

The logo for Information Integrity Solutions features a dark green square with a vertical orange bar on the left side. The text "INFORMATION INTEGRITY SOLUTIONS" is written in white, uppercase letters, centered within the green square.

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SOLUTIONS**



Privacy around the world: Developments, challenges and responses

Annelies Moens
Head of Sales and Operations
Information Integrity Solutions
GIGS 2013
Kuala Lumpur, 29 May 2013

About IIS

- Building trust and privacy through global thought leadership and consultancy work for a range of public and private organisations
- **Services:** privacy governance & strategy, privacy impact assessments and audits, regulator, customer & stakeholder engagement, identity management, privacy training.....



Australian Government



Commonwealth Bank



Building trust and innovative privacy solutions

Overview

- Changing regional and global privacy regulation
- Privacy challenges
- Case study: Accident Compensation Corporation, New Zealand
- Framework for good privacy management

Strengthening Trust

- Explosive growth in the quantity and quality of personal data has created significant opportunity to create new forms of economic and social value

... yet

- Individuals are beginning to lose trust in how organisations and governments are using data about them



Source: World Economic Forum, [Rethinking Personal Data: Strengthening Trust](#) (2013)

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Asia-Pacific – Recent Developments

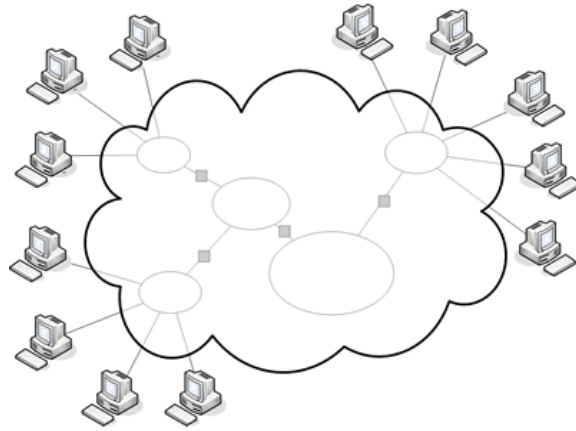
| Country | Law / Guideline | In Force | Coverage |
|-------------|--|----------------|--|
| Malaysia | Personal Data Protection Act, 2010 | Not yet | Private sector, in commercial transactions |
| Singapore | Personal Data Protection Act 2012 | Yes, in phases | Private sector |
| Vietnam | Law on Protection of Consumer's Rights, 2011 | Yes | Private sector, in commercial transactions |
| Taiwan | Personal Data Protection Act, 2010 | Yes | Public and private sectors |
| India | Information Technology Act, 2000 and IT Rules, 2011 | Yes | Private sector |
| South Korea | Personal Data Protection Act, 2011 | Yes | Public and private sectors |
| Philippines | Data Privacy Act of 2012 | Yes | Public and private sectors |
| Hong Kong | Personal Data (Privacy)(Amendment) Ordinance 2012 | Yes, in phases | Public and private sectors |
| China | Information Security Technology – Guide for Personal Information Protection within Public and Commercial Information Systems | Yes | Private sector |

APEC



- Finalisation of the Cross-Border Privacy Rules (CBPR) system for APEC member economies
- System to ensure that a company's privacy practices meet established standards for the protection of personal information
- First participant of CBPR is USA, then Mexico, with more to follow, including Japan this year
- Discussions to foster interoperability with the EU's Binding Corporate Rules (BCR)

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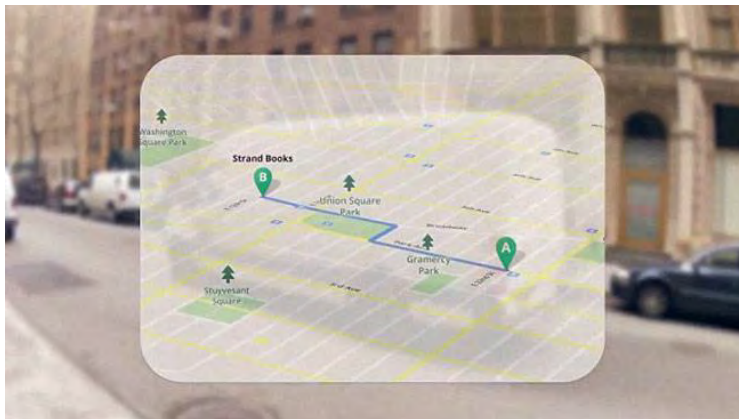
Privacy Challenges



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Private Surveillance - Google Glasses



What is it?

