SOLUTION BRIEF
CA Mainframe Chorus

can I better optimize our IT staff skills and preserve their experience to better manage mainframes over the next several decades?

agility
made possible™

ca technologies

Simplify and streamline your mainframe management tasks, increase staff productivity, and facilitate collaboration and knowledge sharing so you can more effectively reduce the cost and complexity of managing mission critical mainframe workloads well into the 21st Century.

executive summary

Challenge

Mainframe managers are struggling to predict how they will manage their mission-critical mainframe workloads for the next 20-30 years. They are tasked to charter a strategic course to solve complex barriers: reduce the complexity of managing mission critical mainframe workloads, reduce the risk of declining Quality of Service due to the retiring workforce, and increase the leverage of their entire IT staff to manage the mainframe.

Opportunity

CA Mainframe Chorus delivers a ground-breaking role-based workspace, architected to simplify and streamline management tasks, to help increase staff productivity and to provide a shorter on-ramp for the next generation mainframe workforce. It provides an intuitive design and embedded intelligence to appeal to the next generation mainframe staff while also offering significant productivity improvements for today's mainframe experts. This new workspace helps integrate tools, facilitates collaboration and knowledge sharing to accelerate mainframe workforce productivity, today and tomorrow.

Benefits

Building on the success of CA Technologies mainframe strategy, CA Mainframe Chorus continues the focus of helping customers reduce costs, simplify management and improve operational efficiency. The CA Mainframe Chorus workspace and collaborative capabilities are designed to greatly improve the efficiency of experienced and novice staff, helping customers to leverage their entire IT staff so they can more effectively assume mainframe responsibilities and reduce the cost and complexity of managing mission critical workloads.

Section 1 Challenge

Re-envisioning the mainframer experience

Mainframe computing is an orchestration of hardware, software, processes—*and people.* Mainframe technology innovations have methodically and predictably focused on improving… *mainframes.* This is clearly evidenced by the fact that the mainframe is known for being the most cost-effective, innovative, resilient, secure, "green", virtualized and reliable platform available today.

However, noticeably absent are innovations that focus on improving the *mainframer* experience. Mainframers are under relentless pressure to speed and automate their tasks, ensure they're visualizing the "big picture" of their infrastructure, and manage change at a moment's notice, maintaining business continuity and Service Level Agreements (SLAs). Many companies are concerned about how to address these challenges:

- **Reduce complexity of managing mission-critical mainframe workloads.** With budget cutting, and the mandate to "do more with less" (or "do more with *nothing new*"), mainframers are tasked with undertaking multiple management responsibilities with no additional headcount. Fewer people are performing more roles, some of which are unrelated. Often, one individual will perform several distinct roles, including acting as a backup.
- **Reduce risk of declining Quality of Service (QoS) due to retiring workforce.** For many businesses, the average age of the staff that maintains the mainframe is fifty-five. Recruitment of new technologists to backfill mainframe positions has been severely lacking for years. The mainframe continues to perpetuate and grow with more workloads consistently added, yet there are fewer people managing the platform.
- **Increase the leverage of existing IT staff to manage the mainframe.** IT managers are struggling with knowledge capture and transfer in an effort to mentor non-mainframers and leverage existing IT staff from cross-platform teams to ensure consistent quality of service to their business lines. Internal training programs are often informal, ad hoc, and can be very time-consuming.

Radical changes can modernize and streamline resources

To cope with these trends effectively will require a re-envisioning of the traditional mainframe experience. New innovations must be developed that will accelerate the way mainframes are managed in significant ways to meet the business challenges of the high-tech future. They must also focus on the mainframer experience, greatly improve the efficiency of experienced and novice staff and accelerate team competence, productivity and efficiency. Datacenters can then leverage their entire IT staff so they can more effectively assume mainframe responsibilities and reduce the cost and complexity of managing mission critical mainframe workloads today, and in the future.

> "Changing the mainframe experience by incorporating workflow-centric computing, knowledge base work capture, and mouse click interfaces is key to the perpetuation of mainframe computing in the New Millennium."
>
> **Jon Toigo**
> CEO and managing principal of Toigo Partners International LLC.S.

Section 2: Opportunity

Increase efficiency today, build skills for tomorrow

CA Mainframe Chorus is revolutionary next generation mainframe innovation designed to accelerate and liberate the hidden potential of your mainframe opportunities, becoming a strategic asset for business by providing decision making, management and planning services.

CA Mainframe Chorus is the first and only next generation mainframe management solution that delivers a completely new role-based interaction model. It integrates features across multiple products and disciplines, provides rich visualization, facilitates collaboration and knowledge sharing among expert and novice mainframe staff, with an intuitive ease of use not found in other IT platforms.

CA Mainframe Chorus changes everything

CA Mainframe Chorus is based on immersive research with customers to understand how they get their work done. It is designed to go far beyond the benefits of graphical user interfaces, by integrating back-end products and introducing a set of features and capabilities to help harmonize the different tools and processes required for the mainframe team to accomplish their daily tasks, creating a more efficient and finely tuned environment designed to offer significant productivity gains.

