Session 16248

System z at the Heart of the Dynamic Data Center

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Abstract

In the midst of all the disruptive changes brought on by cloud and mobility, one of the biggest challenges facing IT organizations today is providing the flexibility businesses demand; while also ensuring critical IT infrastructure needs are being met. System z has served as the optimum transaction processing engine for decades, and it will continue to do so. Customers are increasingly leveraging System z to host their virtualized private cloud infrastructure. This enables enormous growth within the same physical and environmental footprint, without a corresponding increase in administration and energy costs. Over the next couple years as the dynamic data center will continue to evolve; and CA will be enhancing our capabilities and bringing innovative System z software to market that will enable System z as the platform of choice to manage the overall Hybrid Cloud infrastructure.

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Agenda

- Market Trends Shifting Business and IT Dynamics

- What is the Dynamic Data Center?

- How is CA Empowering the Dynamic Data Center Today?

- Dynamic Data Center Deliverables
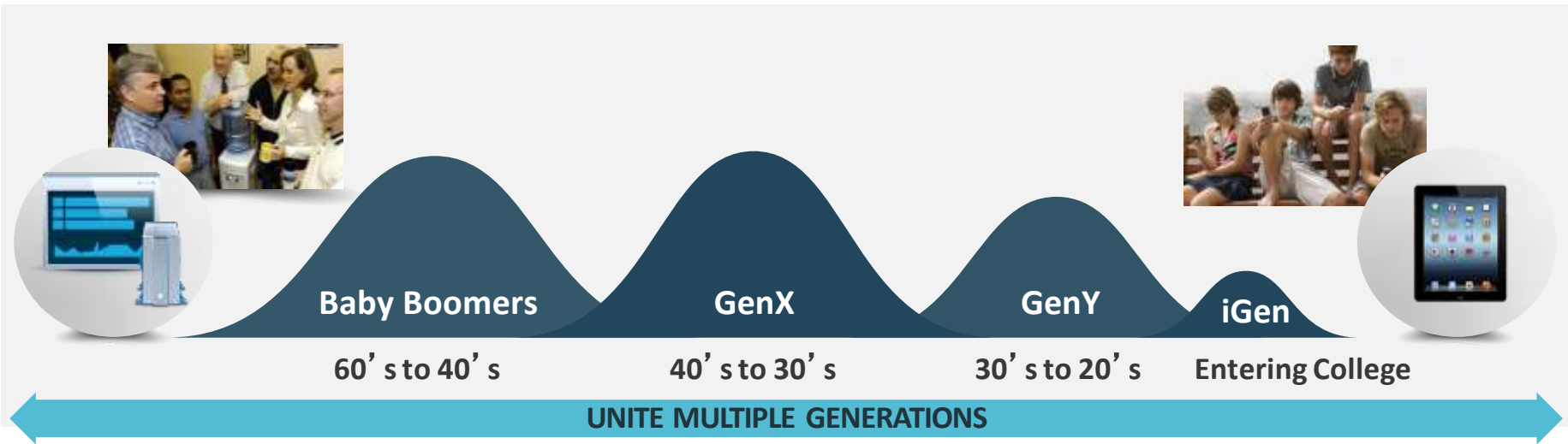
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Consumerization is Driving Business

In the next few years:

- **8 zettabytes of data**
- **10 billion connected devices**
- **$400B on-line commerce**

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Changing World of IT

Enabling the Millennial Workforce

Baby Boomers	GenX	GenY	iGen
60's to 40's	40's to 30's	30's to 20's	Entering College

UNITE MULTIPLE GENERATIONS

AGILITY   **SIMPLICITY**   **VISIBILITY**

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Dynamic Data Center: Business Solutions on Demand

Continuous Delivery

Predictive Analytics

Bring Your Own Device

Big Data

Java

System z

Cloud Agility

Linux on System z

Exceptional User Experience

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Evolving Role of System z in the Application Economy

Business Responsiveness > Dynamic expansion/contraction

Transaction Growth > Infinite scalability

Cost Optimization > Spans across platforms

Emerging Opportunities > Rapidly adapts

System z

CURRENT	0-18 MONTHS	12-36 MONTHS
Data Center	**Private Cloud**	**Hybrid Cloud**
Transaction Processing Engine	Cloud Component	Cloud Platform

