Global State of Information Security & Standards

SGS

Khawaja Faisal Javed, *CISA,CRISC,CBCP,ISMS LA, BCMS LA ITSM LA*
Manager of Operations & ICT Products
SGS Pakistan (P) Ltd.
President, ISACA Lahore Chapter

ISACA
Serving IT Governance Professionals
Lahore Chapter

Khawaja Faisal Javed

Manager Operations & ICT Products
SGS Pakistan (Pvt) Limited

President - ISACA Lahore Chapter
Member of International GRA Committee - ISACA, USA

Kh. Faisal Javed - Profile

- **Manager Operations & ICT Products (SGS Pakistan)**
- President of ISACA Lahore Chapter
- **Showcase Honoree Award for the Senior Information Security Professional– Asia-Pacific by (ISC)2, USA - 2012 -** https://www.isc2.org/isla-showcased-projects.aspx
- **20+ years of ICT, GRC, Info Sec, BPR, IT Services BCP/DRP**
- Member of Int'l Committees in **IT GRC** for organizations – **ISACA, IRCA, DRI**
- Member of the Team **developed ISO 27007** Standard (Auditing ISMS Guideline)
- Number of Certifications :
  - **CISA, CRISC, CBCP**
  - **IRCA, UK registered Lead Auditor and Lead Trainer for ISMS, ITSMS, BCMS, QMS, EMS, OHSAS etc.**
- **Only IRCA, UK approved Lead Auditor/Trainer for ISO 20000 & ISO 22301 in Pakistan**
- **900+** third party Audits & **4500+ HRS** of Training in **32 countries...**
  - (USA/Australia/Turkey/Malaysia/Indonesia/ Japan/ Taiwan/ Saudi Arabia / India/ Egypt/ Philippines/Jordon/ Kuwait / Qatar / Oman / UAE etc.)

WHEN YOU NEED TO BE SURE

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SGS Profile

- Established in **1878 -** Head Office in Geneva, Switzerland
- **78'000+** employees incl. **1'000+** full-time lead auditors
- **1'200+** offices Laboratories in **140+** countries
- SGS is recognized as the **global benchmark in quality and integrity leader**
- **1'10'000+** certified organizations worldwide
- **UKAS** accredited **ISO 27001** Certification Body
- ***APMG*** accredited **ISO 20000** Certification body
- **UKAS** accredited **BS 25999 / ISO 22301** Certification body

No1

Certification body*

100’000+ certificates

in 130+ countries

ISACA®

Serving IT Governance Professionals

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What is ISACA?

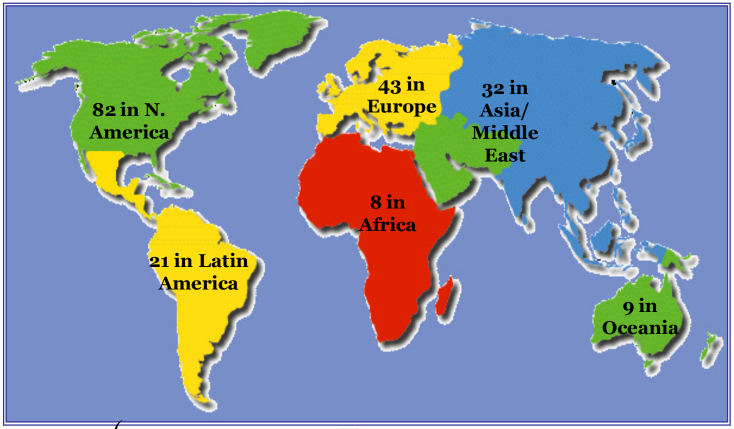
- **Non-profit association of individual members:**
  - IT auditors
  - IT security professionals
  - IT risk and compliance professionals
  - IT governance professionals and more!
- **Nearly all industry categories**: financial, public accounting, government/public sector, technology, utilities and manufacturing.

What is ISACA?
Structure

One International Headquarters Office

200+ Chapters in **75+ Countries**

Over **95,000 members** in **100+ countries**



(*Source: ISACA International data*)

ISACA Certifications

www.isaca.org/certification

CISA® Certified Information Systems Auditor® An ISACA® Certification

CGEIT® Certified in the Governance of Enterprise IT® An ISACA® Certification

CISM® Certified Information Security Manager® An ISACA® Certification

CRISC™ Certified in Risk and Information System Controls An ISACA® Certification

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CISA Certified Information Systems Auditor · CISM Certified Information Security Manager · CGEIT Certified in the Governance of Enterprise IT · CRISC Certified in Risk and Information Systems Control™

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Agenda

- Trends
- Shifting Dimensions of the Global Threat?
- Facts About Intrusions
- What’s the Challenge ?
- A Way Ahead…..
- Standards /Frameworks available
- Q & A

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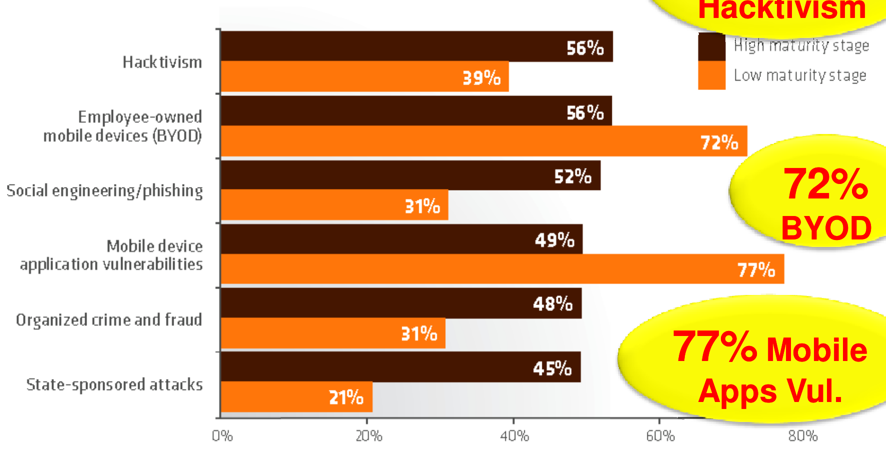
The Heart Of the Matter

For many businesses, security has become a game that is almost impossible to win. The rules have changed, and opponents–old & New - are armed with Xpert technology skills & risks are greater than ever!

