Protecting against cyber threats in the modern business infrastructure

Enable innovation with secure approaches to cloud, mobility, social business, big data and more.

Executive summary

With headlines touting the financial, political and brand implications associated with modern security breaches, boardrooms are buzzing with the topic of information security. The discussion is fueled by technological shifts that are expanding the boundaries of business infrastructures. New computing trends like cloud, mobility, and social business can foster innovation, collaboration, competitive advantage and closer connections with customers. But they are also stress points where trust and risk collide—pitting usability and access to information against cyber threats and vulnerabilities.

Advances in enterprise computing and a massive accumulation of data have raised the stakes. Business continuity, brand image, financial results and strategic execution are all at risk. As a result, executives have both heightened interest and increased expectations for IT security. Addressing these expectations requires informed, aligned, intelligent risk management that encompasses:

- Elite, preemptive security research and development
- Business and operational expertise
- Comprehensive security technology aligned with a proven security strategy
- Certified professional security compliance auditors
- Extensive experience managing security and privacy across employees and endpoints.

Key shifts in enterprise computing drive increased focus on security.

Even in a changing world, some aspects of enterprise risk management remain the same. Security technology is complex to implement, and organizations may be weary of increased security spending. Organizations are faced with hundreds of security vendors touting best-of-breed credentials, each offering a variety of point solutions. Many traditional security approaches are still relevant, such as "default deny" for firewall traffic and the principle of least privilege when it comes to information access.

But multiple factors are contributing to the need for a renewed focus on foundational security controls. The volume and value of digital information is exploding. Information and applications are increasingly being driven into the cloud. Virtualization continues to be a primary IT initiative to improve efficiency and lower costs. And intelligent devices make data accessible anywhere, anytime.

Increased mobility and social business are particularly challenging for security-conscious organizations because the perception of trust is varied. For example, people using mobile devices do not apply the same security precautions as they do when using a laptop—even though modern smart phones have the same computing power as laptops introduced five years ago.

Social business and the concept of Enterprise 2.0 are converging personal and professional identities. Enabling employees to access social media using company resources can build online advocacy for the business, but the blurred distinction between personal and professional personas may harm a company's image. It also opens up the risk of data theft or other forms of attack. Social media sites are great places to launch phishing scams where employees unwittingly download malware onto their corporate machines. Many organizations recognize the inconsistency in their social media policy, but don't know how to strike the right balance between risk and reward, security and usability.

Malicious actors are launching sophisticated, persistent attacks.

Just as IT capabilities and business evolves, so does cyber crime. Internet threats that once were an IT nuisance have morphed into entry points for monetized criminal activity. The IBM X-Force® research and development team sees more than 50,000 new or variant strains of existing malware on the Internet each day. These threats are stealthier, faster and better at evading security controls. And their goal is to steal information and/or gain control of a device undetected.

The criminal underground is so evolved that fierce competition is erupting between crimeware authors, who stand to make a lot of money as their malware toolkits are bought and sold. Some threats even come with their own licensing to prevent piracy, and have undergone rigorous quality assurance testing much like commercial software. And the pace at which variations designed to evade detection are launched has accelerated. With so much time, energy and money at stake for the criminal community, organizations are hard-pressed to keep pace in what amounts to a security arms race. Thankfully, organizations don't have to build their own security research organizations to stay ahead of the next threat.

Protect existing IT infrastructure and foster secure innovation.

Whether an organization has a mature security model in place or is considering new computing initiatives like cloud environments and social business, IBM can help them build security into all aspects of their business, supporting the pursuit of innovation. IBM partners with its customers to chart a path to becoming secure by design that leverages technology and expertise across the key operational domains of people, data, applications and infrastructure. This approach is designed to help businesses:

- Attain continuity of operations
- Translate data into actionable insights
- Reduce business cost and risk
- Innovate with agility and confidence

By viewing security end-to-end across the organization, IBM can help you better understand and prioritize risks and vulnerabilities based on their potential to disrupt business operations. As a result, you can reap the rewards of emerging technologies from a strong security posture that empowers all the relevant roles within the enterprise.

IBM offers a comprehensive portfolio of security solutions backed by world-class security research and analytics. Our next-generation analytic capabilities support predictive, security-specific decision making (e.g., streaming analytics, business optimization solutions, enterprise data warehousing, service-delivery centers). We maintain leadership positions with identity and access management technology, application security, data security, security information and event management, and managed security services that are critical to secure cloud implementations and protect data within a social business environment. And IBM is one of the only providers to offer expertise from certified professional security compliance auditors.

2011 – The Year of the Security Breach

IBM X-Force® 2011 Mid-Year Trend and Risk Report, featuring research and analysis from the IBM X-Force research and development team, outlines multiple trends affecting threat management, including,:

- **An explosion of security breaches opened 2011 and near daily reports continue to mark this year as the "Year of the Security Breach." Organizations must prepare to defend against advanced persistent threats as well as financially motivated botnet operators and criminal actors. Both large and small businesses are the target of state-sponsored computer intruders.**
- **The first half of 2011 saw an increased level of malware activity targeting the latest generation of smart devices, and the increased number of vulnerability disclosures and exploit releases targeting mobile platforms, first seen in 2010, continues into 2011.**
- **SQL injection continues to be a favorite attack vector among malicious groups as demonstrated by the numerous mass SQL injection attacks occurring over the past several years.**
- **Web application vulnerabilities, which represent 37 percent of all vulnerabilities, continue to be targeted by attackers of every motivation and skill level.**

IBM maintains the operational expertise to weave security controls and processes into existing business systems. IBM is uniquely suited to meeting an organization's security challenges at any point along an IT risk management continuum. Flexible delivery models mean that businesses can select any combination of professional services, hardware, software, and managed services to meet their needs. Industry-leading research and development provide a foundation for the entire IBM security portfolio. Intelligent security from IBM encompasses:

- The IBM X-Force research and development team, one of the most advanced commercial research entities worldwide
- IBM Research
- IBM Managed Security Services
- 3,000+ security and risk management patents
- The world's largest vulnerability database with more than 58,000 categorized events
- A web filtering database with 10 billion evaluated web pages and images
- 15,000 researchers, developers and subject matter experts engaged in security initiatives.

IBM has proven experience executing a global security strategy. We manage security and privacy for more than 400,000 IBM employees around the world and secure our own robust cloud infrastructure. Our security teams evaluate billions of events each day, and clients entrust us to manage security across millions of endpoints. With more than 40 years of experience in the security space, IBM has references from customers across industries, as well as nation states.

IBM can help.

IBM takes a holistic view of enterprise risk management. We can help assess your overall risk posture, establish an enterprise risk management program and ensure security is an integrated part of the risk management process. In order to align security with critical business processes, IBM can deploy intelligent security controls within the key domains of people, data, applications and infrastructure. We can also help analyze your security and compliance posture on an ongoing basis so you can continue to innovate with confidence.

For more information

To learn more about IBM Security Solutions, please contact your IBM marketing representative or IBM Business Partner, or visit the following website: **ibm.com**/security

Additionally, IBM Global Financing can help you acquire the IT solutions that your business needs in the most cost-effective and strategic way possible. We'll partner with credit qualified clients to customize an IT financing solution to suit your business goals, enable effective cash management, and improve your total cost of ownership. IBM Global Financing is your smartest choice to fund critical IT investments and propel your business forward. For more information, visit: **ibm.com**/financing

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