

How can we keep up with the every advancing and changing threat landscape? Does research hold the key?

Martin Borrett, Director of the IBM Institute for Advanced Security Europe



Secure by Design

Safety Belt DeVised For Car



“Modern Mechanix”,
Circa 1930s

DESIGNED to hold passengers firmly in their seats in event of a crash so that they will not be thrown violently against the car interior, a newly developed safety belt for automobiles may eliminate injuries attributed to this cause.



Chair rests on a column f

Baby Goes for Car Rides in Homemade Armchair

NO CONVENTIONAL sling-type infant's chair for automobile use would satisfy the baby son of Lester Bresson, of Torrington, Conn., so Father constructed the armchair shown at the left. Made from odd bits of wood, strap iron, and discarded upholstery fabric, the chair rests on a column extending to the floor between the car's two front seats.



- *In 2010, regulations increasingly require security to be built into the infrastructure, instead of bolting it on as an afterthought*
- *Analogous to the evolution of the safety standards within the automobile industry*

Security ALWAYS Involves Trade-offs

- Risk Mgmt vs Risk Avoidance
 - How can we make sure 9/11 never happens again?
 - Ground all aircraft
 - How much security is enough/? Too much?
 - How much should we spend?
 - Meteor-proof cars?
- Usability/Accessibility vs Security
 - Does single sign-on increase or decrease security?
- Privacy vs Security
 - The more we know the more we can protect (maybe)
 - TSA passenger watch lists: effective or not?
- Liberty vs Security
 - “They that can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety.” -- Benjamin Franklin



How good are we at risk analysis?

- Consider that:
 - 40,000 die in cars annually in the US
 - Only a few hundred die in planes annually WW
 - Food poisoning kills 5,000 each year
 - 9/11 killed less than 3,000 in a single, non-repeating event
 - More people are killed by pigs than sharks
- Does our spending on countermeasures reflect this?
 - Feelings vs Facts (yet another trade-off)
 - “... these seeming irrationalities have a good evolutionary reason for existing: they’ve served our species well in the past.”



*“Password protection no match for Easter egg lovers,” SearchSecurity.com, 20 April 2004

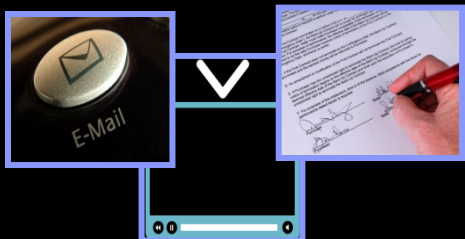
Users are the weakest link

- What’s wrong with this picture?
 - Did the gate work as designed?
 - Did the gate provide security?
- Social engineering
 - 71% of people at Victoria Station (London) station gave out passwords for an Easter egg*
- If security is too inconvenient ...
 - users will find a way to subvert it

