



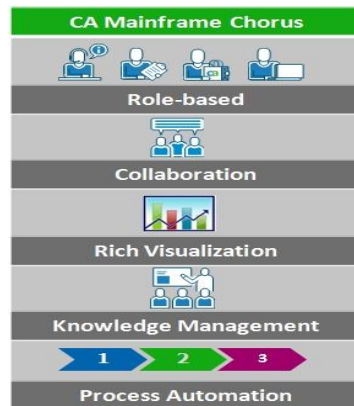
Research Report

CA Mainframe Chorus: Increase Efficiency Today, Build Skills for Tomorrow

Introduction

CA Technologies new CA Mainframe Chorus (Chorus) is one of the most impressive mainframe management innovations that *Clabby Analytics* has ever seen. At first glance, it appears to be a graphically driven management interface for mainframe systems — but, in fact, CA Mainframe Chorus is a completely new interaction model for mainframe management. A closer look at CA Mainframe Chorus reveals that this product is an *integrated, role-based, collaborative, highly-visual workspace* that can also capture mainframe management knowledge. Further, Chorus allows management processes to be automated, helping to improve mainframe manage/administrator productivity (see Figure 1).

Figure 1 — CA's Mainframe Chorus



Source: CA Technologies — September, 2010

Why do we consider Chorus so innovative? Consider the following:

1. It is a “workspace environment” that has been designed to make it easy for a *new generation* of systems programmers, managers, and administrators to build mainframe skills without having to use “last generation” 3270 green screen, line mode interfaces. What we like best about Chorus is its “outside-in” approach. In the olden days, mainframe managers were taught how to administrate mainframes by learning various management routines, by reading dump files to troubleshoot problems, by memorizing various commands, and so on. But CA Mainframe Chorus masks this complexity. The Chorus interface is intuitive and easy to learn, very much like the type of interface that is familiar to today’s generation of computer users who operate PCs, Macs, smart phones, etc. The reason that this approach is important is because the current generation of computer managers learns outside-in. They become competent via the interface and then learn the operational details of managed resources when and where necessary.

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What this means is that novice mainframe managers and administrators will be able to immediately learn how to tune, troubleshoot, and otherwise manage mainframes using tools that have a familiar look and feel. And this immediate ramp-up should prove to be important to many mainframe customers who will need competent, next generation mainframe managers to step in as the current generation of mainframe managers reach retirement age.

2. What we like second best about CA Mainframe Chorus is the workflow efficiency that it delivers. CA Technologies not only improved the mainframe management interface with Chorus, it also improved underlying workflows by automating functions that today's mainframe managers perform manually. Activities that take today's mainframe managers and administrators hours to accomplish have the potential to be executed in minutes with Chorus.
3. Finally, we also like the way that CA Mainframe Chorus can be used to foster knowledge sharing and collaboration. Chorus can be used as a repository where knowledge can be stored and shared amongst mainframe managers and administrators. Experienced managers can save information about policies and procedures with a Chorus library where less experienced managers can gain access to the wisdom of others. This knowledge repository can help enterprises manage their mainframes more effectively, while also enabling novice mainframe managers to develop the skills that they need ensure that their mainframes continue to operate smoothly and securely.

The remainder of this report takes a closer look at what CA Mainframe Chorus is; how it operates; and some of the benefits users of this produce can expect to see as CA Technologies introduces new roles for this product.

What is CA Mainframe Chorus?

CA Mainframe Chorus is a role-based mainframe management environment. It displays system status; it provides a work area for solving problems — and most importantly, it hosts a knowledge database. This product is graphically oriented, so it simplifies daily tasks and improves productivity for experienced mainframe staff and appeals to the next generation of systems managers who have grown up using modern graphical interfaces. It streamlines management tasks by automating certain functions such that systems programmers, database administrators, security administrators, etc. do not have to march through numerous manual steps to accomplish a task. It also captures knowledge (current generation mainframers can capture and annotate workflows that less experienced technologists can view in order to learn how to solve problems) — enabling novices to learn how to solve problems quickly. And by capturing these workflows, knowledge of mainframe experience can leveraged by colleagues and can be passed in a systematic manner from generation to generation.