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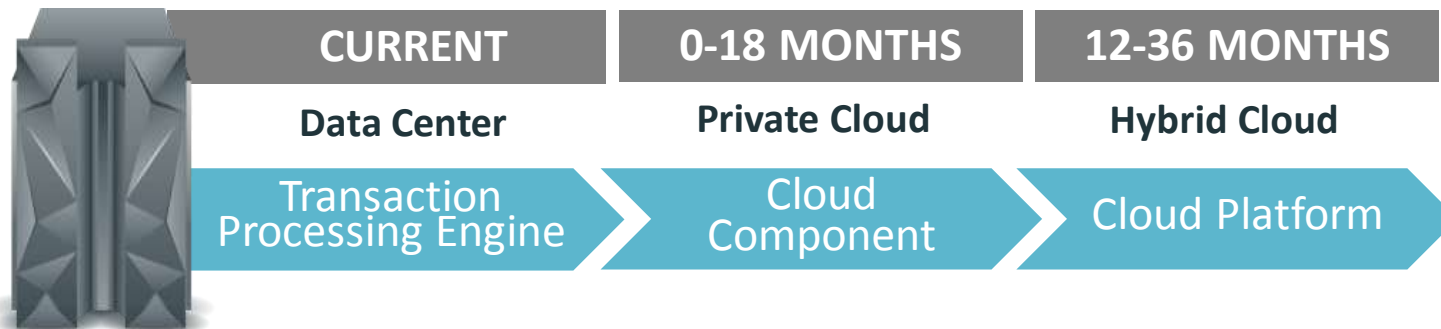
Dynamic IT Management
CA Chorus™

Definitive Management Tool for the Dynamic Data Center

| Infrastructure | DB2 Database | Security & Compliance | Storage |

INCREASE EFFICIENCY using integrated workspace

SOLVE PROBLEMS FASTER with graphical diagnostics

ACCELERATE LEARNING CURVE through knowledge capture

**REDUCE ERRORS AND RISK** with proactive analytics and automation

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CA Chorus™ Architecture
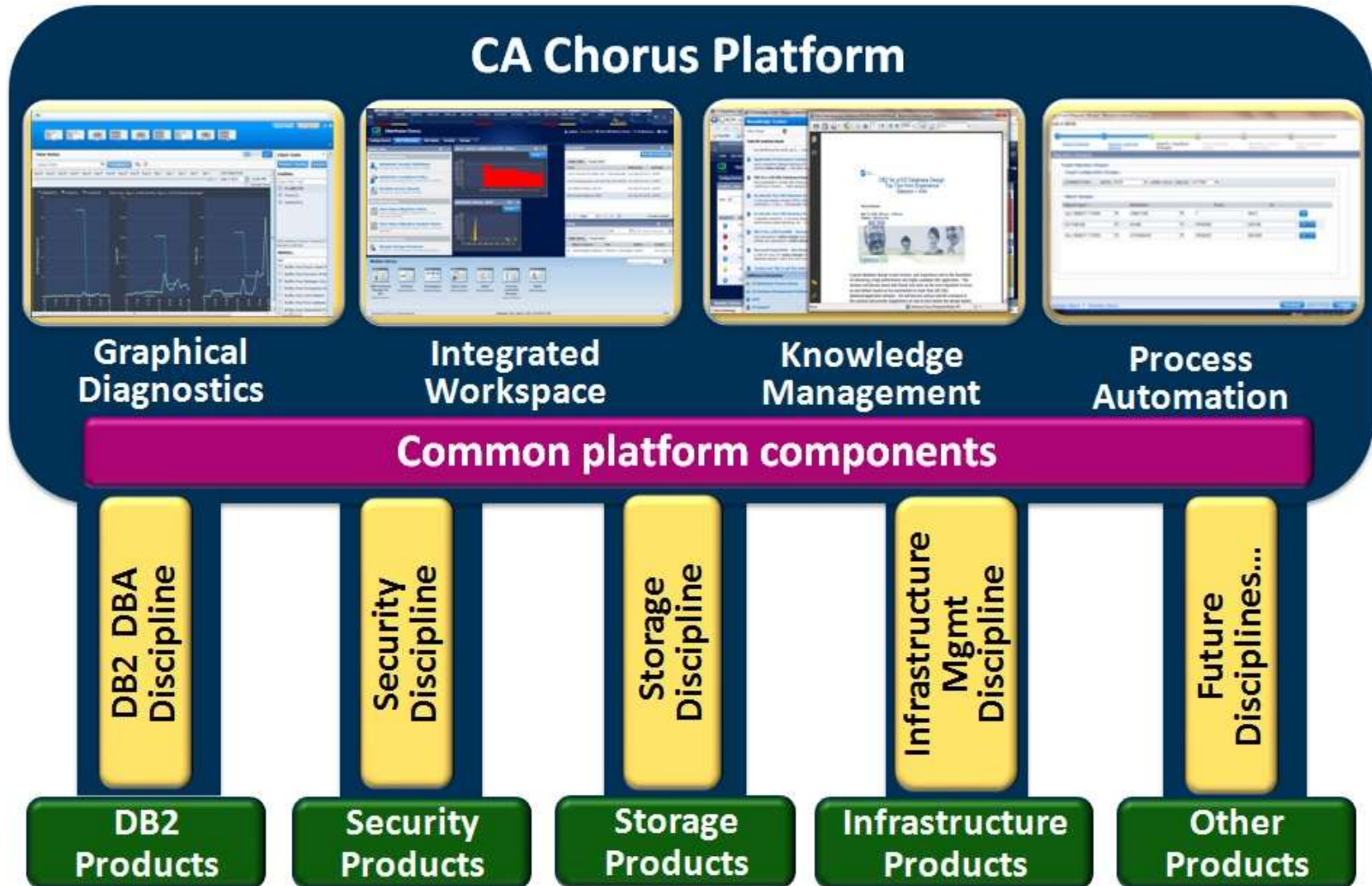
CA Chorus Strategy
Transformational IT Management

