

July 2010

2010 Mainframe Impact Survey

Enterprise Integration and Real-Time Events

MAINFRAME
Executive

 **JOURNAL**

Presented by Progress Software

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Executive Summary

To some it may seem counter intuitive to investigate the expanding role of the mainframe within today's modern enterprise. The popular belief cast mainframes as expensive, antiquated technology that has outlived its relevance for business. However, mainframe reality and myth are separated by a lack of information.

As publishers of the two leading independent publications for IBM mainframe users – *Mainframe Executive* and *z/Journal* – we recognize the importance of understanding how, and to what degree, mainframes are being utilized within enterprise integration initiatives.

To that end, from May 18 to June 25, 2010 we surveyed more than 20,000 mainframe users for their feedback on a variety of questions relating to enterprise integration, real-time events and TCO. We received a total of 562 completed responses and we compiled the results into this document – the 2010 Mainframe Impact Survey: Enterprise Integration and Real-time Events.

Audience Profile

Survey respondents classified themselves by the role they occupy within their organizations:

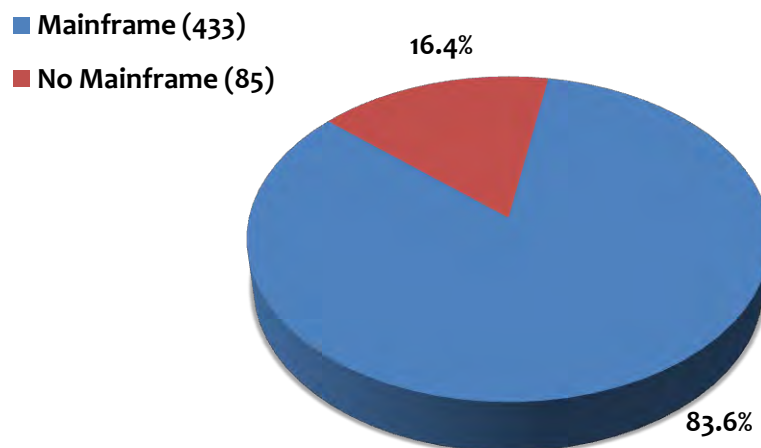
- ▶ **Business-Focused** – 44 respondents including, but not limited to: CEO; COO; CFO; Controller; Vice President; Director; General Manager; Departmental Manager; or Line of Business Owner
- ▶ **Technology-Focused** – 518 respondents including, but not limited to: Enterprise or Business Unit CIO; Enterprise, Process or Data Architect; VP or Director of Enterprise Integration, Application Integration or Application Development; Systems Programmer, or Database Administrator

Organizational Profile

Of the 518 technology professionals surveyed, respondents classified their organizations by the how they take their products to market:

- ▶ **Commercial Software Vendor** – 65 respondents
- ▶ **Corporate or Government End-User** – 359 respondents
- ▶ **Reseller, System Integrator or Consultant** – 94 respondents

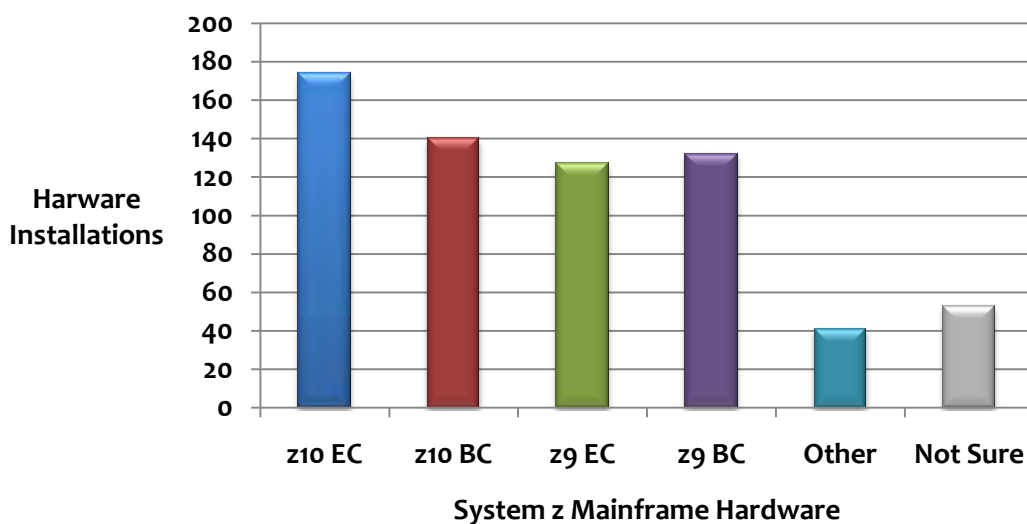
- ▶ And of the 518 technology professionals surveyed, 433 respondents (83.6%) confirmed that they employ mainframe technology, while 85 indicated that mainframes are not a part of their architecture.



Mainframe Market Overview

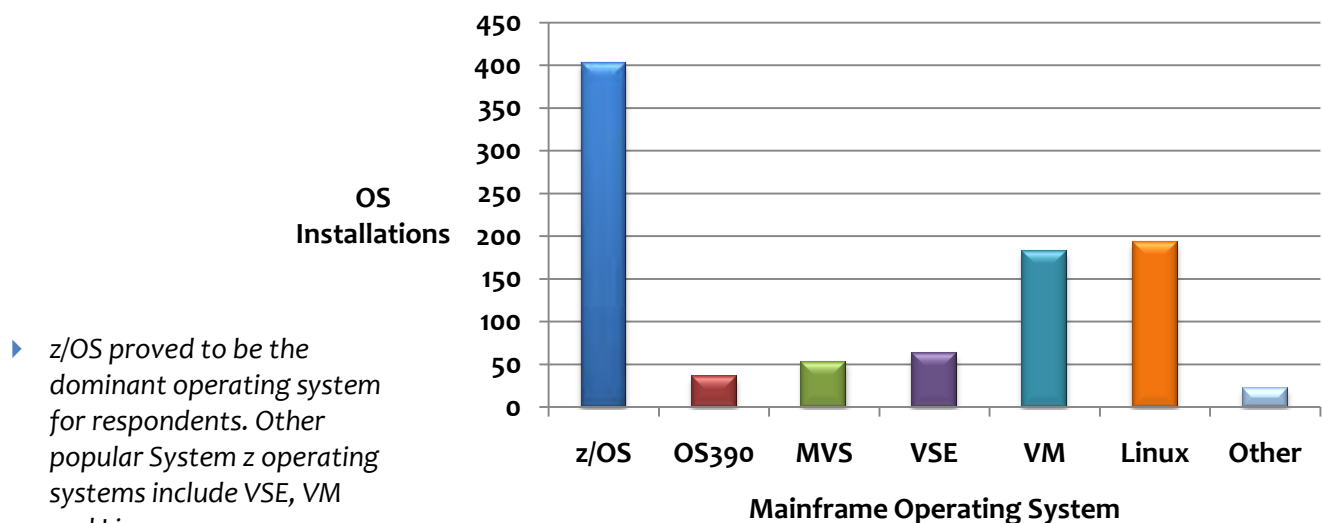
Despite the introduction and adoption of an array of modern application development and deployment platforms and the advent of the Service-Oriented Architecture (SOA) as a mainstream approach to computing, the mainframe remains and will remain a cornerstone technology for enterprise organizations.

