



**Building a  
Smarter Planet**

## Smarter Approach to Stop Threats Before They Impact Your Business

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*Security Solutions Consultant*

*IBM Security Tiger Team*

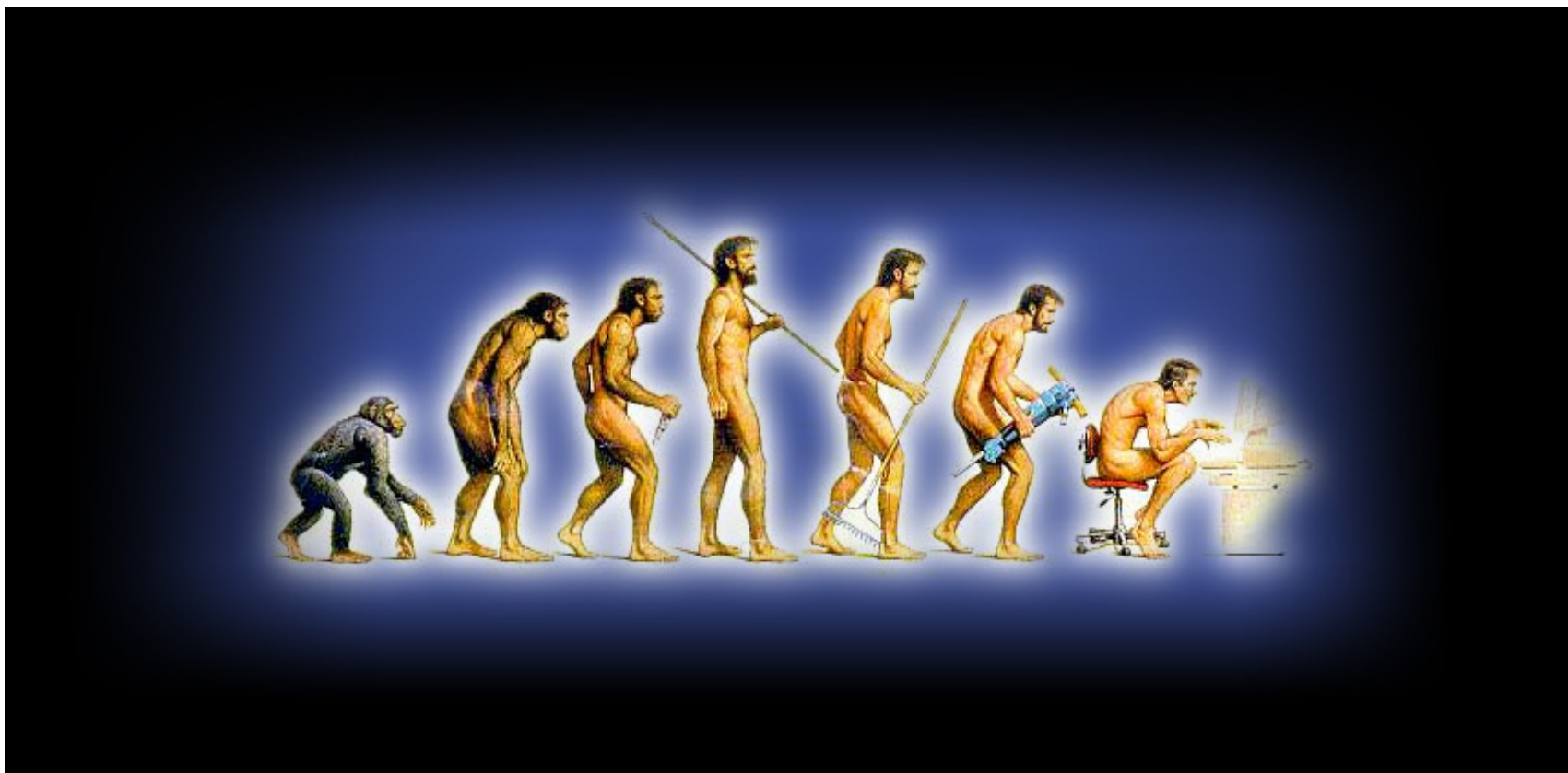
*IBM Worldwide*

*Hong Kong  
22 Sep 2011*



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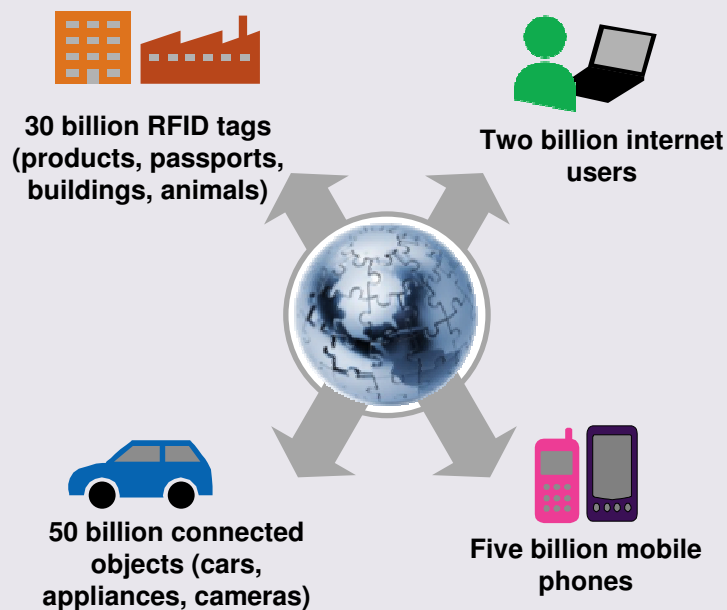
With security threat evolving....



....we must also evolve our approach to anticipate change!