- Wearable computer with head-mounted display
- Features and functions:
 - ❑ Communication (via connection with smartphone)
 - ❑ Web browsing and operations
 - ❑ Takes photos and records 720p HD video
 - ❑ Augmented reality (overlay information onto real world)



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Privacy challenges

- Surreptitious recording
- Ubiquitous surveillance
- Collection of private and sensitive information
- Data control and ownership





Private surveillance - Drones



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What is it?

- Unmanned aerial vehicle (UAV) – flying machine operated remotely and equipped with sensors
- Functions:
 - Military
 - Exploration
 - Search and rescue
 - Law enforcement surveillance**
 - Paparazzi**
 - Personal use**
 - Etc



Privacy challenges

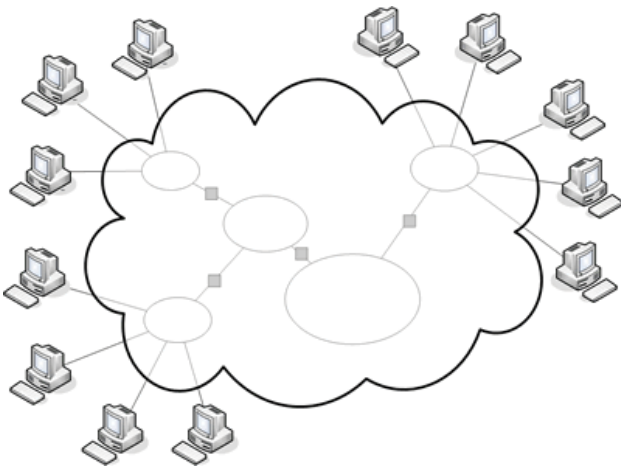
- Ease and availability
- Ubiquitous surveillance
- Potential for abuse



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Cloud Computing



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What is cloud computing?



On-demand
self-service



Ubiquitous
network
access



Location
transparent
resource
pooling



Rapid
elasticity



Measured
service with
pay per use

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Why engage a CSP?

- Connecting with multiple devices, business agility and cost-cutting were the top three reasons cited for adopting cloud services (TNS)
- In a recent survey of 674 IT and business executives at organisations across a range of industries and countries (KPMG):
 - ❑ 70% agree that cloud computing is delivering efficiencies and cost savings
 - ❑ Cloud adopters are also starting to focus on business process transformation, in addition to cost and speed benefits

Evernote says security breached by hackers

Online information storage firm Evernote has asked all users to reset their passwords, following a security breach by hackers.

The California-based company, that allows people to store and organise personal data on an external server, is thought to have about 50 million users.

It said user names, email addresses and encrypted passwords were accessed.

But it insisted there was "no evidence" that pay content was accessed, changed or lost.

Evernote acts like an online personal organiser: data such as video clips, images, web pages, in an external storage system commonly known as th



MARCH 07, 2013

When is your data not your data? When it's in the cloud

With Verizon's aid, police arrest a man for storing illegal porn in the cloud, which raises questions about how much privacy cloud users can expect

By Bill Snyder | InfoWorld

Follow @BSnyderSF


Print




Think the **data you upload to a cloud storage site is private**? Not necessarily. At least a dozen of the largest ISPs in the United States routinely scan stored files for alleged child pornography. When they find it, they're obligated by federal law to blow the whistle.