CA Mainframe Chorus is visually pleasing, simple to use, and it automates manual tasks — helping to improve operational efficiency. Further, this product is an excellent starting point for the formal dialog that needs to take place between the current generation of mainframe managers and the new generation — a launch pad for transitioning mainframe management skills to next generation, graphically-oriented mainframe managers and administrators.

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A Closer Look at CA Mainframe Chorus

What makes Chorus extra-special is its intuitive design. CA Technologies hired a well-known product design firm that counts amongst its credentials design work with Apple. This firm was asked to observe how various mainframe managers go about their day-to-day job — and then recommend how tools could be designed to help simplify their management tasks. What CA Technologies learned was mainframe systems managers and administrators spend a lot of time bouncing from one tool to another looking for information in order to find and solve problems. CA Technologies also learned that these managers and administrators are constantly interrupted when trying to complete management tasks. Further, many of the tools that they use are command line interface-based (character based, green screen tools) — making it difficult to quickly recognize a given problem (as compared to a graphically driven tool). And, finally, CA Technologies learned that the knowledge needed to solve a particular issue is often dispersed in manuals around an office — or written on yellow sticky notes that adhere to terminals — or contained in the mind of a given manager or administrator. This knowledge needs to be extracted from manuals, from personal notes, and from experienced individuals and then be made accessible electronically to mainframe managers trying to solve specific issues.

CA Mainframe Chorus addresses these challenges by providing a new way to manage mainframes. The biggest difference between the current crop of mainframe management tools and CA Mainframe Chorus is the product's visual, Web 2.0 orientation. Chorus provides a revolutionary workspace environment that helps mainframe managers isolate problems; quickly bring the resources needed to solve a problem to bear; record the workflow needed to solve the problem (such that it can be dealt with even more expeditiously should it reoccur); and it provides a knowledge base to help mainframe managers and administrators find solutions quickly. Further, CA Mainframe Chorus provides facilities that allow mainframe managers and administrators to customize their workspace such that they can view events and structure paths in a manner that makes sense to a given manager. For instance, a mainframe manager can create customized visualizations of alerts or actions — visualizations that are important to a specific person's daily activities.

But less obvious is all the work that Chorus does in the background automating manual tasks, helping to greatly reduce the time it takes to perform certain management functions — and thus making mainframe managers and administrators who use Chorus significantly more efficient and productive.

CA Technologies' hard work, however, is being noticed by early adopters. For instance, Adnan Can, principal specialist for the mainframe platform group at Garanti Technology (owned by Garati bank — Turkey's second largest banks) had this to say about CA Mainframe Chorus:

"We are excited about the prospects of Chorus, and are glad CA Technologies is taking a leadership position in helping us solve critical issues. 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."

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A Demonstration of CA Mainframe Chorus Workspace

Figure 2 provides a view of how the CA Mainframe Chorus workspace actually works. Using Chorus, a user can, at a glance, quickly determine where problems may be found (see the metric panel on the top of the illustration). That user can address those problems by conducting further analysis by clicking on the role-based workspace tabs (bottom left). The tools and utilities needed to address problems can be launched from within this workspace. And finally, a manager or administrator who needs help can find additional information related to problem solving — or even collaborative help — in the module section (bottom right).

Figure 2 — CA Mainframe Chorus: Elegant, Simple Design



Source: CA, June, 2010

It is astounding how simple it is to find and fix problems using this innovative interface.

A Closer Look at the Metric Panel, Workspace Tab, and Module Functions

The *metric panel* at the top of the screen monitors various mainframe functions such as system health and performance, resource utilization, database and application performance, and so on — as determined by the manager or administrator. These functions are portrayed as icons — and these icons scroll across the top of the screen in a ticker-tape fashion (moving from left to right) while showing various levels of alert (yellow for caution, and red if a problem is occurring). By watching the ticker-tape, mainframe managers can get a good, high-level overview of what is going on within a given mainframe environment.

