



Cloud Computing – what is it and what does it mean for consumers

Rob Forsyth – APAC RVP

A cynic's view of Cloud Computing



= The Internet

The more the data banks record about each one of us, the less we exist.

Marshall McLuhan 1911 - 1980

Cloud Computing



C = Internet²

Example Cloud Applications

- SalesForce.com - CRM
- Google's Gmail and Microsoft's Hotmail
- MYOB Live Accounts
- Amazon Web Services
- eBay, Dropbox, TripAdvisor

salesforce.com[®]
Success On Demand.™



force.com™
platform as a service



YAHOO! MAIL



50PHOS

GAP Workshop on Cloud Computing 2011

1. Innovation & the dissolving of national borders render traditional approaches irrelevant. Offers **great benefits** in citizen-centric service which should **not** be stymied by the **hyping of privacy concerns**
2. 'Cloud computing' has the ability to **revolutionise** computing, but **requires safeguards** & incentives to promote its adoption
3. Telecommunications regulation **requires reform** to encourage investment necessary to modernise Australia's broadband
4. 'Responsive' regulation & self-regulated standards can be used as an effective **alternative to 'black letter' legislation**
5. Regulatory reform can encourage investment & economic activity by reducing the **burden of 'red tape'** on businesses & individuals



DSD Cloud guide* for agencies

- My data or functionality to be moved to the cloud is **not business critical**
- I have reviewed the vendor's business continuity and **disaster recovery plan**
- I will maintain an up to date backup copy of my data
- My data or business functionality will be replicated with a second vendor
- The network connection between me and the vendor's network is adequate
- The Service Level Agreement (SLA) guarantees adequate system availability



SOPHOS

DSD Cloud guide for agencies

- Scheduled outages are acceptable both in duration and time of day
- Scheduled outages affect the guaranteed percentage of system availability
- I would receive adequate **compensation for a breach** of the SLA or contract
- Redundancy mechanisms and offsite backups prevent data corruption or loss
- If I accidentally delete a file or other data, the vendor can quickly restore it

1

SOPHOS

DSD Cloud guide for agencies

- I can increase my use of the vendor's computing resources at short notice
- I can easily **move my data** to another vendor or in-house
- I can easily move my standardised application to another vendor or in-house
- My choice of cloud sharing model aligns with my risk tolerance
- My data is **not too sensitive** to store or process in the cloud
- I can meet the legislative obligations to protect and manage my data
- I know and accept the **privacy laws of countries** that have access to my data

1

SOPHOS

DSD Cloud guide for agencies

- **Strong encryption** approved by DSD protects my sensitive data at all times
- The vendor suitably sanitises storage media storing my data at its end of life
- The vendor securely monitors the computers that store or process my data
- I can use my existing tools to monitor my use of the vendor's services
- I retain **legal ownership** of my data
- The vendor has a secure gateway environment
- The vendor's gateway is certified by an authoritative third party

SOPHOS

DSD Cloud guide for agencies

- The vendor provides a suitable email content filtering capability
- The vendor's security posture is supported by policies and processes
- The vendor's security posture is supported by direct technical controls
- I can **audit the vendor's security** or access reputable third party audit reports
- The vendor supports the identity and access management system that I use
- Users access and store sensitive data only via trusted operating environments

1

SOPHOS

DSD Cloud guide for agencies

- The vendor uses endorsed physical security products and devices
- The vendor's procurement process for software and hardware is trustworthy
- The vendor adequately separates me and my data from **other customers**
- Using the vendor's cloud does not weaken my network security posture
- I have the option of using computers that are dedicated to my exclusive use

1

SOPHOS

DSD Cloud guide for agencies

- When I **delete my data**, the storage media is sanitised before being reused
- The vendor **does not know the password** or key used to decrypt my data
- The vendor performs **appropriate personnel** vetting and employment checks
- Actions performed by the vendor's employees are logged and reviewed
- Visitors to the vendor's data centres are positively identified and escorted

SOPHOS

DSD Cloud guide for agencies

- Vendor data centres have cable management practices to identify tampering
- Vendor security considerations apply equally to the vendor's subcontractors
- The vendor is contactable and provides timely responses and support
- I have reviewed the **vendor's security incident** response plan
- The vendor's employees are trained to detect and handle security incidents
- The vendor will **notify me** of security incidents

1

SOPHOS

DSD Cloud guide for agencies

- The vendor will assist me with security investigations and legal discovery
- I can **access audit logs** and other evidence to perform a forensic investigation
- I receive adequate compensation for a security breach caused by the vendor
- Storage media storing sensitive data can be adequately sanitised

1

SOPHOS

SOPHOS

Do we trust the Cloud?