Threats to Info Sec. Org. Face

FIGURE 27. Threats to information security that organizations face

Concerned and Very concerned response combined



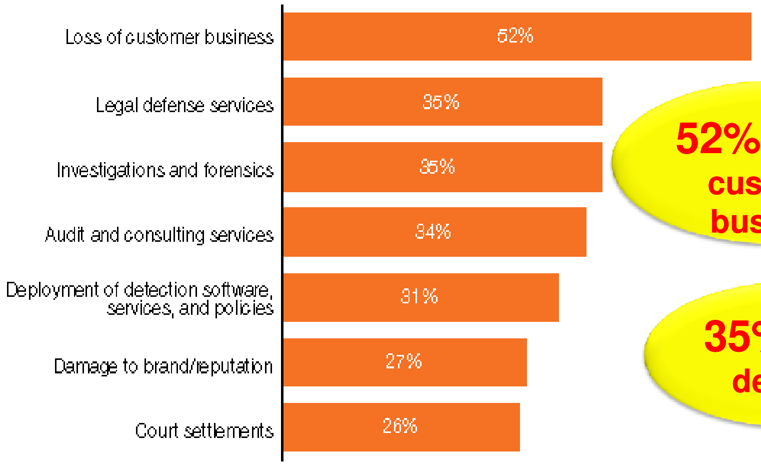
56% Hacktivism

72% BYOD

77% Mobile Apps Vul.

Source: Ponemon Institute study - 2013

Factors in financial losses from security breaches



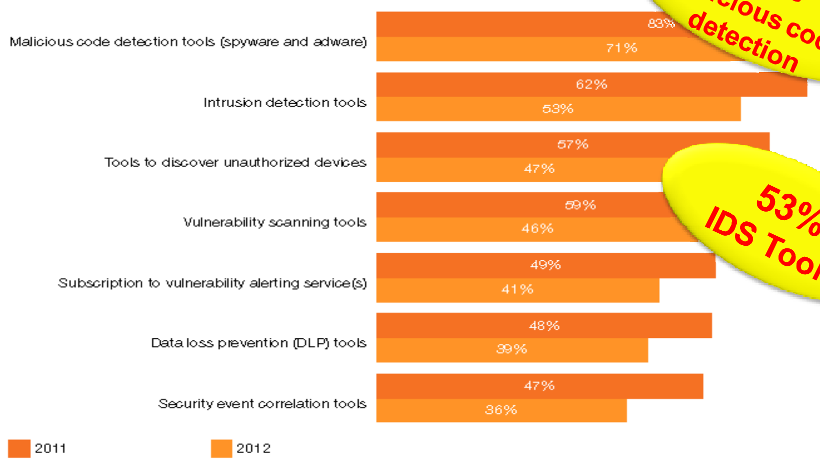
52% Loss of customer business

35% Legal defence

Source: PWC – Global state of InfoSec-2013

Which -Technology as Safeguard?

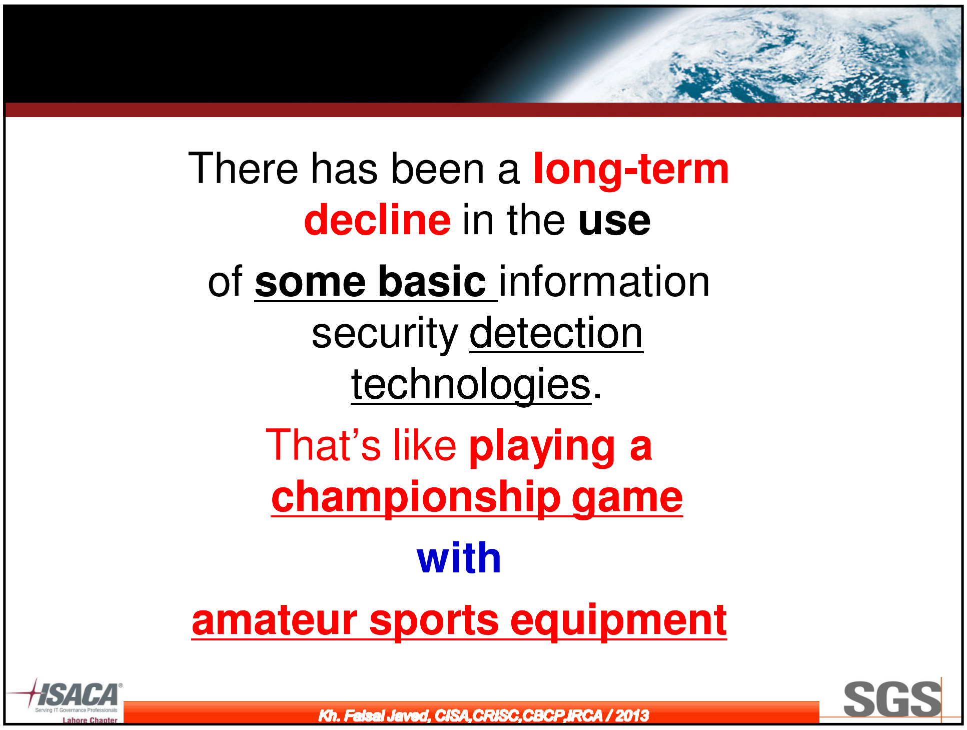
Technology information security sa
currently in place



71% Malicious code detection

53% IDS Tools

Source: PWC – Global state of InfoSec-2013



There has been a **long-term decline** in the **use** of **some basic** information security detection technologies.