The concept of the metric panel is much more representative of the “big board” that every computer center maintains. The advantage is that it can be customized for the person watching.

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By clicking on one of the metric panel icons, the data that is driving the alert is displayed in the workspace area (*workspace tabs* in the middle of the management screen). This data can then be analyzed, and actions can be launched to take corrective actions.

But just suppose that you don't know how to fix a particular problem. On the bottom-right of the screen is a path *module* that provides access to a knowledge base that can help point a mainframe manager or administrator to the information needed to solve a given problem. And this knowledge base (the notes module on the right) also contains prior experience from other mainframe managers and administrators who may have dealt with a similar problem at some other time, and who may have recommended a resolution.

But There's More...

In addition to problem solving, CA Mainframe Chorus (combined with requisite database management software) allows "roles" to be set-up (such as the role of database administrator) — and collections of activities performed by a database administrator can be established.

And finally, Chorus allows process flows to be captured such that repetitive tasks can be recalled for reference. Further, experienced mainframe staff can create customized, guided workflows — and lesser skilled individuals can improve their skill sets by following the examples put forward by their mentors.

The First Release of Chorus: The Database Administrator

The first role that CA Mainframe Chorus will support is that of DB2 Database Management. CA Technologies intends to regularly introduce new roles such as security administration, storage management, workload management, operations management, performance management, and so on, as Chorus continues to develop. Figure 3 (next page) shows some of the planned functional areas that CA Technologies intends to address.

Figure 3 — Planned Roles for Future Revisions of Chorus

Mainframe Technology Stack	
Functional Components	DB2 Database Management
	Security Management
	Storage Management
	Workload Management
	Performance Management
	Systems Management
	Datacom Database Management
	IDMS Database Management
	IMS Database Management
	Operations Management
CCS	Base Common Services
	Mainframe WS Common Services

Source: CA Technologies — September, 2010

The Database Administrator Role: Capabilities and Value Delivered

This database administrator role offers major innovations and usability enhancements for DB2 database management, using the new workspace (see Figure 4).

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Figure 4 — The Database Administrator Role: Capabilities and Value Delivered

Role Capabilities	Value Delivered
<ul style="list-style-type: none">• Time series data graphing for DB2 application performance data• Object Tree navigation and management of DB2 objects• Alerts on DB2 threshold exceptions that provide a launch point for easier troubleshooting• In-context domain documentation with third party integration• Near real time performance monitoring with graphical displays	<ul style="list-style-type: none">• Automates tracking and graphing of historical data for easier diagnosis and resolution of performance issues• Improves productivity and visualization when navigating LPAR, subsystems, tablespaces and other DB2 objects• Focuses DBAs on priority SLA items and enable new DBAs to learn these skills• Increases productivity of both current and next generation mainframe IT staff through centralized, editable, in-context knowledge• Manages the health of the DB2 system as well as currently executing applications

Source: CA Technologies — September, 2010

How Enterprises Should Exploit CA Mainframe Chorus

There is no doubt in our mind that CA Mainframe Chorus will lead to improved productivity when it comes to mainframe management. This product makes it possible to solve problems quickly — and by being able to capture/preserve workflows, a lot of cumbersome, repetitive work can be executed with very little effort. Further, the Chorus knowledge base helps build expertise by providing a common repository of solutions to problems as well as advice related to performance tuning.

From our perspective, enterprises will use CA Mainframe Chorus in four ways:

1. As a way to increase the productivity of existing mainframe technologists;
2. As a means to provide a much easier on-ramp for the next generation of mainframe users, allowing for the growth of mainframe skill sets;
3. As a way to sustain critical mainframe skills and reduce operational risks and costs related to mainframe management. (Risks and costs due to the graying of high skilled mainframe workforce and the resulting requirement to bring on new, less costly but also less skilled staff.); and,
4. As a means to improve service (by automating workflows).