PLATFORM ALIGNMENT AND AGILITY

- **Any Time, Any Where, *Any Device****
- **Unified Workspace**
- **Intuitive User Experience**

- **Domain Capabilities**
- **Unparalleled Integration**

- **Analytics and Automation**
- **Knowledge Management**
- **Software Management**

Experiences

Services

Data Sources

* Planned

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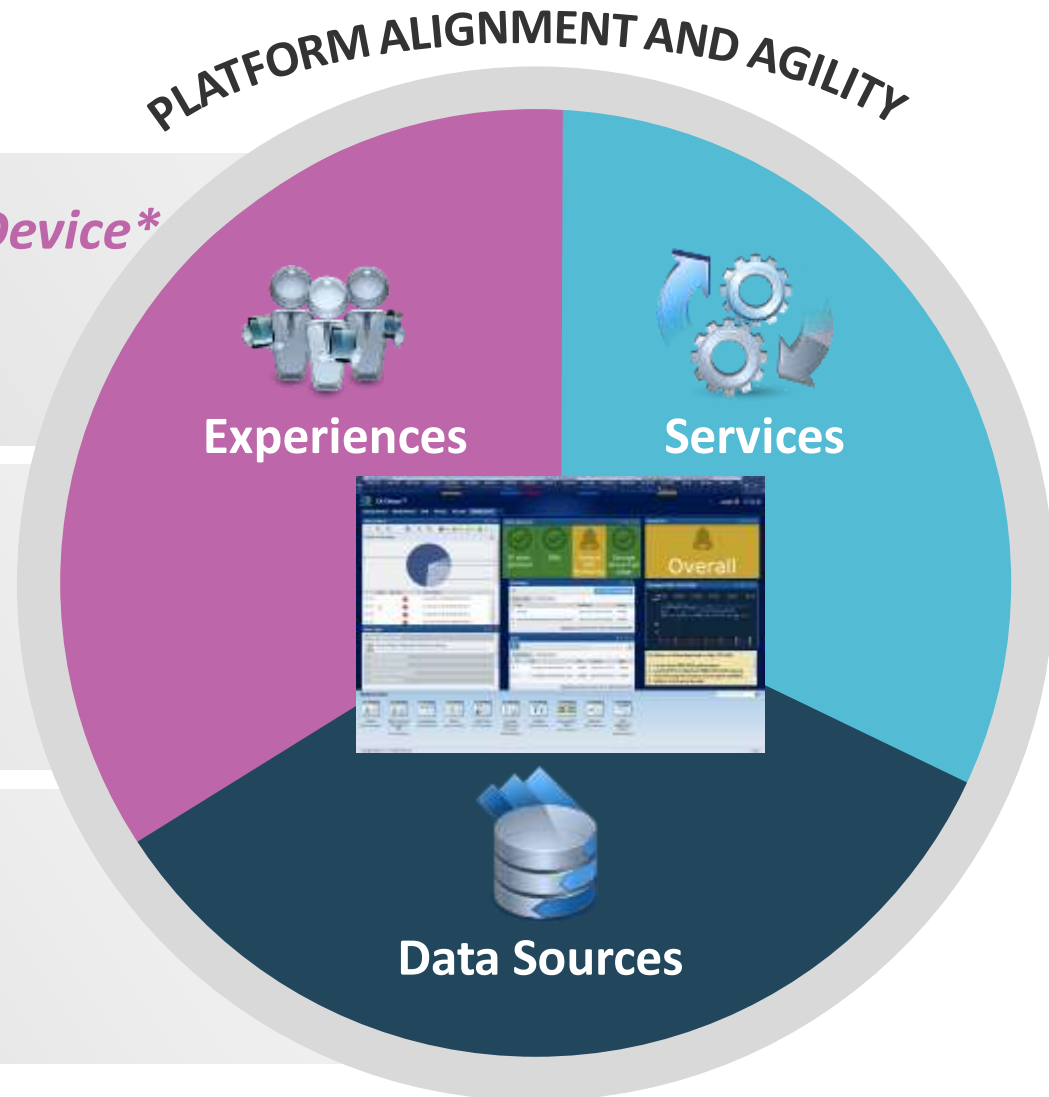
Flexible Cloud Services
CA Cloud Storage for System z