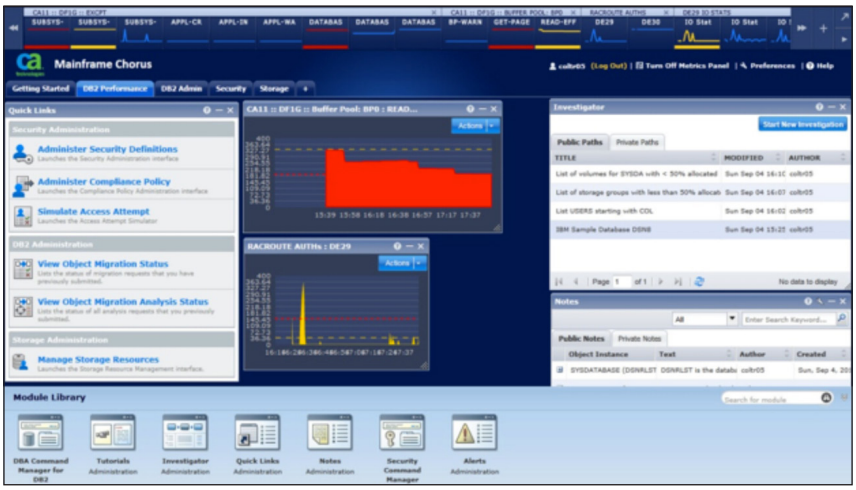
CA Mainframe Chorus offers the following major innovations and usability enhancements using the enhanced CA Mainframe Chorus workspace (Figure A).

- **Multi-role-based capabilities for** DB2 Database Management, Security and Compliance Management and Storage Management.
- **Rich visual presentation** of management data that makes arcane knowledge more readily available to a new generation of workers.
- **Third-party integration** of domain documentation and expertise for in-context guidance
- **Smart Objects intelligent interface** that displays information in the context of an operator's role and current activities.
- **Process capture "wizards"** that make it easier for experienced mainframe staff to create customized guided workflows for their successors.
- **Collaboration tools** that facilitate team problem-solving and knowledge transfer.

Figure A.

CA Mainframe Chorus: visionary role-based workspace and collaboration

The enhanced workspace is designed to transform the way customers manage mainframes by delivering an innovative, easy to use and visually appealing mainframe experience for DB2 DBAs, Security and Compliance Administrators and Storage Managers. Novice and experienced IT staff can collaborate to more effectively and productively manage the mainframe in an innovative and integrated workspace



CA Mainframe Chorus provides a platform designed to help mainframers gain greater control of their environment today and well into the New Millennium to support the increasingly diverse workload of the 21st Century mainframe.

- **Role-based management.** CA Mainframe Chorus is superior next generation mainframe technology designed to expertly manage the realities of today's data center life, improve the skills and delivery of both experienced and novice mainframe technologists, and serve as the foundation of how mainframes will be managed in the future. CA Mainframe Chorus:
  - Features an intelligent, intuitive role-based interaction that enables users to focus on tasks and functions appropriate to the specific job they are performing, and is very flexible and scalable to let mainframers belong to more than one role.
  - Integrates features across multiple products and disciplines into a customizable workspace.
  - Simplifies mainframe management by streamlining and automating repetitive tasks and frees time for more strategic projects.
  - Improves the mainframer experience by unifying data, performance and system health, as well as provide simple navigation into tasks, objects, session history and more.

- **Collaboration and teamwork**. CA Mainframe Chorus makes available the collective knowledge of the entire team by sharing experiences, information, knowledge, processes, links, notes, charts, workflows, and more. By providing a collaborative environment, staff can achieve results that are greater than what can be achieved working independently. CA Mainframe Chorus helps:
  - Make it possible to learn the most efficient ways to solve problems and tune the enterprise.
  - Create a stronger, stable team environment; staff spend less time working in "isolation", and insulates from the effects of the absence of a team member.
  - Save time and maximize staff knowledge because it reflects their unique experiences.
  - Provide greater depth and wider scope of information, knowledge and experiences, creating a more effective and efficient mainframe management environment.
  - More quickly transfer knowledge effectively - even if staff have never met or live in different geographies.
- **Knowledge capture and sharing**. CA Mainframe Chorus is designed to accelerate team competence, productivity and efficiency by providing instant access to decades of experience and workflow knowledge. It helps you capture intelligence information in the context of each operator's specific role, responsibilities, and current activities with everything available at your fingertips in one location. CA Mainframe Chorus is designed to help you:
  - Deliver greater depth and breadth of information in less time to more people.
  - Use knowledge appropriate for the task, and take full advantage of existing knowledge and experience.
  - Augment collaboration efforts to help spur learning and innovation.
  - Establish a critical source of competitive advantage (intellectual property).
  - Avoid duplicating efforts already expended by others.
  - Respond faster to customer service commitments.
- **Visually appealing workspace**. CA Mainframe Chorus delivers graphically rich visualization designed to improve productivity for experienced mainframe staff and appeal to the next generation of systems managers who have grown up using modern graphical interfaces. It features a quantum-leap change in mainframer workspace ergonomics—well beyond "dashboard" visual reporting—moving the mainframe management experience from the most complex to the most advanced:
  - It helps novice and experienced mainframers manage the mainframe in an innovative, visually rich and personalized workspace with a powerful, flexible new set of user-friendly functions.
  - Highly flexible and adaptable, even inexperienced staff can more intuitively understand conditions and trends requiring immediate attention.
  - Designed to dramatically shorten the learning curve and overall appeal of the platform for next generation of mainframe managers.
  - Can provide guidance on which actions users want to perform in various situations, and enabling those actions simply and instantaneously.