U.S. Govt: Megaupload Users Should Sue Megaupload

 Ernesto

 June 11,
2012

 167

 MegaUpload

 Print

The U.S. Government says it's in no way responsible for the millions of Megaupload users who have lost access to their files due to the criminal proceedings against the file-sharing site. Responding to a motion from one of the site's users, the Government explains that no "irreparable harm" has been done. Instead of targeting the Government, disadvantaged users should sue Megaupload or its hosting company Carpathia for damages.

Nearly half a year has passed since Megaupload's servers were raided by the U.S. Government, and still there is no agreement on how former users can retrieve their files.

This prompted Megaupload user Kyle Goodwin, a sports reporter who used Megaupload to store work-related files, to take action. Helped by the EFF, Mr. Goodwin filed a motion in which he demands that the court finds a workable solution for the return of his data, and that of other former Megaupload users.

Previous attempts to come to a solution have all failed.



Preliminary privacy considerations

Types of data and privacy policies:

1. How sensitive or critical to your business is the data that the CSP will be processing/hosting?
2. Is the disclosure/transfer of personal information to the CSP authorised by your customers?
3. Whose privacy policy is the data subject to once outsourced – your business or the CSP's privacy policy? Who owns the data once with the CSP?

Privacy risks

| Location and retention of data | Transferring data | Changing provider |
|--|--|--|
| <p>Location of data and backups</p> <ul style="list-style-type: none"> • Politically and environmentally stable regions? • Legal jurisdiction of data • How does the CSP know where the data is? • With other clients' data? | <p>Technical glitches</p> <ul style="list-style-type: none"> • What happens when the data cannot be accessed or retrieved from the cloud service provider due to technical or other difficulties? | <p>Unforeseen events</p> <ul style="list-style-type: none"> • What happens when CSP is shut down? • How is operational change handled - CSP bankrupt, sold, merged • How is a disaster/hacking managed? |
| <p>Protection and Security</p> <ul style="list-style-type: none"> • Encrypted whilst stored? • Who controls the encryption keys? • Physical security | <p>Protection and Security</p> <ul style="list-style-type: none"> • Encrypted in transfer? • Who controls the encryption keys? | <p>Updates</p> <ul style="list-style-type: none"> • Can upgrades to software or other services be refused? |
| <p>Retention</p> <ul style="list-style-type: none"> • What are the data retention policies? | <p>Subcontractors</p> <ul style="list-style-type: none"> • Does the CSP use third party subcontractors? | <p>Portability</p> <ul style="list-style-type: none"> • Can the data be easily relocated? |

10 safeguards

1. Read the contract and terms of service very closely and clarify any ambiguous provisions

2. Add cloud computing to your outsourcing and/or offshoring risk management frameworks

3. Ensure you are not violating any law or policy by putting personal information in the cloud

4. Clarify the rights of access, correction and deletion

5. Find out where and how the data will be kept

6. Ensure that the CSP passes all obligations it must meet under the contract to any subcontractors

7. Determine liability and accountability – what happens when things go wrong?

8. Have back-ups

9. Establish your own security measures

10. Maintain assurance and audit processes

Model contract

New Zealand Cloud Computing Code of Practice

| | |
|------------------------------------|-------------------------------------|
| Corporate Identity | Service level agreement and support |
| Ownership of Data | Data breach notification |
| Security | Data transportability |
| Data Location/Geographic Diversity | Data formats |
| Data Access and Use | Business Continuity |
| Back up and Maintenance | Ownership of application |



Data Breaches



Data breaches are pervasive

| RECORDS | DATE | ORGANIZATIONS |
|--------------------|------------|--|
| <u>150,000,000</u> | 2012-03-17 | Shanghai Roadway D&B Marketing Services Co. Ltd |
| <u>130,000,000</u> | 2009-01-20 | Heartland Payment Systems, Tower Federal Credit Union, Beverly National Bank, North Middlesex Savings Bank, Golden Chick |
| <u>94,000,000</u> | 2007-01-17 | TJX Companies Inc. |
| <u>90,000,000</u> | 1984-06-01 | TRW, Sears Roebuck |
| <u>77,000,000</u> | 2011-04-26 | Sony Corporation |
| <u>60,000,000</u> | 2013-03-13 | Unknown Organization |
| <u>50,000,000</u> | 2008-08-27 | Unknown Organization |
| <u>50,000,000</u> | 2013-04-26 | LivingSocial Inc. |

