IBM System z9 – The SOA Platform

Independent analysts give their views on the role the IBM System z9 can play in the SOA environment.

PMP Research

IBM System z9 – The SOA Platform

The System z9 has seen a steady stream of hardware and software enhancements since its launch in July 2005. The System z9 Business Class was announced in April 2006 to provide a low cost entry point for medium and smaller enterprises. In addition the zIIP (Integrated Information Processor), which offloads selected DB2 workloads, was also launched. Like the zAAP (Application Assist Processor) co-processor for Java the new speciality engine is positioned to encourage new applications by providing a way to offload relevant workloads without incurring additional software charges for the extra capacity.

A series of new software products and strategies has positioned the System z9 at the heart of a SOA environment. Essentially all of IBM's major multi-platform software products, in their latest, most advanced versions, are now available (or due out within 2006) on the System z9. These included new and enhanced WebSphere SOA Foundation products, DB2 9 for z/OS, the first hybrid XML and relational database optimised for SOA, among many other new releases.

PMP, asked five independent analysts to review these developments and give their opinions on the role the mainframe can and should now play in the enterprise. This white paper gives a synopsis of these views, with the full text of their articles available by selecting the links.

The contributing analysts are:

- **A little live blogging: From the IBM SOA on z industry analyst conference May 2006**
  James Governor, Principal Analyst, RedMonk

- **Building a Service-Oriented Architecture around the Mainframe**
  Mark Lillycrop, Chief Analyst, Arcati Research Ltd

- **Introducing Information as a Service (IAAS) – Crucial SOA Enabler**
  Ian Bramley, Managing Director, Software Strategies

- **Application Transformation – Leveraging Existing IT Assets to Build Competitive Advantage**
  William L. Moran, Senior Vice President, Ideas International

- **Mainframe Role TCO**
  Bruce Allen, Research Fellow, Robert Frances Group

Additional information on System z9 software can be found at:

http://www.ibm.com/software/zseries

A little live blogging: From the IBM SOA on z industry analyst conference May 2006

James Governor – Principal Analyst, RedMonk
www.redmonk.com

IBM has a room full of people here in New York, industry analysts that usually cover the software market, to learn a little bit more about why the mainframe makes a good service oriented architecture (SOA) platform.

IBM says a new business context is emerging, that suits the mainframe. Security, risk management, and even power management are all traditional mainframe strengths.

So what about new workloads. Q1 MIPS grew 25%, with 35% of that growth across IBM offload processors such as zIIP, zAAP and IFL.

How about a customer example? Farmers Insurance runs 45m transactions a day, supporting 50k users. 90% of its revenues are driven by the mainframe running WebSphere. So what about dollar savings? Well, as any mainframer knows customers pay per MIP.

By using the zAAP offload engine Farmers **cut its MIPs from 1200 to 700**. That's the kind of price break that should interest any mainframe shop.

Something interesting is definitely afoot in mainframe economics. Quite simply - every year IBM is finding new ways to reduce mainframe cost of ownership. IBM calls this trend The Mainframe Charter. It's also good to see IBM focusing so squarely on third party ISVs. Successful platforms need developer communities.

So this mainframe SOA thing. What are the numbers?

IBM said CICS saw the fastest version to version upgrade by customers in 35 years… to take advantage of new XML and Web Service functionality. WebSphere Application Server (WAS) on System z grew 21% in 2005. That is pretty impressive growth. IBM also claims 25% of z accounts are now running WAS.

IBM spoke of IMS enhancements: IBM last year offered an IMS SOAP interface. The new announcement is an XML adapter on IMS connect, enabling direct connection to IMS without needing WAS as an intermediary. But for those that do like WS-* and metadata-driven development IBM is going to bring Registry/Repository to the mainframe by year end.

The point is that IBM plans to position z as a master registry manager (like master data management), across multiple SOA end points.

All in all it seems z and SOA is really happening.

The mainframe blog can be found at: click here
James Governor's blog can be found at: click here.

Building a Service-Oriented Architecture around the Mainframe

Mark Lillycrop – Chief Analyst, Arcati Research Ltd
www.arcati.com

Service Oriented Architectures (SOAs) are gaining momentum, but nowhere more so than in the highly competitive financial services sector. One company that has made significant steps in building an SOA environment around its existing IT infrastructure is the Insurance Services Office, Inc (ISO) of Jersey City, USA. For more than 30 years ISO has been a leading provider of data, analytics and decision-support information to the insurance industry.