Cost savings that can amount to tens of thousands of dollars

Reduce data protection costs

Slash Data Center Storage Costs to Pennies per GB

CA provides the System z Connector

Public Cloud Gateway

Your Cloud
(Encrypted at Rest)

Public Cloud

De-duplication, compression & encryption

Private Cloud

Encrypted In-Flight
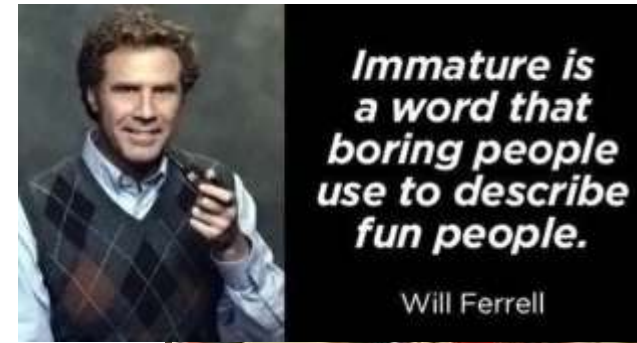
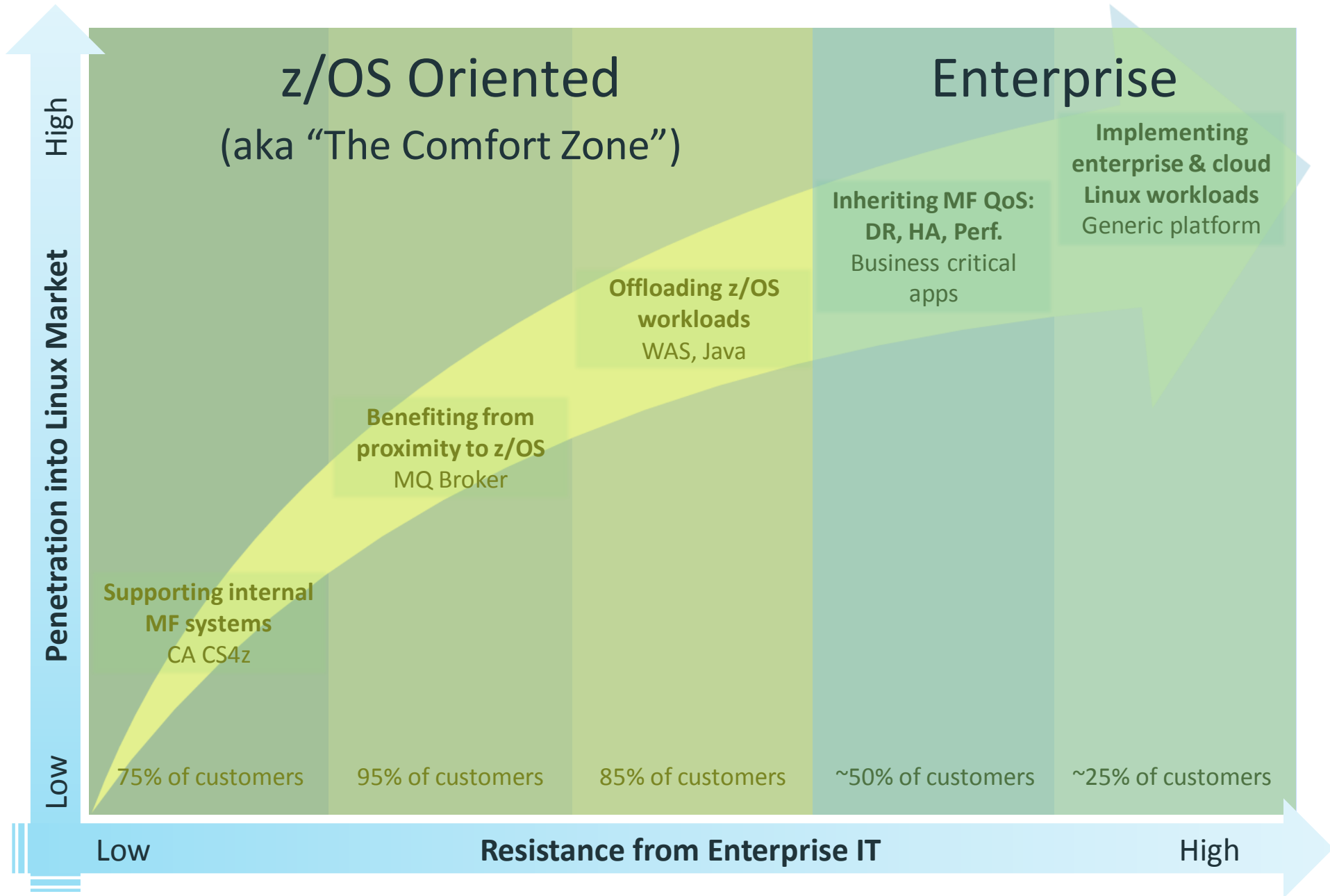**Google** Cloud Platform