- **Productivity-focused design**. CA Mainframe Chorus opens up the mainframe to a new generation of mainframers with new capabilities designed to instill confidence and promote teamwork to efficiently manage complex mainframe enterprises. It is designed to:
  - Greatly reduce the time it takes to perform management functions.
  - Automate manual tasks.
  - Help mainframers become significantly more efficient and productive.
  - Improve the accuracy and delivery of services across the mainframe enterprise.
  - Reduce risks, and complexity of maintaining highly complex mainframe environments.
  - Centralize your mainframe knowledge and experience pool.

> "We are excited about the prospects of Chorus, and are glad CA Technologies is taking a leadership position in helping us solve critical issues," said Adnan Can principal specialist for the mainframe platform group for Garanti Technology, owned by Garanti bank, Turkey's second largest bank. "Because we use CA's tools for DB2, we see tremendous potential to leverage those tools with CA Mainframe Chorus in dramatically simplifying management and driving significant productivity gains."

CA Mainframe Chorus for DB2 Database Management

CA Mainframe Chorus for DB2 Database Management delivers a unique user experience for DB2 for z/OS DBAs. It helps streamline and automate repetitive DBA tasks so you have more time for more strategic projects. You can easily visualize complex DB2 for z/OS relationships, proactively monitor thresholds and alerts and quickly identify, diagnose and resolve performance bottlenecks to improve performance. Plus, it provides instant access to decades of DBA experience to help accelerate knowledge and simplify mentoring to the next generation of DBA's.

What's new in CA Mainframe Chorus for DB2 Database Management Release 2.5

- **Import Option for the DBA Command Manager for DB2.** Lets you import SQL statements or DB2 commands from a .txt file or a .sql file to the DBA Command Manager for DB2. Doing so can simplify how you enter commands.

Enhancements to Existing Features

- **Limited DB2 Catalog Data in the Investigator until You Filter.** Removes the need to display an entire DB2 catalog by default. You now are presented a filter so you can display only the data that you need.

Other Key Features

- **Time series data graphing for DB2 application performance data:** Automate tracking and graphing of comparative historical data analysis for easier diagnosis and resolution of performance issues (Figure B).
- **Object Tree navigation and management of DB2 objects:** Improve productivity and visualization when navigating LPAR, subsystems, databases and other DB2 objects (Figure 3).
- **Alerts on DB2 threshold exceptions that provide a launch point for easier troubleshooting:** Focus DBAs on priority SLA items and enable new DBAs to learn these skills.
- **In-context domain documentation with third party integration:** Increase productivity of both current and next generation mainframe IT staff through centralized, in-context knowledge.
- **Near real-time performance monitoring with graphical displays:** Manage the health of the DB2 system as well as currently executing applications.
- **Navigate application performance data using CA Detector KEYS:** Helps reduce the time and effort required for navigating, reporting and resolving DB2 performance data and related issues.
- **Real-Time Statistics:** Save time with immediate access real-time statistics for DB2 objects from the investigator tree.

Figure B.

Time series data graphing for DB2 application performance data

Automate tracking and graphing historical data analysis for easier diagnosis and resolution of performance issues