IBM System z Mainframe Hardware



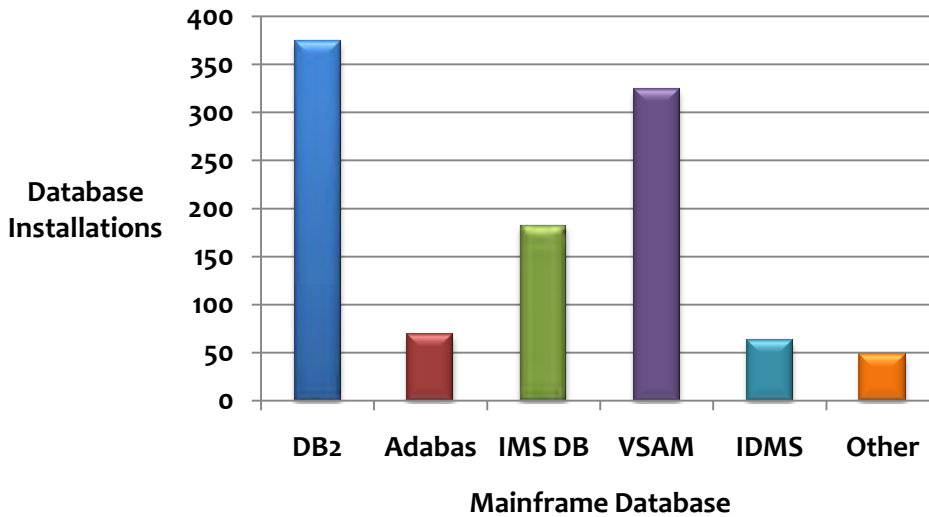
▶ Mainframe organizations employ one if not multiple versions of the IBM system z mainframe, underscoring the platform's unwavering dominance of the enterprise marketplace.

Mainframe Operating System Software



▶ z/OS proved to be the dominant operating system for respondents. Other popular System z operating systems include VSE, VM and Linux.

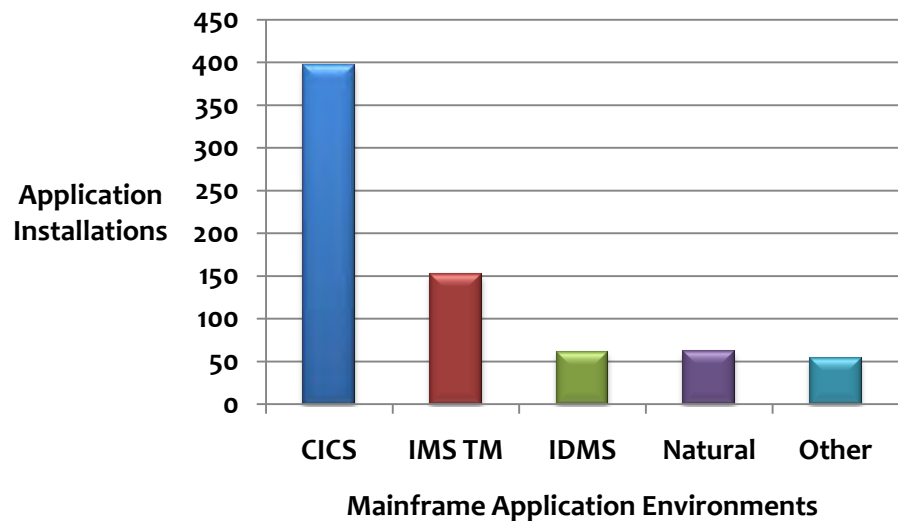
Mainframe Database Software



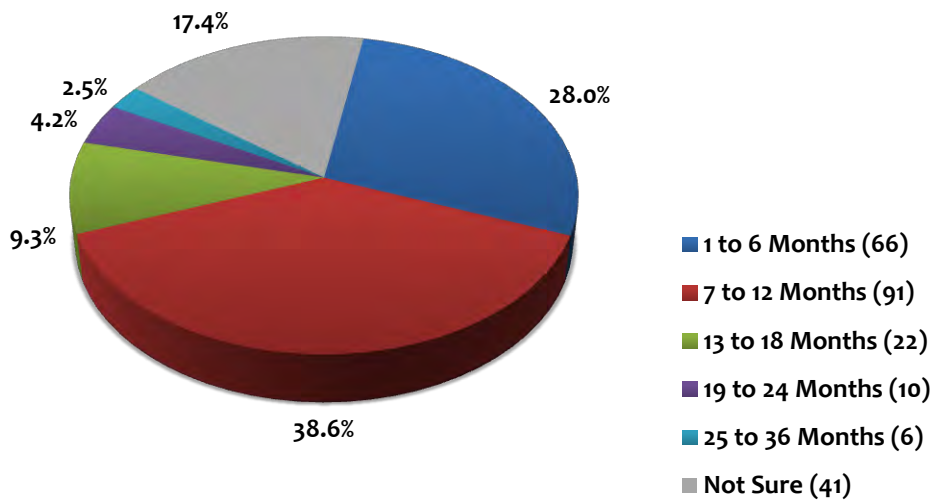
- ▶ Most respondents have adopted the DB2 relational database management system to handle daily data processing. However, VSAM datasets remain a cornerstone of database functionality for enterprise organizations.