That's like **playing a championship game**

with

amateur sports equipment

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New Dimensions of the Global Threats

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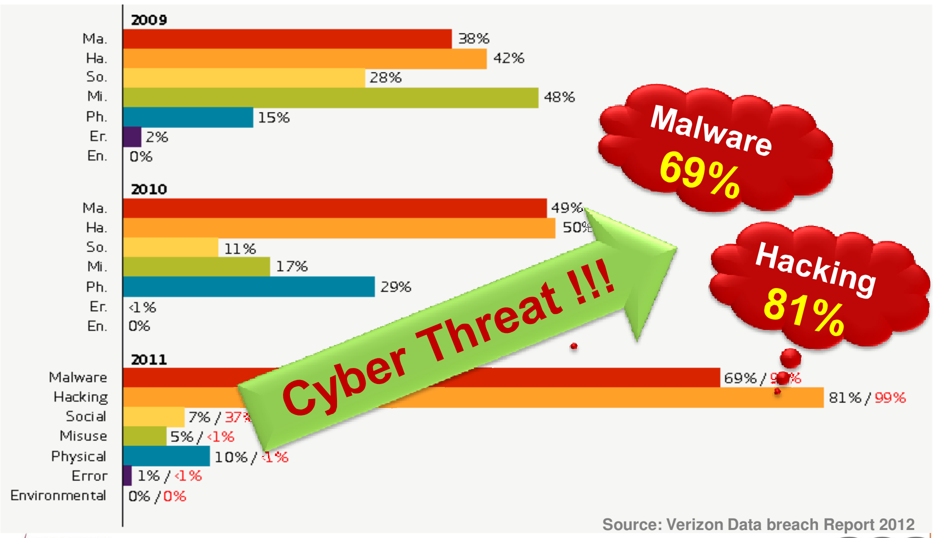
Threat action categories over time by %age of breaches and %age of records



Source: Verizon Data breach Report 2012

Shifting Dimensions of the Global Threat

Has the Threat Fundamentally Changed in 2011-12?

Event	Why it's significant
CISCO (Counterfeit	CISCO Product Integrity Damaged…$145M seized by FBI
	nClassified Systems
Google	Publicly Identified An Intrusion, Asked for Government Help
Stuxnet / FLAME	High Level Of Sophistication and Target Specific – Cyber Espionage
Wiki Leaks	Insider Threat, Activists Empowered

APTs & Zero-Days Attacks

Lesson: lack of vigilance in a changing landscape increases risk

What Was The Cost Of Being Insecure $$$$

Cyber Threats – *What & Who* ?

- A Cyber Attack on the Specific Database of the Critical System
- A Cyber Attack for the purpose of Espionage
- A Cyber Attack for the purpose of Critical System Shutting down Service : DDoS

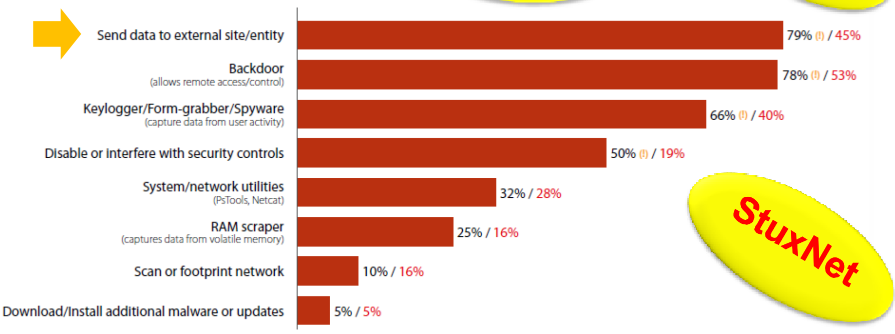
APTs – a Real Threat !

- **Advanced Persistent Threat (APT)** is very real
  - **Malware is now a tool for hacker**
  - **They are stealing data...**

Duqu

Flame

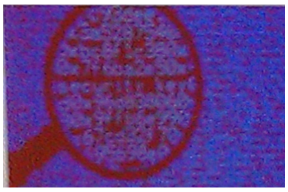
StuxNet



Reference: *2011 Data Breach Investigations Report*, Verizon

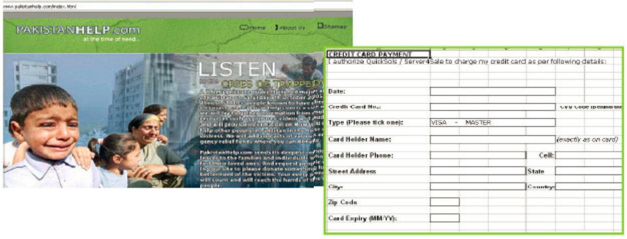
Main Targets

- Military Cyber Structure
- National Critical Infrastructure
  1) Telecommunications
  2) Electronic Power
  3) Gas & Oil
  4) Banking & Finance
  5) Transportation
  6) Water
  7) Emergency Services
  8) Continuity of Government