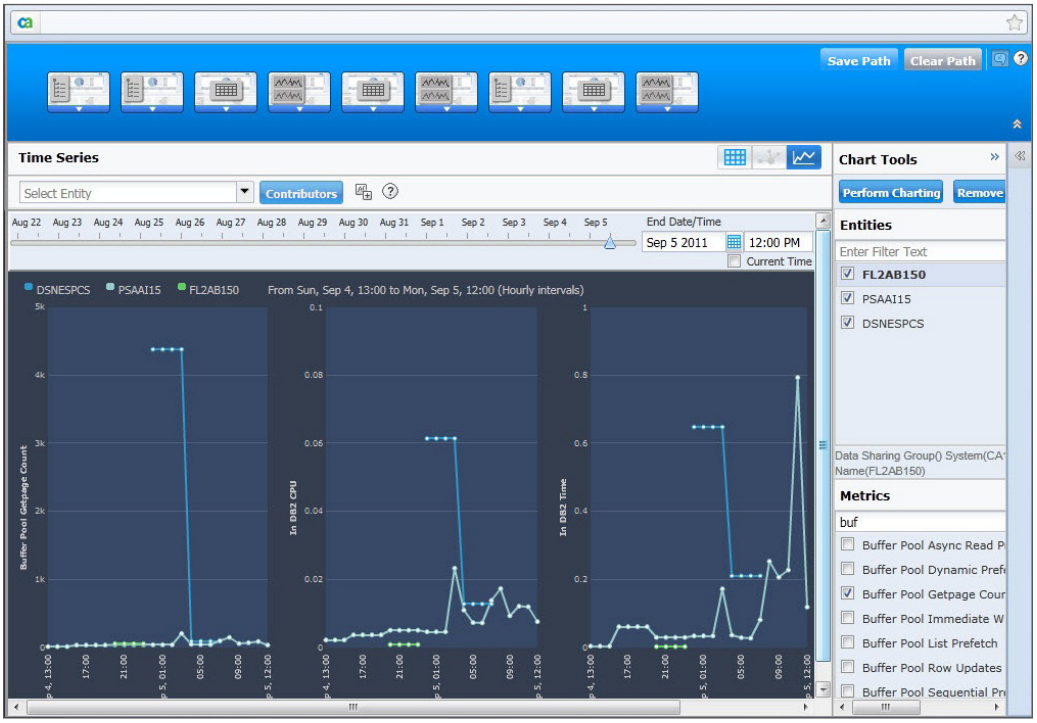
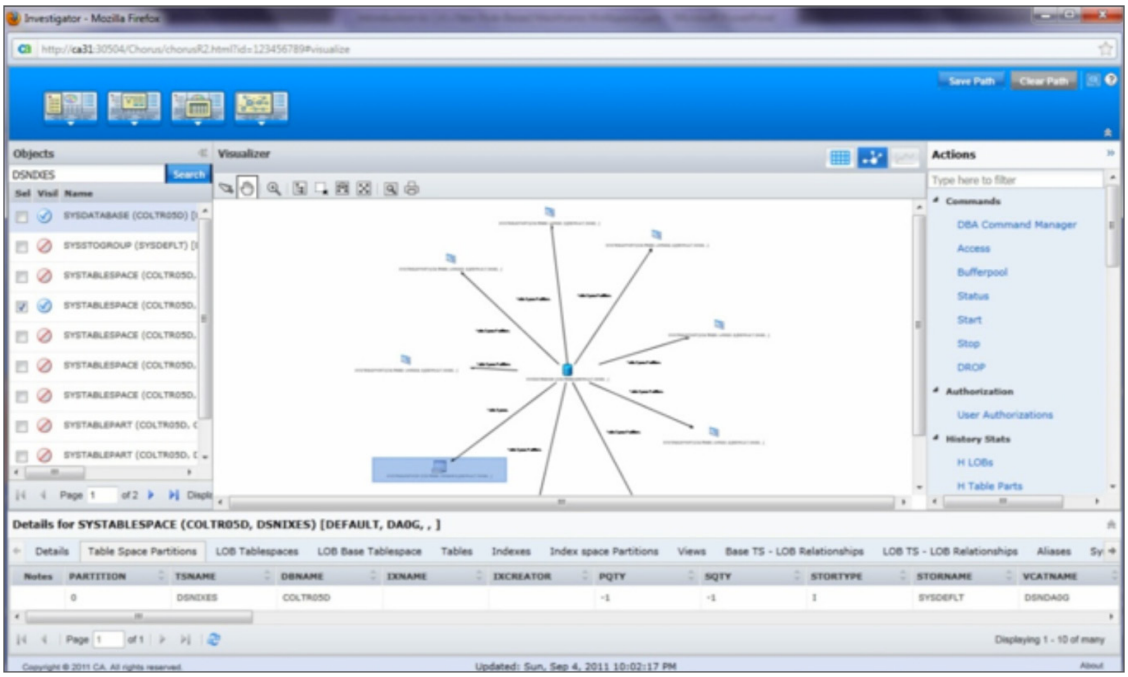


Figure C. Visualize DB2 Objects

CA Mainframe Chorus enables you to see visually DB2 objects and related objects through the Visualizer within the investigator. You can quickly see and manage all related objects from one view



CA Mainframe Chorus for Security and Compliance Management

CA Mainframe Chorus for Security and Compliance Management is designed to dramatically simplify your mainframe security administration, helping you to maintain world class quality of service by increasing the productivity of your current security staff and providing an accelerated on ramp for your entire team to assume security and compliance management responsibilities.

