Comprehensive, cost-effective security solutions for enabling collaboration and business growth

- *Leverage comprehensive, industry-leading security solutions for end-to-end enterprise security across multiple platforms*

- *Deploy applications and services faster by leveraging a strong security foundation*

- *Prevent unauthorized access to, or use of, sensitive data that could lead to data breaches or compliance violations*

- *Protect your organization against internal and external threats with powerful and flexible security controls*

- *Reduce your total cost of ownership while more effectively addressing compliance initiatives*

- *Manage user identities and access throughout the user lifecycle*

- *Facilitate secure collaboration between stakeholders*

- *Remove the security obstacles that can hinder business growth*

Today's organizations are struggling to keep pace with growing customer expectations and the rapid rate of change. The physical and digital worlds are converging with more digitally aware devices such as cards, badges and phones; more transactions for access to money, privileges and secure information; more users, including employees, business partners, patients, citizens and consumers; and more services with people requiring secure access to their information—all straining IT operations and the infrastructure. While these market forces are creating new opportunities for organizations, new technologies such as virtualization and cloud computing are introducing new levels of complexity and risk from a security perspective.

In particular, today's IT organizations face increased security and compliance concerns around identity and access management, application security, infrastructure security and information security—all of which can inhibit competitiveness and growth if not addressed effectively. In a smarter world, organizations need infrastructures that can propel them forward, not hold them back from embracing innovative business opportunities.

As organizations work to create infrastructures that drive down cost and are intelligent, secure and just as dynamic as today's business climate, they face new imperatives to strategically manage risk end-to-end across all security domains. The key to managing risk in a dynamic infrastructure is to develop a foundational set of security controls that allows you to deliver superior business and IT services with agility and speed—while helping to reduce the costs of management, administration and operation of the security infrastructure.

IBM Tivoli® software offers a comprehensive portfolio of security, risk and compliance management solutions that can help you meet the challenges of securing a dynamic infrastructure. These security offerings deliver a full range of security capabilities that address the people, processes, and information risks in your environment, while helping you improve service delivery and reduce cost:

- **IBM Tivoli Identity and Access Assurance**—*Provide efficient and compliant access for the right people to the right resources at the right time*
- **IBM Tivoli Data and Application Security**—*Protect the integrity and confidentiality of organizational data and transactions from browser to disk*
- **IBM Tivoli Security Management for z/OS**—*Secure and audit critical services on your most trusted and resilient platform*

These solutions offer comprehensive, end-to-end security across identities, data and information, applications, processes, and infrastructure. Automated compliance management capabilities are integrated with each offering, closing the loop from controls and management to audit and compliance. By establishing an integrated compliance management mechanism throughout these offerings, synergies are established to help ensure consistent compliance across platforms and to improve customer value.

> *"Tivoli was the point of the spear at this year's RSA event, leading with identity-focused offerings that are, increasingly, directly tied to its compliance portfolio. Bringing together policy and identification technologies with activity monitoring provides a more holistic management capability . . ."*
> — *Merv Adrian, IT Market Strategy*

With IBM Tivoli security, risk and compliance management solutions, organizations can take a single-vendor approach to IT security, helping to minimize complexity as well as reducing total cost of ownership (TCO). IBM is a trusted provider with unmatched experience in the development and deployment of end-to-end security solutions for organizations worldwide. IBM can help your organization develop a security posture that better serves your goals, facilitating secure collaboration between key stakeholders and removing the security obstacles that can hinder growth.

IBM Tivoli Identity and Access Assurance

With an increasing number of users, applications and access points, organizations face the challenge of managing identities across the user lifecycle—providing convenient access to a variety of applications and systems while ensuring strong and compliant security. IBM Tivoli Identity and Access Assurance can help organizations ensure that the right users have access to the right information in a timely manner, providing comprehensive identity management, access management, and user compliance auditing capabilities. The solution centralizes and automates the management of users, then closes the identity and access loop, providing industry-leading capabilities not only for assigning and enforcing user access rights, but also for monitoring user activity and for detecting and correcting situations that are out of compliance with security policy.