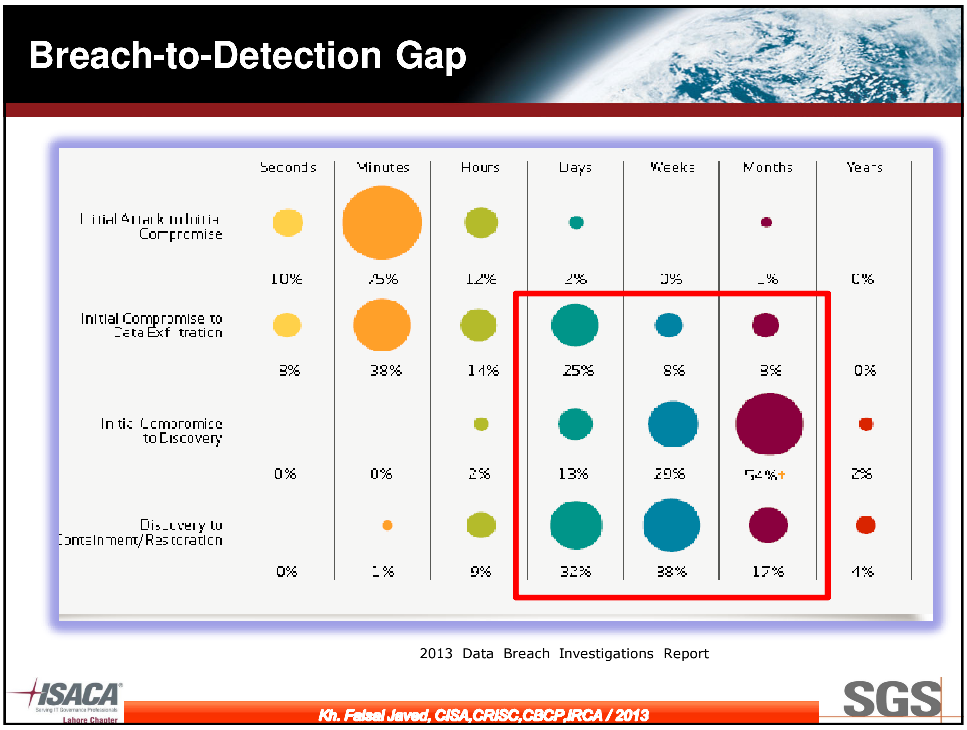
Example – Phishing & Scam

- Pakistan Earthquake – We found the URL http://pakistanhelp.com
- In this case, the '**help**' options include the download of an Excel file to be sent by fax
- A real and legal organization would never do this….



CREDIT CARD PAYMENT
I authorize QuickSols / Server4Sale to charge my credit card as per following details:

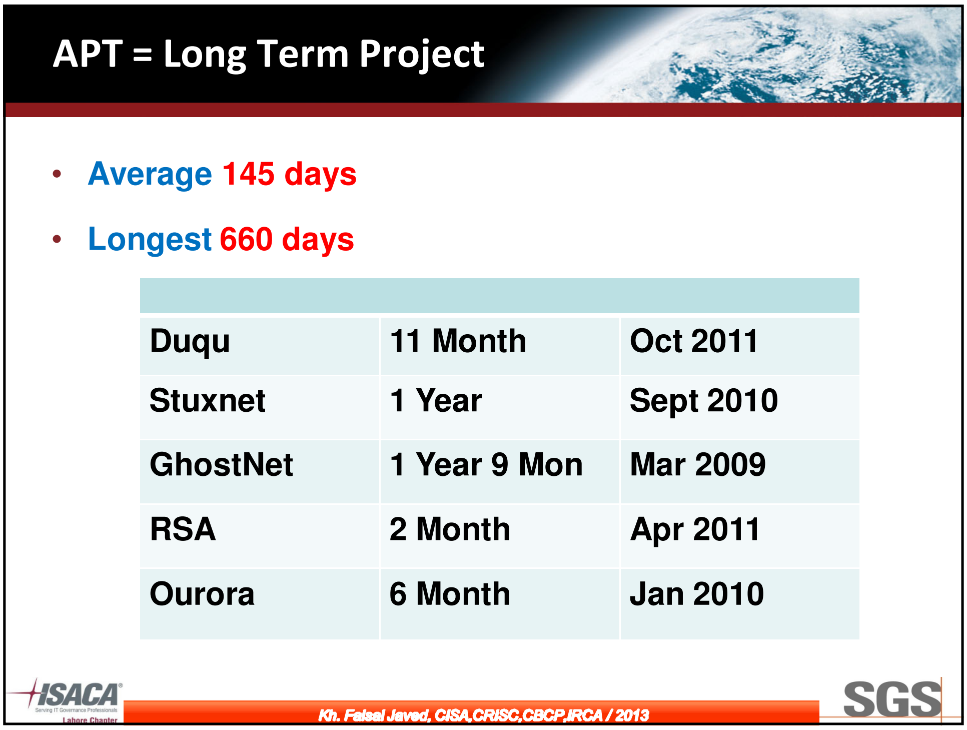
Date:
Credit Card No.:
Type (Please tick one): VISA - MASTER
Card Holder Name: (exactly as on card)
Card Holder Phone: Cell:
Street Address State
City: Country:
Zip Code
Card Expiry (MM/YY):



Breach-to-Detection Gap

	Seconds	Minutes	Hours	Days	Weeks	Months	Years
Initial Attack to Initial Compromise	10%	75%	12%	2%	0%	1%	0%
Initial Compromise to Data Exfiltration	8%	38%	14%	25%	8%	8%	0%
Initial Compromise to Discovery	0%	0%	2%	13%	29%	54%+	2%
Discovery to Containment/Restoration	0%	1%	9%	32%	38%	17%	4%