IT executives have several options when it comes to developing mainframe manager and administrator skills. They can outsource mainframe management tasks; they can grow skills from within their own organizations; they can hire contractors; and/or they can hire newly-trained mainframe managers from colleges and universities. For enterprises that wish to grow mainframe managers from within, CA Mainframe Chorus can serve as a rich training environment. And by working with the knowledge base that is part of CA Mainframe Chorus — as well as by using role-based automated workflows — these individuals can be trained quickly to manage mainframes.

Enterprises should also benefit from using CA Mainframe Chorus to reduce operational costs by increasing productivity of experienced managers and allowing the next generation of managers to ramp-up quickly. Today's mainframe managers with deep skills developed over decades of experience, know how to use character-driven green screens to find data

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and information — and then use command-line interfaces to issue commands to take corrective actions. Now, CA Mainframe Chorus greatly simplifies mainframe management by providing a rich visual presentation environment that can make arcane knowledge available to the new generation of mainframe managers. And CA Mainframe Chorus’ “smart objects” intelligent interface can present the data to this new generation of managers in the context of that manager’s role within the organization. And, if the new mainframe managers need assistance, CA Mainframe Chorus makes it possible to find answers in its knowledge base or to work collaboratively with more experienced mainframe managers to learn the most efficient ways to solve problems and tune systems/applications/databases.

All of these features make it possible to use lesser skilled individuals to manage mainframes. And, over time, as next generation mainframe managers learn-the-ropes in mainframe management, it will be possible for them to do more work in less time, creating an even more effective and efficient mainframe management environment. Both lower skill sets and more productive managers combine to lower operating costs for mainframe management.

The automation of workflows also has huge potential to reduce operating costs. By automating workflows, tasks that involve a lot of manual effort can be executed automatically — potentially saving minutes and sometimes hours worth of labor.

Summary Observations

CA Mainframe Chorus is the first and only next generation mainframe management solution on the market to deliver a completely new interaction model for mainframe management.

With this new interaction model, CA Mainframe Chorus can be used to markedly improve productivity (by making it faster and easier to perform common tasks), and *Clabby Analytics* is most excited by its potential to help dramatically shorten the learning curve and overall appeal of the platform for next generation of mainframe managers. Chorus provides:

- A rich visualization (so systems managers and administrators can quickly identify problems or check systems/application/database status);
- A knowledge management environment (so IT managers/administrators can look-up potential solutions to identified problems, or so that procedures can be checked); and,
- A collaborative environment (to enable “teaming”, collaboration, and knowledge transfer).

The problem with internal training programs is that they are often ad hoc, informal programs that teach novice mainframers policies and procedures — but they do little to capture the knowledge from the experienced technologists for use and to be shared with the new hires and successive generations. The major benefit that CA Mainframe Chorus delivers in this case is that it captures mainframe management knowledge in a formalized manner — enabling novice staff members to ramp-up quickly and to rapidly become productive contributors to the mainframe management staff. New mainframe managers can learn how to perform certain functions — and current generation managers can also leave notes on why a particular action needs to take place. Further, CA Mainframe Chorus allows new mainframe managers to collaborate with more experienced mainframe

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managers — providing a hands-on collaborative learning environment with real time troubleshooting.

It should be noted that the first release of CA Mainframe Chorus focuses on streamlining the work performed by DB2 database managers. But, over time, CA Mainframe Chorus will be expanded to accommodate all of the major roles in mainframe management including security administration, storage management, workload management, systems management, performance management and so on. And as CA Technologies expands its Chorus offerings in these directions, *we believe that vast libraries of stored routines and workloads will be created* — further simplifying the management of mainframes while continuing to drive mainframe management costs downward.

The fact the CA Mainframe Chorus can also lead to huge increases in productivity should not be overlooked. Management costs are the biggest expense in the data center. By automating rote management functions, mainframe managers can be freed-up to perform more important functions (such as streamlining business process flows rather than troubleshooting).

For enterprises looking to train the next generation of mainframe skilled professionals — and who want to lower operational costs related to management — Clabby Analytics strongly advises that CA Mainframe Chorus be evaluated as a mainframe training/productivity solution.

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