# CA Roadmap

CA OPS/MVS Event Management and Automation

**October 1st, 2017**
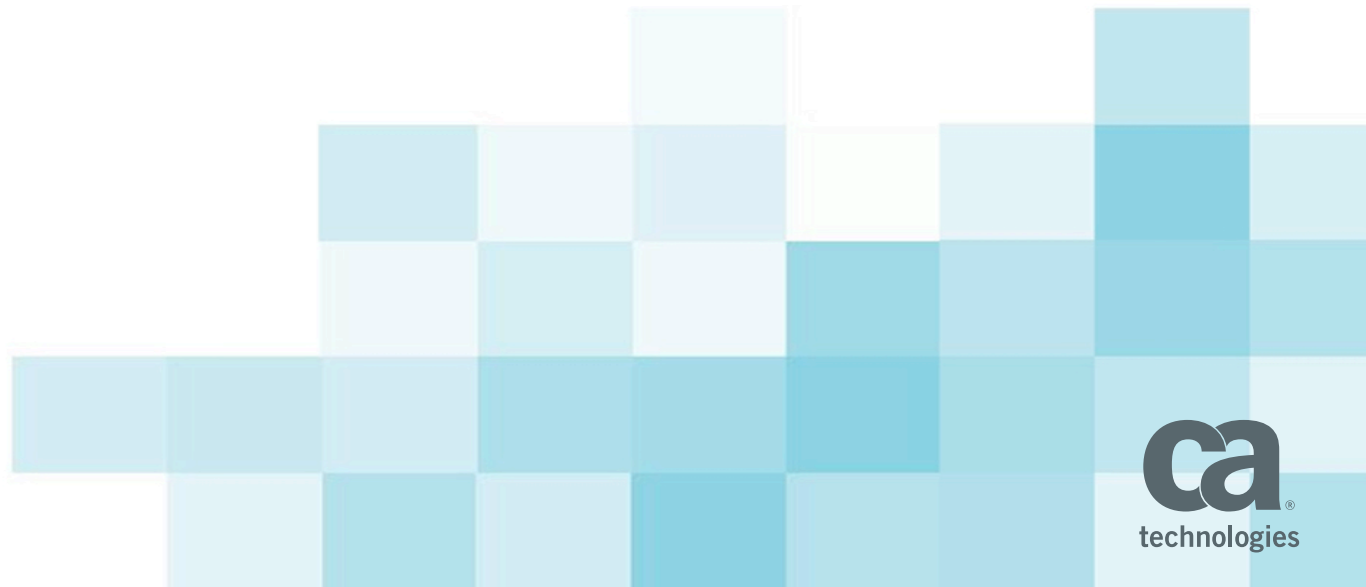
# Contents

ca
technologies

# Disclaimer

Certain information in this presentation may outline CA's general product direction.  This presentation shall not serve to (i) affect the rights and/or obligations of CA or its licensees under any existing or future license agreement or services agreement relating to any CA software product; or (ii) amend any product documentation or specifications for any CA software product. This presentation is based on current information and resource allocations as of October 2017 and **is subject to change or withdrawal by CA at any time without notice**.  **The development, release and timing of any features or functionality described in this presentation remain at CA's sole discretion**.

Notwithstanding anything in this presentation to the contrary, upon the general availability of any future CA product release referenced in this presentation, CA may make such release available to new licensees in the form of a regularly scheduled major product release. Such release may be made available to licensees of the product who are active subscribers to CA maintenance and support, on a when and if-available basis. The information in this presentation is not deemed to be incorporated into any contract.

Copyright © 2015 CA. All rights reserved. All trademarks, trade names, service marks and logos referenced herein belong to their respective companies.

**THIS PRESENTATION IS FOR YOUR INFORMATIONAL PURPOSES ONLY**. CA assumes no responsibility for the accuracy or completeness of the information. TO THE EXTENT PERMITTED BY APPLICABLE LAW, CA PROVIDES THIS DOCUMENT "AS IS" WITHOUT WARRANTY OF ANY KIND, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT.  **In n**o event will CA be liable for any loss or damage, direct or indirect, in connection with this presentation, including, without limitation, lost profits, lost investment, business interruption, goodwill, or lost data, even if CA is expressly advised in advance of the possibility of such damages.

**ca** technologies

# How we roll:

At CA, we eliminate the barriers between ideas and outcomes. These DNA principles drive us in fulfilling that mission at work and in our lives. They represent CA at its best.

## Self-Aware
**We look in the mirror.** We know our strengths, but also see our weaknesses—and constantly work on both.

## Authentic
**We shoot straight.** Our customers trust us with their most critical needs because we are always open and transparent.

## Customer-Centric
**We do it for them.** When our customers win, we win. We put their needs first and pride ourselves on our ability to surprise and delight.

## Creative
**We never stop chasing greatness.** We constantly pursue elegant solutions to our customers' most complex problems and support their desire to achieve breathtaking results.