SOFTLAYER
an IBM Company

amazon web services

EMC **DATA DOMAIN**

NetApp

**Need POC Partner

What are the symptoms of the problem

- Linux on z is immature
  - At 14 years old, this suggests <u>unproven</u> in the general IT arena

- Lack of broader IT understanding
  - IT's understanding of what the mainframe does is outdated

- The cost model is too steep
  - Note: not the overall TCO, just the cost of getting started

- Managing Linux on z is "an exception"
  - We insist that it's not "zLinux", it's just Linux on z and then turn up carrying a bag of non-standard management tools.

Immature is a word that boring people use to describe fun people.

Will Ferrell

Conclusions from research

z/OS Oriented
(aka "The Comfort Zone")

Enterprise

Penetration into Linux Market

High

Low

Implementing enterprise & cloud Linux workloads
Generic platform

Inheriting MF QoS: DR, HA, Perf.
Business critical apps

Offloading z/OS workloads
WAS, Java

Benefiting from proximity to z/OS
MQ Broker

Supporting internal MF systems
CA CS4z

75% of customers

95% of customers

85% of customers

~50% of customers

~25% of customers

Low **Resistance from Enterprise IT** High

What people actually said…

> **"** We did a marketing campaign to the <u>lines of business</u> and internal IT to educate them about the attributes of System z as a Linux platform. **"**

> **"** **Start of meeting:** "We'd never deploy Linux on x" **End of meeting:** "OK, we'd do 3 of the 5 scenarios and if the exceptions were removed, we'd consider the other 2. **"**

> **"** …the cost of buying new tools destroyed the cost case. Not just the cost of buying them but the cost of training people to use the tools. **"**

> **"** We moved to Solar Winds and saved a fortune. **"**

> **"** We loved Linux on z but the cost of adding an initial IFL to the CEC was ~$250K and we just could not justify it. We'd move back if the pricing was fixed. **"**

> **"** We have never run a virus scan on Linux for z because it does not exist. If it did, we would be obliged to purchase and use it. **"**

Enterprise Application Visibility
CA Cross-Enterprise Application Performance Management

Innovate Through Cross-platform Visibility

User → Network → Front End

APP SERVER
- 3rd Party Apps
- Databases
- Web Services/SAAS

MIDDLEWARE — MQ

TRANSACTIONS — CICS IMS

DATA — Datacom DB2

Back End   **System z**
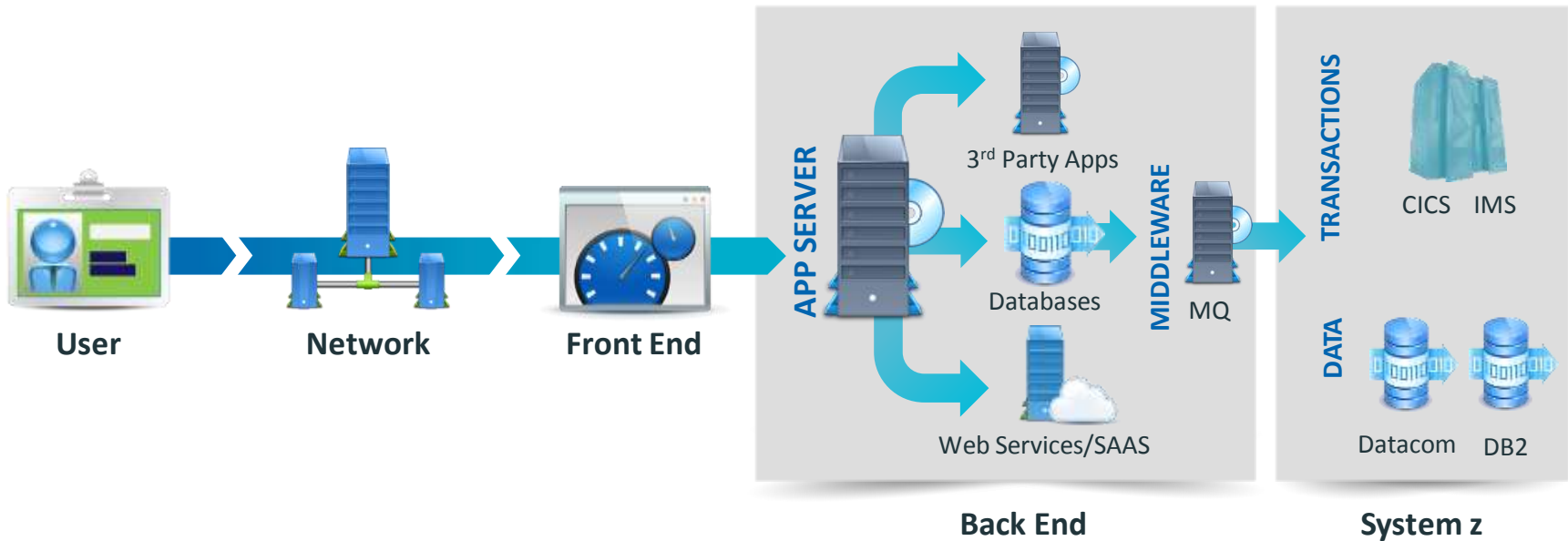
End-to-end Application Visibility – Anytime, Anywhere