Some questions?

- If we provide personal information, can we trust the Cloud provider not to lose it?
- If we provide personal information, can we trust the Cloud provider not to misuse it?
- If we are dealing with a reputable Cloud provider, how do we know that “they are really them?”



SOPHOS

Do we trust the Cloud?

TripAdvisor and eBay

- We do trust the “herd & heard”
 - ... but are we sure the reviews aren't nobbled?



How does feedback work?

You receive:

- +1 point for each positive comment and rating left for you
- 0 points for each neutral comment and rating left for you
- -1 point for each negative comment and rating left for you
- A feedback star once you have 10 or more comments and ratings left for you
- [Feedback extortion](#) – Threatening to leave negative or neutral feedback for another member unless the other member provides goods or services not included in the original listing
- [Feedback manipulation](#) – Feedback left or received where the Feedback's primary value is to artificially enhance a member's reputation



We Have Zero Tolerance for Fake Reviews!

For property owners / mgmt.:

Biased activity on TripAdvisor by owners, employees, or third-party vendors hired on behalf of the property is subject to severe and long-lasting penalties. We strongly recommend that you do not attempt to write your own reviews.

Visit your owner's page for your property to learn how you can present information about your property on our site and respond to the feedback left by your guests.

If you'd like to talk to us about past transgressions without being penalized or want to report a concern about a review attached to your listing, please contact us.

For our members:

TripAdvisor takes review fraud very seriously. We dedicate significant time and resources ensuring that the content on TripAdvisor reflects the real experiences of real travelers. If we determine that there are fraudulent reviews submitted for a property, there are several consequences:

We remove the review from our site.

The property may drop by several pages in the TripAdvisor popularity index.

The property will no longer be eligible for inclusion in TripAdvisor's Travelers Choice awards, Top 10 lists, press releases, etc.

A large red penalty notice, explaining that the property's reviews are suspicious may appear on the listing page.

Reviews appearing on our site must adhere to our submission guidelines.

If you have further questions about our fraud efforts, please visit our Help Center.

Do we trust the Cloud?

Be sceptical but not cynical

- Are we sure the email or site is who it claims to be?



Phishers target South Africa's BidorBuy auction website

Chinese auction site sells thousands of stolen iTunes accounts

Malicious 'Payment request from' email attack strikes inboxes

iPhone and eBay Phishing Scam

TripAdvisor admits to database security breach

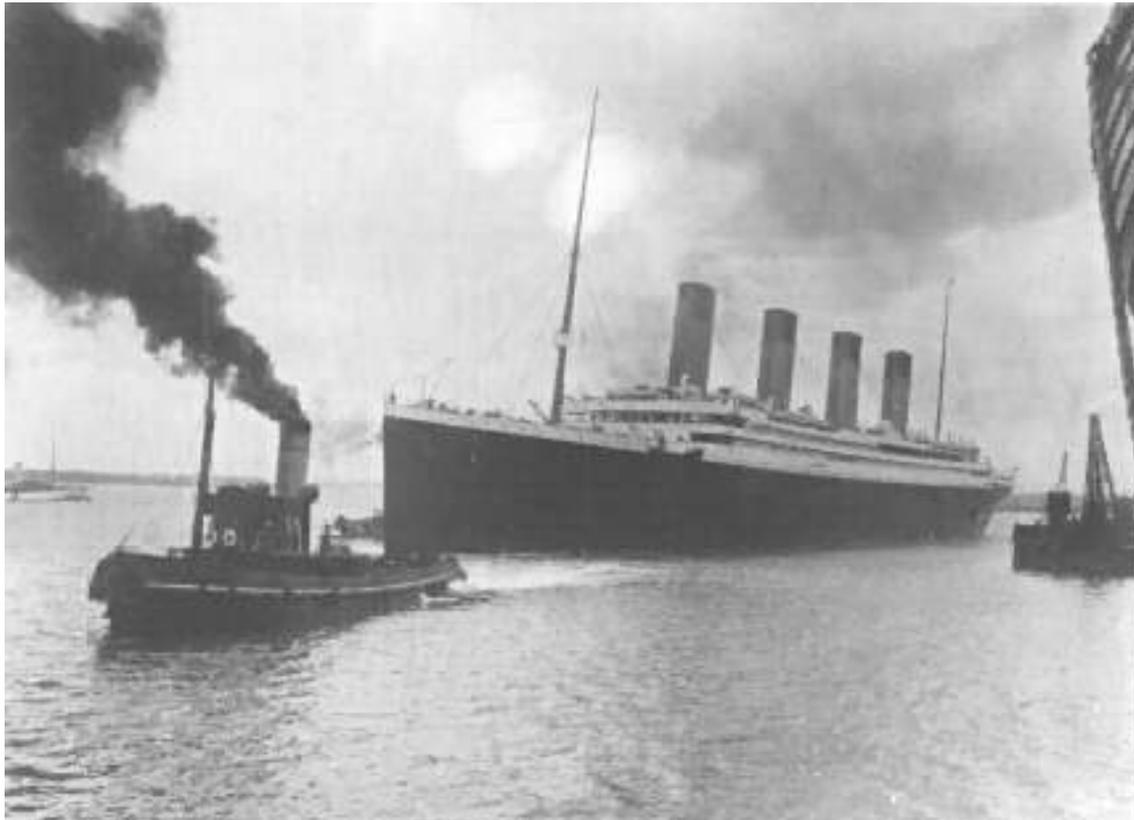
Another eBay scam: Too good to be true.