## Agile
**We are agile.** Because agility is everything today, we move with a sense of urgency and adapt quickly in anticipation of change.
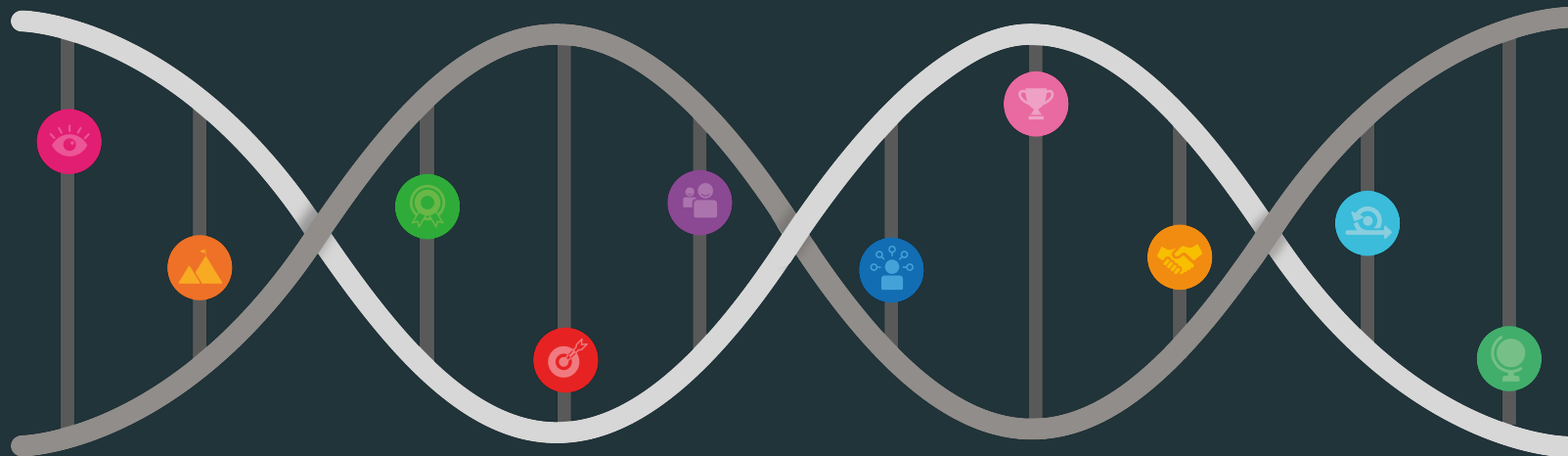
## Resilient
**We go all in** and hold nothing back. In the face of adversity, we show no fear— only the grit to persevere.

## Results-Oriented
**We love the game.** Digital transformation is crucial to the success of our customers, and we do what matters to ensure they win.

## Collaborative
**We never go it alone.** We are one CA, one team that succeeds together by making the most of our collaborative expertise.
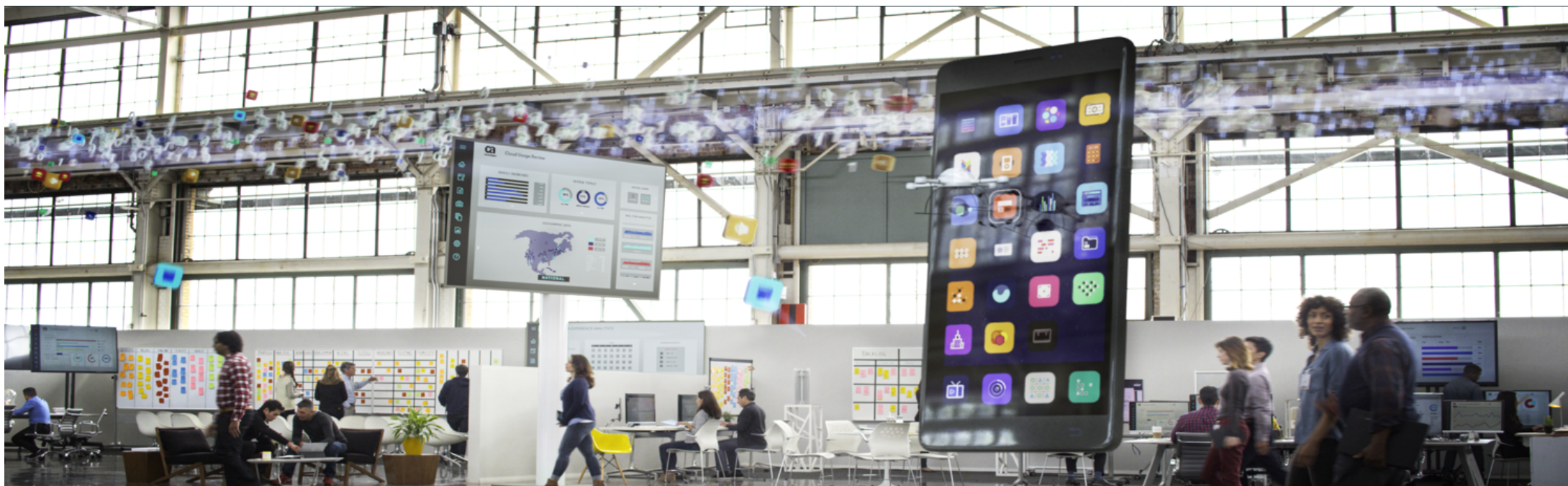
## Socially Aware
**We respect each other** and our communities. We support the people and causes that make a difference.