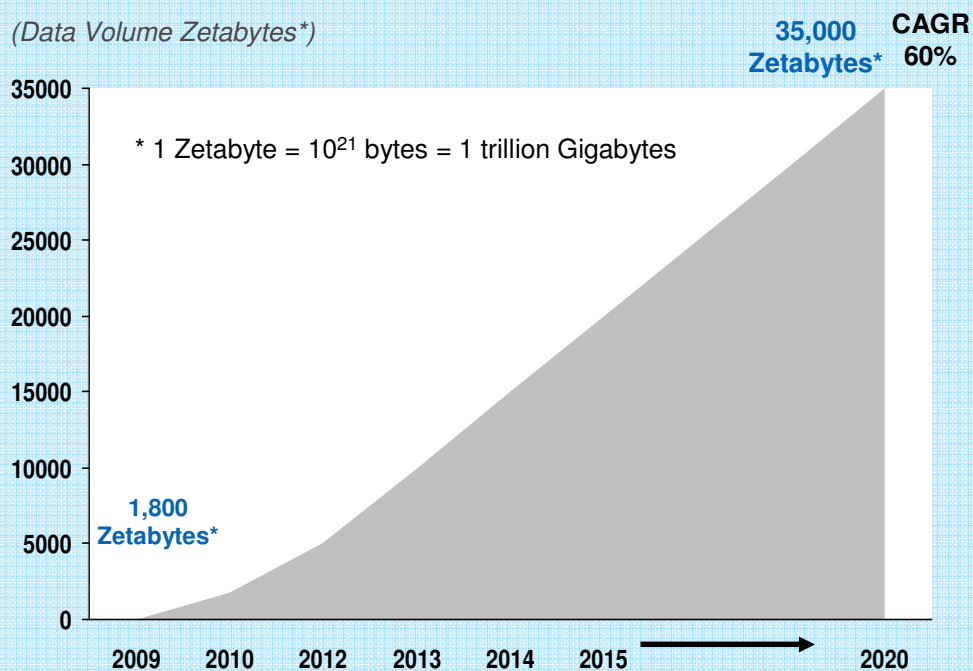
# The world is becoming more digitized and interconnected, opening the door to emerging threats and leaks

## EXPLODING DIGITAL UNIVERSE



## WORLDWIDE DATA VOLUMES PROJECTED TO INCREASE 29X OVER 10 YEARS

(Data Volume Zetabytes\*)




*"There are security leaks involving mobile browsers that we don't even know enough about yet."*

- CIO, Media Company

\*Source: International Telecommunications Union. "Global Number of Internet Users, total and per 100 Inhabitants, 2000-2010." United Nations. [http://www.itu.int/ITU-D/ict/statistics/material/excel/2010/Internet\\_users\\_00-10\\_2.xls](http://www.itu.int/ITU-D/ict/statistics/material/excel/2010/Internet_users_00-10_2.xls); Ericsson. "More than 50 billion connected devices – taking connected devices to mass market and profitability." February 14, 2011. [http://www.ericsson.com/news/110214\\_more\\_than\\_50\\_billion\\_244188811\\_c](http://www.ericsson.com/news/110214_more_than_50_billion_244188811_c); IDC "Digital Universe Study," sponsored by EMC. May 2010