Mainframe Application Software

- ▶ Overwhelmingly, respondents leverage IBM's CICS or IMS TM as their mainframe application transaction server. However, CA's IDMS and Software AG's Natural still hold noteworthy market share.



Timelines for Mainframe Upgrade



- ▶ Of the 433 mainframe organizations surveyed, 236 respondents said they had plans to upgrade their mainframe. And of those 236 organizations, two-thirds (66.6%) plan to initiate their upgrade within the next 12 months.

Mainframe persistence is grounded in unrivaled processing power and customized business logic. Moreover, with the continuing evolution of high performance mainframe integration tools, the mainframe is increasingly playing a more prominent role within advanced SOA ecosystems.

Those organizations who in the past embraced 'mainframe migration' as a strategic IT initiative have in most cases abandoned the stance of obsolescence, and are instead moving down a path of value-added integration. In this scenario, not only does the mainframe receive the benefits of inclusion, but also enriches more modern distributed systems with proven business logic and mission-critical data.

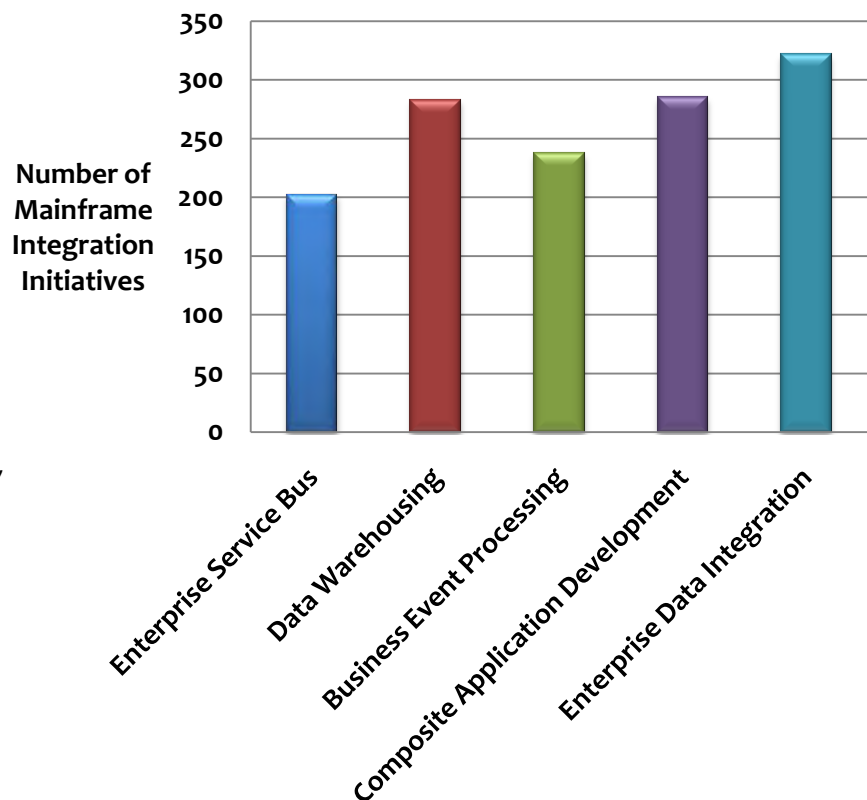
Moving forward, this survey explores some important trends in mainframe computing – Enterprise Integration and Real-Time Events – and how these trends are impacting mainframe organizations today. Also, the survey examines the importance of Total Cost of Ownership when it comes to mainframe transactional processing and looks at ways in which enterprise organizations are attempting to reduce mainframe TCO without sacrificing performance.

Enterprise Mainframe Integration

Enterprise Integration is about dynamic connectivity – combining people, processes, systems and technologies to ensure that the right processes have the right information at the right time. Unlike the classic Enterprise Application Integration (EAI) approach of monolithic stacks in a ‘hub and spoke’ architecture, Enterprise Integration does not promote a hard-wired point-to-point approach.

As mainframe organizations move forward with SOA implementations, mainframe integration is moving to the forefront of the discussion. Architects and developers used to view the mainframe as an isolated, proprietary silo that has no place in a modern infrastructure.

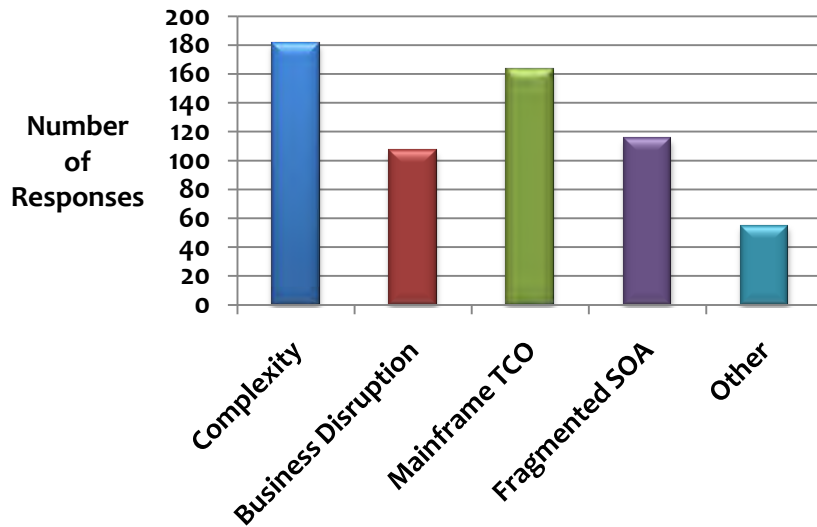
Mainframe Integration Initiatives



- ▶ *Of the mainframe organizations surveyed, many are engaged in multiple mainframe integration projects – connecting their legacy assets to a number of advanced technology solutions.*

However, in recent years attitudes have changed. Many IT decision makers now see the mainframe as an enterprise server that houses both mission-critical data and trusted business logic. As a result of this shift in perception, projects that connect the mainframe to more modern systems are now the norm in most enterprise shops.