"WebSphere Application Server provides a Java environment that spans mainframe, mid range, Unix and PC servers."

As ISO considered its IT options for the future, its business was going through considerable change. To stay ahead of the competition, ISO needed to embrace SOA principles, to open up its existing systems via standard interfaces, offering services that its customers could build into their own applications running on a variety of different platforms.

To move towards an SOA environment, ISO concluded that the best strategy was to conduct future development in Java, which offered a maturing industry-standard development environment and was well supported across the board. Taking into account its experience to date and its future requirements, the company decided to opt for a more centralized approach in its provision of real-time data to customers, based on WebSphere Application Server (WAS) for z/OS from IBM.

WAS provides a full-function Java development and run-time environment that spans mainframe, mid-range, Unix, and PC servers. The product enjoys a number of significant advantages in the highly competitive application server market, including full compliance with J2EE 1.4. The z/OS version is also tightly integrated with mainframe sub-systems such as CICS, on which ISO relies heavily, and offers the scalability and manageability benefits that only the mainframe can provide.

"WebSphere Application Server supports a huge range of Java based application packages."

The combination of J2EE 1.4 support and a common code base across the whole IBM server range is unique within the IT industry and has proved to be *extremely* valuable to ISO as it moves towards SOA. WAS for z/OS allows ISO to centralize its own Java-based applications on the mainframe, knowing that its code will be entirely compatible with that of business partners, vendors and customers who run their applications on other platforms.

As an industry-strength J2EE environment, WAS for z/OS also supports a huge range of Java-based application packages across the whole spectrum of ERP, CRM, e-commerce, business intelligence, financial and transaction management. This gives ISO an excellent opportunity to increase the diversity of its application portfolio on the mainframe in the future. It also allows for consolidation of distributed Java applications in due course, which can lead to substantial benefits in terms of cost-effectiveness and manageability.

With WebSphere's common cross-platform code base, its large application portfolio and the whole range of manageability, security and performance benefits that the zSeries brings to the table, the company has been left in no doubt that WebSphere Application Server for z/OS is the best way forward in its move towards an SOA environment.

To access the full document click here

Introducing Information as a Service (IAAS) – Crucial SOA Enabler

Ian Bramley – Managing Director, Software Strategies
www.software-strategies.net

IBM's On Demand strategy promised to enable businesses to closely integrate their people, processes and information across the enterprise, and across its ecosystem of partners, to speed up core business processes, reduce costs and enable more rapid "sense and response" to changing market and business conditions, opportunities and threats.

"The Information on Demand vision is about creating enhanced business value"

A central component of this broad strategy is IBM's **Information on Demand (*IOD*)** strategy. The Information on Demand vision is about creating enhanced business value and reducing risk by capturing, creating, integrating, analyzing and optimizing all types and sources of information throughout their lifecycle, and thus enabling the organization to act more quickly and systematically upon that information. Information on Demand provides powerful business benefits across the entire organization.

IBM has long been the market leader and prime innovator in information management (IM) middleware software, tools and services, best known for its database leadership with DB2, IMS, and for many other long-established and widely-used IM products. However, over the last three years, it has invested over $3B, in new research-based in-house development and in a string of 15 complementary information management software acquisitions. These have been integrated and combined with IBM's own products to provide the market-leading, comprehensive and highly-integrated IAAS offering that is now emerging to deliver all the capabilities required to realize the Information on Demand vision.

"IBM has unquestionably designed the industry's first complete information infrastructure"

With the early availability of recent major IAAS developments, IBM has unquestionably now designed the industry's first complete information infrastructure for delivering IAAS/Information on Demand, an infrastructure that will help businesses truly leverage all their information assets, throughout their life cycles, for strategic advantage. The full IAAS capability will be rolled out over 2006 and 2007, with major steps arriving in 2006.

This is a major industry breakthrough, providing the first comprehensive approach to unifying and exploiting information fully. It overcomes the long-standing information fragmentation, and is a principal enabler for the SOA approach to next-generation applications that is rapidly taking off.

The essence of Information as a Service is that neither the people nor the processes requesting information should need to care what format or system the information came from, so long as it is timely, complete, accurate, and in-context, providing a single version of the whole truth.

Additional business value and flexibility can then be achieved by applying analytic techniques to the base information that can enable predictions about what is likely to occur in the future. Such further analytics can provide recommendations or prescriptions for actions the user, or the business processes, should take for best results. This analytics based insight, which enables appropriate and timely action to be taken, is the true power and the real business leverage of accurate, integrated information.

