Compuware Topaz – Mainframe Software for the 21st Century

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A newly privatized Compuware is setting out to significantly impact the mainframe marketplace. The changes started before the acquisition by private equity firm, Thoma Bravo. Compuware now focuses exclusively on mainframe software products, while the distributed application performance management products reside in spin-off Dynatrace. This makes sense as the escalation in the use of technologies like Cloud, Mobile, Big Data/Analytics, Security, etc. are recognized as natural mainframe workloads. Some 80% of the world's corporate data originates on the mainframe with some 30 billion business transactions executed every day. Wise CIOs are re-examining their existing mainframe infrastructure, but many are not as they face two problems:

1. Lack of experience with and knowledge about the mainframe itself impedes understanding its current utility, as well as its potential;
2. Mainframe expertise is becoming a scarce commodity among computer architects, developers and operations staff.

Big problems that have no easy answers, but these are exactly what Compuware has decided to attack with the release of Topaz, a developer productivity solution designed to help a new development workforce increase their understanding of mainframe data and applications.

Compuware CEO Chris O'Malley vastly accelerated existing re-organization efforts to reshape the company to compete more effectively and serve its customers operating in the Digital Economy. He believes that the mainframe urgently needs innovation for IT's effective response to the demands of the new economy. His goal was to gain market share with an aggressively competitive, faster moving and more transparent firm. His commitments include operational and strategic changes that would: 1) deliver innovative software to preserve and advance customer's mainframe investments, 2) speed time-to-market and deliver product updates and enhancements quarterly, 3) provide clear direction to clients in its product roadmaps and plans, and 4) work closely with customers for product and service direction.

His model for product development and delivery are agile, fast-moving startups that rapidly evolve and enhance their products. A model that until recently appeared remote from the traditionally more staid mainframe market. Privatization of other mainframe-focused companies such as BMC, etc. along with the expected next generation mainframe systems from IBM has led to increased activity heating up competition in mainframe software and services. Compuware is determined to be a leader in that market.

Topaz is the first product release from the new Compuware. It establishes a brand-new direction for mainframe product vendors. It is targeted specifically to enhance the productivity on the mainframe of developers, operations and architects without deep expertise on the platform. It

does this by using Open Standards technologies, design goals that include simplification and a deep understanding of both the mainframe and non-mainframe environments.

Topaz is designed to allow non-experts to improve the operational efficiency and performance of mainframe applications without becoming experts in the intricacies of mainframe functioning. In addition to its standards-based technologies, its key functionalities include a universal data editor, a relationship visualizer and host-to-host copy capabilities. Let's examine the need Compuware wants to address, and then we'll discuss what they deliver.

What's the problem?

Contrary to a heavily marketed message, the mainframe remains a significant presence in global IT. It's a fact that nearly every enterprise of significant size and influence is maintaining an enormous investment in intellectual property and enterprise collateral on the mainframe. Despite project after project to eliminate the mainframe, as well as prediction after prediction of its eminent demise, the fact remains at 50+ years it continues on as relevant as ever. In fact, it can be argued that its value continues to grow as nearly 50% of existing mainframe computing power is expended in the support of zLinux/JAVA code written in the last 14 years.

Of special concern should be the vast reservoir of intellectual property and value that resides in mainframe applications and associated data. This includes policy and process data, as well as data used in transactions. The data that supports an increasing number of mobile apps resides on mainframes. Also, the mobile apps increasingly must access and manipulate multiple, different mainframe systems in search of the data they need. That data is stored in every variation of data formatting that exists for vendors' database products. Mainframe apps themselves contribute to the challenge. Apps, some nearly as old as the mainframe itself, have spotty if any documentation, making it very difficult to enhance or expand. The problems increase as the growing demands of the digital economy push the need to open up the applications to interact with mobile and web technologies.

Complicating the problem further, the universe of deep mainframe expertise is shrinking every year. Newly minted mainframe staffers lack the depth of program knowledge or insight into system idiosyncrasies acquired with years of experience; the kind of experience needed to modify data and make application adjustments to enable the mainframe to take advantage of the newest technologies. Today's staffers are steeped in the interface and tools of distributed systems. It will take time and effort for them to master mainframe-specific techniques.

The evolving utilization of IT technologies like Cloud, Mobile, Big Data/Analytics, Security, etc. are being recognized as natural workloads for mainframe processes. Some 80% of the world's corporate data originates on the mainframe with some 30 billion business transactions executed every day. While wise CIOs are re-examining ways to exploit existing mainframe infrastructure, many, unfamiliar with the mainframe technologies, are not. As a result, they have two problems that will only get worse. They are faced with the challenge of:

- Preserving and building on the enterprise intellectual proprietary and financial capital embedded in business critical apps and data residing in mainframes;
- An IT and business staff lacking knowledge of and expertise with the mainframe which impedes understanding its current utility, as well as the potential to solve emerging problems.