2013 Data Breach Investigations Report



APT = Long Term Project

- Average 145 days
- Longest 660 days

Duqu	11 Month	Oct 2011
Stuxnet	1 Year	Sept 2010
GhostNet	1 Year 9 Mon	Mar 2009
RSA	2 Month	Apr 2011
Ourora	6 Month	Jan 2010

Flame/ Flamer

- The most Sophisticated & complex Malware encountered – *by Kaspersky Lab*.
- Identified first by MAHER Centre of Iranian National CERT - *Kaspersky Lab in 2012*
- **Aimed at** targeted Cyber Espionage in Middle Eastern countries

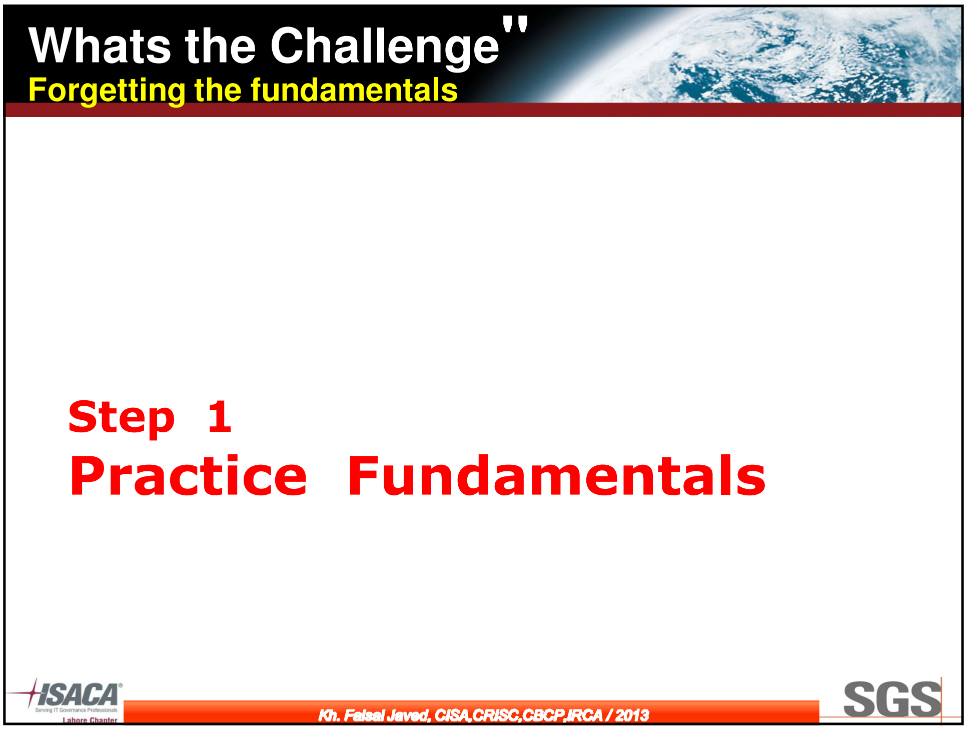
Washington Post

“ the massive piece of malware secretly mapped and monitored Iran’s computer networks, sending back a steady stream of intelligence to prepare for a cyber warfare campaign”s

this is preventable: ***The 80/20 Rule for Cyber Defense***

96 percent of data breaches examined were preventable if companies would have followed security basics.

2011 Data Breach Report V*erizon Business*

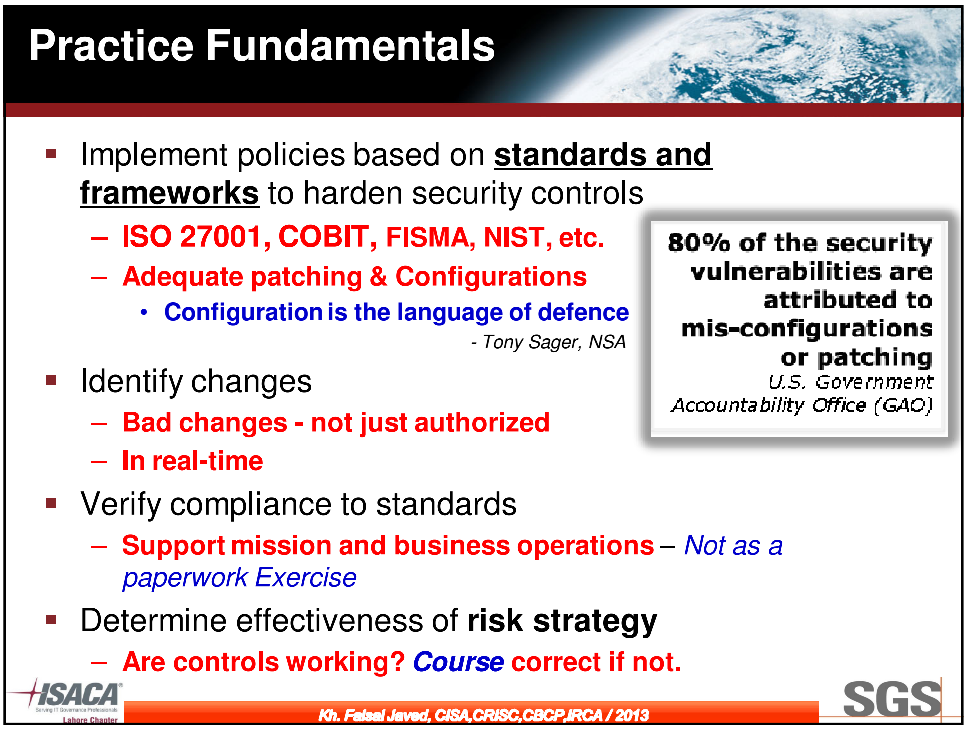


Whats the Challenge"