Mainframe Integration Hurdles

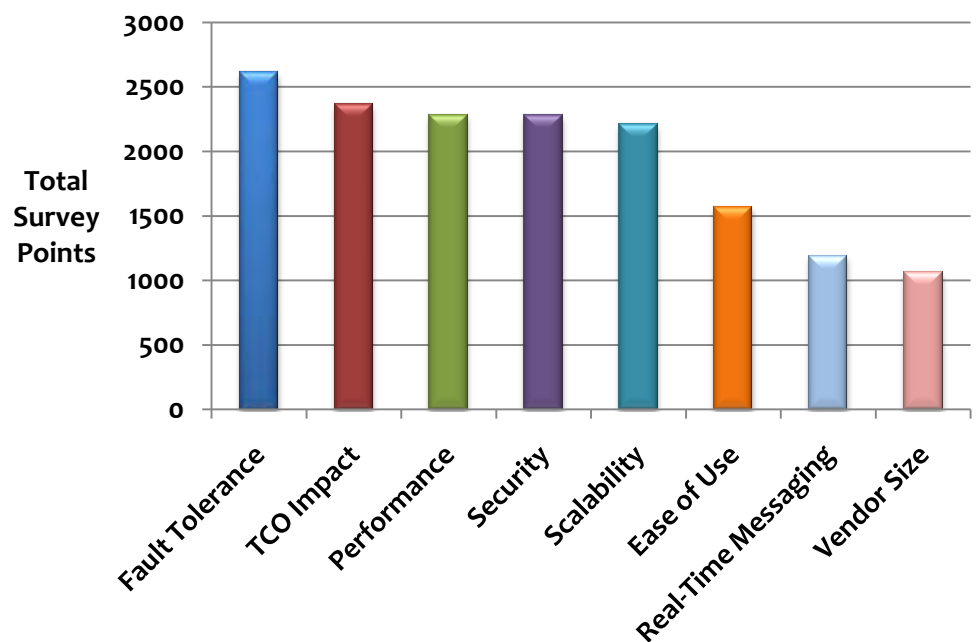


- ▶ Many organizations still struggle with adopting a comprehensive mainframe integration approach. In addition to the obvious issues regarding complexity and business risk, organizations are also very cognizant of the potential for increased mainframe processing costs.

Yet, despite all the enterprise mainframe integration projects in production or development, connecting to legacy assets is often a complex, risk-prone, and costly challenge for organizations. Many hurdles exist, and for this reason, important mainframe integration projects are delayed or even end up in failure. Fortunately, mainframe integration tools have come a long way, and are helping organizations make decisions faster and get to work on priority integration projects.

Mainframe Integration Technology Influencers

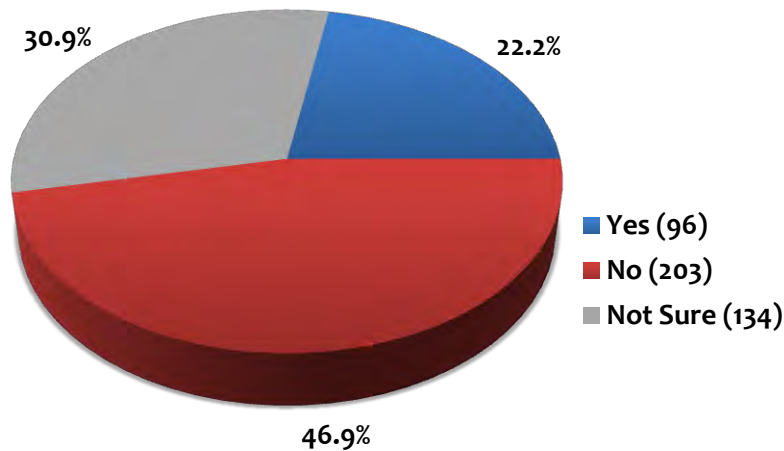
- ▶ The survey asked respondents to rank in order of importance factors that influence decision making when it comes to mainframe enterprise integration. Survey results demonstrate the importance of metrics such as fault tolerance, performance, security and scalability. However, decision makers also put a premium on solutions that reduce mainframe TCO. Furthermore, vendor size was the least important consideration.



Enterprise Service Bus

Modern Enterprise Integration leverages technologies such as the Enterprise Service Bus (ESB) which builds on base functions broken up into their constituent parts. An ESB is a middleware software architecture that provides fundamental services for more complex systems. An ESB generally provides an abstraction layer on top of an implementation of an enterprise messaging system, which allows integration architects to exploit the value of messaging without writing code.

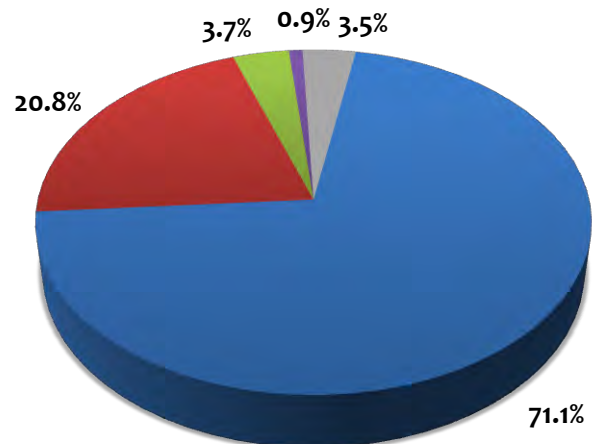
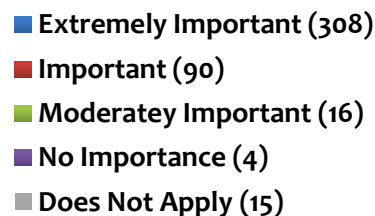
Mainframe ESB Integration



- ▶ Only 22.2% of respondents indicated that they were currently exploiting ESB technology for mainframe integration. Almost half reported that they were not, while 30.9% stated that they were not sure.

Value of Uninterrupted Transactional Flow

- ▶ 91.9% of respondents stated that maintaining an uninterrupted flow of business-critical transactions is either extremely important or important.