# Security has moved from an IT issue to an ongoing business concern



**Internal abuse  
of key sensitive  
information**

## **WIKILEAKS**

Unauthorized release of classified records

### **IMPACT**

Damaged US foreign relations worldwide



**Complexity of  
malware and  
affect critical  
business  
processes**

## **STUXNET**

Targeted changes to process controllers refining uranium

### **IMPACT**

Degraded ability to safely process and control highly volatile materials



**Malicious attack  
on web server  
by outside  
hacking**

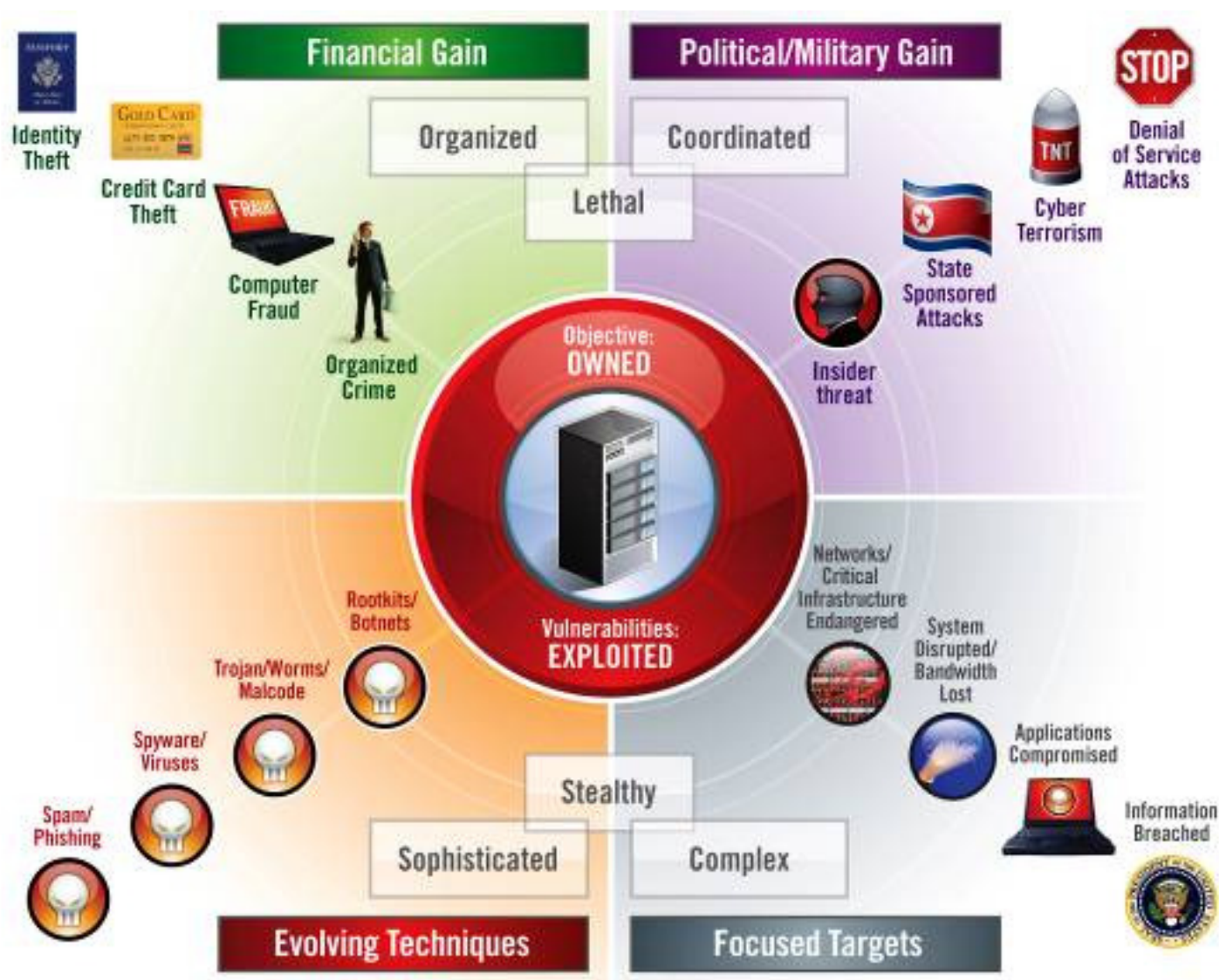
## **HKEx**

DDoS attacks targeted on website and brought it down

### **IMPACT**

Trading of stocks suspended for nearly 7 companies; loss of image

# Evolving Threats - expanding e-Crime



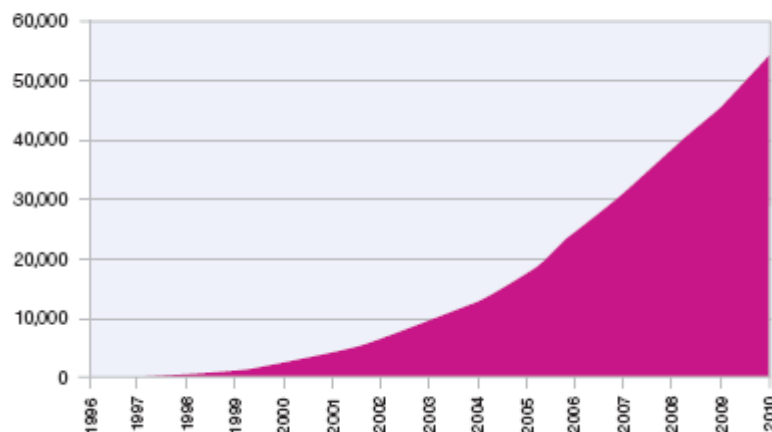
# IBM Global Security Reach and Expertise



- 3,000+ security and risk management patents
- 15,000 researchers, developers and SMEs on security initiatives
-

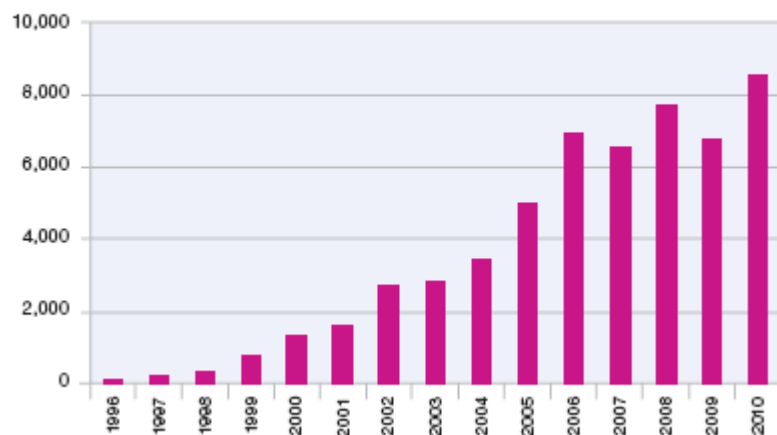
# IBM X-Force: Vendors Reporting the Largest Number of Vulnerability Disclosures in History

**Cumulative Vulnerability Disclosures**  
1996-2010

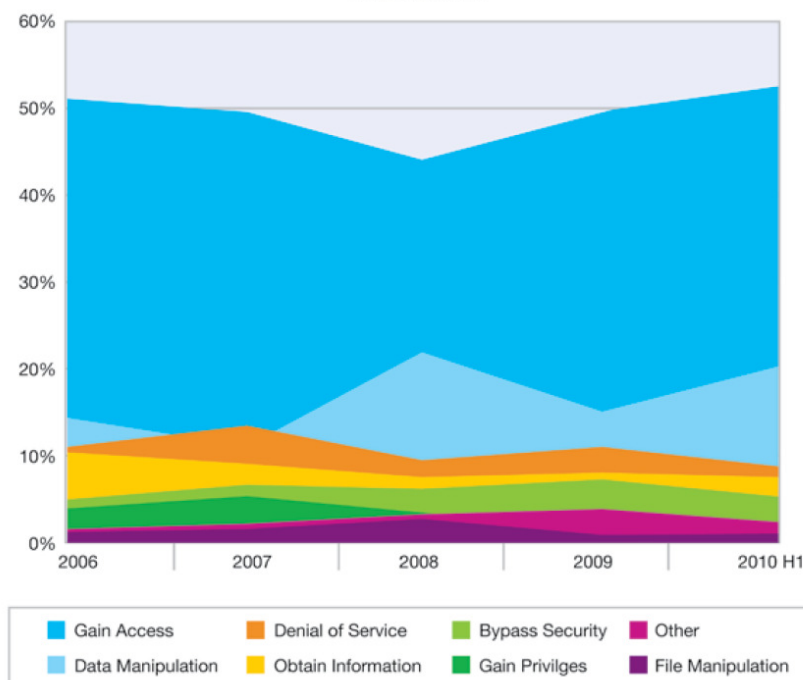


■ More than **8000** Vulnerability disclosures in 2010 and up **27%**.

**Vulnerability Disclosures Growth by Year**  
1996-2010



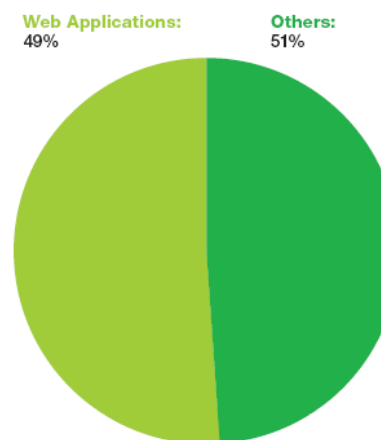
**Vulnerability Consequences as a Percentage of Overall Disclosures**  
2006-2010 H1



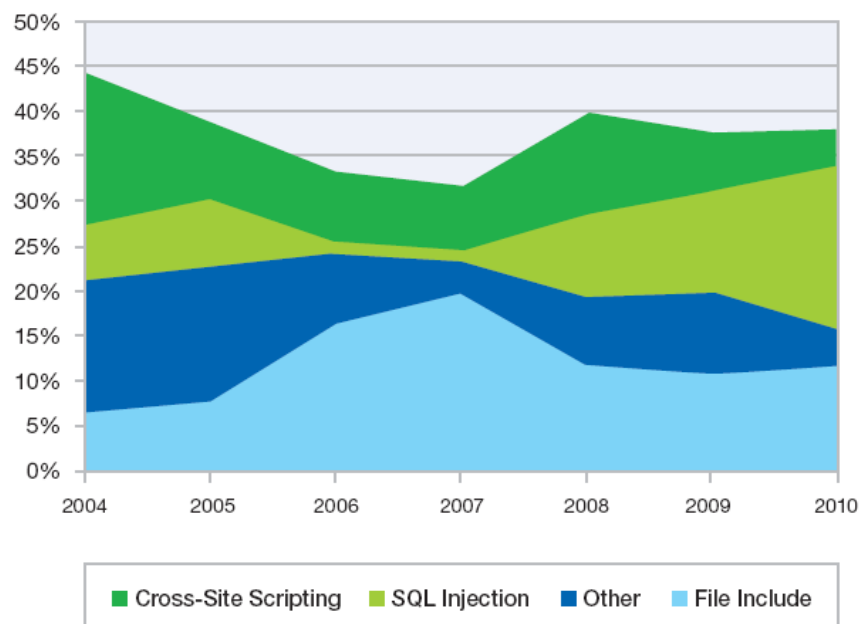
# IBM X-Force: Web App Vulnerabilities Continue to Dominate

