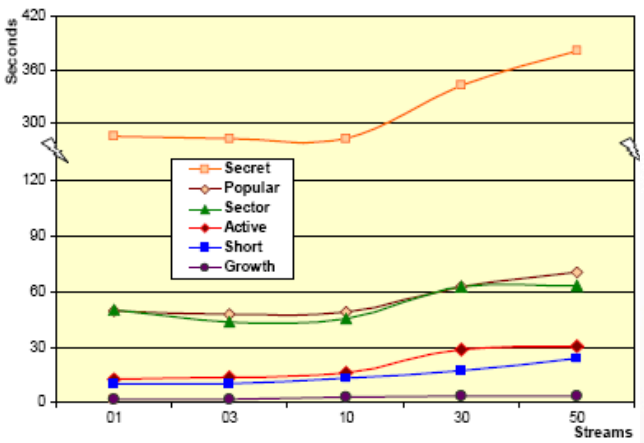
USE CASE: PREVENTING FRAUD IN REAL-TIME



The "Popular" Query

Determine the STOCKS that are most discussed in eMail correspondence particular day.

```
SELECT
        COUNT(*),
        BM.MESSAGE_TIME,
        SQ.TRADING_SYMBOL,
        SUM(SQ.BID_SIZE) AS TRADESIZE,
        DENSE_RANK() OVER
             (ORDER BY SUM(SQ.BID_SIZE) DESC) AS RANKING
    FROM
        STOCK_QUOTE_VIEW SQ,
        BMM_MESSAGEHEADER BM
    WHERE
        SQ.QUOTE_DATE = '2007-07-04' AND
        BM.SUBJECT = SQ.TRADING_SYMBOL
    GROUP BY
        BM.MESSAGE_TIME,
        SQ.TRADING_SYMBOL
    ORDER BY
        SUM(SQ.BID_SIZE) DESC;
```

This query could have caught the $8B Societe Generale fraud through correlated "rumors"

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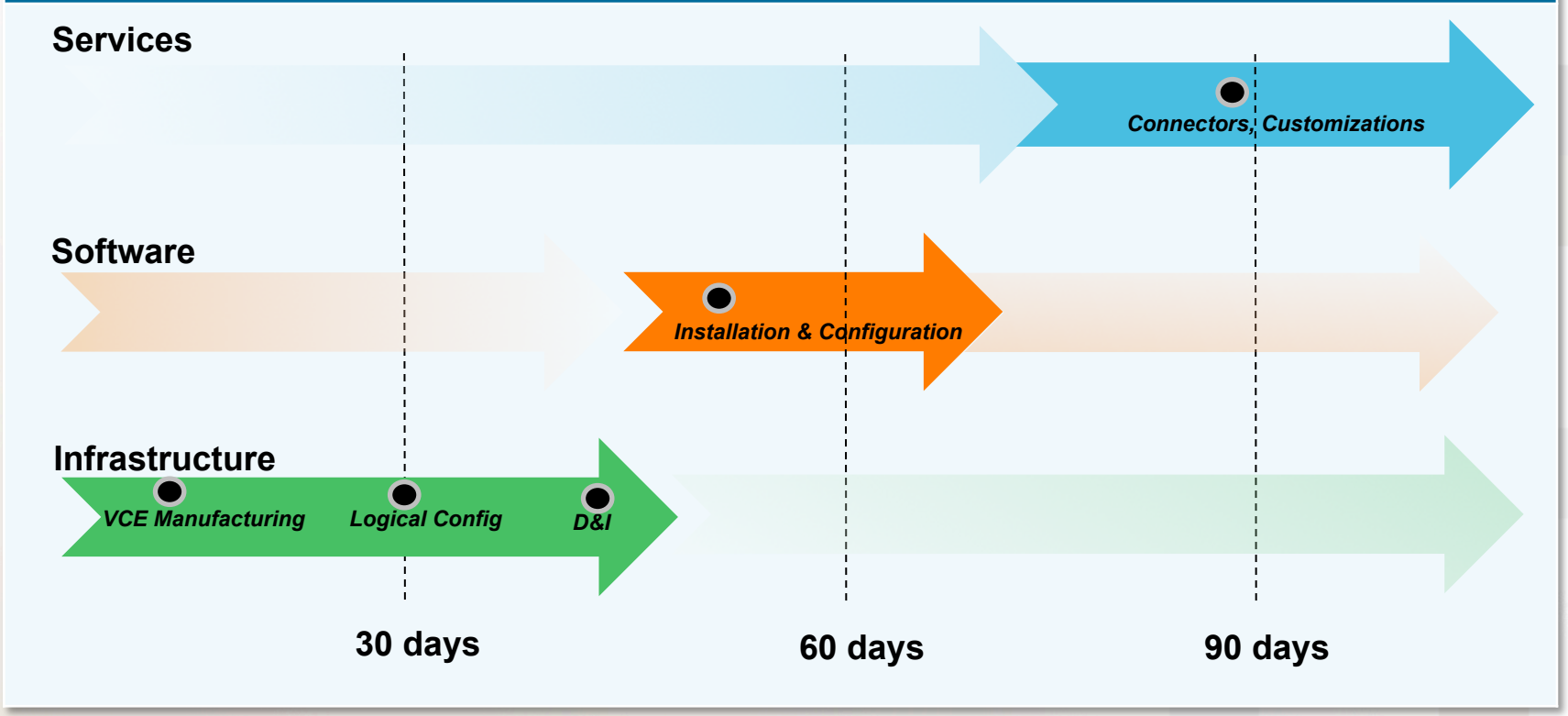
SPEED OF DEPLOYMENT & AGILITY