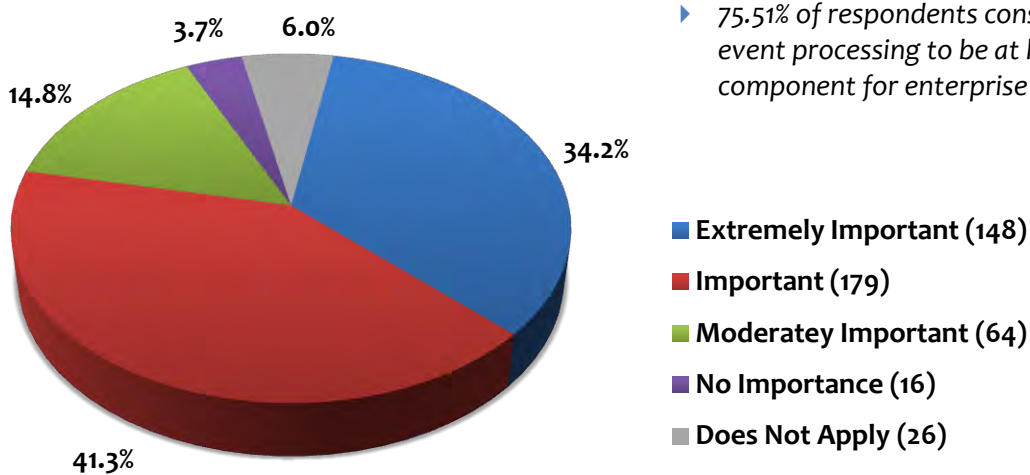


Out of 433 mainframe organizations, 337 or 77.8% are either not using an ESB at this time or were not sure. At the same time, uninterrupted transactional flow is a paramount concern. For mainframe organizations, high performance access to legacy data and logic is essential for any architecture. However, effective mainframe integration still poses significant hurdles.

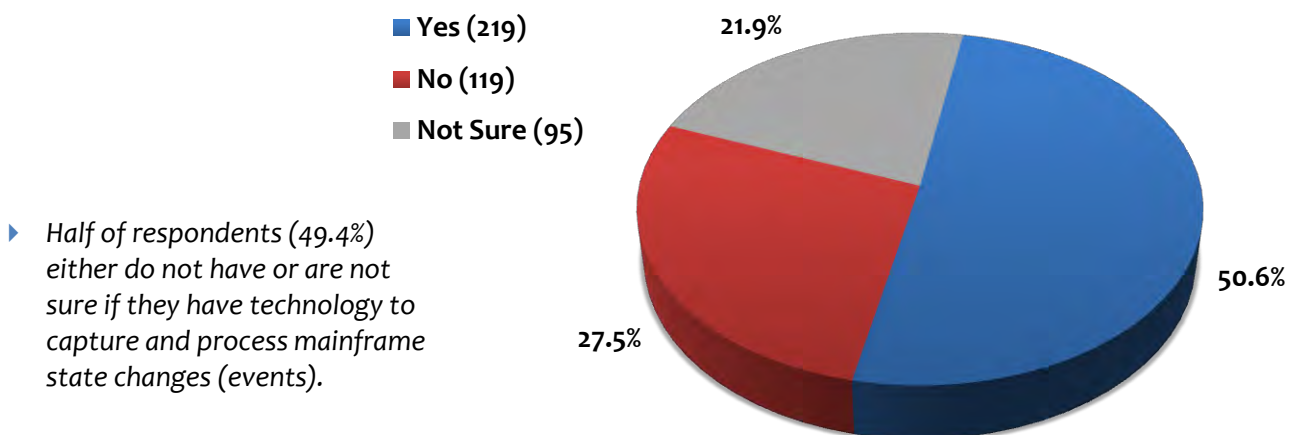
Real-Time Event Processing

An 'event' is any significant change of state that has a positive or negative effect on an enterprise organization. With so much mission-critical data and core operational logic residing within legacy environments, enterprises who wish to implement a comprehensive Real-Time Events strategy must include mainframe assets within the architectural framework.