Fake email	Real eBay email
<ul style="list-style-type: none">▪ Fake emails often ask you to reply to the message with confidential information.	<ul style="list-style-type: none">▪ We won't ask you to provide confidential information by email.
<ul style="list-style-type: none">▪ They often have an urgent tone and threaten account suspension if you don't update your information right away.	<ul style="list-style-type: none">▪ Any messages from us requesting information will also be in the Messages tab in My eBay. If an email seems suspicious, check to see if it's there. If it's not, it's fake.
<ul style="list-style-type: none">▪ They might include attachments.	<ul style="list-style-type: none">▪ Our emails never include attachments. If you receive a message with an attachment, don't open it.
<ul style="list-style-type: none">▪ They often have a generic greeting like "Attention eBay member."	<ul style="list-style-type: none">▪ Our emails usually greet you by the first and last name you registered on your eBay account, and your eBay user ID.

Do we trust the Cloud?

The “unsinkable” Titanic

Unfortunately, things do go wrong, even with the best intentions



Epson hack

22nd August 2011

- Epson Korea has been hit by a massive data breach, involving the personal information of 350,000 customers.
- Hackers stole information including passwords, phone numbers, names, and email addresses
- A warning was posted to the Epson website, advising customers to change their passwords



SOPHOS

Sony Hack (s)

Sony PlayStation suffers 3 data breaches



A screenshot of a website banner for Sony. The banner features the text "AUSTRALIAN IT" on the left, "EXPERIENCE THE DIFFERENCE" in the center, and the Sony logo with the slogan "make.believe" on the right. Below the banner is a navigation menu with categories: THE AUSTRALIAN, NATIONAL AFFAIRS, BUSINESS, AUSTRALIAN IT, HIGHER EDUCATION, MEDIA, VIDEO, IT Business, ExecTech, Opinion, Government, Careers, Telecommunications, and Cloud Computing.

Sony admits a third data breach

AFP, The Australian | May 09, 2011 1:01PM | 5 comments

A+ A- [print icon] [email icon] [share icon]

Bloomberg Businessweek

Wednesday August 24, 2011
Bloomberg

Sony Data Breach Exposes Users to Years of Identity-Theft Risk

May 03, 2011, 12:26 AM EDT

By Cliff Edwards and Michael Riley

May 3 (Bloomberg) — Sony Corp., maker of the PlayStation video-game console, may have exposed customers to years of potential identity theft after hackers breached the company's online entertainment networks in mid-April.

Sony suffered a massive breach in its video game online network that led to the theft of names, addresses and possibly credit card data belonging to 77 million user accounts. Sony learned that user information had been stolen from its PlayStation Network but did not tell the public for seven days.

And closer to home - Distribute.IT

The screenshot shows a news article on the Sydney Morning Herald website. At the top, there is a blue banner for '30,000 BONUS POINTS \$200 worth of value'. The article title is '4800 Aussie sites evaporate after hack' by Asher Moses, dated June 21, 2011. The article text states that at least 4800 Australian websites were lost with no chance of recovery following a break-in at the Australian domain registrar and web host Distribute.IT. A quote from the article reads: 'The hack attack caused so much damage that four of the company's servers were "unrecoverable", the company said, leaving thousands of website owners in the lurch.' To the right of the article is an advertisement for ANZ Business Credit Cards, featuring a Visa card and an 'Apply now' button. Below the article is a 'Blogs' section with the text 'TOUCHING LESSONS ON CONSOLE ...'.