What's New in CA Mainframe Chorus for Security and Compliance Management Release 2.5

- **New CA Datacom® Data Source Option.** Expands security data source options:
  - CA Datacom support is available for CA ACF2™ and CA Top Secret® Compliance Information Analysis (CIA) databases. This data appears in the Investigator.
  - CA Datacom support is also available for CA Compliance Manager Change Monitor for use in the Policy Administration interface and for the Data Mart and Warehouse used in the Investigator.
  - In addition to using DB2 for z/OS as a data store, you can now also use CA Datacom/AD. This CA Datacom database is included with the CA Mainframe Chorus for Security and Compliance Management Role at no additional charge. This reduces your cost by removing the need to license DB2 for z/OS on all LPARs where you want to run Chorus. You can also display compliance events from multiple LPARs in the Chorus Investigator as they occur, without the need to run any batch jobs to load data.
- **Ability to Identify Users in a Zone.** For faster access to information, you can navigate to CA Top Secret Scopes, select a scope and the Show Users action, and display all users within that scope.
- **CIA Data Timestamp.** By checking this timestamp, you can verify the connection status of real-time updates from your External Security Manager (ESM) to CA Mainframe Chorus to help ensure that you are seeing the latest information.

Enhancements to Existing Features

- **Enhanced Data Mart Management in the Investigator.** For ease of use and enhanced productivity, you can now manage multiple Data Marts from within the Investigator. This allows you to load multiple sets of compliance event data into Chorus and process the sets independently (e.g., different people loading different data for their individual needs, and/or loading different sets of data for different compliance reporting initiatives).
- **Enhanced Security Command Manager Usability.** To save time, improve accuracy when issuing commands and create audit trails of what you accomplished, you can now perform the following tasks:
  - Import commands
  - Export commands and results to a text file

Other Key Features

- **Real-time access to state and event:** Helps to provide that security analysts are always working with complete, current, and accurate security information which will allow them to respond more quickly to anomalies [Figure 2]
- **Advanced reporting capabilities:** Enables security analysts to better understand their security policies and the context around security events, as well as more quickly respond to requests for custom reports
- **Security data model extension:** Flexibility to add security element descriptors which enables security analysts to produce business centric reports that are easier to understand by data owners and end-users
- **New and improved event handling for z/OS:** Helps organizations to comply with their government and industry regulations providing real-time notification which allows for faster remediation* [Figure E]

Figure D.

Real-time Access to State and Event

Working with complete, current, and accurate security state and event information allows security analysts to respond more quickly to potential issues affecting end-users or system performance

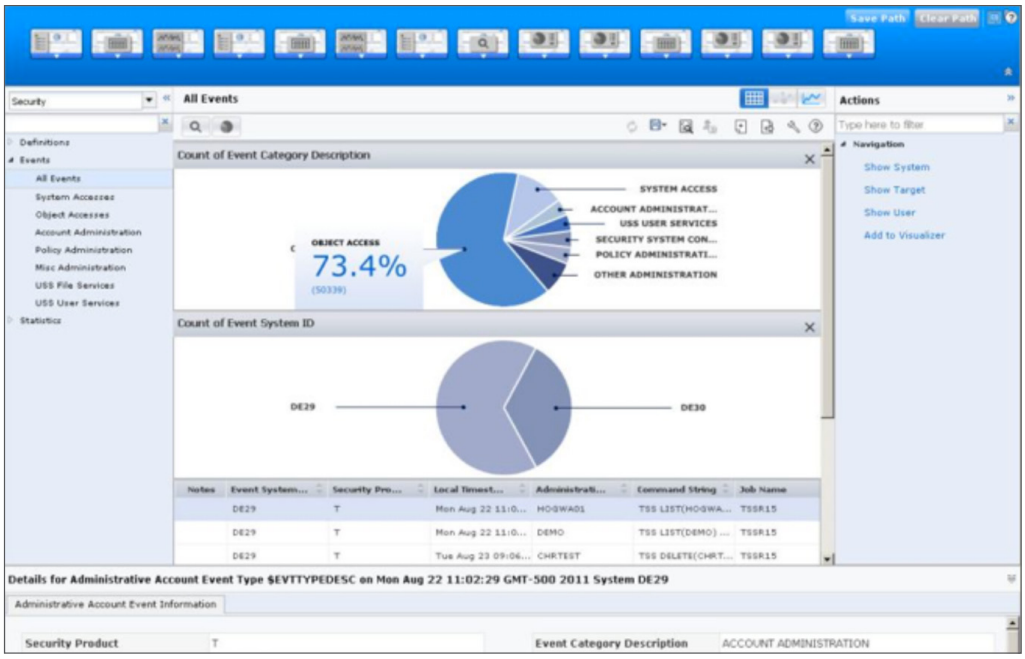
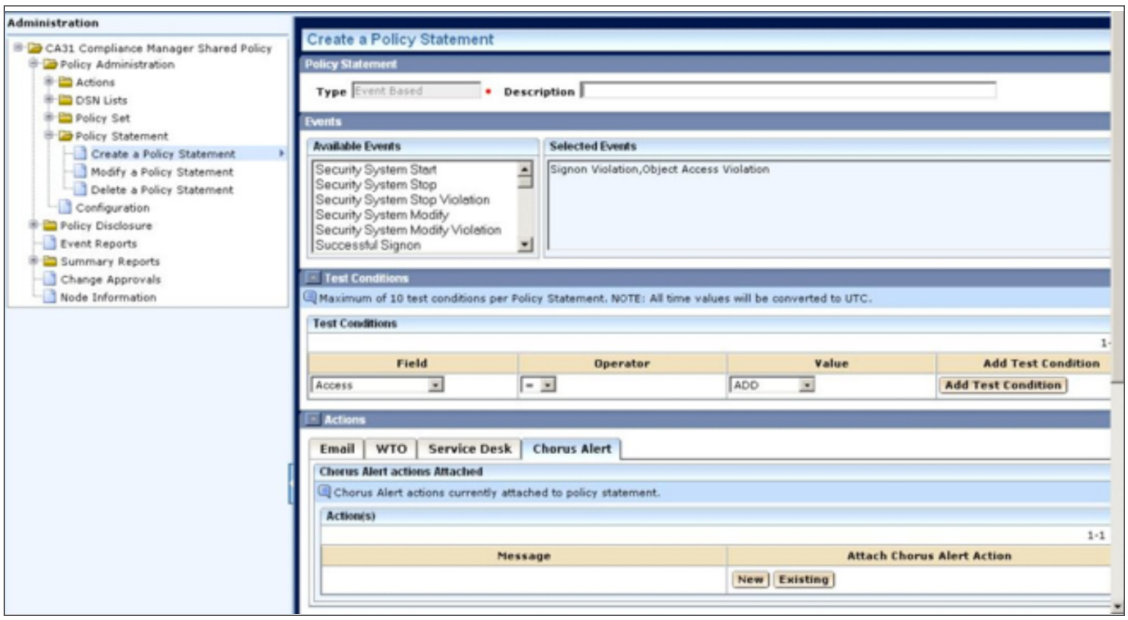