To access the full document click here

Application Transformation – Leveraging Existing IT Assets to Build Competitive Advantage

William L. Moran – Senior Vice President, Ideas International
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An on-demand business is an enterprise whose business processes – integrated end-to-end across the company and with key partners, suppliers, and customers – can respond with speed to any customer demand, market opportunity, or external threat. Business leaders recognize that they need to sense, analyze, and respond more effectively to continuously changing market conditions and risks. While responsiveness is a high priority, most executives would not rate their companies very high in their ability to react to changing business conditions. Many of their customers would agree. Most agree that IT is a critical enabler of responsiveness and that lagging behind is a serious competitive weakness.

"Most agree that IT is a critical enabler of responsiveness and that lagging behind is a serious competitive weakness."

One of the fastest paths to becoming an on-demand business involves repurposing and extending existing IT applications into these on-demand business processes. This path to becoming an on-demand business is known as application transformation.

Application transformation begins with business transformation management. Becoming an on-demand business is all about business process transformation, integrating business applications to support business processes, and eliminating unnecessary manual intervention and pain points. This includes looking at the business drivers that are moving a company to make changes to existing processes and IT systems.

Portfolio analysis of existing business processes and supporting IT assets becomes the next key step. Identifying what applications need to be replaced, or better yet, leveraged and *transformed,* helps a business understand what types of projects lay before it. During portfolio analysis, new ideas for business improvements and even new revenue streams may come to the fore. Portfolio analysis sets the stage for application transformation projects.

"Becoming an on-demand business is all about business process transformation."

Once an enterprise understands its processes and IT assets, it considers application transformation projects based on a variety of factors. Two of the most important are "doability" and return on investment. Doability takes into account factors like the skills available, platforms involved, existing assets, tools, and the architectural considerations of different projects (i.e. a user interface project is much different from building an SOA.) There are numerous companies that offer tools to enable existing business applications to be modernized and reused in integrated business processes to support the on-demand business.

These tools support a range of projects including:

- User interface modernization
- Application integration and transformation, which includes application understanding, application development, deployment, and connectivity
- Evolving to a service-orientated architecture, which includes many of the same types of activities

IBM is a leading company that offers a broad portfolio of application transformation tools that support these transformation projects.

To access the full document click here

Mainframe Role TCO

Bruce Allen – Research Fellow, Robert Frances Group
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RFG has witnessed an emerging trend in relation to mainframes. Indeed, more and more IT organizations are reconsidering the mainframe for more various types of workloads. RFG views the new wave of server and storage consolidation, partitioning, and virtualization as an affirmation of the mainframe model, and moreover, a move away from the distributed one-application-per-server mentality that has driven up the cost and complexity of computing during the past several years.

"The mainframe has undergone dramatic change in the past few years."

Today's organizations are now facing dramatically increasing staff needs for network and database administrators, as well as system administrators. Increasingly large server farms create consistency and service issues, such as versioning, patch management, and associated outages. Security issues are becoming increasingly important based on regulatory compliance, hacker threats, etc. These are not easily addressed in distributed environments, but the mainframe offers a superior capability that includes centralized administration.

The mainframe has undergone dramatic change in the past few years, capable of accommodating workloads such as Websphere, Java, and Linux, but providing greater security, availability, etc. IT executives should ensure that reuse and leverage are maximized in any hosting decisions, and should direct architecture and infrastructure groups to make unbiased decisions about hosting that include the mainframe as an option.

"Unbiased decisions should be made about hosting that includes the mainframe as an option."

Given the recent (and ongoing) improvements in price/performance, granularity, virtualization, and reduced software costs, the opportunities are even greater today in certain areas. To make a proper hosting decision, several key criteria must be evaluated, but these factors often are not even applied to mainframe hosting, based on the notion that workloads could be run better, faster, and cheaper on distributed platforms. The considerations that are most important, and which should be applied to all platforms, include:

- If it is a packaged application, where does it run, and with what level of support?
- How well can existing infrastructure and skills be leveraged, which lowers costs?
- How much reserve capacity (infrastructure/skills) exists in each environment?
- How much will the application require integration/access to other applications?
    - Where are the other applications currently residing?
- What are the ROI and TCO results for each platform being considered?
- What level of service (and security) is required?
- Where is the data and how is it accessed and shared?

The research done for this paper included a number of discussions with clients, where specific cost comparisons were made between specific applications and general workloads (e.g., transactional) hosted on mainframes versus something else. In a couple of cases, these were simply "paper" exercises, but in others, actual implementation data was assessed.

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