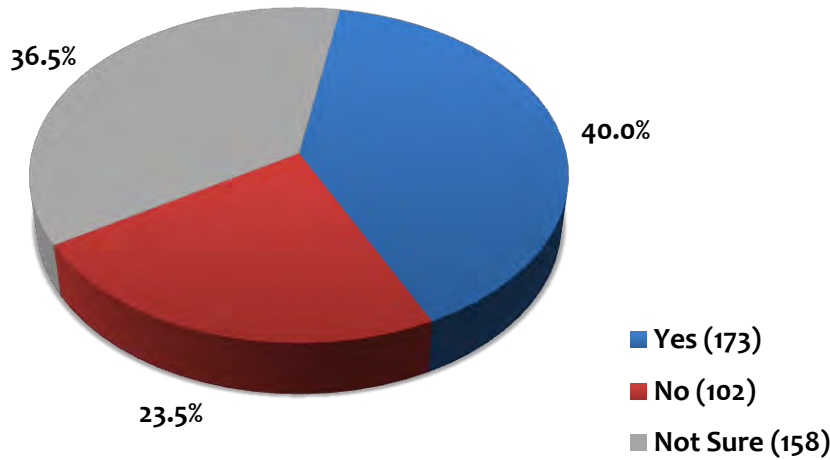
Value of Real-Time Events



Mainframe Real-Time Event Implementations



Support for Real-Time Information

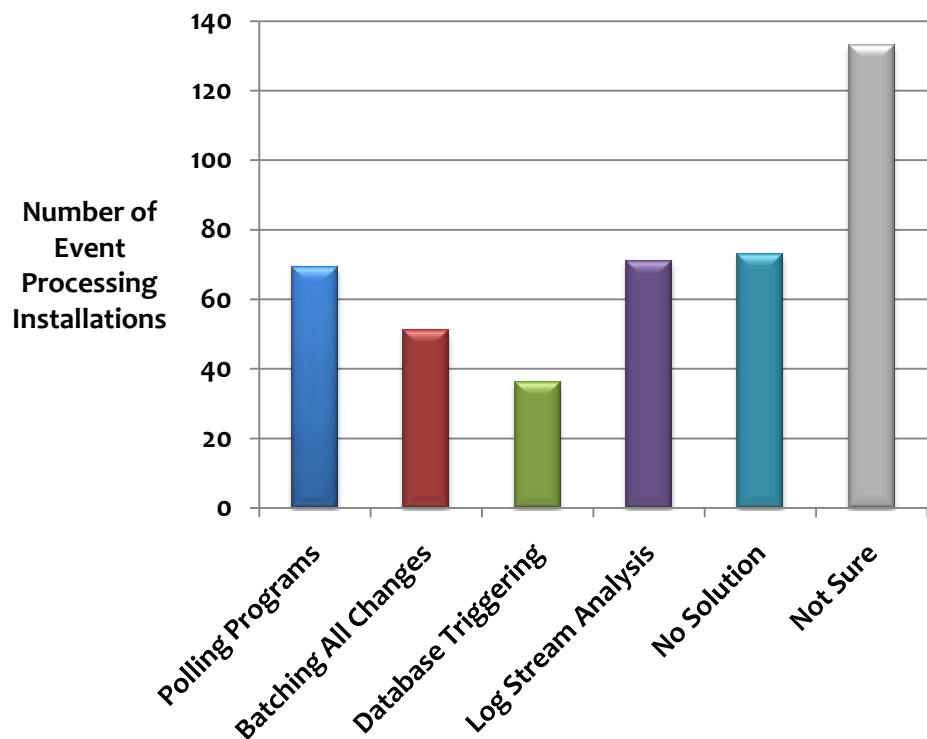


▶ When asked if existing practices around event processing satisfy needs for real-time information, 60% of respondents stated either that existing practices did not satisfy needs or they were not sure.

For many enterprise organizations, the mainframe is an operational hub that holds vital data and proven business logic. Most respondents put a high value on real-time event processing and many are unhappy with their existing access to real-time information. Unfortunately, despite these sentiments, most do not have a robust mainframe event processing infrastructure in place. Currently mainframe organizations employ a variety of methodologies for processing mainframe events.

Mainframe Event Processing

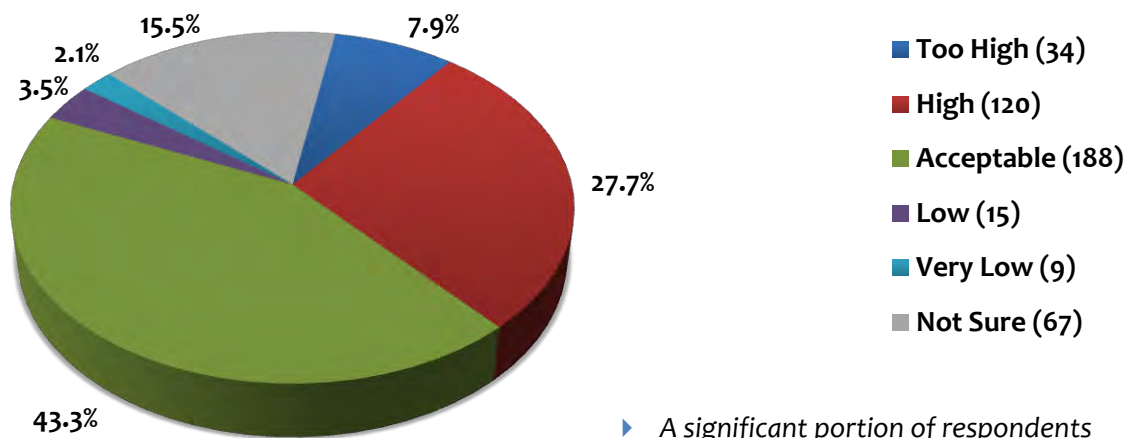
▶ Those organizations that do capture and process mainframe events do so in a variety of ways. However once again, a substantial number of respondents stated that they have no solution or are not sure.



Total Cost of Ownership

Organizations are turning to SOA to help accelerate business agility, but this comes at a price when it extends to the mainframe. SOA applied to the mainframe incurs very high processing costs associated with transforming mainframe functions into reusable Web Services. Yet, the dynamic interoperability gained through SOA is essential to unlocking the tremendous operational benefits of mainframe integration.

Mainframe TCO Perception



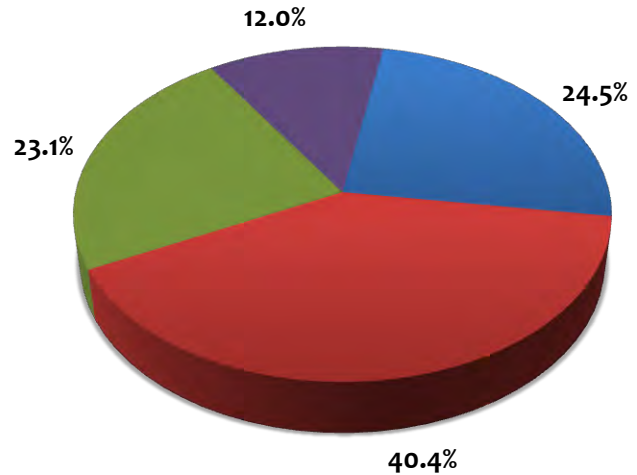
- ▶ A significant portion of respondents (35.6%) feel that their mainframe TCO is inflated. Additionally, 15.5% were unable to rate the cost of mainframe processing.

Earlier, the survey showed that the impact of integration on Total Cost of Ownership (TCO) was both a major hurdle for enterprise organizations as well as a major decision influencer in regards to technological evaluation.

As technologies that support Enterprise Integration and Real-Time Events continue to mature, mainframe integration will assume a more prominent role within architectural frameworks – the mainframe simply has too much to offer. However, as organizations look to leverage these technologies, they will certainly pay close attention to any impact on integration processing costs.

Value of Mainframe TCO Calculation

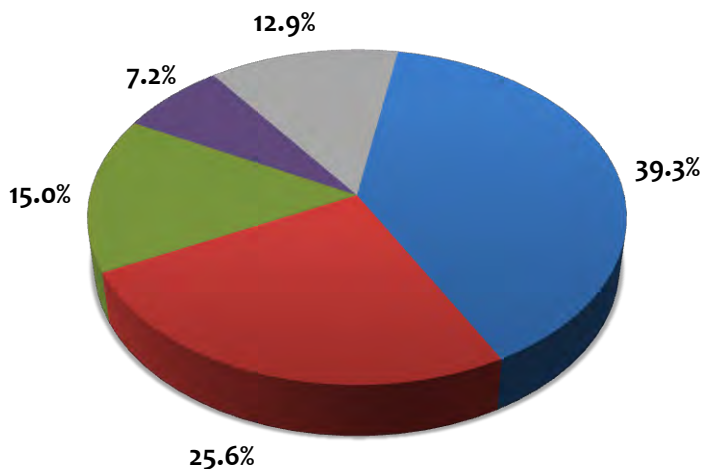
- High Value - Immediate Need (106)
- Valuable - Justifies Future Upgrade (175)
- Valuable - No Immediate Need (100)
- Moderate Value (52)



▶ Accurate mainframe TCO calculation is an important measurement for enterprise organizations – 88% of respondents reported it as a valuable capability.