Figure E.

New and improved event handling for z/OS

Security Analysts can select real-time access and alerting for system events, with detailed information for faster problem detection and remediation



CA Mainframe Chorus for Storage Management

CA Mainframe Chorus for Storage Management is designed to dramatically simplify your mainframe storage administration, delivering a ground-breaking role-based workspace, architected to radically simplify and streamline Storage management tasks, to help increase staff productivity and to provide a shorter on-ramp for the next generation mainframe workforce.

What's New in CA Mainframe Chorus for Storage Management Release 2.5

- **Multi-Host Support.** Expands the storage resources for Storage Administrators.
  - In Version 2.0, the storage role works with one copy of the CA Vantage storage engine running on a single LPAR. In Version 2.5, multiple instances of the storage engine can be defined. In multiple storage engine environments, storage objects display storage data from all of the defined storage engines available.
  - A new Storage Engine Information object is available in the storage object tree. This object provides storage engine identification (name, LPAR, and port number), status (available or not available), and response statistics information about the different storage engines
- **Administrative Actions.** Allows you to better manage your storage resource environment including managing storage assets, facilities, and information, e.g. delete a data set. As you maneuver through storage data in the Investigator, the Actions pane changes so you know your available storage resource Administrative Actions.

- **New Solutions Category on the Storage Object Tree.** Adds a solutions category that lists factory-supplied Summary Objects and your user-defined Summary Objects. This object summarizes the data in any source object. For example, the number of items that match certain filter criteria, the average value of certain fields, or the maximum and minimum values applicable to a field. Each row in a Summary Object provides statistics on a Summary Group, which is a subset of the source object data that is defined using a method. The statistics include counts, maximum values, minimum values, average values, and totals. These statistics are provided for each Summary Group and for all records in the object table
- **Cross-Role Capabilities for Storage/Security.** Adds the following navigational actions to storage objects that have a column that contains a data set name in any format:
  - Show Users of selected datasets
    - Opens the Investigator and the security object that displays the users that have access to the data set selected in the storage object.
  - Show Violations on selected dataset
    - Opens the Investigator and the security object that lists violations for the data set selected in the storage object. Violations can be users that tried to access the data set, and they did not have authority.
  - Cross-Role actions require CA Mainframe Chorus for Storage Management and CA Mainframe Chorus for Security and Compliance Management. Both roles must be up and running.

Enhancements to Existing Features

- **Improved error-message handling.** Warning, Informational and error message handling changes
- **Knowledge Center includes Storage Object Knowledge.** The Knowledge Center results now include a topic that details the storage object and its available backend line actions

Other Key Features

- **Pre-defined monitors and alerts watch storage for you:** Helps save time and mitigate risk by providing storage managers the flexibility to easily set thresholds to automate monitoring of ever-dynamic storage levels and send alerts to help quickly identify, diagnose and resolve problems before they impact storage availability and performance.
- **Solution-based storage analysis:** Advanced qualitative analysis reporting capabilities help deliver greater depth and breadth of information in less time and improve storage infrastructure reporting accuracy
- **Storage topology views:** Helps novice and experienced storage managers to more easily and quickly view the entire storage infrastructure by Providing a Topology map that shows logical relationships between resources that are related to the selected resource, including hosts, host volumes, storage systems, storage volumes, storage pools, and disk drives (Figure F).
- **Historical storage trend analysis:** Automates the tracking and graphing of comparative historical analysis of storage volume data for easier diagnosis and resolution of performance issues (Figure G).