## Uncompromising Integrity
**We do the right thing. Always.** That means honoring our commitments and principles in everything we do.

# Modern Software Factory with Connected Mainframe

**1.3B** CICS transactions processed every second[1]

**78%** clients growing MIPS[2]

**99.999%** availability for billions transactions daily[3]

→

**Connected Mainframe: $198.5M** additional revenue yearly[4]



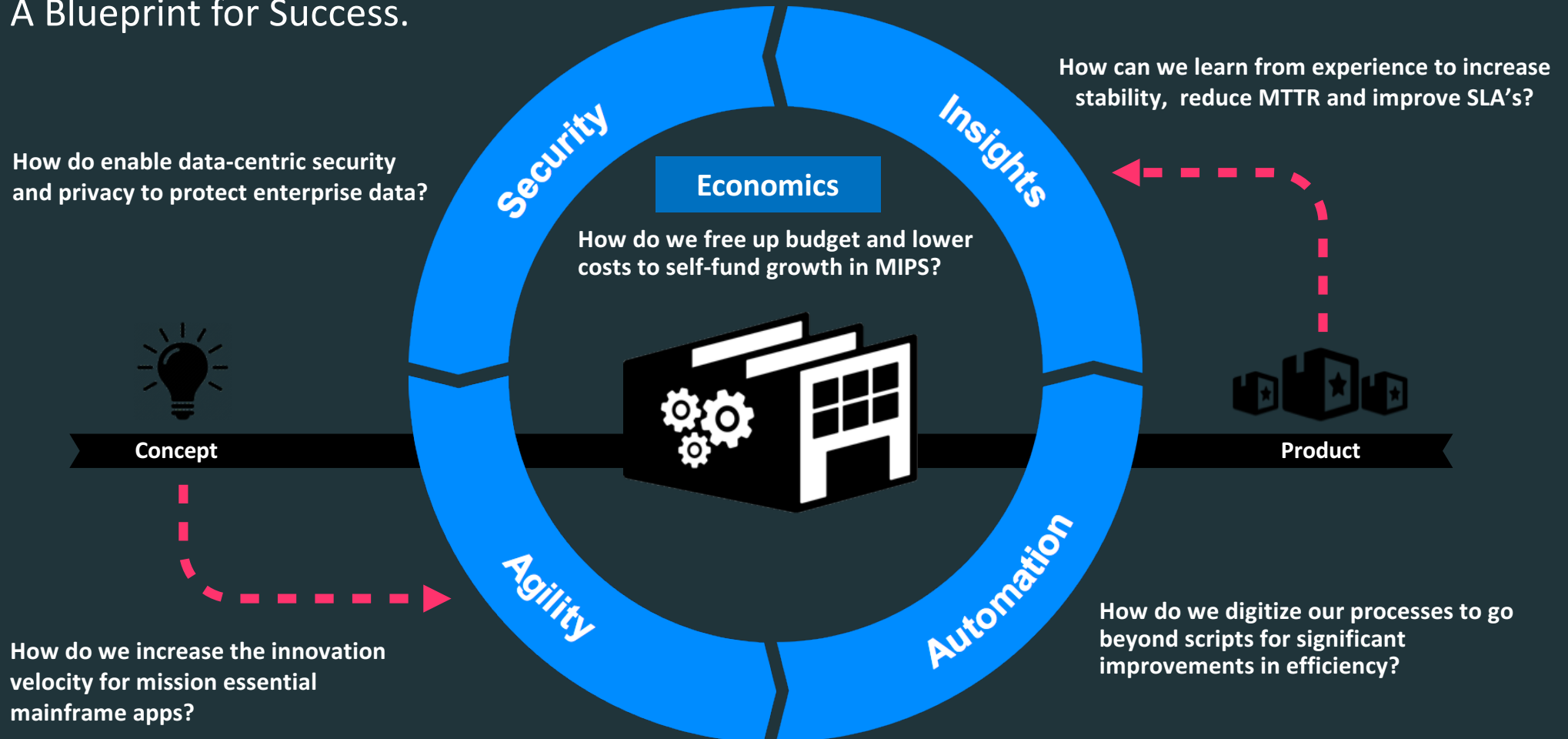The Business Value of the Connected Mainframe for Digital Transformation

IDC

1 – IBM Estimates on Real Client Usage, 2 – Arcati 2017 Mainframe Yearbook, 3 – Business Finance Magazine, "Mainframe 101 for C Level Executives"

ca technologies

# Outcomes: Modern Software Factory with Mainframe
A Blueprint for Success.

**Security**

**Insights**

**Economics**

How can we learn from experience to increase stability, reduce MTTR and improve SLA's?

How do enable data-centric security and privacy to protect enterprise data?

How do we free up budget and lower costs to self-fund growth in MIPS?

**Concept**

**Product**

**Agility**

**Automation**

How do we increase the innovation velocity for mission essential mainframe apps?

How do we digitize our processes to go beyond scripts for significant improvements in efficiency?