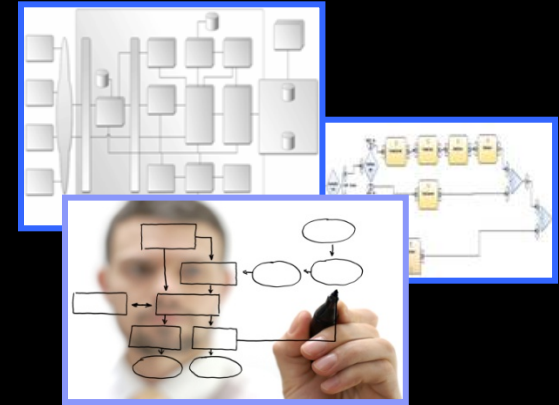




People



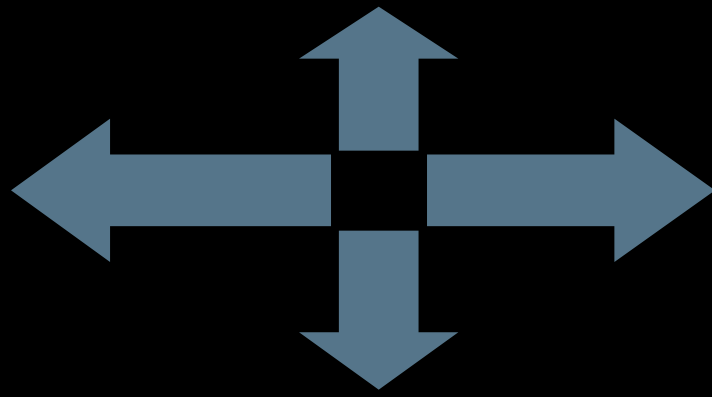
Information



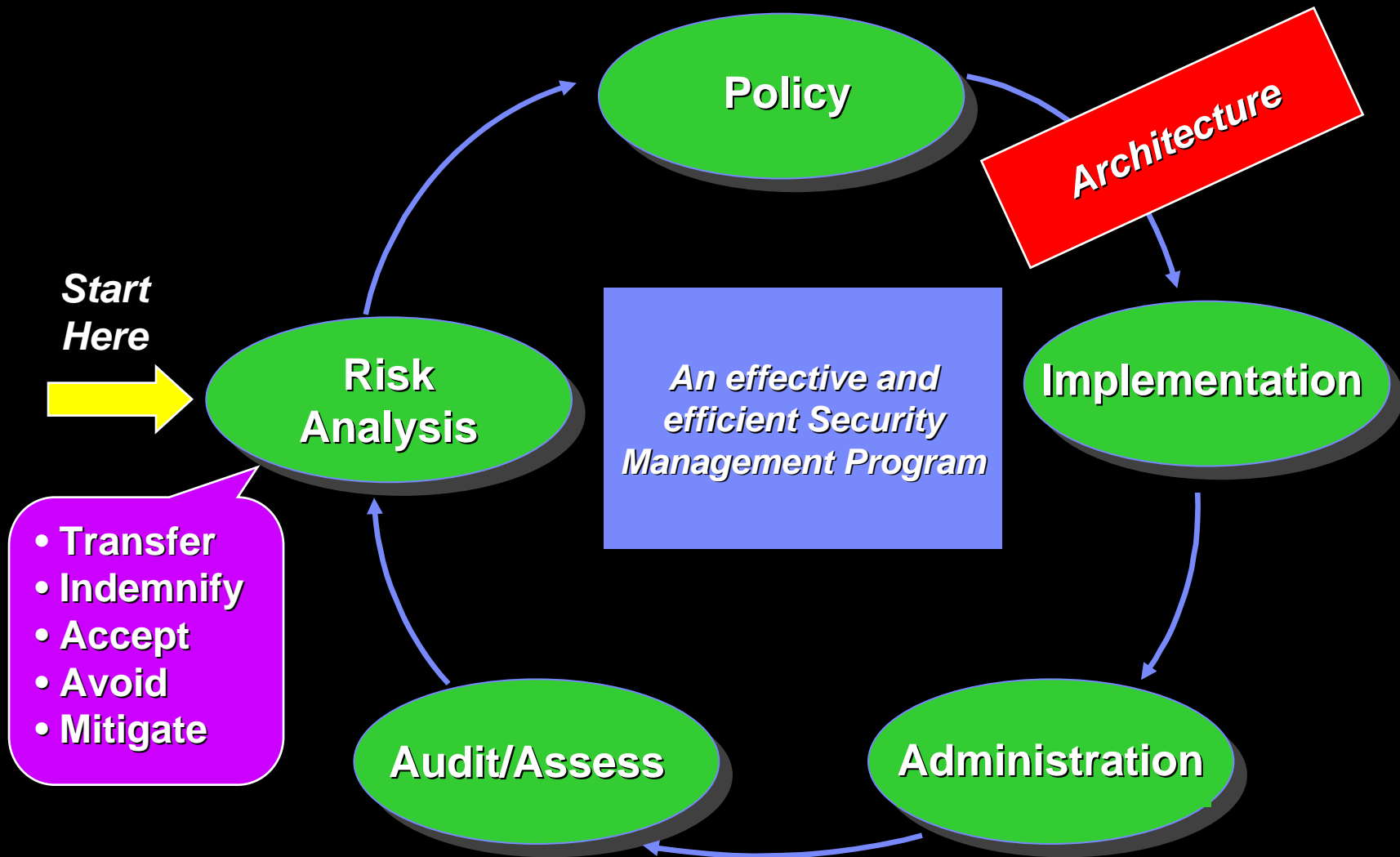
Process



Technology



Tackling Security is a Continuous Process, we are never done!



By managing security for customers across the world, IBM has a clear and current picture of threats and attacks





A visionary in the field of IT Security... highlights of recent IBM security Research projects

Trusted Virtual Data Center, and Security Svcs. in Virtualized Environments



February 4, 2010 10:58 AM PST
Air Force taps IBM for secure cloud
by Lenora Whitney
135 [reblog](#) [Share](#) [4](#)

IBM has a tail order from the U.S. Air Force—create a cloud data.
Big Blue announced Thursday a contract from the Air Force to demonstrate a cloud computing environment for the USA command centers, 100 military bases, and 700,000 personnel.
The challenge for IBM will be to develop a cloud that can support such a massive network, but also meet the strict security requirements of the U.S. government. The project will call on the most advanced cybersecurity technologies that have been developed by IBM Research.

Identity Governance

IBM wins European Identity Award
Makes Available New Open Source Code for Developing Privacy-Friendly ID Management Applications

Top story
[English](#) | [German](#)
Munich, Germany, 5 May 2010—IBM Research was honored with the Best Innovation European Identity Award 2010 from Kuppinger Cole, an analyst firm focused on information security, identity, and IT governance. IBM's Identity Mixer technology was recognized for its pioneering work that offers simultaneously both strong authentication and privacy. The award will be presented this evening at the firm's annual European Identity Conference in Munich. Simultaneously, IBM Research is also announcing that the latest version of its IBM Identity Mixer technology is now available free-of-charge.