Source: DataLossDB, [Largest Incidents](#) (2013)

Impact of a data breach

- Data breaches have increased in severity and frequency, but organisations lack tools to detect and respond
- Malicious data breaches cost 60% more than non-malicious ones, per organisation (\$840,000 v \$500,000)
- Reported reasons for breaches:
 - ❑ Non-malicious – Lack of in-house expertise (50%), inadequate security processes (37%)
 - ❑ Malicious – Lack of in-house expertise (64%), inadequate forensic capabilities (47%)

Source: Ponemon Institute, The Post Breach Boom (2013)

Internal threats

MOST AREN'T...

Like you see in the movies. The chances are that you're not facing genius hackers exploiting your fancy new mobile and cloud services.

HIGH TECH

Most attacks are actually quite unsophisticated and conducted from a distance — often Eastern Europe. Only 7% involve physical attacks — and most of those are ATM skims.



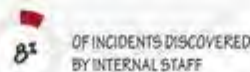
INSIDE JOBS

Fewer attacks than ever are deliberate "inside jobs" by employees or partners misusing privileges — though lost devices is a common cause.



SPOTTED INTERNALLY

Most breaches go undetected by the affected company; they're often pointed out by law enforcement, auditors or payment card companies.



MOST ARE...

Pretty mundane. They rely on simple vulnerabilities like weak passwords and web exploits — and often sit unnoticed for years.

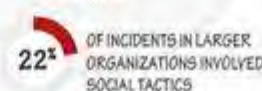
EASILY PREVENTABLE

Easy-to-guess passwords are one of the most common exploits used by criminals.



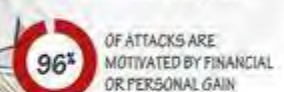
DUE TO HUMAN ERROR

When attacks are targeted, humans are often the weak point. Watch out for phishing and other social engineering attacks.



ABOUT THE MONEY

Criminals want money — so POS systems and customer payment details are the most common targets.



LONG TERM

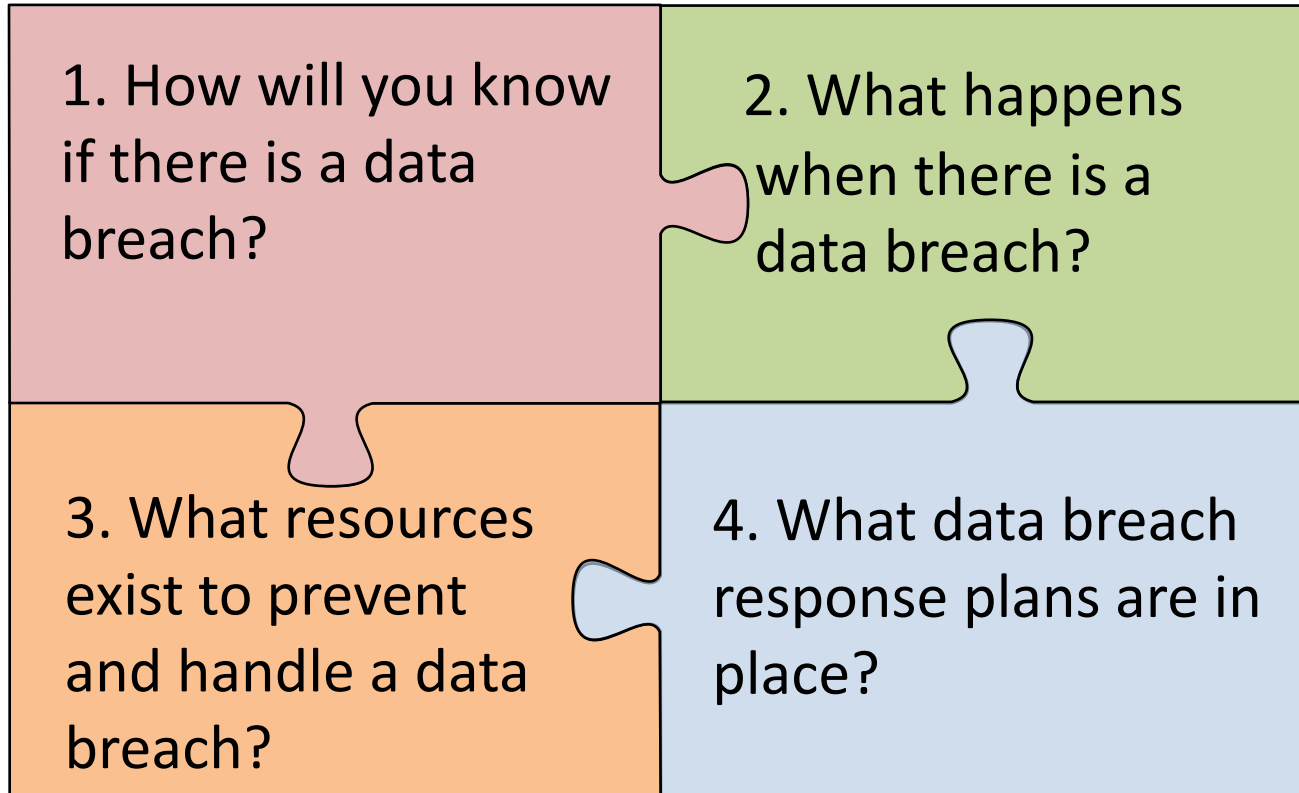
While attacks typically breach security within minutes, they're often not spotted for months or even years.