"The overall magnitude of the tragedy and the loss of our information and yours is simply incalculable; and we are distressed by the actions of the parties responsible for this reprehensible act," Distribute.IT said.

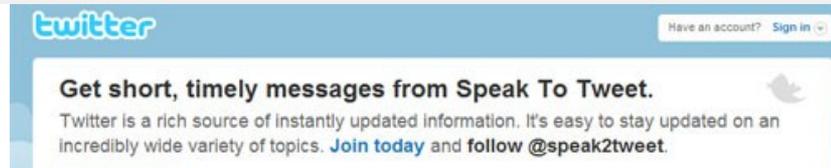
... security experts warned that thousands of websites were vulnerable to being hijacked and extensive private data were at risk of being stolen.

The rise of Hacktivism

Defacing Web Pages, Web Sit-ins, E-mail Bombing - 1989



Speak2tweet Gives Hope to Egyptian People



What is the difference between a patriot and a traitor?

You talk of times of peace for all, and then prepare for war.



The rise of Hacktivism

“This could blow the cover of informants”

naked**security**
News. Opinion. Advice. Research

IT Security Blog of the Year



malware spam social networks data loss law & order apple podcast vide

WikiLeaks suffers its own data loss incident

Hi there! If you're new here, you might want to [subscribe to the RSS feed](#) for updates.



by [Chester Wisniewski](#) on August 30, 2011 | [Be the first to comment](#)

FILED UNDER: [Data loss](#), [Featured](#), [Privacy](#)

Der Spiegel is reporting that WikiLeaks has had... wait for it... a [data leakage accident](#). You might think, "So what? The data has already been leaked!"

Unfortunately, that isn't quite as clear as it seems. WikiLeaks goes to great lengths to protect both their sources and potential informants by redacting their details from the data before publication.



Driven by a crime economy

ZDNet / Security / Story

Aussie data breaches doubled in 2011

By Darren Pauli, ZDNet.com.au on April 13th, 2011



@zdnetaustralia · 4,659 followers

Some of the worst breaches have cost businesses many hundreds of thousands of dollars, and involved significant loss of credit card information and customer information. Yet it seems that **none of the breaches** handled by forensic investigators Verizon and Klein & Co **have been reported by the media.**

Slow progress ...

May 2011

smh.com.au
The Sydney Morning Herald
Asher Moses
May 3, 2011

Move to tighten privacy rules

The federal government will introduce laws forcing companies to disclose privacy breaches after Sony revealed that more than 1.5 million Australian user accounts were compromised in the recent attack on its PlayStation Network.

The Privacy Minister, Brendan O'Connor, said he was "very concerned" about the theft of personal information and expressed disappointment that Sony took "several days" to inform customers about the breach. This meant a mandatory "data breach notification" system now "appears necessary", he said.

Slow progress ...

... but back in August 2008

The screenshot shows the itnews website interface. At the top left is the logo "itnews FOR AUSTRALIAN BUSINESS". A dark banner on the right says "Sign up for our Security email bulletin for FREE today. All the latest on infosec threats directly to your inbox". Below the logo is a navigation bar with "News", "Technology" (highlighted), "Business", and "Jobs". A search bar is on the right. A secondary navigation bar lists "Reviews | Galleries | Events | Net Seminars | Whitepapers | Downloads | Newsletter | Videos | Topics". The main content area shows a breadcrumb "Home / News / Technology / Security" and an article titled "Mandatory data breach disclosure recommended in privacy law reforms" by Negar Salek on Aug 12, 2008. The article text states: "The Australian Law Reform Commission (ALRC) has recommended the Australian government introduces mandatory data breach disclosure laws, in its final privacy report released today." Below the text is a photo of John Faulkner and a caption: "At a media briefing in Sydney, Federal Cabinet Secretary John Faulkner, and Attorney-General Robert McClelland officially launched the 2700 page report titled: 'For Your Information: Australian Privacy Law and Practice.'" To the right of the article is a sidebar with a "Sign up to receive itnews email bulletins" form, social media icons for Facebook, Twitter, YouTube, and RSS, and a "Most read" section listing articles like "Amazon hires first Aussie staff" and "MYOB sold for \$1.2 billion".

The report makes 295 recommendations to the existing Privacy Laws and practices, of which, a recommendation for mandatory data breach disclosure is included.