**ca** technologies

# Customers Demand More

⬆ Expectations of Application Performance

⬆ LOB Demands & Speed

ca technologies

# Bringing Machine Learning to Mainframe

**MAINFRAME OPERATION**

### Automation

**Generalist**

**Specialists**

**Experts**

**Optimized Performance & Efficiency**

**INTELLIGENT AUTOMATION**

- Root cause analysis
- Resolution guidance
- Automate response

**PATTERN DISCOVERY**

- Topology discovery
- Predict business service disruption

**ANOMALY DETECTION**

- Predict anomalies
- Proactive response

**MODERNIZATION**

- React to events
- Self service views
- Modern U/X

**Data and Event Processing** → **Machine Learning Algorithms** → **Automation**

ca technologies

# Intelligent Automation & Management Solutions

Bringing Machine Learning to Mainframe

Take action earlier with **embedded analytics** which detects abnormal patterns of operation

Operational intelligence captures patterns, triggering **dynamic** and reliable problem **remediation**

**Predict** Earlier

**Remediate** Faster

**PREVENT PROBLEMS**

**Improve** Continuously

**Collaborate** Efficiently

**Machine learning** with operational feedback recommends the next best action for future event

Get everyone working together to **isolate root causes faster** with data insights from multiple sources

ca technologies

# Mainframe Operational Intelligence

When Something Goes Wrong, You Have Only One Place to Look



Avoid Problems.

Realize Deeper Insights.

Optimize Operations.

Storage

Network

Systems

Improve Customer Experiences.

Across Silos.

Applications

Automation

Automatically.

Correlate data.

Data

ca technologies

**CA Innovates**
Intelligent Experience: Early proof of concepts and prototypes to ensure CA products continue to exceed client needs & expectations in the future

# Intelligent Experience: Reinventing How SMEs Work with CA Mainframe Products
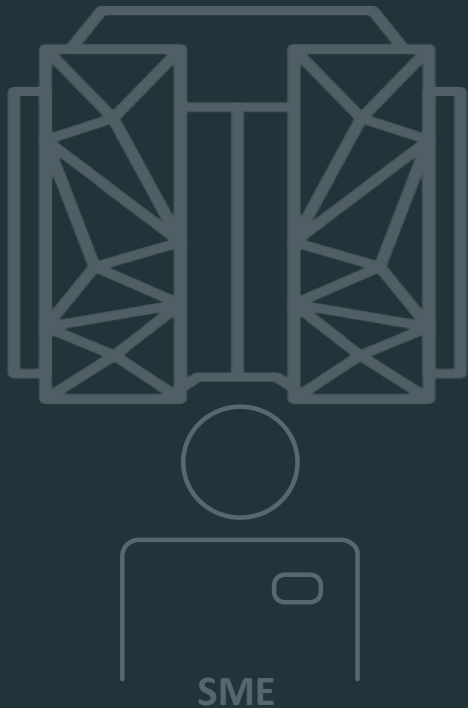
## What is Intelligent Experience?

**Combining a unified experience across our mainframe products with enhanced intelligence capabilities, CA seeks to transform the ability of our customers to get the job done while providing tangible immediate business value:**

**SME**

| | | |
|---|---|---|
| Simple and Easy to Use | Powerful, Efficient, & Collaborative Design | Integrated, Extensible & Componentized |
| Consistent & Elegant Interfaces | Timely Access to Information | Proactive with Analytics Capabilities |

ca technologies

# Meeting and Exceeding the Needs of Today

Modern, Efficient, Powerful: A Unified Experience for CA Mainframe Products.

**Maximize the efficiency, time, value** of your **SMEs** by pulling in the information they need from CA products within a single unified experience when they need as they need it.
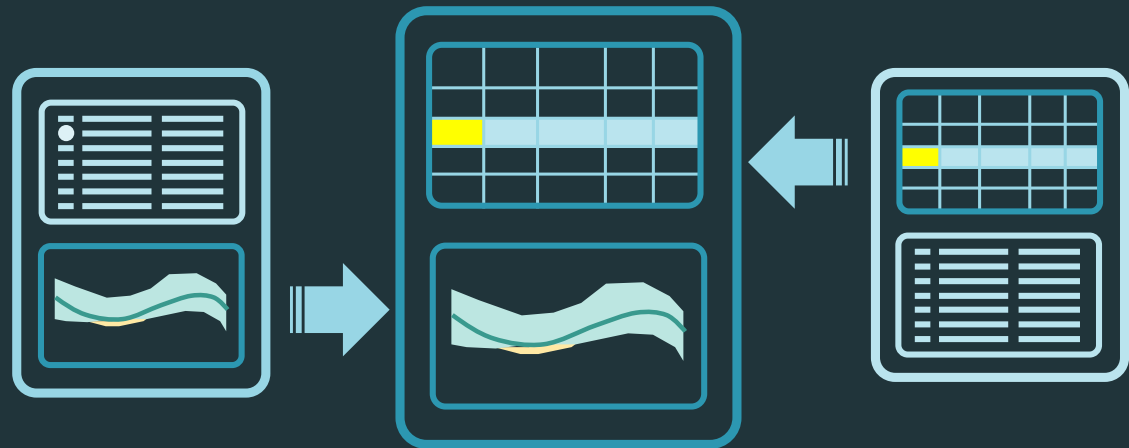
- No more logging into multiple products, learning multiple interfaces.