This is occurring at a critical time for enterprises as successful support for the Digital Economy requires:

- Increasing levels of innovation velocity and optimized performance;
- Mobile, analytics, social, cloud, and Internet of Things drive up the demand for reliable, secure, highly adaptive IT services;
- User and consumer tolerance for a less than perfect experience is fast approaching zero – as they are willing to switch suppliers at any hint of problems, service delays, etc.

Compounding the problem for the mainframe-challenged CIO, his workforce is changing as:

- New workers enter with new expectations and experiences (minus/minimal mainframe expertise);
- Increasing necessity to master both distributed and mainframe worlds;
- Demands escalate for continuous improvements to price versus performance.

Compuware has set itself the task of resolving these problems. Let's examine their plan.

What's to be done?

Some of the significant vendors supplying mainframe products are focused on increasing its attractiveness and longevity. Compuware has long provided solutions to mainframe IT that address day-to-day operational and development challenges. They have made notable contributions to mainframe application performance management and developer productivity solutions. They are now focused on two tasks:

1. Providing easier access to the value inherent in the existing mainframe data and apps that support mobile apps, Big Data analytics and other new services:
2. Allowing the new generation of IT worker to leverage mainframe capabilities using the interfaces, tools and experience they have today.

Topaz bridges the gaps between distributed and mainframe environments and allows the new generation of workers to be productive in these converging worlds. It enables them to work with mainframe data and apps without requiring in-depth mainframe expertise. Optimization is done using tools, techniques and constructs that the staffs are already familiar with. Let's see what Topaz has to offer today.

Topaz – addressing the data challenge

Topaz is designed to address the need to understand both mainframe data and applications. To meet the requirements for rapid development and deployment, it addresses the data first, then apps in a later release. Incidentally, Compuware has committed to a 90-day cycle for significant product releases along with a roadmap with expected enhancements.

From an internal development perspective, separating data and apps made the problem more manageable for Compuware. Specialized development teams focused on familiar territory. Working closely together, but separately, meant Compuware was able to move the project more quickly while assuring that the final product will address the whole problem within a reasonable timeframe.

The data problem Topaz addresses can be divided into three pieces, specifically the need to:
1. Identify and comprehend complex relationships among enterprise data – the ability to discover and visualize relationships, etc. This is especially necessary when extracting data for testing or analytic purposes;
2. See and edit the data no matter what format it is stored in, and display the contents (columns, rows, headings, contents, etc.) of multiple, different data types in a consistent manner;
3. Copy files and data, e.g. to be able to move data from machine to machine.

A description of details of just how Topaz addresses these challenges is beyond the scope of this paper. However, you can access them [here][1]. We've seen it at work. It does an impressive task of providing access to, the understanding of and manipulation of data across both distributed and mainframe environments. The basic functional components of Topaz consist of:
1. A Relationship Visualizer – provides a visual representation of the relationships among enterprise data to help developers select/prioritize tables and files for a better understanding of complex data.
2. An Enterprise Data Editor – provides a consistent look and feel that works on data types throughout the enterprise such as: Oracle, DB2, IMS, VSAM, SQL Server, Sybase, etc.
3. Host-to-host copy capabilities – provides a Windows-like cross-LPAR ability to do a 'drag and drop' of files and data from one host to another –faster and easier, it also eliminates the need for extensive mainframe expertise. It supports moving VSAM, JCL, flat files, local libraries, source code, etc. without special syntax or instructions.

The Final Word

We've said before[2] that we like Compuware's approach to products, services and solutions. IT is at a point where technology can solve problems once viewed as unsolvable or inconceivably difficult. And the mainframe plays a critical role in these

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[1] http://www.compuware.com/topaz

[2] Compuware Mainframe Application Performance + Developer Productivity Solutions = Smoother Handoffs, Faster Problem Resolution, http://www.ptakassociates.com/content/

efforts. Decades of IT effort have been spent trying to isolate the application of technology from the idiosyncrasies of the underlying infrastructure. UNIX, Open Standards, Linux, JAVA, Open Source, etc. have all contributed to this effort.

Compuware's Topaz is unique in that it complements these initiatives while leveraging the 'look 'n feel'/ 'drag 'n drop' pervasive techniques of distributed technologies. They have undertaken the hard work of taking tools designed for a distributed environment, then extended them into the mainframe world. All very, very impressive.

Compuware has also provided us with a glimpse into the future. Their plans are to deliver similar capabilities for Program Visualization. We've see early release copies of the interface, as well as a glimpse of what it can do – which includes the ability to understand the complex logic within a program using program structure charts and control flow charts. They are committing to an April release date at this time; it will be well worth the wait based on our experience.

What is now clearly visible is a brand-new, invigorated and agile Compuware with big plans for solid, much needed and highly attractive innovation for the mainframe platform. Congratulations to them and the aggressive plans they have for the future.

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Our clients include both industry leaders and dynamic newcomers. We help IT organizations understand and prioritize their needs within the context of present and near-future IT trends, enabling them to use IT technology effectively in solving business problems. We help technology vendors refine their strategies, and provide them with both market insight and deliverables that communicate the business values of their products and services. We provide all clients with an understanding of how their competitors are playing in their market space, and deliver actionable recommendations.

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