Forgetting the fundamentals

Step 1

Practice Fundamentals



Practice Fundamentals

- Implement policies based on **standards and frameworks** to harden security controls
  - **ISO 27001, COBIT, FISMA, NIST, etc.**
  - **Adequate patching & Configurations**
    - **Configuration is the language of defence**

      - Tony Sager, NSA
- Identify changes
  - **Bad changes - not just authorized**
  - **In real-time**
- Verify compliance to standards
  - **Support mission and business operations** – *Not as a paperwork Exercise*
- Determine effectiveness of **risk strategy**
  - **Are controls working? *Course* correct if not.**

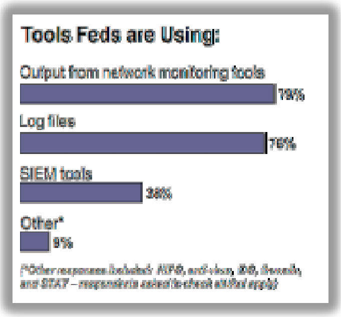
80% of the security vulnerabilities are attributed to mis-configurations or patching

U.S. Government Accountability Office (GAO)

Step 2
Monitor Continuously

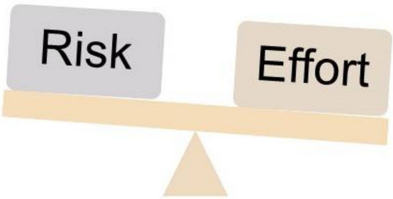
Monitor Continuously

- Categorize assets
  - Prioritize critical not all assets
- Determine level of control
  - Based on criticality of asset
- Make risk-based decisions
  - Answers “what is my security state”



Monitoring

- Comes down to **value of data**



Step 3

Detect Threats fast

Detect Threats Faster

- Reduce massive volume of data
  - Correlate (bad) changes and (suspicious) events
- Dis-till intelligent information
- Respond immediately
  - Get information into the right hands
  - Make risk-based decision

87% of organizations had evidence of the breach in their log files, yet missed it.

2010 Data Breach Report From Verizon Business, U.S. Secret Service)

Standards & Frameworks *Why?*

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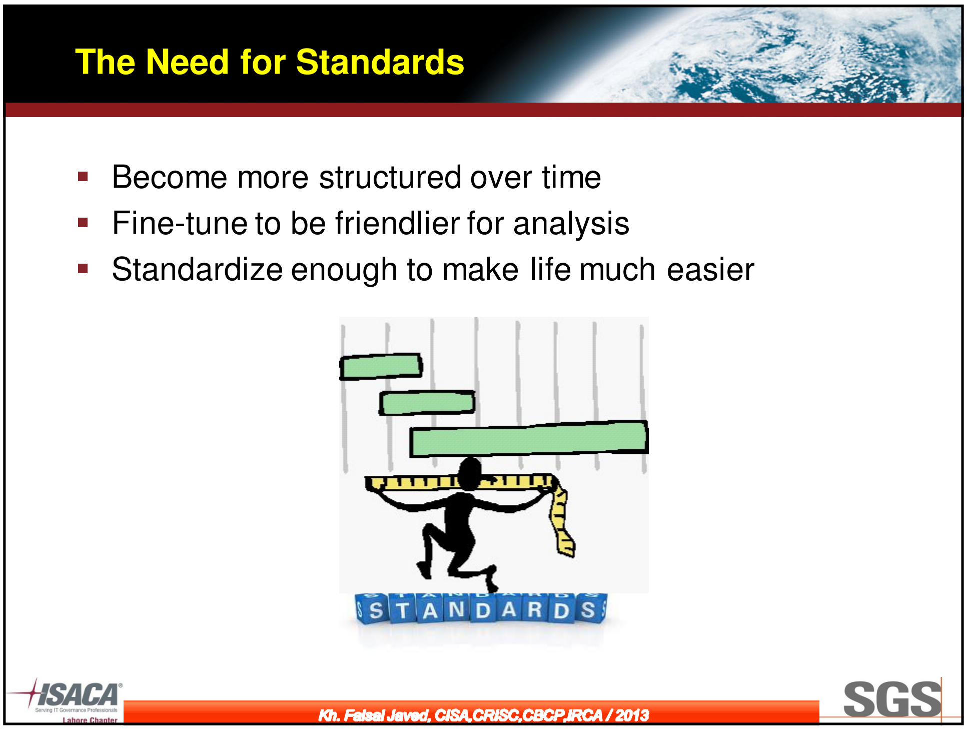

The Need for Standards

- Become more structured over time
- Fine-tune to be friendlier for analysis
- Standardize enough to make life much easier

