



**IBM System z
Government Industry**



Highlights

- *Deliver information to the right people at the right time with innovative, standards-based technology*
- *Protect security and manage costs with a simplified IT environment*
- *Align IT resources with agency objectives to maximize productivity and cost-efficiency*

Government IT leaders are under constant pressure to deliver results and conform to the latest e-government initiatives. Before investing in additional infrastructure resources, government agencies must be sure the current environment is as efficient as possible. Even if the infrastructure meets the organization's current needs, transformation often requires linking information and processes across agencies, levels of government, constituents and suppliers.

Within this new environment, government must protect critical information, ensure legislative compliance and handle constantly emerging security risks. As geopolitical shifts and changing economic conditions create increased caseloads and more complex information-sharing needs, government IT leaders at all levels are integrating business processes and infrastructure so their agencies can work more efficiently, effectively and securely.

Use innovative technology to deliver information to the right people at the right time

In a world where data analysis and delivery—to the right people at the right time—plays a critical role in maintaining peace and order, agencies at all levels must have mechanisms for securely sharing critical information. These organizations can improve productivity and increase collaboration by leveraging the insights gleaned from key information, helping them respond to events in real time.

Technology infrastructures can help governments achieve these goals through standards-based innovation. By embracing both open and de facto industry standards, agencies can help protect their investments in both hardware and software—allowing them to upgrade key systems without disruption and incorporate new applications as needed.

Simplify complex IT infrastructures with a comprehensive security strategy

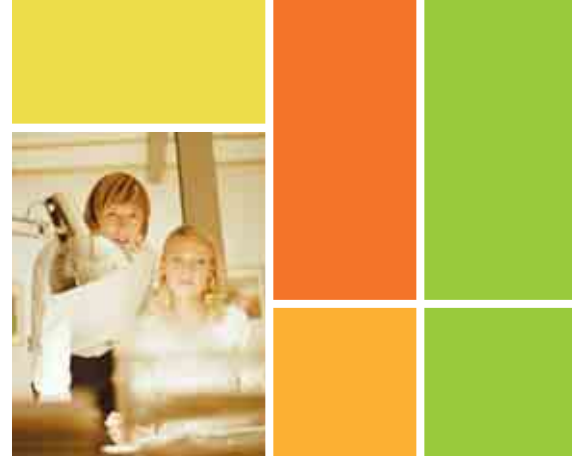
To facilitate information sharing, government IT departments must define comprehensive security strategies that allow them to prepare for, mitigate and recover from emergencies while also maintaining privacy and managing costs. At the same time, government organizations need operational flexibility to allow for seamless growth and easy migration of data. These capabilities can enable them to remain nimble rather than being constrained by their IT infrastructure.

An optimized On Demand Business environment can help protect IT infrastructures from threats by helping manage security risks and assisting in regulatory compliance. Tools designed to better tune and manage IT systems can help lessen complexity and reduce overall operational costs, while enhanced business resilience and compliance capabilities can help reduce risk by keeping critical systems up and running.

Key systems also must be designed to protect sensitive constituent information. By identifying and closing vulnerabilities before they can be exploited, government agencies can quickly address safety threats and concerns.

Maximize agency productivity with effective IT cost management

Budget pressures also present challenges for government IT departments. Because issues affecting private businesses are also impacting revenue collection and resource management organizations in the public sector, agencies are looking for ways to manage costs through better utilization of assets. By aligning IT resources with agency objectives, organizations can improve resource utilization, simplify systems management and more flexibly acquire, finance and manage technology.





Becoming an On Demand Business requires a simplified and integrated infrastructure

As companies transition to become on demand businesses, they require a computing environment that addresses three key issues. This computing environment must address the economics of the infrastructure, in particular the spiraling costs of management and support, through the adoption of automation and management disciplines that support workloads across all the infrastructure elements. It must address business risk through the adoption of infrastructure wide security and business resiliency policies and by providing a simplified and flexible environment through the virtualization of IT resources. Finally it must address service delivery, enabling collaborative computing that spans the entire business and beyond to its partners through systems built upon open and industry standards. A key consideration in delivering this type of computing environment is taking a broad view of computing resources through a synergistic approach to systems design.

A synergistic approach to systems design

IBM is committed to deliver advanced IT resources—servers, operating systems, middleware, storage and networking technologies—that support open standards and work better together to meet our client’s needs. IBM’s mainframe systems are the flagship of the IBM systems portfolio. They start with a server that is robust with security features, available and scalable, and provides a choice of operating systems. The latest IBM software is designed to further integrate applications, manage the breadth of the infrastructure and simplify IT operations. This approach also incorporates the latest IBM networking and storage technology that helps deliver improved responsiveness, lower costs, higher availability and better recoverability. The latest IBM System z mainframes deliver key capabilities that are the foundation for an integrated infrastructure.

Extensive scalability provides business flexibility

The massive horizontal and vertical scalability features of the mainframe offer businesses a foundation from which to support nondisruptive growth at low incremental cost. Virtual server capabilities help support infrastructure consolidation and simplification, while Capacity on Demand features for processors and memory allow companies to expand IT infrastructures rapidly as their business needs require.

A “share everything” approach to resource management helps mainframe systems provide virtually unmatched transaction throughput capabilities—for example, it is expected that 32 IBM System z9™ Enterprise Class mainframes in a cluster could achieve approximately 25 billion transactions per day,* which is more than the average weekly volume of the New York Stock Exchange. Advanced hardware features allow administrators to share resources on demand and provide high-speed communications among partitions via HiperSockets™ technology.