As organizations become more capable of calculating mainframe processing costs, they want to take advantage of the latest features of the IBM System z platform for reducing TCO. Over the last few years, IBM introduced a series of mainframe specialty engines to its System z architecture. Two of these engines, the zIIP (System z Integrated Information Processor) and the zAAP (System z Application Assist Processor), in combination with advanced middleware, offer tremendous opportunities to cost-effectively integrate the mainframe with service-oriented enterprise integration initiatives.

Specialty Engine Importance

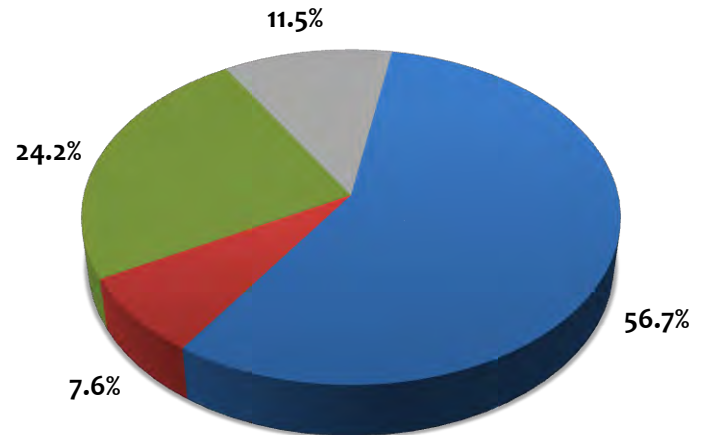


▶ According to 64.9% of survey respondents, specialty engine exploitation a strategically important method for lowering mainframe integration costs.

- Extremely Important (170)
- Important (111)
- Moderately Important (65)
- Not Important (31)
- Does Not Apply (56)

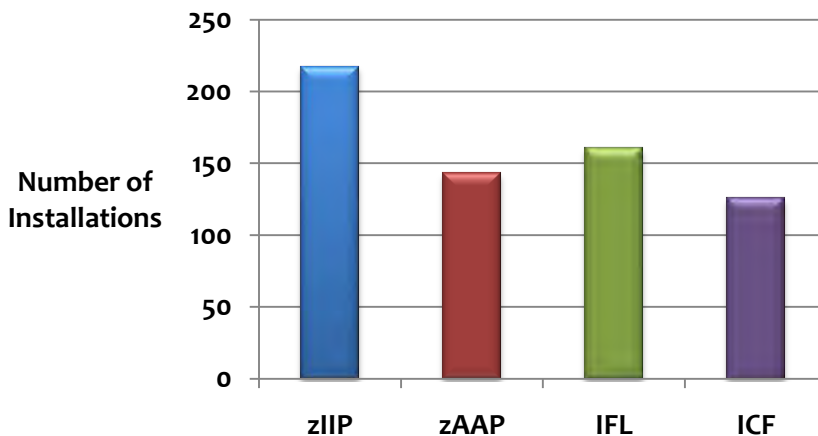
Specialty Engine Exploitation

- Yes (245)
- Not Yet, But Evaluating (33)
- No (105)
- Not Sure (50)



- ▶ 56.7% of survey respondents have purchased specialty engines and another 7.6% are currently evaluating the technology.

Specialty Engine Implementations



- ▶ When it comes to exploitation, respondents leverage the full spectrum of IBM specialty engines. However, the zIIP specialty engine is the most popular.

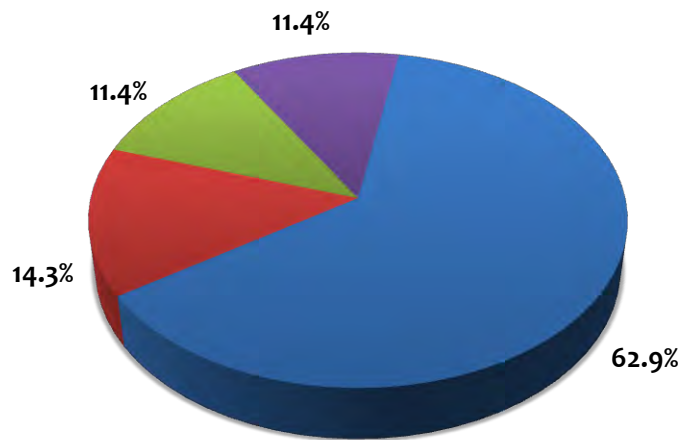
As organizations continue to evaluate their mainframe integration architecture, flexibility, usability, scalability, performance and other factors will all be very important criteria for evaluation. However, TCO impact will command increasing attention during architectural discussions. Mainframe organizations who understand the impact that specialty engines brings to the TCO equation and have the tools to help fully exploit specialty engine capabilities will more easily remove the hurdles for streamlined mainframe integration.

Operational Responsiveness

Operational responsiveness is the ability of business processes and systems to respond to changing conditions and customer interactions as they occur, enabling business leaders to capitalize on more opportunities, drive greater efficiencies and reduce risk. The survey polled respondents who identified as business professionals to examine their perceptions of the current state of operational responsiveness within their respective mainframe organizations.