Cryptography and Security Research



IBM looks to secure Internet banking with USB stick
Device is configured to open a secure SSL connection with a bank's servers to ensure safe banking transactions even if a PC is riddled with malware
By Jeremy Kirk | IDGHS
11 Recommendations

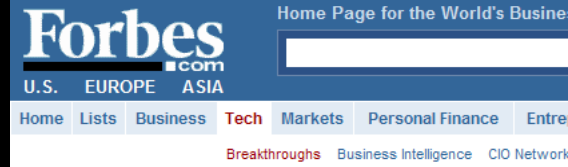
IBM's Zurich research laboratory has developed a USB stick that the company says can ensure safe banking transactions even if a PC is riddled with malware.

Secure software and services



FAA boosts cybersecurity with help from IBM
Real-time analysis tool protects network from cyberattack
By [Jon Reagle](#), Network World
March 30, 2010 01:10 PM ET
The Federal Aviation Administration is teaming with IBM to build a prototype security system that will improve defense against cyberattacks on the nation's civilian aviation network.
Designed specifically for the FAA's high-speed networks, the system "will go beyond traditional security approaches of encryption, firewalls, intrusion-detection devices and antivirus software," IBM said in a press release issued Tuesday.
[FAA network hacked](#)
The FAA system will use IBM's streaming analytics technology to constantly analyze massive amounts of data.

Cryptography Research



IBM's Plans for Nimble Encryption
Andy Greenberg, 06.24.09, 07:00 PM EDT
The computing giant has big plans for its new encryption algorithm.

Craig Gentry has made a huge breakthrough in cryptography that may be a decade before it can be used to practically implement Gentry's homomorphic encryption, but IBM is already planning to use a mix of privacy and computation.