- Nearly half (**49%**) of all vulnerabilities are Web application vulnerabilities.
- Cross-Site Scripting & SQL injection vulnerabilities continue to dominate.

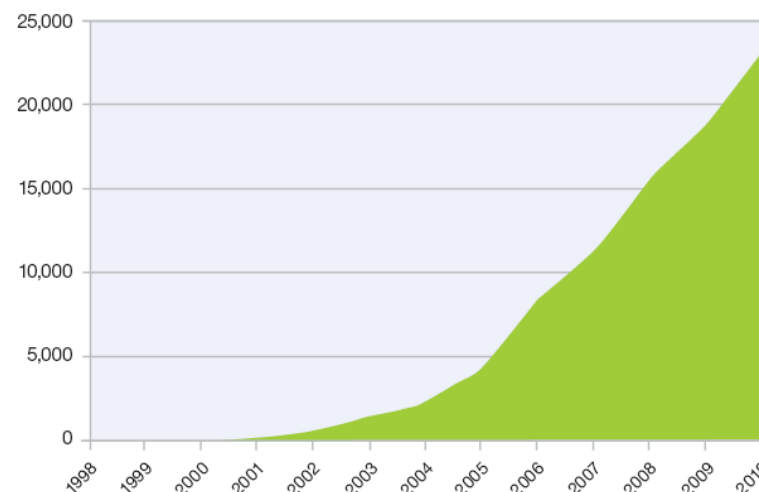
**Web Application Vulnerabilities**  
as a Percentage of All Disclosures in 2010



**Web Application Vulnerabilities by Attack Technique**  
2004-2010



**Cumulative Count of Web Application Vulnerability Disclosures**  
1998-2010



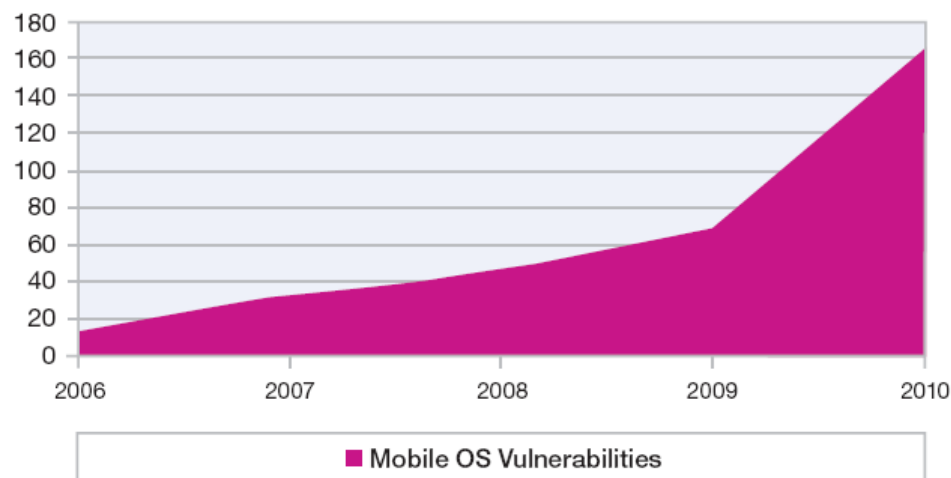


# IBM X-Force: Proliferation of Mobile Devices Raises Security Concerns

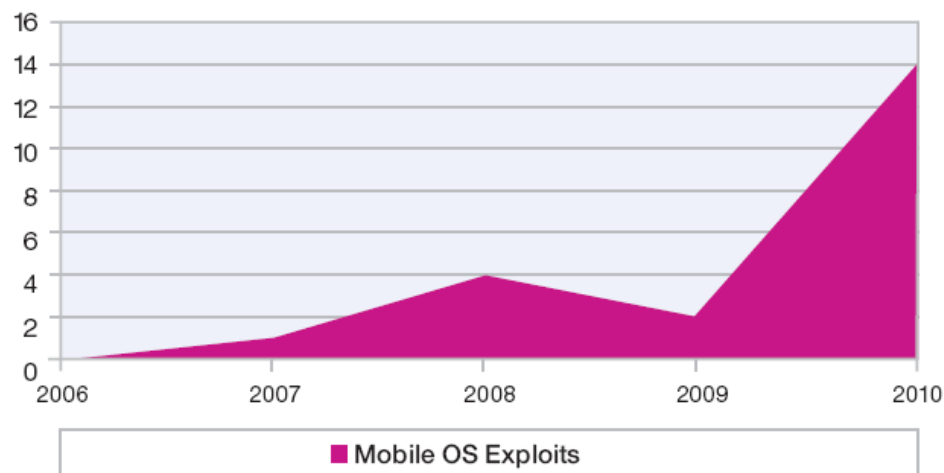
Significant increases in the number of vulnerabilities disclosed for mobile devices as well as number of public exploits released for those vulnerabilities.