Reproduced with permission from Verizon – Verizon 2012 Data Breach Investigations Report (2012)

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Data breaches



1. How will you know if there is a data breach?



Reproduced with permission from Verizon – Verizon 2012 Data Breach Investigations Report (2012)

2. What happens when there is a data breach?

Sony Data Breach Highlights Importance of Cloud Security

by Czaroma Roman on May 9, 2011 · 6 Comments



The Sony data breach that compromised the data of over 100 million customers left the corporation a bit shaken and created woes for the cloud computing industry.

The shares of businesses that specialize in cloud computing had been

performing well for quite some time now. However, the massive cyber-attacks including Amazon.com Inc's cloud computing center outage, has put the brakes on plans of some companies to move their operations into the cloud. VMware Inc, which sells software for building clouds, experienced 2 percent drop; while Salesforce.com Inc, a maker of web-delivered software, has declined 3 percent.

Five lessons from the Distribute.IT hosting disaster

Wednesday, 22 June 2011 12:01

Patrick Stafford

Like 12 Tweet 32 +1 0 Pin it Share 7

The cyber-attack that crippled Melbourne-based web hosting provider Distribute.IT has left thousands of customers furious, with the data of almost 5,000 websites now deemed completely unrecoverable.

But the debacle has brought to light just how fickle the cloud can be. Combined with a security breach earlier this week from DropBox and the massive cyber-attack against Sony, businesses everywhere are talking about cloud-based security.

LinkedIn 17 Twitter 57 Facebook 59 +1 0 Share

By: Fahmida Y. Rashid
2011-04-06

[There are 0 user comments on this IT Security & Network Security News & Reviews story.](#)

The theft of email addresses from Epsilon could affect consumer trust, and organizations have to reassess the risks of outsourcing less sensitive data and processes.

As email-marketing company Epsilon continues to deal with the fallout related to the revelation that some of its clients' customer data has been exposed to a third-party, it becomes clear that this incident affects all service providers as organizations renew their focus on data security. In addition, this latest data breach calls into question how secure information is within a cloud-computing infrastructure.

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3. What resources exist to prevent and handle a data breach?