Deploying Vblock Converged Analytics Platform



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Q & A

Questions?

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APPENDIX

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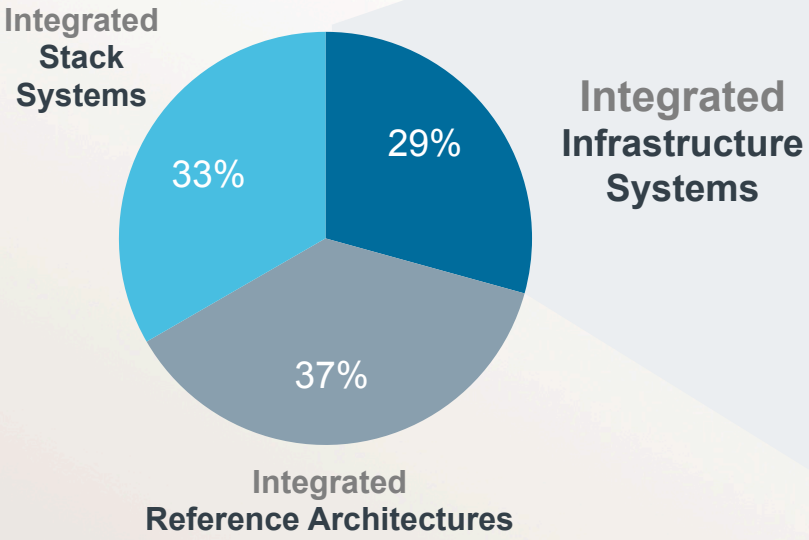
GARTNER: VCE INTEGRATED INFRASTRUCTURE SYSTEMS (BY REVENUE, 2Q13) MARKET SHARE GREATER THAN ALL OTHERS COMBINED

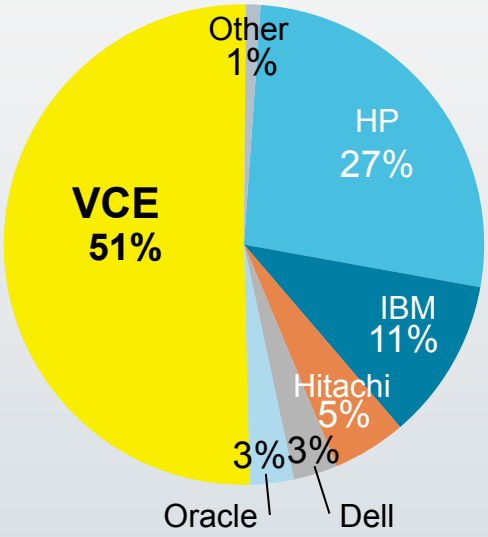
INTEGRATED SYSTEMS MARKET

2Q13 Market Size: $1.5B



INTEGRATED INFRASTRUCTURE SYSTEMS MARKET SHARE

2Q13 Market Size: $439M



Source: Gartner Market Share Analysis: Data Center Hardware Integrated Systems 2Q13.

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