- Cabir – 2004
- FakePlayer – 2010
- DroidDream - 2011

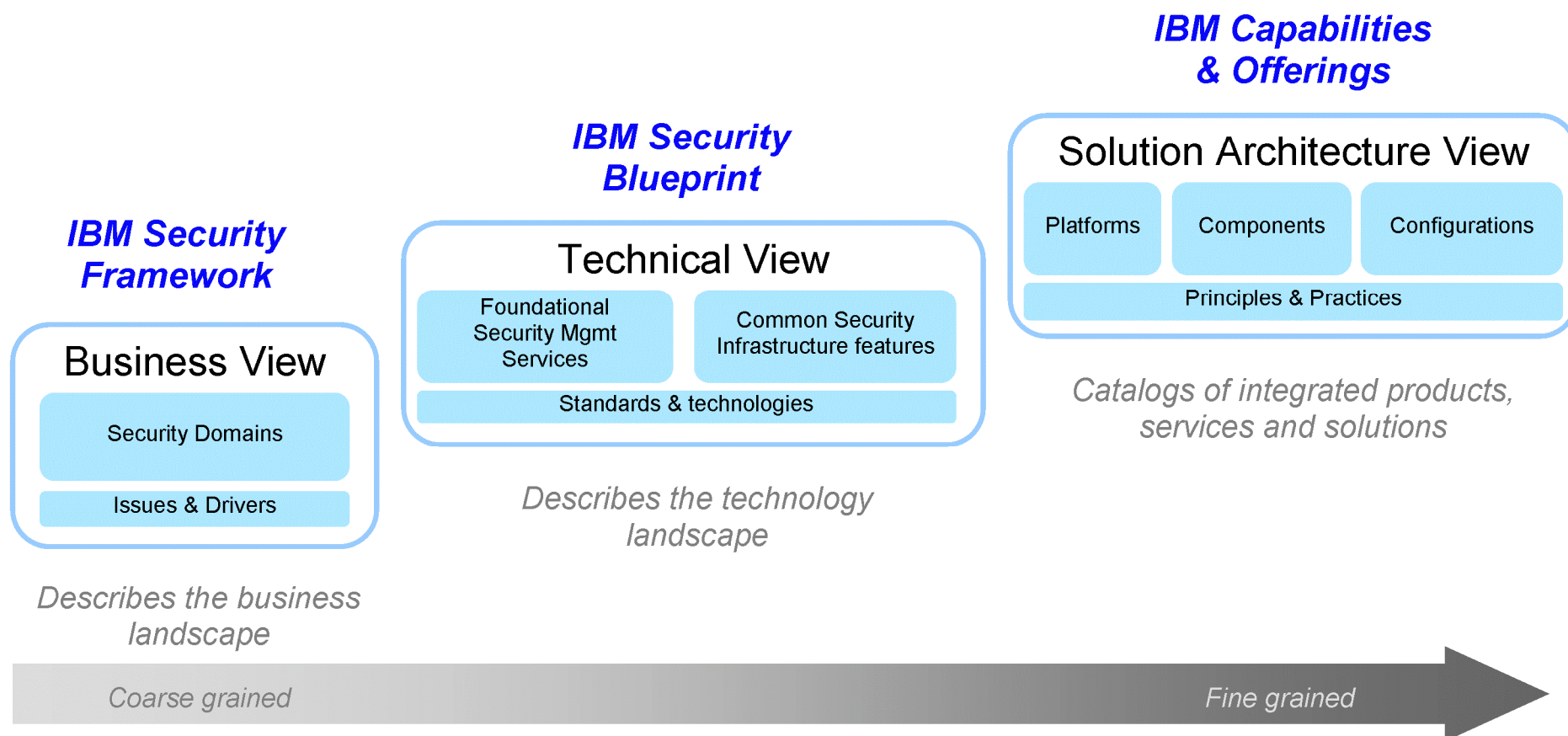
**Total Mobile Operating System Vulnerabilities**  
2006-2010



**Total Mobile Operating System Exploits**  
2006-2010

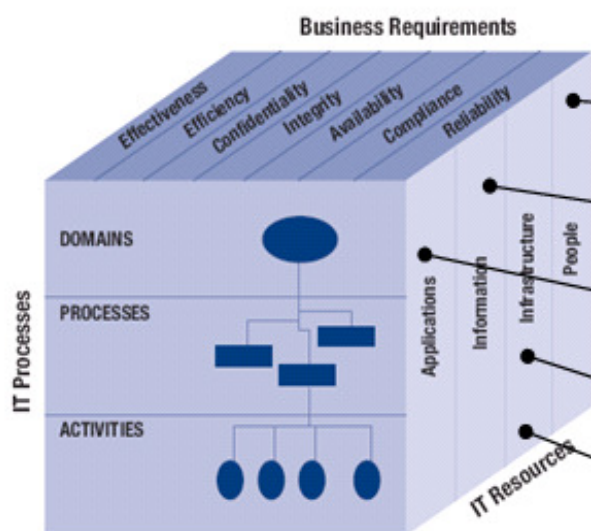


# The IBM Security Approach



# IBM Security Framework

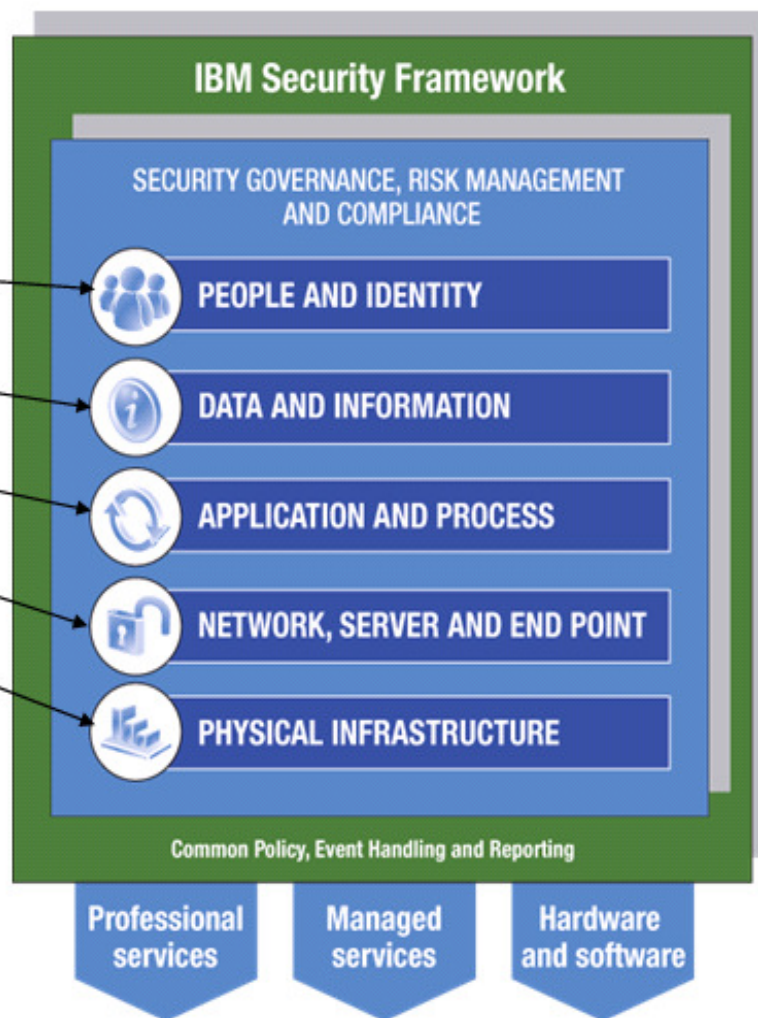
## Control Objectives for Information and related Technology (COBIT) 4.1