- Steps you can take to minimise the likelihood of a data breach:
 - ❑ Privacy by Design in business process and ICT
 - ❑ Privacy Impact Assessments
 - ❑ Privacy in risk management frameworks
 - ❑ Privacy skills development and training
- Check whether your insurer covers the cost of dealing with a data breach and notification
- Consider what your data breach response plan is

4. What data breach response plans are in place?

1. Contain the breach and do a preliminary assessment
2. Appoint lead person to manage (internal and/or external) response team
3. Evaluate the risks associated with the breach
4. Consider breach notification
5. Review the incident and take action to prevent future breaches



Case study: ACC



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Facts

- 5 August 2011 – email to client with an attachment containing personal information of 6,748 of ACC's clients
- Recipient became aware on 26 October 2011 and advised ACC on 1 December 2011
- 13 March 2012 breach became public and IIS and KPMG engaged to conduct independent review

ACC whistleblo

PHIL KITCHIN AND DANYA LEVY

Last updated 11:29 19/03/2012

Health

Heart-hacking possible - but w
would you?

Privacy breaches

Last updated 05:00 28/10/2012

Politics

- Falling tax take hits Government's Budget deficit
- Having family 'like buying a luxury car'
- Workers need a safety voice - CTU
- Political donation rules bill progresses
- Gang patch bill criticised
- Gay marriage a human right: MP
- US election: Waiting for the states to fall
- Greens' red tops keep heat on PM
- Pressure mounts for Wilkinson to quit Cabinet
- Banks sure MMP 5pc threshold won't be changed

And a Waikato ACC client was given a list of
then I saw the imprisonments. I thought, 'I haven't been commu
and they immediately offered to come and pick it up - no way, it's gone too far this time.'

ACC apologises over privacy breach

PHIL KITCHIN

Last updated 15:33 13/03/2012

Like 29 Tweet 10

Health

- Heart-hacking possible - but why would you?
- Stem cell study holds diabetes cure promise
- Heart power to run pacemakers
- Vitamins can't fight heart disease
- Sufferers seek changes to 'unjust' ACC system
- DHB breached standards, says

An ACC sensitive claims client was "horrified" personal details of 250 clients of the unit had nationwide and to a member of the public.

The details were among more than 9000 ACC featuring well-known people - that were email should not have received them, in what is being of the worst privacy breaches in New Zealand h

The sensitive claims unit deals with the cases c abuse victims.

The scandal behind the scandal

TALKING POLITICS BY GORDON CAMPBELL

Last updated 07:34 05/04/2012

Like 53 Tweet 6 Share

Opinion

- Playing away from home
- Grim news for Labour leader
- Sport's top ten biggest cheats
- Wellingtonian Editorial: Why hammer motorists?
- The rise and fall of Hekia Parata
- Wellingtonian Editorial: Let's be proud of Memorial Park
- Wellingtonian Editorial: The problem with national standards
- The national standards poser
- Politicians making soft choices

OPINION: Few people would have predicted the Accident Compensation Corporation would be engulfed by a scandal over the security of emails related to its core business, or by the ACC Minister offering assistance to a party insider seeking compensation.

More glaring problems exist.

For years, the nitpicking way that the ACC commonly responds to many victims of accidents has been controversial – not to mention the way it routinely argues that the incapacity in question was really caused by an underlying process of ageing and degeneration, and was not by the accident mentioned in the claim.

Miserliness is not the source of ACC's current troubles, though.

ACC: We can't rule out breaches

By James Ihaka , Vaimoana Tapaleao

5:30 AM Monday Oct 29, 2012

Tweet

Like 1 +1

In latest gaffe, person sent details of another man's criminal history.

The Accident Compensation Corporation says improvements to its information-handling processes will take time and it can not rule out the possibility of further privacy breaches.

This comes after it mistakenly sent a Waikato man details of another's criminal history - the latest in an embarrassing series of privacy gaffes by the corporation and other government departments.

ACC said it "regretfully acknowledges" the breach occurred, involving individuals



Digital Image / PK Stowers

: of information found in 3000 pages of requested

ied a three-year work programme to implement fied in the Independent Review of ACC Privacy and released in August.

nade in mitigating risks, some errors may



to / supplied

er when Ms Pullar met senior nn Judge, following Ms Pullar's McCliskie.