IBM Institute for Advanced Security

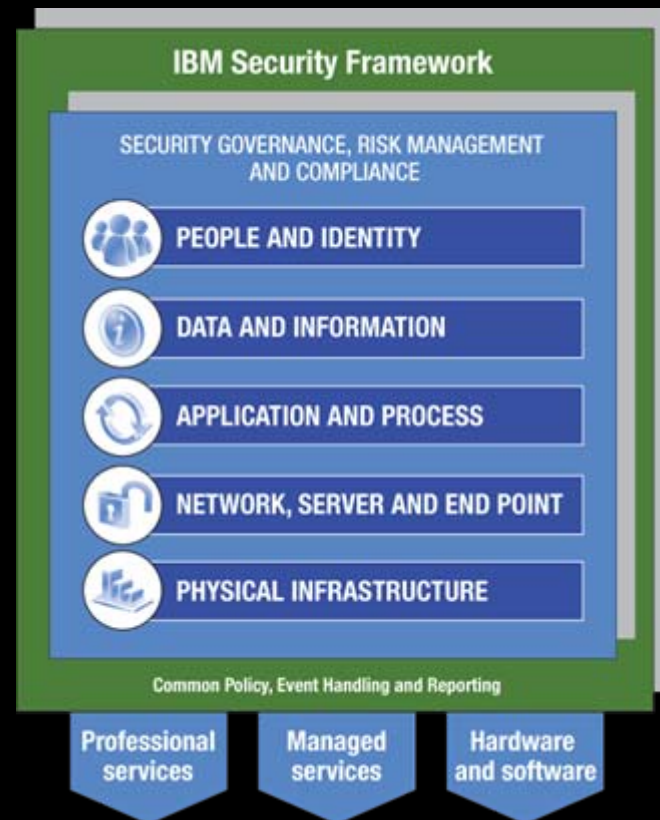
- IBM's initiative to help organizations better understand and respond to the security threats to their business
- A cross brand, cross business unit capability that integrates and acts as a focal point for IBM's advanced security capabilities
- A global initiative which recognizes the need for local expertise and capability with three Institute branches; Europe, Americas, Asia Pacific
- It will leverage IBM Security research efforts including the IBM X-Force together with the broader IBM Security Solution expertise, capabilities, solutions and initiatives
- The Institute will drive a number of activities globally focused on security:
 - It will conduct client executive briefings
 - It will participate at key industry conferences and events both to share and learn
 - It will focus on key security issues including securing critical infrastructures, tackling new threats, leveraging advanced technologies such as security analytics, homographic encryption and other advanced technologies
 - It will serve as a conduit via customer briefings, events, IBM research, other collaborations to shape IBM Security strategy
 - It will drive a consolidated view of how IBM can help organisations solve the security challenges to their business
 - It will collaborate with government, industry, and academia to drive innovation in the next-generation of security models and solutions
 - It will leverage the Institute website for collaboration and insights through expert blogs, white papers, podcasts and online "expert" jams www.instituteforadvancedsecurity.com

IBM Institute for Advanced Security

Enabling innovation and collaboration on security issues facing our Smarter Planet



- *The only security vendor in the market with end-to-end coverage of the security foundation*
- *15,000 researchers, developers and SMEs on security initiatives*
- *3,000+ security & risk management patents*
- *200+ security customer references and 50+ published case studies*
- *40+ years of proven success securing the zSeries environment*
- *600+ security certified employees (CISSP, CISM, CISA,...)*



Security acquisitions:

DASCOM

consul
an IBM company

watchfire

Guardium
SAFEGUARDING DATABASES™ AN IBM COMPANY

DATAPOWER

INTELLIDEN

INTERNET SECURITY SYSTEMS

access360
A Better Way To Manage Access Rights

ENCENTUATE
An IBM Company

OUNCE LABS
an IBM company

princeton softech
an IBM Company

Initiate

BIGFIX
An IBM Company

Summary

- Security involved trade offs, it is a balancing act
- Need to think in “photo negative”
- We need to think about people, process, information and technology
- More technology doesn't not always mean better security
- People are a weak link