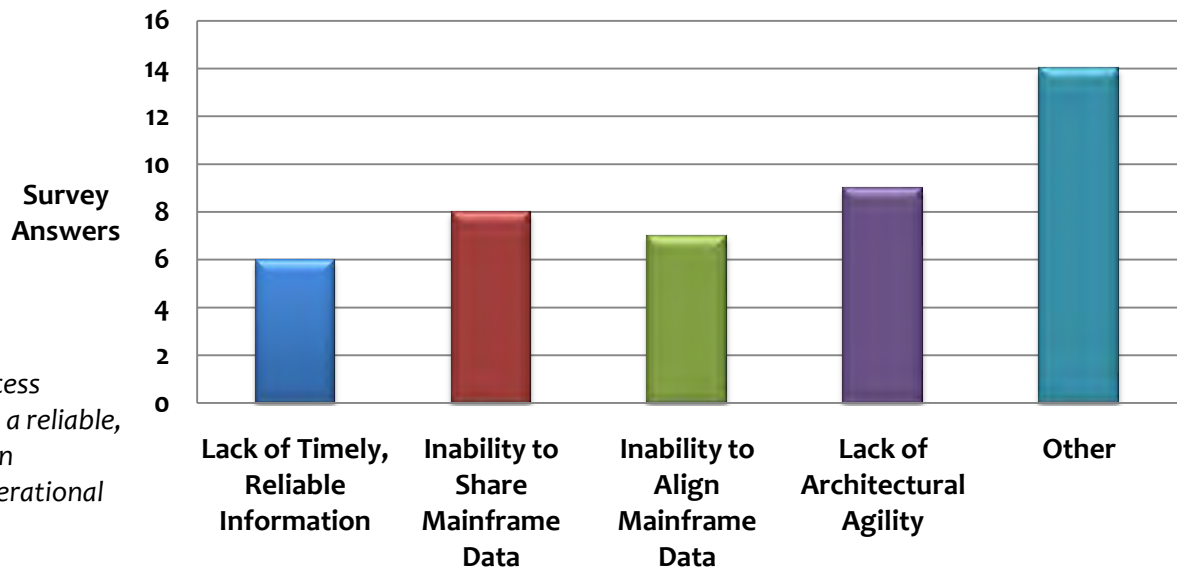
Value of Operational Responsiveness

- Extremely Critical (22)
- Critical (5)
- Moderately Critical (4)
- Not Critical (4)



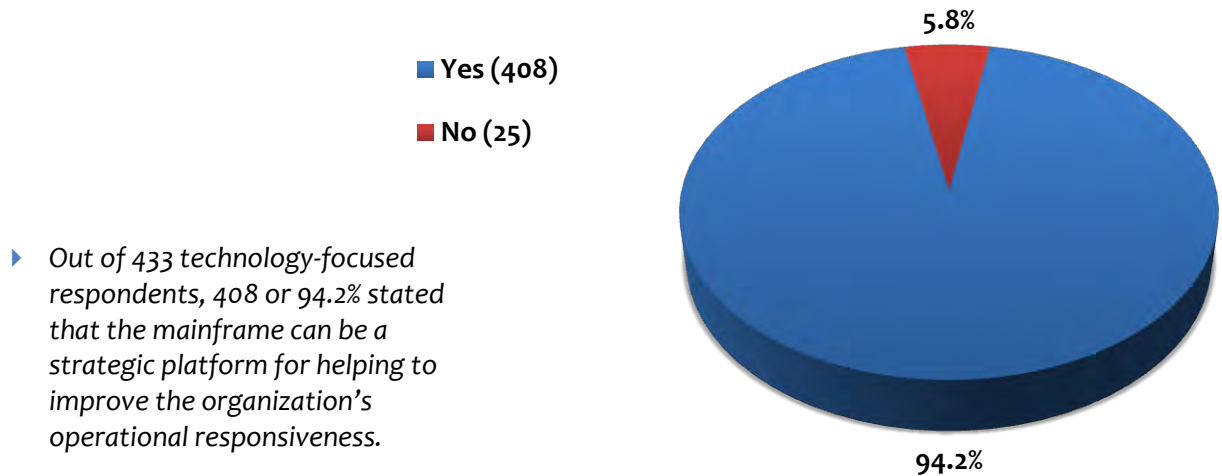
▶ Of business professionals surveyed, only 11.4% felt that operational responsiveness was not a critical capability for their organization.

Barriers to Operational Responsiveness



▶ The inability to access mainframe data in a reliable, timely manner is an impediment to operational responsiveness.

Mainframe and Operational Responsiveness



In the SOA world of today, critical mainframe data and core business logic still have much to offer. To maximize the value and benefit from these assets, enterprise organizations must integrate the mainframe with other business-valued applications and systems. And they must do it in a way that does not break the mainframe TCO bank. Only then will organizations achieve robust, yet cost-effective operational responsiveness.

From the survey results, it is obvious that most enterprise organizations still view their mainframe assets as both vital to the success of existing operations as well as future endeavors. 94.2% of respondents indicated that they viewed the mainframe as a strategic platform for improving operational responsiveness.

MAINFRAMEZONE.COM

MainframeZone.com is the independent, one-stop location that is exclusively focused on the information needs of IT professionals and managers responsible for acquiring, optimizing, maintaining, and aligning mainframe computing resources throughout an enterprise to achieve business objectives. As an independent, mainframe-focused website, MainframeZone.com is a portal providing easy access to a wealth of helpful resources that include:

z/Journal, the only independent magazine that provides technical, in-depth, how-to articles designed to increase the productivity of users of IBM mainframe computer systems.

Mainframe Executive, the only independent magazine that focuses on the role of the mainframe in an overall IT infrastructure and features case studies of unique implementations as well as topics such as security, virtualization, modernization, and migration.

Our involvement with IBM mainframes goes back more than 22 years to 1986 when we launched 4300 Quarterly. 4300 Quarterly quickly became 4300 Journal as its frequency increased. As IBM mainframe nomenclature changed, the magazine's name changed as well to Mainframe Journal and then to Enterprise Systems Journal. Other mainframe-oriented magazines we published were, DB2 Journal, IBM Internet Journal, and Relational Database Journal (which later became DB2 Journal).

PROGRESS SOFTWARE

Progress Software Corporation (NASDAQ: PRGS) is a global software company that enables enterprises to be operationally responsive to changing conditions and customer interactions as they occur. Our goal is to enable our customers to capitalize on new opportunities, drive greater efficiencies, and reduce risk. Progress offers a comprehensive portfolio of best-in-class infrastructure software spanning event-driven visibility and real-time response, open integration, data access and integration, and application development and management—all supporting on-premises and SaaS/cloud deployments. Progress maximizes the benefits of operational responsiveness while minimizing IT complexity and total cost of ownership.

PROGRESS DATADIRECT SHADOW

Progress DataDirect Shadow is a responsive integration architecture that reduces the cost, complexity and risk of mainframe modernization and data access. With Shadow, organizations extend the reach of enterprise SOA to include mainframe applications, enhance the value of data integration initiatives with mainframe data and events, and significantly lower the TCO of mainframe integration.

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