Systemic issues

Breach was a genuine error – but errors are able to happen because of systemic weaknesses within ACC's culture, systems and processes.

- Technology and business practice – spreadsheets and multiple monitors
- Culture – inconsistent respect for personal info
- Privacy Management – lack of accountability

Recommendations

- Breach was a symptom of underlying systematic issues
- Privacy is a **whole-of-agency concern**
 - ❑ Governance
 - ❑ Leadership, including privacy strategy
 - ❑ Privacy programme
 - ❑ Culture
 - ❑ Accountability
 - ❑ Business processes and systems
 - ❑ Backlog



Whole-of-agency issue

- Data management and privacy is a **whole-of-agency issue**

“An organisation’s data needs to be protected by thorough and effective risk mitigation strategies to the same or higher levels as other vital assets. Without these strategies in place, the organisation is at risk of significant reputational damage.”

“We emphasise the significance of a culture and environment where personal information is valued. This must be supported by an approach to compliance with the privacy principles that is embedded within governance, leadership, business processes and systems.”

Lessons learnt

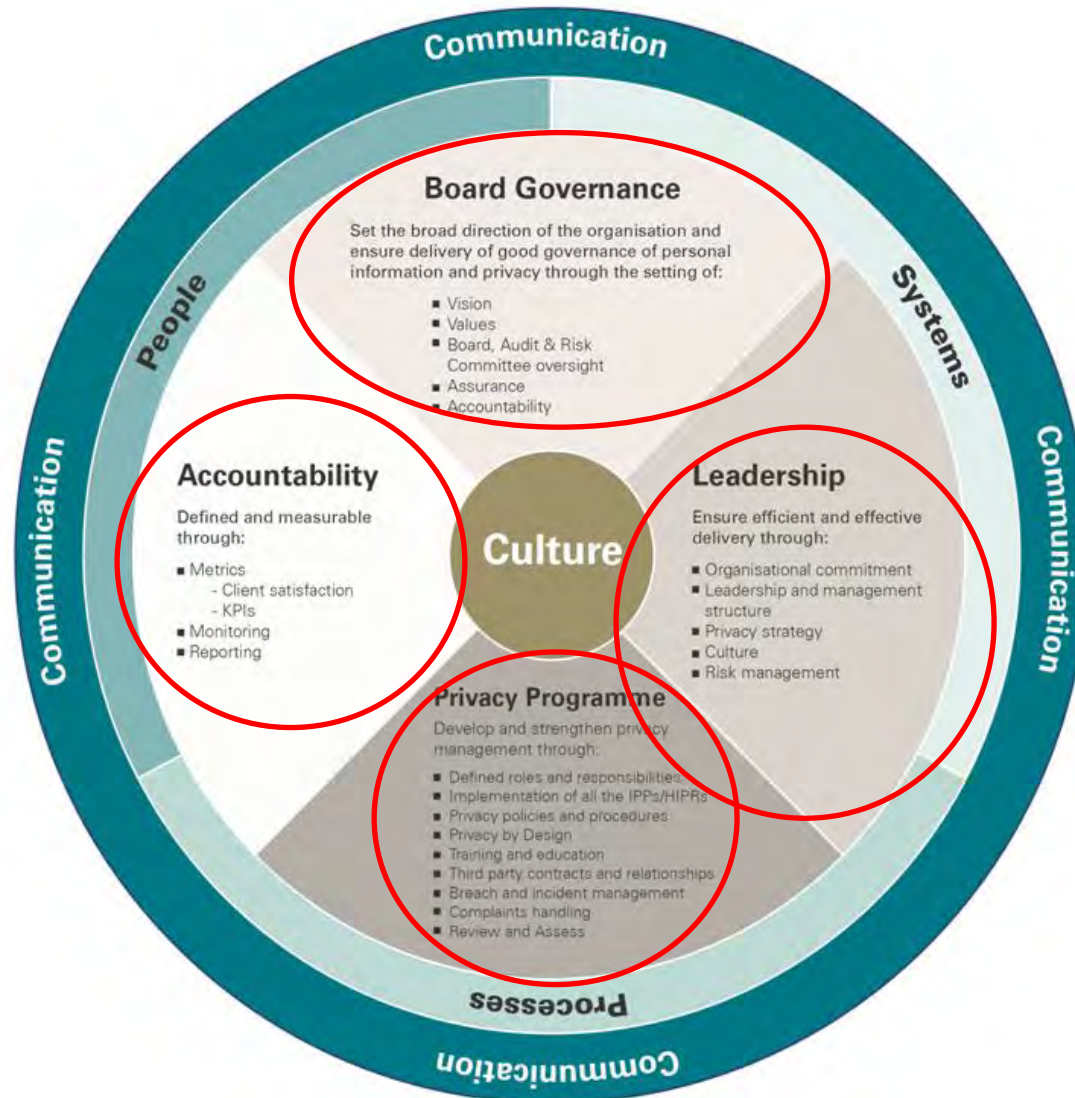
1) Make privacy part of risk management frameworks