### Additional Best Practice frameworks:

**Department of Homeland Security, National Infrastructure Protection Program** = Physical + Cyber (Tech, Info, App) + Human

**Software Engineering Institute / CERT Resiliency Engineering Framework** = Access Mgt & Control (People) + Tech Mgt (Tech) + Knowledge & Info Mgt (Info) + Supplier Relationship Mgt (type of Application/Process) + Environmental Control & Facilities Mgt. (Physical)



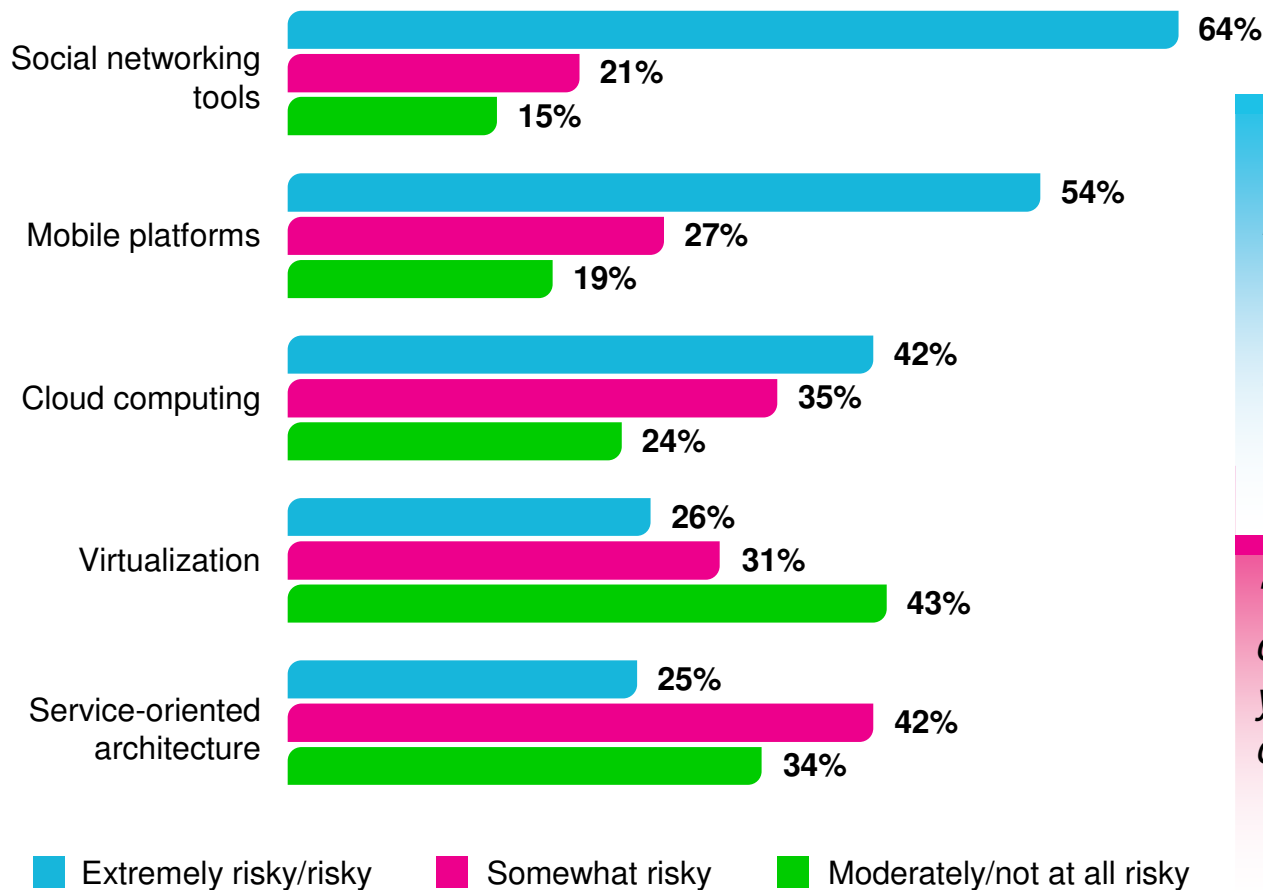
# IBM Security Framework



# IBM Global Risk Study 2010, conducted by the Economist Intelligence Unit, bring multiple perspectives to their focus on IT



Out of five technologies evaluated, social networking, mobile platforms and cloud computing present the highest risk concern



*“We are concerned about being able to safely control the flow of data to/from employee mobile devices and safely storing it.”*

Manufacturing, North America

*“We are already looking at cloud computing and haven't yet perfected security on our own local networks.”*

Healthcare, North America

Sources: Q17 (How big a risk are the following technologies and tools to your company?)