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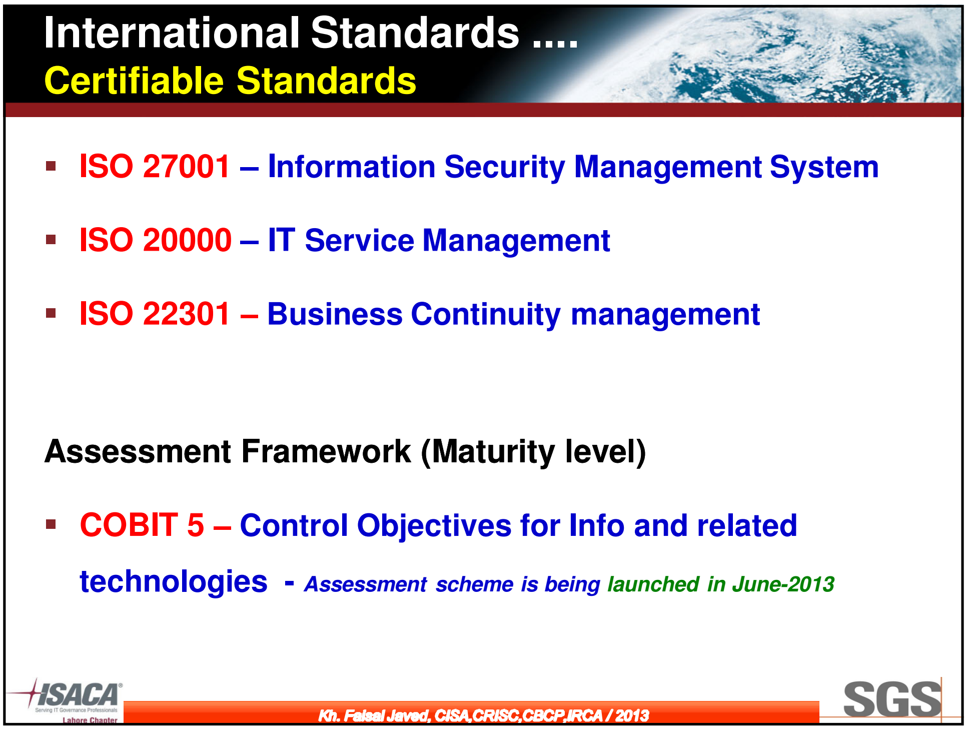
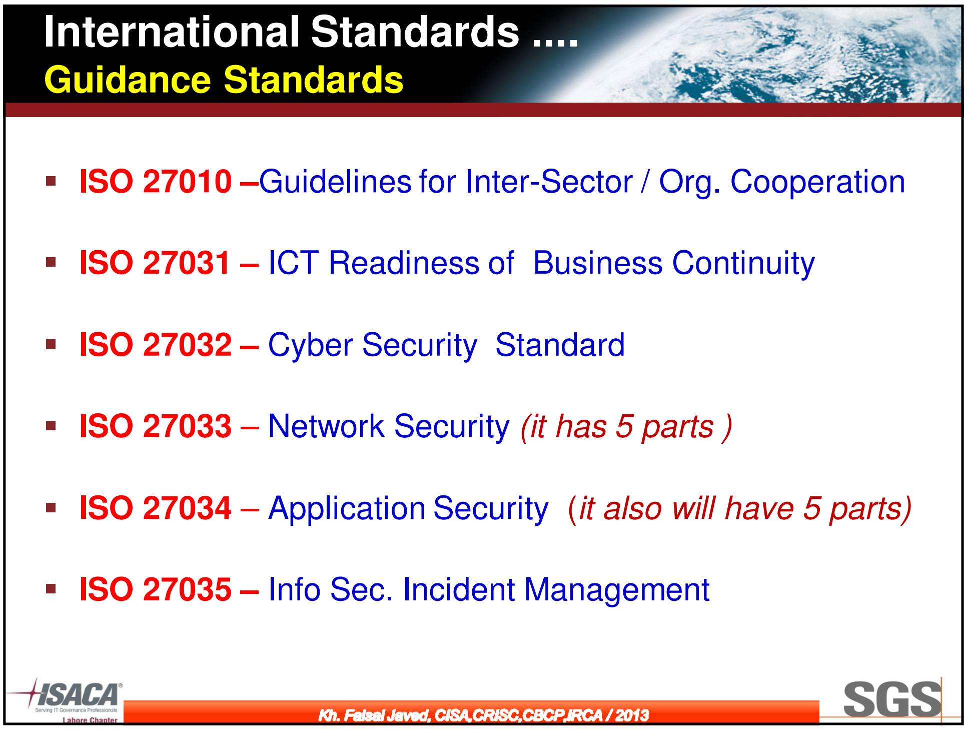


International Standards ....
Certifiable Standards

- **ISO 27001 – Information Security Management System**
- **ISO 20000 – IT Service Management**
- **ISO 22301 – Business Continuity management**

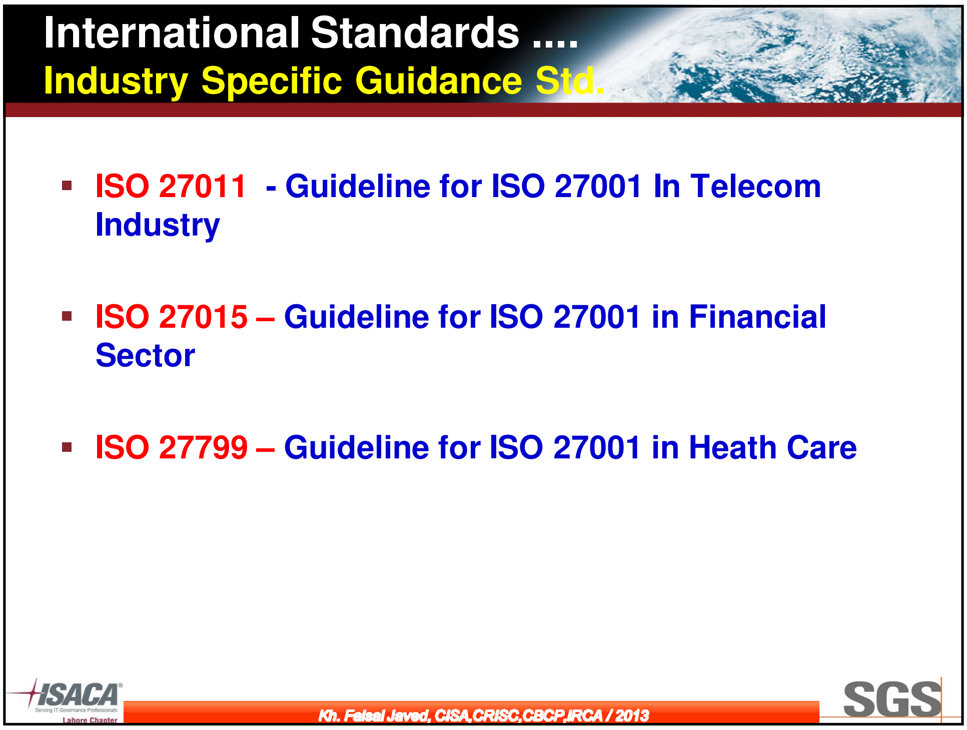
Assessment Framework (Maturity level)