Figure F.

The CA Mainframe Chorus Visualizer allows storage administrators to have a complete topology view of any storage asset in their environments

Visually explore watch areas such as Virtual Tape backstore status and drill down into the details

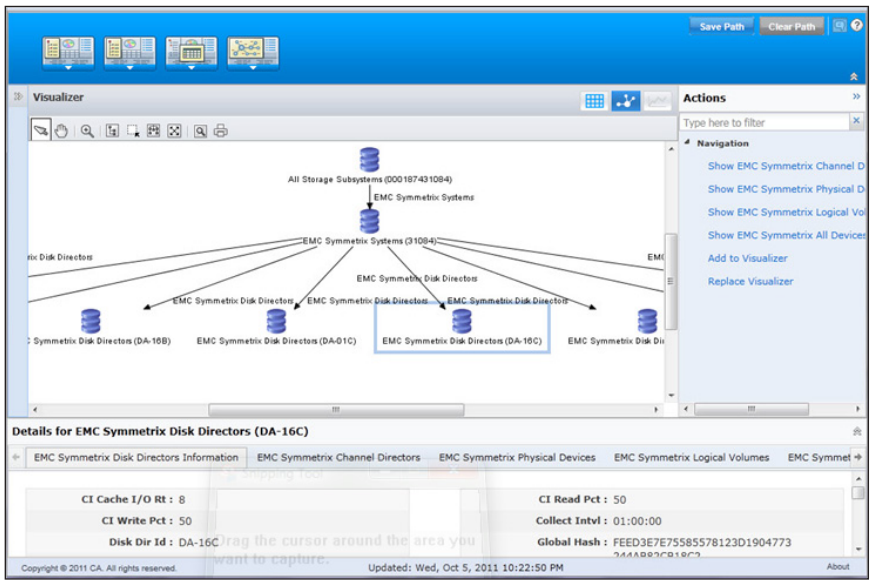
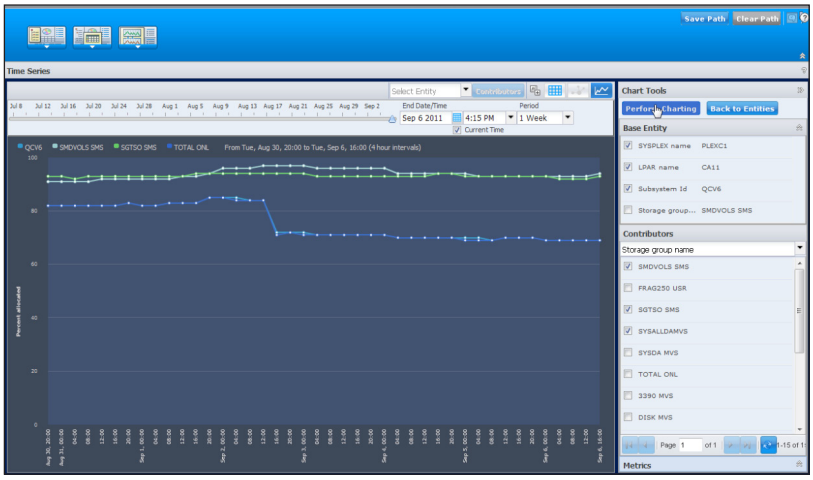


Figure G.

The CA Mainframe Chorus for Storage Management Time Series View

Consolidate summaries of many events to show trends in processing and data providing quick insights into storage issues



CA Mainframe Chorus Platform and Future Roles

CA Mainframe Chorus provides the base platform upon which different role-based management components are built (Figure H). CA Technologies plans to deliver additional CA Mainframe Chorus capabilities over time that address the needs identified by our customers.

Future roles leverage the CA Mainframe Chorus workspace and collaboration capabilities to greatly improve the efficiency of experienced and novice staff, allowing customers' to leverage their entire IT staff to manage the mainframe today, and in the future. (Figure I)

Figure H.