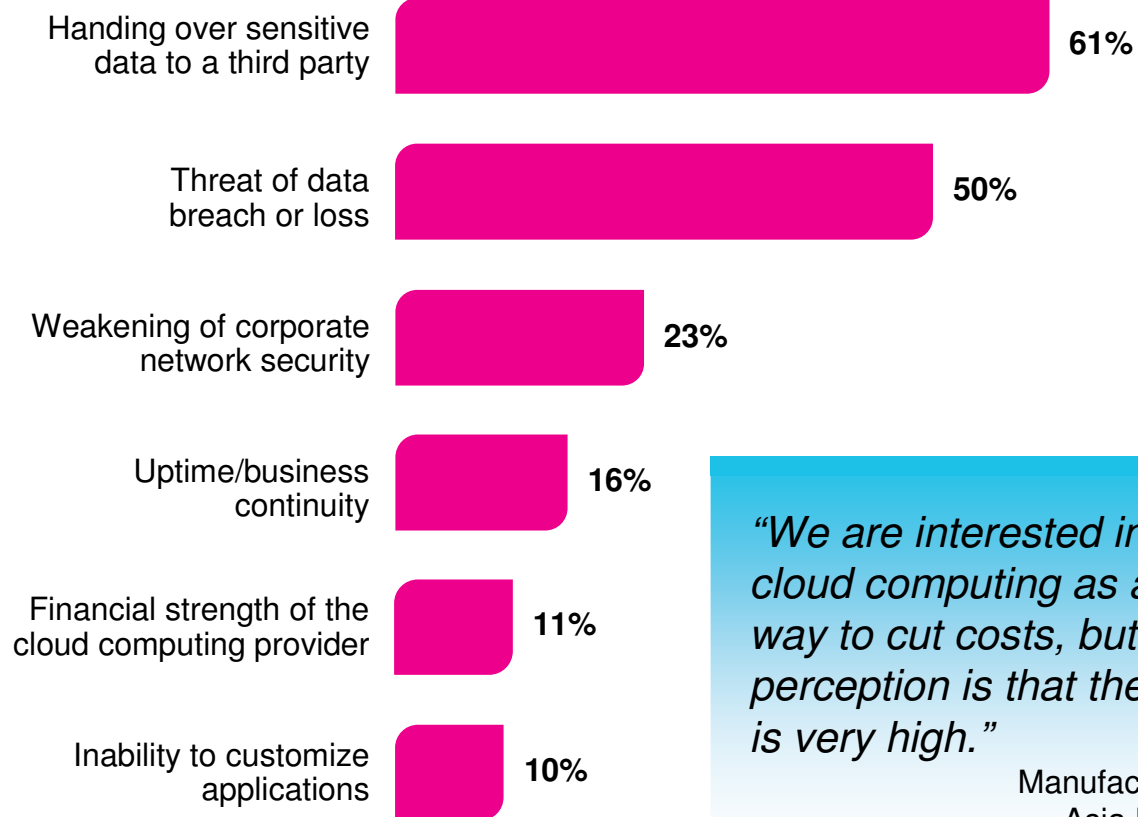
# Cloud computing is recognized as an emerging solution for risk management, but significant concerns exist

## Risks associated with cloud computing

**57%** say business continuity discussions include cloud computing

**77%** believe cloud makes protecting privacy more difficult

**44%** feel private clouds are riskier than traditional IT services



*“We are interested in cloud computing as a way to cut costs, but the perception is that the risk is very high.”*

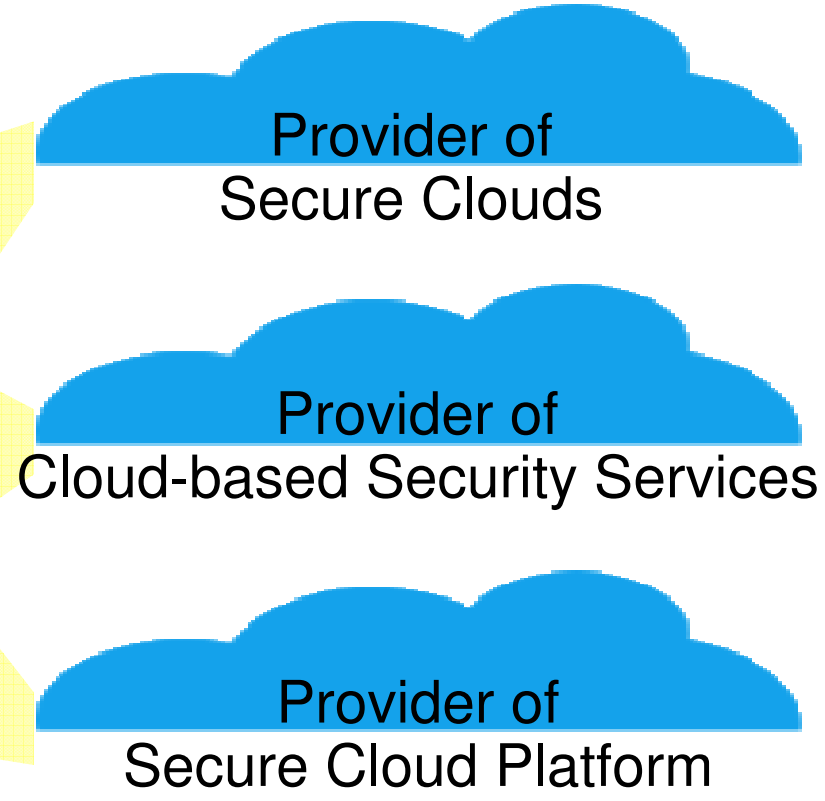
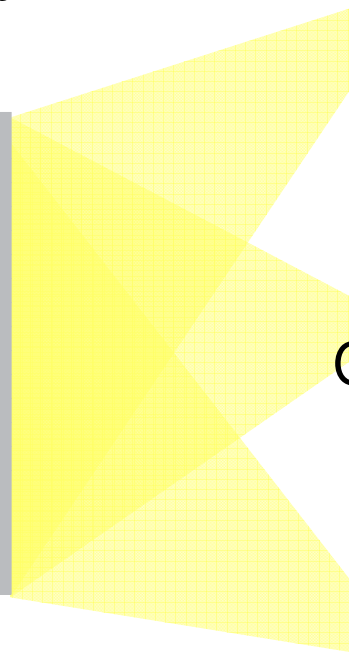
Manufacturing, Asia Pacific

Sources: Q17a (In your opinion, what are the biggest risks with regard to cloud computing? Select up to two.)

# IBM's Strategy for Cloud Security



**IBM Security Framework:**  
*Risk management-based approach to security*



# IBM Cloud Security



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February 4, 2010 10:58 AM PST

## Air Force taps IBM for secure cloud

by Lance Whitney

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IBM has a tall order from the U.S. Air Force--create a cloud network that can protect national defense and military data.

Big Blue announced Thursday a contract from the Air Force to design and demonstrate a cloud computing environment for the USAF's network of nine command centers, 100 military bases, and 700,000 personnel around the world.

The challenge for IBM will be to develop a cloud that can not only support such a massive network, but also meet the strict security standards of the Air Force and the U.S. government. The project will call on the company to use advanced cybersecurity technologies that have been developed at IBM Research.



"Our goal is to demonstrate how cloud computing can be a tool to enable our Air Force to manage, monitor, and



# IBM's Strategy for Cloud Security



← → ↻ [www.eweek.com/c/a/Security/IBM-Uncovers-Encryption-Scheme-That-](http://www.eweek.com/c/a/Security/IBM-Uncovers-Encryption-Scheme-That-)

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### IBM Discovers Encryption Scheme That Could Improve Cloud Security, Spam Filtering

By: Brian Prince  
2009-06-25  
Article Rating: ★★★★★ / 5

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**A researcher at IBM reports having developed a fully homomorphic encryption scheme that allows data to be manipulated without being exposed. Researcher Craig Gentry's discovery could prove to be important in securing cloud computing environments and fighting encrypted spam.**

An IBM researcher has uncovered a way to analyze data while it is still encrypted, in what could be a boon for both spam-filtering applications and cloud computing environments.