- No more multiple screens to track down a single issue.

- No more massive multi-department meetings to determine root cause analysis.

ca technologies

# Preparing for the Software Factory of Tomorrow

Bringing advanced Analytics and Machine Learning Capabilities to the Fore Front

Intelligent Experience will prepare you for the future by **enabling the SMEs to effectively utilize the machine learning and automated systems**, facilitating a smooth and efficient collaboration, allowing SMEs to leverage powerful automation tools
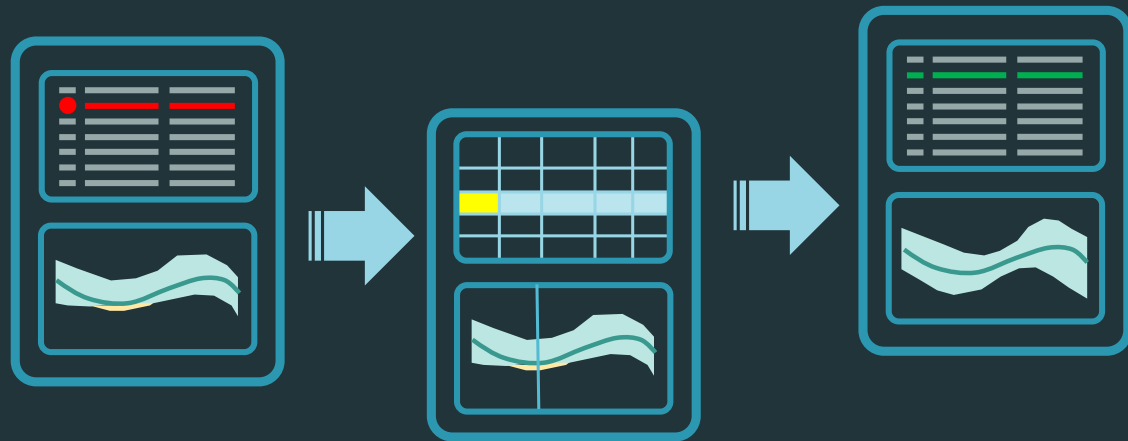
- Aid in identifying issues as they arise by adding analytics capabilities in the interface

- Allow your SMEs to focus on critical issues rather than mundane repetitive every day tasks

- Expedite root cause diagnosis using sophisticated yet simple interfaces

ca
technologies

# IT Operations Portfolio Vision

## Continuous Operations

| Security, Risk Management & Compliance | Next Generation Apps & Workforce | Smarter, Proactive Performance Management | Automate Everything |
|---|---|---|---|
| Data Masking, Audit & Protection | Modernization, APIs | Analytics, Smart Autonomics | Learned Remediation |

### Address emerging demands on mainframe staff

| CA DB2 Tools | CA OPS/MVS | CA SYSVIEW | CA NetMaster | CA Vantage | CA Workload |
|---|---|---|---|---|---|

### Continue to strengthen the core
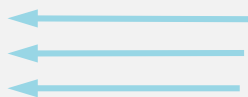
*Minimize errors and outage risks with ever changing workloads and system demands*
*Improve Performance & Conserve CPU Resources*
*Increase data availability & minimize recovery times*

### Smart Interoperability

**IBM, Modern Apps, Application Development Tools**

ca
technologies

# Technology and Product Architecture Goals

IT Operations

**Technology Goals**

- Day 1 toleration support new releases of z software and hardware
- Evaluate and leverage new technologies
- Leverage UI framework for extensibility, flexibility and common experience
- Use of high level language (Metal/C, Java, etc.)
- Continue to exploit z System hardware (zIIPs, Encryption, Compression)
- Exploit cross VS infrastructure: MFaaS, Machine Learning, OPEN API

**Product Architecture Goals**

- Automated product provisioning with best practice defaults
- Enable easy access of product data and control via REST APIs
- Adopt microservice-based architecture for scalability, availability, elasticity
- Supportability and quality of solutions meet z Enterprise expectations
- Conform to all architectural building codes

ca technologies

# Product Overview

## CA OPS/MVS Event Management and Automation

| Business Problems Addressed | Key Capabilities | Personas |
|---|---|---|
| ▪ Low productivity<br>▪ Business down time<br>▪ Scalability<br>▪ Staffing<br>▪ Mainframe TCO | ▪ Monitor applications<br>▪ Improved Availability<br>▪ Increased Operational Efficiency<br>▪ Simplified System Management<br>▪ Multi-System Communication | ▪ IT Management – Ops<br>▪ Application Owners<br>▪ Automation Administrator<br>▪ System Administrator |

ca technologies

# Team Persona

## CA OPS/MVS Event Management and Automation

| SHEILA | SHERMAN | ANDY | ANDERS | MARLAINA |
|--------|---------|------|--------|----------|
| Support Analyst | Systems Engineer | Automation Director | Automation Engineer | Automation Engineer |

**MY PAIN**

Monitoring many systems & Devices

**HELP ME**

Simplify alerts, meaning and action

**MY PAIN**

Firefighting and identifying likely sources of future fires

**HELP ME**

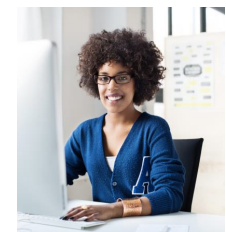Instantly know what changes may trigger problems

**MY PAIN**

Firefighting and identifying automated solutions to previous problems

**HELP ME**

Quickly develop and deploy automation. Provide analysis to identify and correct problems.