Tivoli Identity and Access Assurance offers the following key capabilities:

- *Identity management—from on-boarding users and assigning appropriate access rights, to changing user roles and modifying privileges, to terminating user access rights at the end of the user lifecycle.*
- *Access management—providing secure authentication of users, including single sign-on, and enforcing user access policies once the user has been authenticated.*
- *User compliance auditing—monitoring, auditing, and reporting on user activity, helping organizations facilitate compliance with organizational policies and regulatory mandates, and reducing the risk of internal threats by monitoring users for abnormal behavior.*

Tivoli Identity and Access Assurance is a comprehensive identity and access offering that is easy to implement and easy to use. It interoperates with a broad set of identity repositories, easily handles large volumes of users, and enables automation of process workflows, improving administrative efficiency and minimizing costly errors. Tivoli Identity and Access Assurance closes the identity and access loop with compliance support. It automatically captures and centrally collates user access activities, and summarizes the information on a security compliance dashboard. Monitoring reports let you know if user activities align with the rights and policies of your organization. The dashboard and reporting also highlight abnormal or out-of-policy activity, so it can be addressed and corrected.

With Tivoli Identity and Access Assurance, IBM combines the best capabilities of the IBM identity and access management portfolio, integrating these powerful tools in a single solution that addresses the entire user lifecycle. The solution empowers organizations to **improve service** by enabling collaboration through role-based portals, facilitating the quick roll-out of new services, and enabling single sign-on. Tivoli Identity and Access Assurance helps organizations **reduce costs** for managing accounts, groups, policies, credentials and access rights throughout the user lifecycle by providing a single-vendor solution that reduces TCO and complexity while giving users quick access to the resources they need. Finally, organizations can better **manage risk** with the integrated support the solution provides for compliance efforts, including centralized and automated audit compliance reporting, robust user activity monitoring, and strong password policy enforcement capabilities.

IBM Tivoli Data and Application Security

Real-world data loss incidents are occurring every day, and they have the potential to dramatically impact an organization's bottom line. The assault on personal and confidential data in particular has driven numerous industry regulators and standards bodies to require more and more stringent security controls for data, both at rest and in use. In addition, data volumes are doubling every 18 months, further complicating efforts to provide secure storage of data, both onsite and offsite.[2]

Applications have become a primary attack point for data security breaches, with 75 percent of attacks directed at the Web application layer.[1] The increasing complexity of today's composite applications, combined with ongoing efforts to make applications more accessible to users who need to share information, means that an organization's applications are more vulnerable than ever.

IBM Tivoli Data and Application Security is a comprehensive solution that helps organizations protect data and applications by providing auditable access controls, enabling fine-grained control of user privileges, and centralizing management of data encryption keys. This industry-leading solution provides end-to-end protection of sensitive data both in enterprise storage systems and within critical applications, helping organizations support regulatory compliance initiatives and improving data and application reliability.

Tivoli Data and Application Security offers the following key features:

- *Fine-grained management of user privileges, from the application level to the operating system level*
- *Centralized entitlement and security policy management and enforcement—for fine-grained authorization and data-level access control*
- *Centralized management of encryption keys—for both tape and disk storage*
- *Comprehensive and automated user activity monitoring and reporting*
- *Centralized, automated compliance reporting and log management customized to address a wide variety of regulations and industry standards, such as PCI DSS, Basel II and ISO 17799*

With Tivoli Data and Application Security, IBM has integrated a powerful combination of enterprise security capabilities from the Tivoli software portfolio, addressing a wide range of data and application security requirements.

Tivoli Data and Application Security can help organizations **improve service** by facilitating secure data sharing among internal and external collaborators, including through Web-based services. Organizations can **reduce costs** associated with siloed security controls by enabling centralized security management—simplifying and centralizing administrative tasks,

eliminating redundant security systems and leveraging an integrated platform for streamlined administration and enforcement. Finally, the solution can help organizations **manage risk** by preventing unauthorized access to or use of sensitive data that could lead to data breaches or compliance violations.