The CA Mainframe Chorus Platform

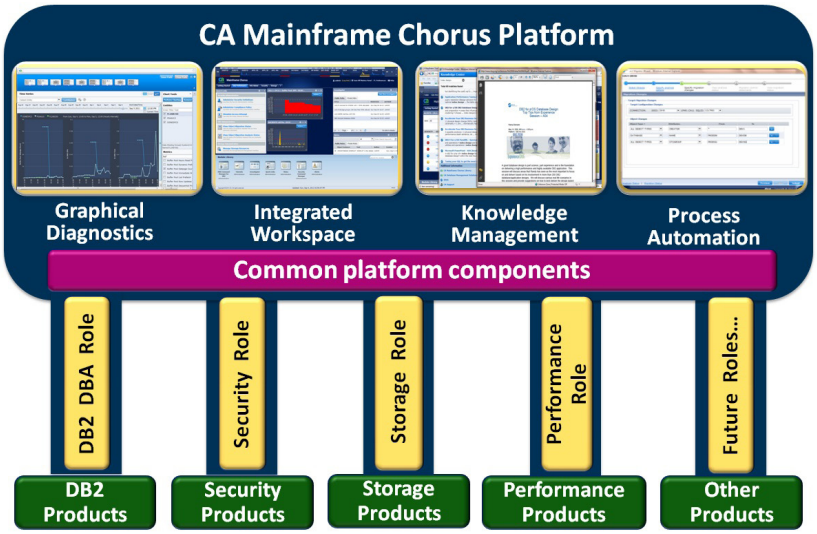
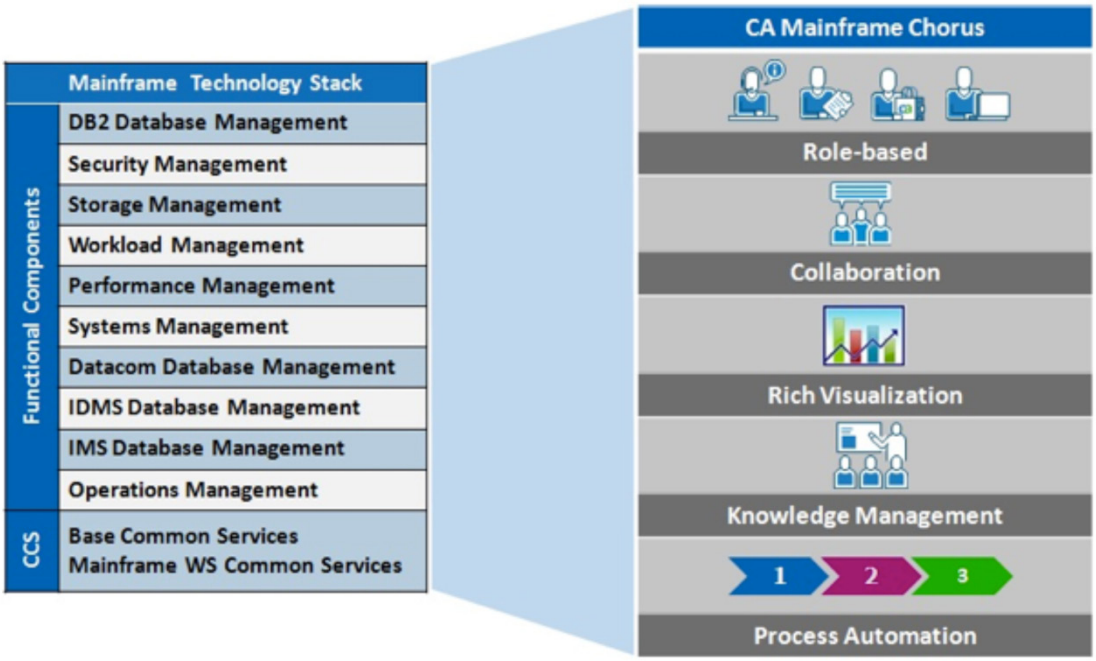


Figure I.

The vision of CA Mainframe Chorus



Section 3: Benefits

Better control costs, sustain critical skills, increase agility

Building on the success of CA Technologies' mainframe strategy, CA Mainframe Chorus continues the focus of helping customers to reduce costs, simplify management and improve operational efficiency.

CA Mainframe Chorus is a next generation mainframe innovation designed to accelerate and liberate the hidden potential of your mainframe, enabling it to become a more strategic asset for business providing decision making, management and planning services.

The new workspace provides an intuitive design and embedded intelligence designed to appeal to the next generation mainframe staff while also offering significant productivity improvements to today's mainframe experts.

Utilizing CA Mainframe Chorus' unique features helps your entire IT Team to be significantly more efficient and productive, plus it is designed to accelerate your accuracy and delivery of services across the enterprise. This is important because it can free your time to make better use of your IT resources focusing on improving your infrastructure, and, and meeting the needs of your business, which is key to providing a high level of service to your customers.

Section 4

The CA Technologies advantage

CA Technologies has 35 years of recognized expertise in robust, reliable, scalable, and secure enterprise-class IT management software. CA Mainframe Chorus is a key component of the CA Technologies initiative to change the way the mainframe is managed forever by helping you maximize the value of CA Technologies mainframe products and by providing a simplified experience and innovative solutions designed to deliver value more quickly and flexibly.

Section 5

Next steps

To learn more, and see how CA Mainframe Chorus can help your organization to unify IT and simplify management of complex mainframe environments for better business results, visit ca.com/chorus.

CA Technologies is an IT management software and solutions company with expertise across all IT environments—from mainframe and distributed, to virtual and cloud. CA Technologies manages and secures IT environments and enables customers to deliver more flexible IT services. CA Technologies innovative products and services provide the insight and control essential for IT organizations to power business agility. The majority of the Global Fortune 500 rely on CA Technologies to manage their evolving IT ecosystems. For additional information, visit CA Technologies at ca.com.

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