# CA OPS/MVS Event Management and Automation with Release 13.0

**Provide an automation toolkit that enables customers to easily configure and maintain systems in the continuously evolving Mainframe environment while allowing it to extend into distributed and mobile environments.**

## PRODUCT / SOLUTION OVERVIEW

- OPS/MVS provides the tools need to proactively monitor and automate a mainframe environment
- Provides solutions to automate mainframe startup, shutdown, and recovery
- Automate system events to provide reliable and consistent operations

## GTM HIGHLIGHTS

- Modern GUI to centralize Rule Management across mainframe environment
- Expanded SYSPLEX exploitation for automation administration
- Direct link to Mainframe Operational Intelligence alarms generated via Machine Learning Algorithms

## KEY CAPABILITIES

- Framework allowing for quick implementation of company policy system management
- Ability to integration with most applications both on and off platform
- System Resource Management
- Synchronous automation of system events

## DIFFERENTIATORS

- Multi-threaded architecture allowing for higher throughput and faster response times
- Single programing language decreasing on-boarding time
- Open Architecture allowing for flexibility in automation policy

## HORIZON

- Competing
  - System Resource Management
  - Enterprise wide Integration
  - Landing Lightly

**ca** technologies

# Roadmap: *CA OPS/MVS Event Management*
Timeline as of *October 1, 2017*

| Delivered | Planned | Under Consideration |
|---|---|---|

**Product/ Releases**

| CA OPS/MVS 13.0 | CA OPS/MVS | CA OPS/MVS |
|---|---|---|

**Marquee Features/ Business Value**

**CA OPS/MVS 13.0**

**Easy and modern automation rule management** with Mainframe Team Center – Automation

**Automate resolution to alarms** raised by dynamic thresholding

**Expanded SYSPLEX Administration** of Rules, GLVs, and RDF Tables

**TLS 1.2 support** for Automation Point to OPS/MVS MSF Link

**Expanded functionality** with Automation Point Option

**CA OPS/MVS** (Planned)

**Mainframe Team Center – Automation**

OPSLOG viewable and linked to Rules Management

Automatically determine Enterprise wide Rule Synchronization

Simplified SSM Operations and Dependency Analysis

**Increased Resource Management flexibility** via SYSPLEX RDF Tables

**Simplified and Improved** USS Resource Management

**CA OPS/MVS** (Under Consideration)

**Expanded integration** via additional Web Services

**Expanded Integration** with Workload, Performance, and AP

**Reduced incident research time** via Real-time Consolidated OPSLOG

**Reduced system downtime** with Push Button Automated IPL

**Modern approach to console consolidation and management** via Automation Point

Currently GA

| Business Agility | Skills Management |
|---|---|
| Mainframe Economics | Security & Compliance |

ca technologies

# Modernize Toolset – Policy Based Resource Management

*Maintain system resources while reducing change duration and errors*

## Delivered Feature

```
SSM Resource List -- CA11 ----- O P S V I E W ------------ Row 1 to 17 of 329
Command ===> _____    Scroll ===> CSR
System: *                                        Step Through: N (Y/N)

Commands:   ADD LOCATE SORT    COMPARE|IMPORT|LOAD|VERIFY ALL      ?
Line        B Browse   C Copy   CP Compare   CT Create user type
Commands:   D Delete   E Edit    I Import    L Load   V Verify   ? Help

         Resource Name        Type            Table Name         Status
Filter
   __  AD14MUF              DATACOM-AD       STCTBL
   __  AD14SRVR             DATACOM-SR       STCTBL
   __  ALLOCATE             ALLOCATE         STCTBL
   __  AL2QSRVR             CA7SRVR          STCTBL
   __  AL2QWEBD             CA7WEBCL         STCTBL
   __  APCDB14              DATACOM-AD       STCTBL
   __  APCMUF14             DATACOM-AD       STCTBL
   __  APPC                 APPC             STCTBL
   __  ASCH                 APPC             STCTBL
   __  AS53TPXG             TPX              STCTBL
   __  AS54TPX              TPX              STCTBL
   __  AS54ZTPX             TPX              STCTBL
   __  CA-VTAPE             CA-VTAPE         STCTBL
   __  CADRAS               DRAS             STCTBL
   __  CAENF                CAENF            STCTBL
   __  CALDAP               CALDAP           STCTBL
   __  CA7ICMT2             CA7ICOM          STCTBL
```

### PAIN

- To manage a system resource one needs to know several advanced features of OPS/MVS
- Finding out how a resources is managed can be almost as time consuming as setting it up