IBM Tivoli Security Management for z/OS

The IBM mainframe has long led the industry in providing mission-critical security protection, establishing a reputation for industrial-strength security. IBM Tivoli Security Management for z/OS® enhances the flagship security of the IBM z/OS platform by providing integrated, automated and simplified mainframe security capabilities. This comprehensive solution brings together key functionality from the IBM System z® security software portfolio to help organizations automate compliance reporting, achieve new levels of operational efficiency, and reduce both costs and risk.

Tivoli Security Management for z/OS provides the following key capabilities:

- *Enhanced risk management and compliance for IBM System z by establishing and enforcing security policies based on the organization's specific security requirements. Organizations can proactively enforce security policy compliance on Resource Access Control Facility (RACF®), prevent internal security errors, identify non-compliant security commands, and issue alerts when risky security commands are issued.*
- *Simplified security administration and more effective user management, which can help increase efficiency and reduce errors. Tivoli Security Management for z/OS can improve both administrator and auditor productivity by enabling more effective group and role-related task administration. Security configuration changes can be tested without affecting production, and potential conflicts can be proactively identified between multiple RACF databases in the enterprise.*
- *Comprehensive monitoring for threat incidents, audit configuration changes, and resource usage. Tivoli Security Management for z/OS can detect changes to established baselines as well as abuse of privileges, helping to reduce the risk of insider threats.*
- *Comprehensive compliance capabilities with cross-platform log collection, sophisticated data analysis, and pre-packaged reporting across operating systems, applications and databases in your enterprise. These capabilities can help facilitate demonstration of compliance with industry regulations, government regulations, and standards such as PCI, SOX, GLBA, HIPAA, FISMA and BASEL II. Logging and reporting can be tailored to meet the unique requirements of each IT organization.*

The combined security capabilities of the mainframe, RACF, Tivoli Security Management for z/OS and other Tivoli security products for the mainframe allow an enterprise to establish an enterprise security hub which can centralize and standardize security management and security policy across a distributed enterprise. This hub can provide lifecycle identity management, access control policies, federated identity management, encryption key management, and compliance monitoring and reporting.

With Tivoli Security Management for z/OS, organizations can **improve service** with the consolidation of security controls, enabling secure collaboration and improved reliability. The solution can help organizations **reduce costs** through automated and simplified administration, helping organizations improve productivity and deal with the complexities and scale of operations on the mainframe. And it provides powerful security controls and compliance reporting capabilities that can help organizations **manage risk**, enabling them to detect and deter internal and external security threats to the mainframe and the extended enterprise.

Holistic security management

IBM's leadership in security is an outgrowth of our broad solution portfolio, our vast network of services professionals, and our dynamic Business Partner community. IBM consistently leads the way in developing and supporting open standards, and our security solutions provide broad platform support.

These Tivoli security, risk and compliance management solutions bring together the industry-leading capabilities our customers can rely on, prompting Merv Adrian of IT Market Strategy to observe, "Tivoli was the point of the spear at this year's RSA event, leading with identity-focused offerings that are, increasingly, directly tied to its compliance portfolio. Bringing together policy and identification technologies with activity monitoring provides a more holistic management capability . . ."[3]

The customer is responsible for ensuring compliance with legal requirements. It is the customer's sole responsibility to obtain advice of competent legal counsel as to the identification and interpretation of any relevant laws and regulatory requirements that may affect the customer's business and any actions the customer may need to take to comply with such laws. IBM does not provide legal advice or represent or warrant that its services or products will ensure that the customer is in compliance with any law or regulation.

1 Stasiak, Ken, "Web Application Security," *Information Systems Control Journal*, Volume 6. ISACA, 2002. www.isaca.org/Content/ContentGroups/Journal1/20023/Web_Application_Security.html.

2 "Data Volume is Becoming Unmanageable, Say Executives," Government Technology News Report, August 5, 2008. www.govtech.com/gt/articles/385068.

3 Adrian, Merv, "IBM Touts Software's Role in Infrastructure Efficiency," Market Strategies for IT Suppliers, June 19, 2009. http://mervadrian.wordpress.com/2009/06/19/ibm-touts-softwares-role-in-infrastructure-efficiency

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