The challenge of manipulating data without exposing it has bugged cryptographers for decades. But in a breakthrough, IBM researcher and Stanford University Ph.D.

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# IBM's Strategy for Cloud Security



InfoWorld Home / Security Central / News / IBM 'virtual doorman' locks down cloud computing

OCTOBER 20, 2010

## IBM 'virtual doorman' locks down cloud computing

**IBM Virtual Protection System includes a new rootkit detection system that makes it easier to detect malicious attacks on virtualized data centers**

By Robert McMillan | IDG News Service





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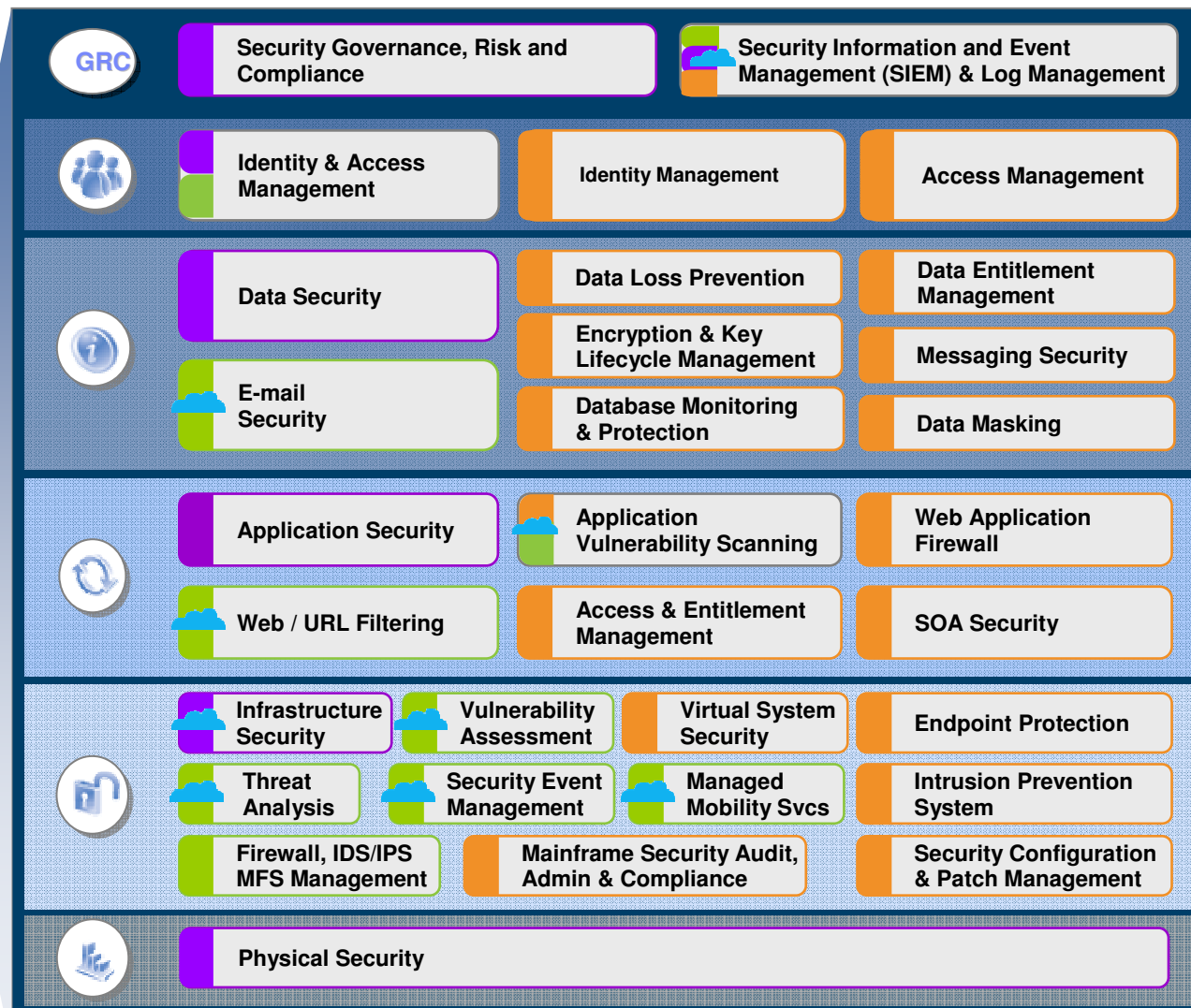
IBM has developed a new rootkit-detection system designed to make it easier to detect malicious attacks on virtualized data centers.

Called the IBM Virtual Protection System, the software operates outside of the virtual machine and can identify **malicious software** when it is installed in any of the virtual machines on the server. Because the system runs outside of the virtual machine's operating system it can detect hard-to-identify problems such as rootkits.

Master your security with InfoWorld's interactive [Security iGuide](#) | Stay up to date on the

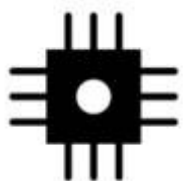
# IBM Security Portfolio: be comprehensive, leverage partners

-  Professional Services
-  Managed Services
-  Products
-  Cloud Delivered

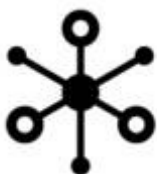


# In Summary: IBM Security can enable a Smarter Planet

The planet is getting more ...



Instrumented



Interconnected



Intelligent

IBM helps you **manage the security risks that are introduced** by Smarter Planet technology and net centric business models.



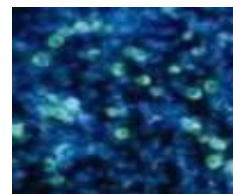
Smart supply chains



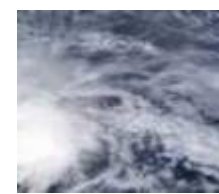
Smart countries



Smart retail



Smart water management



Smart weather



Smart energy grids



Intelligent oil field technologies



Smart regions



Smart healthcare



Smart traffic systems



Smart cities



Smart food systems

## Next Steps



Learn more about **IBM Security Solutions**

[www.ibm.com/security](http://www.ibm.com/security)



Download IBM **Global IT Risk Study 2010**

[http://www-935.ibm.com/services/us/gbs/bus/html/risk\\_study.html](http://www-935.ibm.com/services/us/gbs/bus/html/risk_study.html)



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**Thank You!**

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