- **COBIT 5 – Control Objectives for Info and related technologies** - ***Assessment scheme is being launched in June-2013***



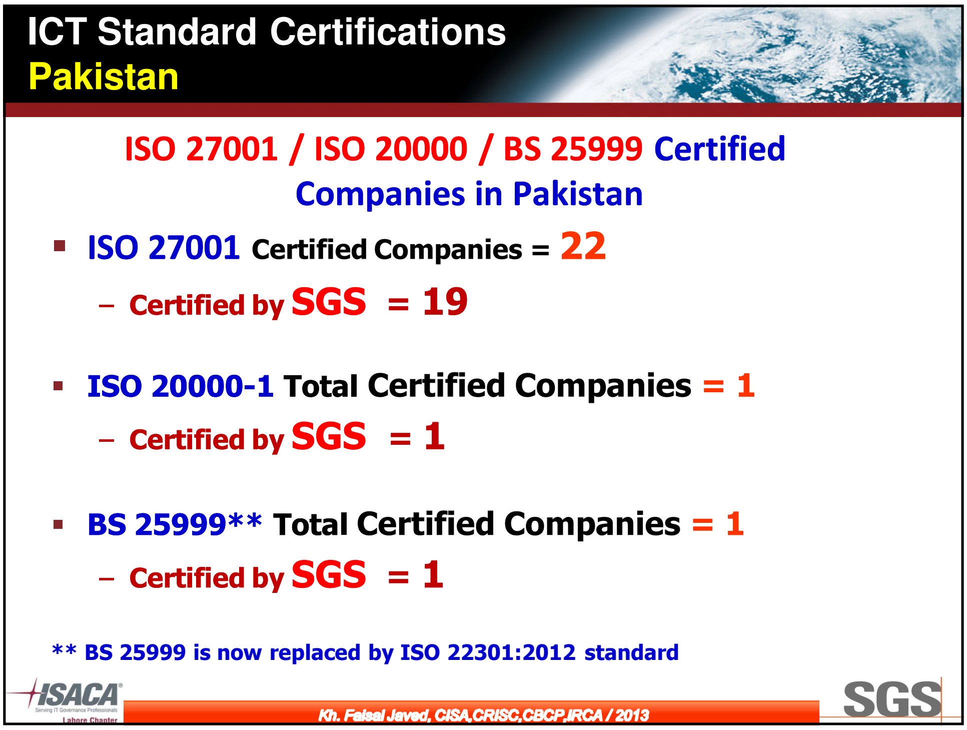
International Standards ....
Guidance Standards

- **ISO 27010 –**Guidelines for Inter-Sector / Org. Cooperation
- **ISO 27031 –** ICT Readiness of Business Continuity
- **ISO 27032 –** Cyber Security Standard
- **ISO 27033** – Network Security *(it has 5 parts)*
- **ISO 27034** – Application Security (*it also will have 5 parts)*
- **ISO 27035 –** Info Sec. Incident Management



International Standards ....
Industry Specific Guidance Std.

- ISO 27011 - Guideline for ISO 27001 In Telecom Industry
- ISO 27015 – Guideline for ISO 27001 in Financial Sector
- ISO 27799 – Guideline for ISO 27001 in Heath Care



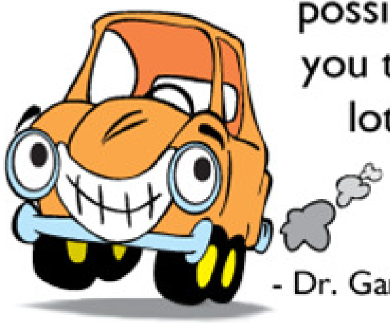
ICT Standard Certifications
Pakistan

ISO 27001 / ISO 20000 / BS 25999 Certified Companies in Pakistan

- ISO 27001 Certified Companies = 22
  - Certified by SGS = 19
- ISO 20000-1 Total Certified Companies = 1
  - Certified by SGS = 1
- BS 25999** Total Certified Companies = 1
  - Certified by SGS = 1

** BS 25999 is now replaced by ISO 22301:2012 standard

Security is like the brakes in your car. It slows you down, but it also make it possible for you to go a lot faster.



- Dr. Gary Hinson

WINNING IS AN ATTITUDE

THANK YOU, AND WISH YOU AHEAD OF THE GAME!

Mr. Khawaja Faisal Javed

Manager of Operations & ICT Products

Email: khawaja.faisal@sgs.com