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CA Chorus Software Manager™ (CA CSM)
Modern, automated environment to install and maintain CA products

Dynamic Data Center: Infinite Possibilities

DELIVERY

CONTINUOUS

AVAILABILITY

Cross Enterprise Workload Automation

Cloud Services

Composite Application Delivery

Cross Platform Infrastructure Management

End to End Performance Management

Predictive Analytics

DYNAMIC DATA CENTER

System z

DevOps

Security

Management Cloud

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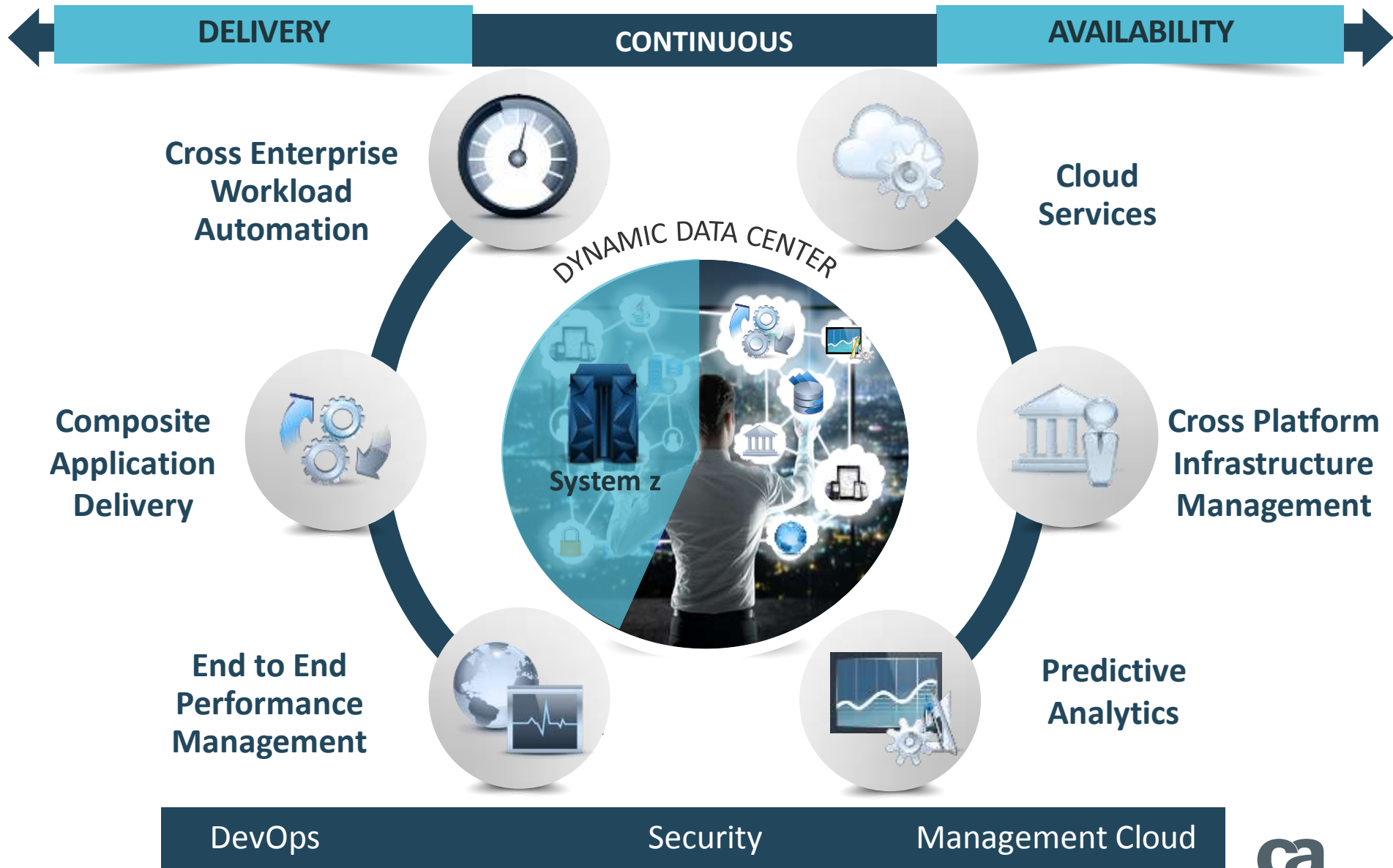
A Dynamic Data Center needs agile providers