### SOLUTION

- Consolidation of System State Manager resource administration into a single location
- Best Practice Resource Definitions
- Guided or Report Style Add/Updating of Resources
- Senior staff can still use existing administration methods

### BENEFIT

- Reduced Training Time, Reduced Maintenance Time
- Able to support resource management without being an expert in every aspect of automation.
- By centralizing resource management and supplying policy based resource definitions L1/L2 staff will be able to maintain system resources with less training while reducing change duration and errors.

ca technologies

# Modernize Toolset – Centralized Rules Management
*Web based management of automation code spanning  Mainframe complex*

**Skills Management**

## Delivered Feature
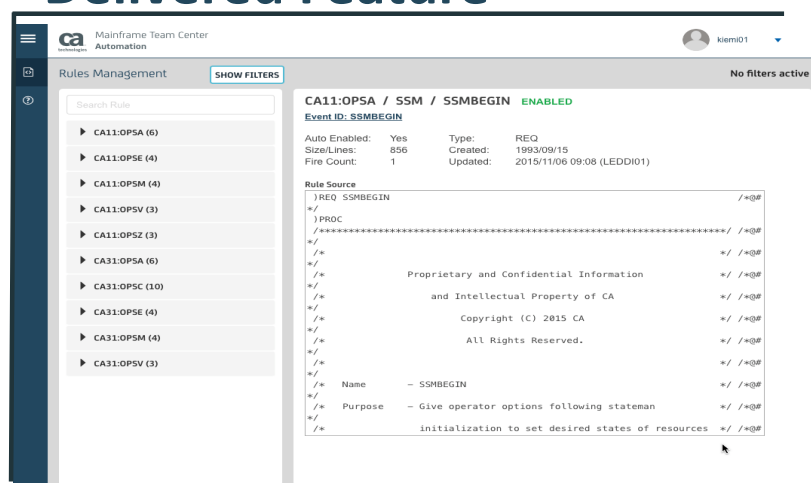


### PAIN

- Manually intensive process to maintain automation code across multiple systems
- Quickly identifying and locating automation code across the enterprise

### SOLUTION

- USS based Apache Web Server Interface
- Display automation code with a multiple system view
- Advanced filtering capabilities

### BENEFIT

- Reduce amount of time needed to preform automation code maintenance
- Intuitive interface allows novice or non-automation administrators to research and identify automation policy

# Delivered

| Feature | Description | Benefit |
|---|---|---|
| JSON Web Services | Add the ability to have RESTful Web Services packets passed in JSON in addition to XML. | Adds customer flexibility when developing web applications using Web Services. |
| Multi-Threading of Rules | Currently time based rules execute in a queued fashion, this update will allow customers to define how many rules can run simultaneously | Delays in automated processing will be reduced during peak processing hours |
| Generate Outbound Web Services Requests | REXX Program OPRXREST can be used to send RESTful Web Services requests from CA OPS/MVS to other products | RESTful Web Services is an industry standard way to communicate between products and platforms. This updates allows the customers Mainframe Automation product to have a bi-directional communication path within this standard |
| Automation Point Option | CA Automation Point will now be listed as a sub-license | Access to off-board automation companion product allowing for a more complete mainframe automation solution |
| TLS Support for CCI MSF Links | MSF Links between CA OPS/MVS and CA Automation Point have been updated to support TLS 1.2 Encryption | Allows for connections off the mainframe to be Encrypted protecting any sensitive customer data being transmitted |
| Expanded SYSPLEX Administration | Allow Global Variables, Rules, and Tables to be updated from a single location across MSF connected CA OPS/MVS instances | Reduce time needed to distribute changes across a customers CA OPS/MVS environment by eliminating the need to log into individual systems that are connected via MSF. |
| CA Mainframe Operational Intelligence API Events | When CA Mainframe Operational Intelligence Alarm Manager predicts an issue a CA OPS/MVS API event will be generated allowing for automation scripts to correct before becoming a customer impacting incident | CA MOI Alarm Manager has been shown to predict issues up to 4 hours before traditional static threshold based monitoring products, thus allowing the automated responses to be triggered earlier |
| Updated Documentation and Videos | A new CA OPS/MVS guide and YouTube Video Series has been created details Best Practices and Tuning Recommendations | Allow for easy access to CA recommendations for CA OPS/MVS optimal performance. The video series was created in short manageable segments allowing to quick consumption. |

ca technologies

# Planned MTC-A OPSLOG Integration
## *Expand Mainframe Team Center – Automation for OPSLOG functionality*

**Significant**

## Planned MTC-A OPSLOG



### PAIN

- As New Employees are added to Mainframe staff, most are unfamiliar with 3270 interfacing requiring extended training periods
- Existing OPSLOG interface is independent of other automation functionality requiring administrators to constantly switch screens.

