Lunch and Learn:

IT Infrastructure and Operations Trends in the Application Economy

The future of the mainframe in the era of the customer

Scott Fagen, SVP and Distinguished Engineer
Chief Architect z Systems – CA Technologies
Growth Drives New Demands

Exponential Growth of Transactions and Data Is Driving New Demands on the Data Center

Mobile user transactions growing from 3,700 a day in 2014 to more than 14,800 by 2025

Over 30% of distributed apps have direct connections to Mainframe today

80% of corporate data resides on the Mainframe today
New Demands Create New Challenges

$500M cost of trading losses during Facebook IPO due to ‘system problems’

40 TRILLION estimated number of mobile transactions per day in 2025

25% of users abandon an app after just 3 seconds of delay

80-90% of all consumer mobile apps are only tried one time

Sources:
Reaching the Top of the Web Performance Mountain, March 2013
Are you a rarity? Only 16 percent of people will try out an app more than twice, March 2013
NASDAQ longest downtime adds to woes over glitches in electronic trading, Aug 2013
IBM Launches z13 Mainframe — Most Powerful and Secure System Ever Built Jan 2015
The Digital Transformation of the Mainframe
CA Extends Mainframe with Flexibility, Openness and Choice

Mainframe Platform Strategy

- Transaction and data engine now enabled for the mobile generation
- Integrated transaction and analytics system for real time insights at the point of impact
- Efficient and trusted cloud system that transforms the economics of IT

The ideal platform to support the growing digital economy
Mainframe Trends

81%
Mainframe is strategic to current and future IT plans

48%
Actively delivering new business services that engage mainframe systems of record

RESPONSIBLE FOR:

- BOTH MAINFRAME AND DISTRIBUTED: 51%
- DISTRIBUTED ONLY: 34%
- MAINFRAME ONLY: 15%

Factors When Determining Future use of z Systems

1. Lower total cost of ownership
2. Minimize downtime
3. Data security and risk avoidance
4. Improved application performance
5. Reduce reliance on mainframe specialty skills
6. Ability to easily integrate existing mainframe apps with new mobile & web apps
7. Ability to monitor & manage entire IT infrastructure, using common tools

Our current tools don’t monitor what we need...maybe there’s another tool in here?

Another TOOL!! More headaches, reports, integrations...UGH!
Our current tools don't monitor what we need...maybe there's another tool in here?

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37% Have entirely different departments monitoring mainframe and distributed computing environments

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IT Management Requirement in the Application Economy

Infrastructure for Modern Applications

Systems of Engagement

User

Device

Network

APP SERVER

Systems of Operations

3rd Party Apps

Databases

Web Services/SAAS

MIDDLEWARE

Systems of Record

TRANSACTIONS

CICS

IMS

DATA

Datacom

DB2
IT Management Requirement in the Application Economy

Infrastructure for Modern Applications

- User
- Network
- Device
- APP SERVER
- 3rd Party Apps
- Databases
- Web Services/SAAS
- MIDDLEWARE
- MQ
- CICS
- IMS
- Datacom
- DB2
- IDMS

Systems of Engagement

Systems of Operations

Systems of Record
How do I deliver a flawless experience every time an application touches the mainframe?
How do I deliver a flawless experience every time an application touches the mainframe?
Infrastructure and Operations Focus Area
Delivering a flawless experience every time an application touches the mainframe

Applications

Data

Infrastructure

SLA MANAGEMENT

DATA STORAGE AND MOVEMENT

MAXIMIZE CURRENT RESOURCES
Infrastructure and Operations Focus Area

Delivering a flawless experience every time an application touches the mainframe
Unified IT Management in the Application Economy

Infrastructure for Modern Applications

Modernizing your ‘systems of record’ for integrated management of your application experience

- Deliver on SLAs of mission critical business applications
- Leverage data on the mainframe for competitive and operational insights
- Evolve from isolated to integrated as part the a modern IT environment
WHAT ARE YOU DOING?!!!

I thought you said you wanted a 360 degree view of our data center?
32% Are dissatisfied with current end-to-end monitoring capabilities

- **76%** We use multiple products from one or more vendors versus a single solution
- **62%** Don’t have shared visibility across mainframe and distributed platforms
- **44%** Difficult to analyze and derive insights from the data
- **40%** Our process includes too many steps
- **25%** Difficult to use

It's showing the network went down, what caused it THIS time?!

Must be the database!

It's the server!
80%

Agree, disjointed cross-platform management leads to lost opportunity

CA CE Application Performance Management

Transaction tracing across entire application architecture...

User Experience → Network → Application Server

Systems of Engagement

3rd Party Apps → Databases → Web Services/SAAS

Systems of Operations

Middleware

CICS, IMS, Datacom, DB2, IDMS

Systems of Record
Transaction tracing across entire application architecture...
...provides reduced MTTR, greater availability and optimal customer experience
Unified Infrastructure Management

CA Unified Infrastructure Management

Unified Management Portal
(available via mobile)

Operational Intelligence Solutions
(e.g. Capacity Management, Service Operations Management, etc.)

Systems | Storage | Network | Database | Packaged Apps | Cloud SaaS | Environment | Other
---|---|---|---|---|---|---|---

Management / Actions / Automation /Analytics

Industry leading and easiest to use integrated solution

Adaptable and extendable (over 140 probes in CA UIM today)

CA APM | CA Cloud Service Management | z Systems Data Service | Other CA & Third Party Tools

CA technologies

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Customers Rely on the Mainframe and CA

“CA is one our most favorite companies to do business with.”

“Mainframe is the workhorse for all our mobile and internet applications.”