IT optimization helps enhance responsiveness

Because mainframe systems are designed to enable organizations to automatically adjust resources to match business priorities through highly intelligent and responsive systems management capabilities, they can help companies increase their responsiveness to changing market requirements.

Businesses can further help optimize their responsiveness by integrating key data and applications. Three special-purpose processor units—the IBM System z Application Assist Processors (zAAPs), the new System z9 Integrated Information processors (zIIP) and Integrated Facilities for Linux® (IFLs)—are designed to help companies cost-effectively integrate new Linux, Java™ and data serving workloads on the same system as the core business applications and data.

Business integration delivers key information insights

Using mainframe systems as an information hub for the enterprise, businesses can efficiently integrate and extend applications and data across the infrastructure—providing a unified view of information that helps improve business decision making. Through advanced virtualization capabilities and dynamic resource sharing, mainframe systems also can help allow companies to run hundreds of applications concurrently on a single server. New virtual systems can be provisioned in a few minutes, and secure virtual connections help facilitate high performance for integration and intercommunication of mixed workloads.

Secure design helps ensure outstanding business resiliency

Mainframes are designed with security built in across the system elements to offer peace of mind by assuring that critical applications and data will always

be available. By incorporating redundant component design and using business priorities to guide intelligent management of system resources, mainframe systems can help prevent service interruptions and lost revenue with up to 99.999 percent application availability.

IBM System z9 Enterprise Class: The foundation for the intelligent integrated infrastructure

Designed to take integration of business and IT to the next level through a holistic and synergistic systems design, IBM's flagship mainframe, IBM System z9 technology delivers major enhancements to systems security, availability, virtualization and scalability, designed to enable information and application sharing across business processes for improved decision-making. System z9 technology allows companies to capitalize on the strengths of legacy applications and





readily incorporate new software as they scale to support the complex requirements of their growing On Demand Business™. In April 2006, IBM introduced the System z9 Enterprise Class (z9 EC) which delivers increased choice and flexibility over the System z9 109 with the addition of 24 further capacity settings.

**IBM System z9 Business Class:
Designed for the smaller enterprise**

A new mid range system also introduced in April, the System z9 Business Class (z9 BC), delivers key System z9 technologies that are 'Right Sized' for the smaller enterprise. Delivering a low

point of entry, highly granular capacity settings, broad support for specialty engines and upgradeability from earlier generations of mainframes, z9 BC is designed to deliver the System z benefits in a perfectly proportioned package.

**Delivering new capabilities on the
IBM Mainframe**

IBM Encryption Facility for z/OS

In September 2005, IBM announced an extension to the mainframe's encryption capabilities allowing for the encryption of data at rest. This provides protection for data stored on tape either for

archival or for distribution to other parts of the business or outside to partners, further protecting critical business information and assets. This feature is available across the System z family, including the z9 EC and z9 BC.

*System z9 Integrated Information
Processor (zIIP)*

In April 2006, IBM announced the availability of the zIIP, delivering significant benefits for selected data serving and data mining workloads, helping to lower the cost of computing and to free up general purpose capacity for organic growth or new workloads.



As government IT departments adopt an on demand approach for more responsive and higher-quality services at lower costs, e-government initiatives continue to push them toward more information sharing and process integration between agencies, suppliers and constituents. To accomplish these goals, governments must optimize their IT infrastructures for flexibility and resiliency using cost-effective, standards-based platforms. The System z platform can play a key role in supporting this process with massive scalability and integrated system management capabilities, which can be extended across heterogeneous infrastructures to support resilient, flexible and cost-effective IT environments.

As political shifts and economic changes create increased workloads and data-sharing needs, System z servers provide a flexible and responsive platform designed to handle transaction and data-serving requirements without disrupting operations. IBM Capacity Backup and On/Off Capacity on Demand offerings on the System z platform help enable governments to add processor or memory capacity according to demand for more effective IT cost management. In addition, the shared resource approach allows agencies to adjust IT resources automatically to match objectives—providing the flexibility and responsiveness to keep critical systems running.

Because mainframes are designed for outstanding resiliency, they offer government IT departments a secure, virus-resistant infrastructure that is essential for an on demand environment. Mainframe hardware, operating system and middleware elements are designed to interoperate for world-class

security, application availability and disaster recovery capabilities. Features designed to provide high availability and solid asset protection can help governments protect infrastructures from security risks, keep data safe, maintain privacy and ensure legislative compliance.

Mainframe systems also are designed to help agencies simplify IT infrastructures so valuable data can be collected, analyzed and securely shared where necessary. Advanced virtualization and dynamic resource-sharing capabilities help consolidate workloads and reduce server sprawl—helping to lower costs and ease integration of software and middleware products across heterogeneous systems. By modernizing data and applications, governments can leverage the insights gleaned from key information to improve productivity, reduce operational costs and respond to events in real time.



For more information

To learn more about IBM System z,
please contact your IBM representative
or visit:

- ibm.com/systems/z
- [ibm.com/servers/eserver/zseries/
solutions/government.html](http://ibm.com/servers/eserver/zseries/solutions/government.html)



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- * This is a theoretical calculation of 32 individual
z9-109 servers (each configured with
32 engines) in a parallel sysplex. It is a
projection based on measurements of a single
z9-109 (configured with 32 engines) obtained in
a controlled environment. The actual
performance that any user will experience will
vary depending upon considerations such as
the amount of multiprogramming in the user's
job stream, the I/O configuration, the storage
configuration, and the workload processed.
Therefore, no assurance can be given that an
individual user will achieve throughput or
performance equivalent to the numbers stated
here.