### PLANNED SOLUTION

- Incorporate OPSLOG functionality into Mainframe Team Center – Automation modern interface
- Streamlined and Intuitive Interface
- Direct inline linkage to other Mainframe Team Center components

### PLANNED BENEFITS

- Reduction in training time for new automation administrators based on a more intuitive user interface
- The deep linkage between log data and automation data will reduce required time for automation administers when researching both customer requests and incidents

**ca** technologies®

# Planned MTC-A System State Manager Integration
## *Expand Mainframe Team Center – Automation allowing for SSM Operations*

**Significant**

## Planned MTC-A SSM



FILTERS | Resources: 8 | Control Gps: 0 | View: Exception | Current: != Abcd1234 | Desired: =4321wxyz

**SSM Resource Status**   ????: <????? name> **System:** <system name>

ACTIONS | FILTERS | LOCATE | LOCATE

VIEW | OPTIONS

| Command | Status | Resource | Current | Desired | STATE | MESSAGE |
|---|---|---|---|---|---|---|
| ...... | | ABCDEFGH | DOWN | UP | | |
| | | ABCDEFGJ | DOWN | UP | | |
| | | ABCDEFGK | DOWN | UP | | |
| | | ABCDEFGL | DOWN | UP | | |

Enter

### PAIN

- As New Employees are added to Mainframe staff, most are unfamiliar with 3270 interfacing requiring extended training periods
- Existing SSM interface is independent of other automation functionality requiring Operators to constantly switch screens.

### PLANNED SOLUTION

- SSM Interface focused on the needs of the Operations personnel
- Streamlined and Intuitive Interface
- Direct inline linkage to other Mainframe Team Center components

### PLANNED BENEFITS

- Reduction in training time for new operators based on a more intuitive user interface
- SSM Resources views can be dynamically modified to display based on what function the operator is currently performing
- SSM Resources will have a direct link to automation scripts and OPSLOG messages

ca technologies

# Planned SYSPLEX RDF Tables

*Allow RDF tables to span a SYSPLEX instead of system specific*

## Planned SYSPLEX RDF Tables

```
RDF Table Editor ------------------------------ RDF Table List
Command ===>
      OPTIONS: Browse Copy Delete Edit Free Insert Rename S(edit)
  MULTI SYS: MCopy MDelete MTransfer
Sel Table                        New Table
___  SSM_MANAGED_TBLS            _____
___  SSM_POLICY_TBL              _____
___  SSM_TYPE_TBL                _____
___  SSM_TYPE_TBLB               _____
___  SSM_UCPOL_TBLS              _____
___  SSM_UCPOL_TBL1              _____
___  SSM_UTYPE_TBL               _____
___  SSM_UTYPE_TBLB              _____
     SSMSO SBLEYLT TBL
```

### PAIN

- Customers need to manage their SSM Resources on an individual system bases instead of being able to make use of SYSPLEX functionality
- Significant manual effort to replicate table data between multiple systems, even when data is identical

### PLANNED SOLUTION

- Allow RDF tables to optional be defined to a SYSPLEX Scope
- Identical management options between system bound and SYSPLEX bound RDF Tables

### PLANNED BENEFITS

- Reduce the amount of time customers need to manage identical tables across their SYSPLEX
- Reduce setup and maintenance time required for System State Manager Resources that need to be defined as Movable
- Reduce System State Manager administration time for resources that are defined identically on multiple systems within a SYSPLEX

CA technologies

# Planned

| Feature | Description | Benefit |
|---|---|---|
| SSM Dependency Tress | Graphically display System State Manager Prereq and Subreq dependency for entire system or for individual resources within Mainframe Team Center - Automation | Allows to quickly reference how Resources are tied together within SSM and how changes and/or outages will affect their environment. |
| MTC-A Synchronization | Rules displayed in Mainframe Team Center – Automation are updated on a timer bases, this update will allow customers to select for automatic synchronization whenever a rule is changed | Customers will have greater control over when updates are pushed to MTC-A. |
| USS Resource Management | Improved management of USS Resource and SYSLOGD messages | Allow for better management and automation of resources executing the the USS Environment |
| SSM Auditing | Expanded audit tracking of SSM managed RDF Tables beyond existing OPSLOG messages | Allow customers to easily track when changes are made and who performed them |
| Function Updates | Allow OPSINFO to use MSF for functions that make sense and to expand TOD rule fire time specifications | Expand the usability of CA OPS/MVS based upon customer feedback and suggestions |
| MTC-A Various Updates | Include REXX Programs, Script call tree, Text Searching within Code, Searching based on TOD Fire times, Automatic Script Comparing | Expand MTC-A usability and allow for easy identification of automation scripts for maintenance. |

ca
technologies

# Influencing Our Roadmap

## CA Communities Ideation

- Submit your ideas on communities.ca.com
- Vote & comment on ideas that are important to you
- CA Product Management reviews ideas and updates status as they move through the lifecycle
- "Currently Planned" idea status indicates inclusion in Agile Backlog or Product Roadmap

## Customer Validation

- Register to participate in:
  - Live Demos/End-of-Sprint Reviews
  - Private - Members Only - Online Community
  - Pre-Release Onsite Testing and Support (Beta)
  - Upgrade Support from SWAT Team
- How to register: http://validate.ca.com

ca
technologies

ca
technologies

**Michael Kiehl**

Principal Product Manager
Michael.kiehl@ca.com