“94% of Primerica’s business is submitted electronically through web browsers.”
Infrastructure and Operations Focus Area

Delivering a flawless experience every time an application touches the mainframe

Applications

Data

Infrastructure

SLA MANAGEMENT

DATA STORAGE AND MOVEMENT

MAXIMIZE CURRENT RESOURCES
Imagine the Possibility of Leveraging All Your Data Assets

**Traditional Approach**
- Structured, analytical, logical
- Data: Operational, Historical, Private
- Customers, history, transactions

**New Approach**
- Creative, holistic thought, intuition
- Data: Semi public, non-relational
- Logs, call center, social, mobile, GPS, web, email

**New ideas, new questions, new answers**

- **Traditional Sources**
  - Transaction Data
  - Internal App Data
  - Mainframe Data
  - OLTP System Data
  - ERP Data

- **New Sources**
  - Multimedia
  - Web Logs
  - Social Data
  - Text Data: emails
  - Sensor data: images
  - RFID

- **Data Warehouse**
- **Hadoop Streams**
- **Exploratory Dynamic**
- **Precise fraud & risk detection**
- **Understand and act on customer sentiment**
- **Accurate and timely threat detection**
- **Predict and act on intent to purchase**
- **Low-latency network analysis**

**Repeatable Linear**

**Exploratory Dynamic**

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Obstacles to Including Mainframe Data

1. **Data Governance** as the data moves off z/OS operational systems.

2. **Data Ingestion** from z/OS into Hadoop (on or off platform) is a bottleneck (MIPS & ETL cost, Security around data access and transfer, Process Agility).

**LEAD TO KEY REQUIREMENTS:**

- Existing security policies must be applied to data access and transfer.
- Need high speed and optimized connectors between traditional z/OS LPARs and the Hadoop clusters.
- Ability to serve data transparently into Hadoop clusters on mainframe AND on distributed platform.
CA Cloud Storage for z Systems

z Systems Archiving and Backup Solution

CA provides z Systems Tape Emulator and Connector to Local or Cloud Storage

Private Storage Appliance

Public Cloud Storage
Helping our Customers Drive Business Results

**Standard Life**

Standard Life is a Fortune Global 500 provider of long-term savings, investments, workplace pensions and employee benefits.

**THE CHALLENGE:** Each month, Standard Life conducts actuarial valuation requiring cloning of over 130 DB2 tables and indexes, then executes a set of batch programs against the cloned objects. Minimizing elapsed time of database cloning is critical. The process was taking too long—often not completing until noon of the following day.

“**It was a fantastic experience for us, and it’s a great opportunity to influence product development. Connecting through Agile Development is definitely a win-win for customers and partners and for CA. When you work with CA, they solve your problem.”**

— Alex McShane, Senior Technician, Standard Life Insurance

**THE RESULTS:**

**Reduced time 98%**
Time to clone DB2 databases was reduced from 3.5 hours to 3 minutes.

**Reduced cost 99.5%**
Million Service Unit (MSU) cost was reduced from 50 MSU to 0.25 MSU.

**More responsive**
IT was able to be far more responsive to the business.
Infrastructure and Operations Focus Area

Delivering a flawless experience every time an application touches the mainframe

Applications

Data

Infrastructure

SLA MANAGEMENT

DATA STORAGE AND MOVEMENT

MAXIMIZE CURRENT RESOURCES
Evolution of IT Operations

- Deliver on SLAs of mission critical business applications
- Leverage data on the mainframe for competitive and operational insights
- Evolve from isolated to integrated as part of a modern IT environment
Evolving from Isolated to Integrated

A portfolio of enabling technologies and services that:

✓ **Accelerate time to value**
✓ **Improve customer experience**
✓ **Promote integration of the mainframe to the overall IT environment**

Customer Time to Value Continuum - Vendor Software

- Architect
- Develop
- Test
- Package
- Demo
- Install
- Configure
- Deploy
- Maintain

Low Value | High Value

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Evolving from Isolated to Integrated

The building blocks to maximize Mainframe as part of the overall IT environment

A portfolio of enabling technologies and services that:

- ✔ Accelerate time to value
- ✔ Improve customer experience
- ✔ Promote integration of the mainframe to the overall IT environment

- **CA MAINFRAME SOFTWARE MANAGER:** faster and easier installation and maintenance of CA mainframe software stack to enable future mainframe professionals.

- **CA CUSTOMER VALUE PROGRAM:** detailed assessment and recommendations on how to extract even more value from the CA software you already own.

- **CA CORE SYSTEMS CONSULTING:** comprehensive usage and risk assessment of your software environment to evaluate opportunities for cost savings.

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**Customer Time to Value Continuum - Vendor Software**

- Architect
- Develop
- Test
- Package
- Demo
- Install
- Configure
- Deploy
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Low Value  →  High Value
Helping our Customers Drive Business Results

A Leading Global Financial Services Provider

THE CHALLENGE: In the increasingly competitive banking environment, organizations are being pushed to get to market faster in all areas of the business. CA helped this financial services provider optimize its IT infrastructure and underlying business processes to support a broad range of products and services offered in more than 55 countries.

THE RESULTS:

- 118% increase in operational efficiency
- 51% fewer cancellations on batch processes
- Increased jobs executed annually from 1.6M to 3.5M
- Reduced batch timeframe to 1½ hours
Reframe Your Mainframe and Transform IT

Contact us today for an assessment on how you can:

• Minimize downtime
• Lower overall TCO
• Drive increased business value
Because those who build the apps will own the future ...

And those apps continue to rely on the **MAINFRAME**
Webinar Series: Future of the Mainframe in the Era of the Customer

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