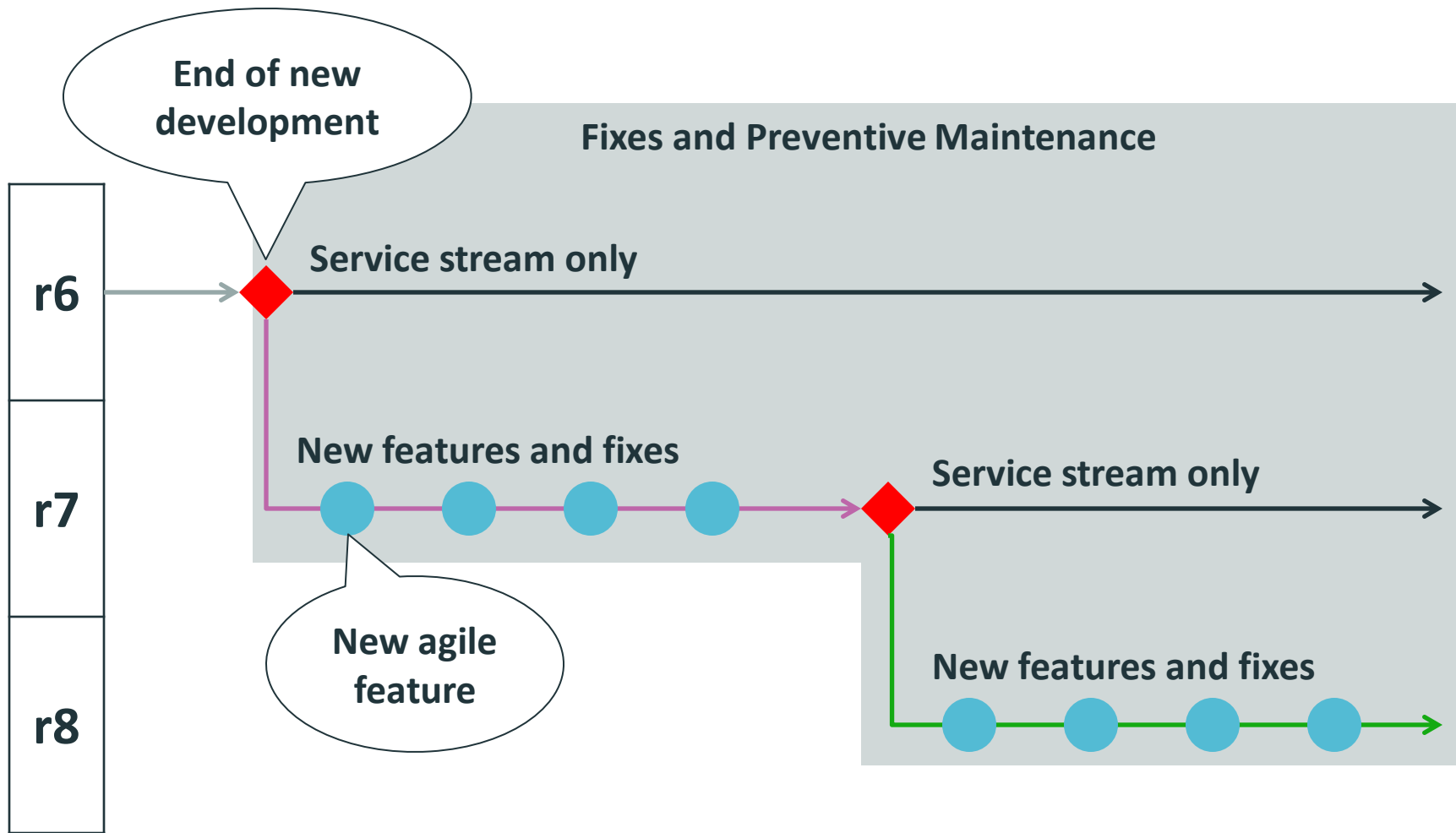**Agile Development**

Lifecycle Management

Incremental Releases

- Rather than delivering large, monolithic changes, new software features must be rolled out to keep IT moving at the speed of business

- This applies to licensed software as well as in-house applications

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What is an Incremental Release?