2) Having a customer focus and viewpoint helps solve and prevent privacy issues

3) Treat personal information and other information as an asset – if it is not governed and managed properly it can turn into a liability

4) Have accountability structures in place and create a culture that respects privacy

Framework for good privacy management



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User-centricity

➤ Respect for the individual:

- Transparency
- Usability
- Control



- Accountability
- Data minimisation
- Reduce trackability

➤ Examples:

- Notifying collection – iPhone's location arrow
- Default settings – Google+



Privacy by Design

1. **Proactive** not Reactive;
Preventative not Remedial
2. Privacy as the **Default Setting**
3. Privacy **Embedded** into Design
4. Full Functionality: **Positive-Sum**,
not Zero-Sum
5. End-to-End Security – **Full
Lifecycle Protection**
6. **Visibility** and **Transparency** –
Keep it **Open**
7. **Respect** for User Privacy – Keep
it **User-Centric**



Privacy by Design

The 7 Foundational Principles

Ann Cavoukian, Ph.D.
Information & Privacy Commissioner
Ontario, Canada

Privacy by Design is a concept that I developed back in the 90's, to address the ever-growing and systemic effects of Information and Communication Technologies, and of large-scale networked data systems.

Privacy by Design asserts that the future of privacy cannot be assured solely by compliance with regulatory frameworks; rather, privacy assurance must ideally become an organization's default mode of operation.

Initially, deploying Privacy-Enhancing Technologies (PETs) was seen as the solution. Today, we understand that a more substantial approach is required – extending the use of PETs to taking a positive-sum, not a zero-sum, approach.

Privacy by Design now extends to a "Triology" of encompassing applications: 1) IT systems; 2) accountable business practices; and 3) physical design and infrastructure.

Principles of *Privacy by Design* may be applied to all types of personal information, but should be applied with special vigour to sensitive data such as medical information and financial data. The strength of privacy protection requirements tend to be commensurate with the sensitivity of the data.

The objectives of *Privacy by Design* – ensuring privacy and personal control over one's information and, for organizations, gaining a sustainable competitive advantage – may be accomplished by practicing the following principles:

1. **Proactive** not Reactive; **Preventative** not Remedial

The *Privacy by Design* (PbD) approach is characterized by proactive rather than reactive measures. It anticipates and prevents privacy invasive events *before* they happen. PbD does not wait for privacy risks to materialize, nor does it offer remedies for resolving privacy infractions once they have occurred – it aims to *prevent* them from occurring. In short, *Privacy by Design* comes before-the-fact, not after.

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Privacy Impact Assessments

- Identify and manage privacy risks and opportunities
- Features of PIA:
 - Prospective – looking at the future privacy impacts
 - Iterative – conducting analysis and feeding back into the design process
 - Risk & opportunity management – for both org and individuals



Assurance and Review

- Monitor compliance with privacy and security policy
- Periodically review new risks and adequacy of existing measures
- Update policies and procedures when required



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Conclusion

- Data protection regulation increasing
- Privacy challenges
- Case study: ACC
- Framework for good privacy management

Further information

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Questions?

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