- A deliverable generated by the Agile development process

- New functions (Agile Features) are released every few sprints, when the development and customer teams decide that there is sufficient new capability to package and release for customer consumption
  - Uses standard SMP/E packaging (for z/OS based content)

- Available to any customer who agrees to participate in the Agile process and agree to product deployment rules

- ***Fully*** supported by normal CA support processes
  - Customer can deploy to any environment, *including production*

The Mechanics of Incremental Releases

End of new development

Fixes and Preventive Maintenance

Service stream only

r6

New features and fixes

Service stream only

r7

New agile feature

New features and fixes

r8

Incremental Releases – Example: OPS/MVS

Rights and Responsibilities with Incremental Releases

- Customers are encouraged (but not required) to participate in Product Development sprints and review new features

- Any licensed customer can obtain and use an Incremental Release

- Additional responsibility necessary to receive support:
  - Customer must remain current on Agile Features and corrective service as specified by the development team

- Support will instruct non-current customers to "get current" before engaging further

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System z Specialty Engine Exploitation

Leveraging Mainframe
Specialty Engines:

IFL, zIIP and zAAP

May 2014

Many CA products can run partially or completely on the IFL, zIIP, or zAAP

A list of exploiting products is available on http://ca.com
→ Search on *"mainframe specialty engines"*

System z Specialty Engine Exploitation

zIIP

CA Technologies offers a growing set of solutions that enable significant benefits from using zIIP:

- CA Cloud Storage for System z
- CA CMDB Connector for z/OS
- CA Cross-Enterprise Application Performance Management
- CA Datacom® [2] See footnote
- CA Detector® for DB2 for z/OS
- CA IDMS™
- CA Chorus™
- CA Chorus™ Software Manager™
- CA MIM™ Resource Sharing
- CA NetMaster® File Transfer Management
- CA NetMaster® Network Automation
- CA NetMaster® Network Management for SNA
- CA NetMaster® Network Management for TCP/IP

- CA NetSpy Network Performance
- CA Quick Copy for DB2 for z/OS
- CA SOLVE:Access™ Session Management
- CA Subsystem Analyzer for DB2 for z/OS
- CA SYSVIEW® Performance Management
- CA Tape Encryption
- CA Vantage™ Storage Resource Manager
- CA Vtape™ Virtual Tape System
- CA Workload Automation ESP Edition
- CA XCOM™ Data Transport® for z/OS

[2] CA Datacom makes wide use of the zIIP engine. Many CA Technologies software products issue database requests, serviced by CA Datacom®/AD, and can take advantage of the zIIP, though not specifically used by the products themselves.

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System z Specialty Engine Exploitation

zAAP

Any CA Technologies product that uses Java or XML on z/OS is a candidate for zAAP:

- CA Chorus™
- CA Chorus™ Software Manager
- CA OM Web Services v2.0
- CA OM Web Viewer
- CA Web Administrator for CA ACF2
- CA Web Administrator for CA Top Secret

- CA Spool™ - Transformers Options
  - CA Spool™ Option for AFP to PCL Transformer
  - CA Spool™ Option for AFP to PDF Transformer
  - CA Spool™ Option for AFP to Postscript Transformer
  - CA Spool™ Option for Metacode to PCL Transformer
  - CA Spool™ Option for Metacode to PDF Transformer
  - CA Spool™ Option for Metacode to Postscript Transformer

zIIP and zAAP monitoring and reporting

CA Technologies offers real-time and historical reporting and visibility for zIIP and zAAP, including:

- CA Insight™ Performance Monitor for DB2 for z/OS
- CA Mainframe Application Tuner
- CA MICS® Resource Management
- CA SYSVIEW® Performance Management

[1] Beginning with z/OS V1.11, z/OS added a capability that enables System z Application Assist Processor (zAAP) eligible workloads to run on System z Integrated Information Processors (zIIPs). This function allows you to run zIIP- and zAAP-eligible workloads on the zIIP and is ideal for customers without enough zAAP- or zIIP-eligible workload to justify a specialty engine today; the combined eligible workloads may make the acquisition of a zIIP cost effective, and may simplify planning activities. This capability is also intended to provide more value for customers having only zIIP processors by making Java and XML-based workloads eligible to run on existing zIIPs. Its purpose is not as an overflow capability for zAAP eligible workload to run on the zIIP, rather it enables zAAP eligible work to run on a zIIP engine when no zAAP is defined on the server.

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Dynamic Data Center
Summary

What Is The Dynamic Data Center

- **Infinitely scalable** computing environment

- **Dynamically expands** and contracts at the need of the business

- **Spans across** mainframe, distributed, cloud and mobile technologies

- **Rapidly adapts** to meet enterprise demands and opportunities

System z

What's Driving It?

- **Technology disruption** and **shadow IT** have created:

  - Dynamically **shifting demands** on data center resources

  - **Unexpected spikes** in capacity needs

  - New **security risks**

How Does CA Technologies Help?

- **CA empowers you to manage** the **Dynamic Data Center** with solutions that:

  - Simplify & cost optimize heterogeneous computing

  - Increase visibility across platforms

  - Provide flexible management approaches

  - Enable workload portability and agility

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No better time to be on the MAINFRAME!

Thank You!

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