The good guys fight back

Improved international cooperation

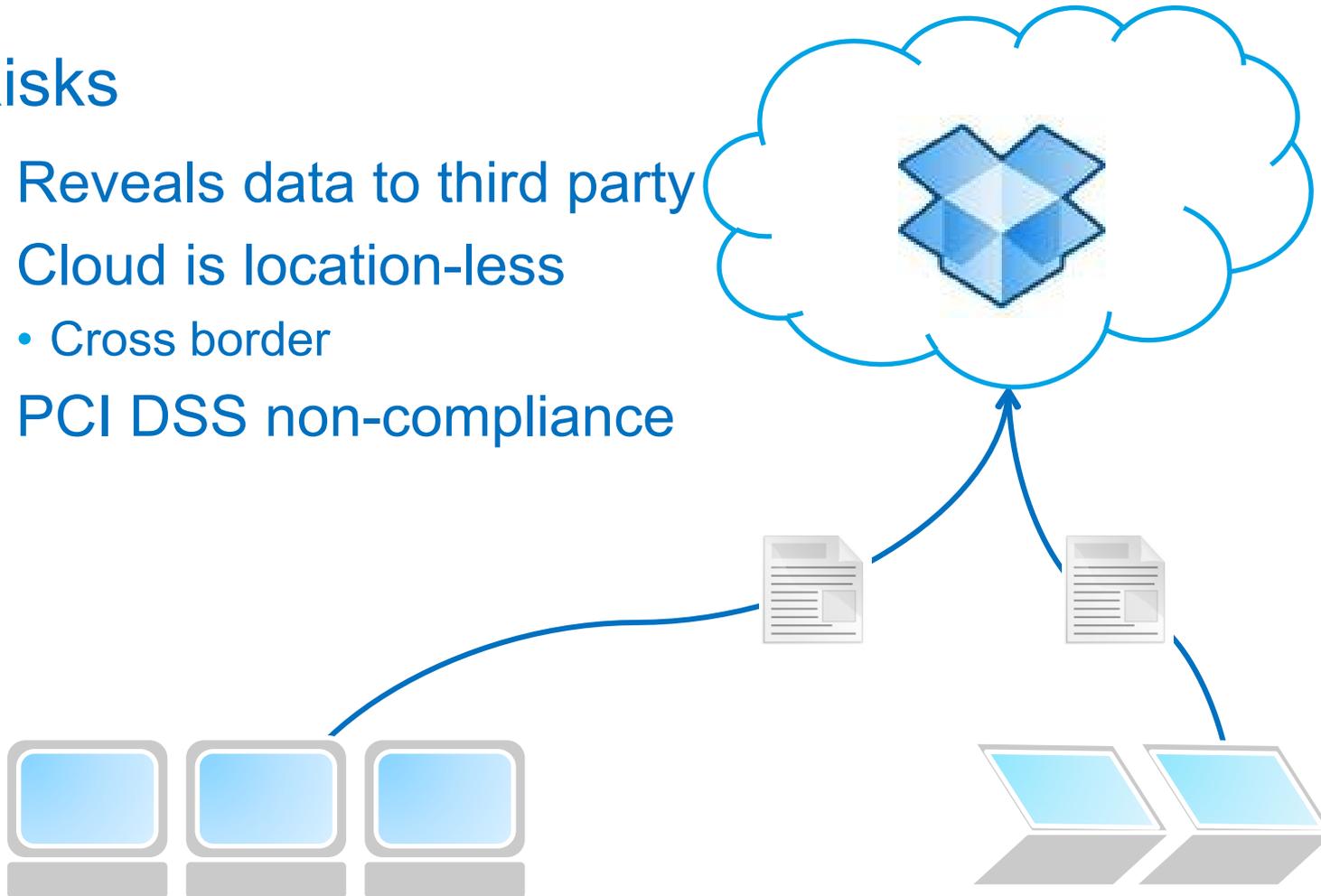
- Romanian police arrest 70 phishers and fraudsters
 - Directorate for Investigating Organised Crime and Terrorism (DIICOT) - 70 arrested in Romania assisted by FBI
- USA & international ZBot investigation - 60 people charged related to the Zeus botnet malware
- Japanese malware arrest - file-sharing vigilante suspect nabbed - The arrest follows new Japanese legislation which criminalises malware
- Interpol & Singapore Police Force - global complex will boost efforts to curb cybercrime
- Australian Federal Police (AFP) High Tech Crime Operations



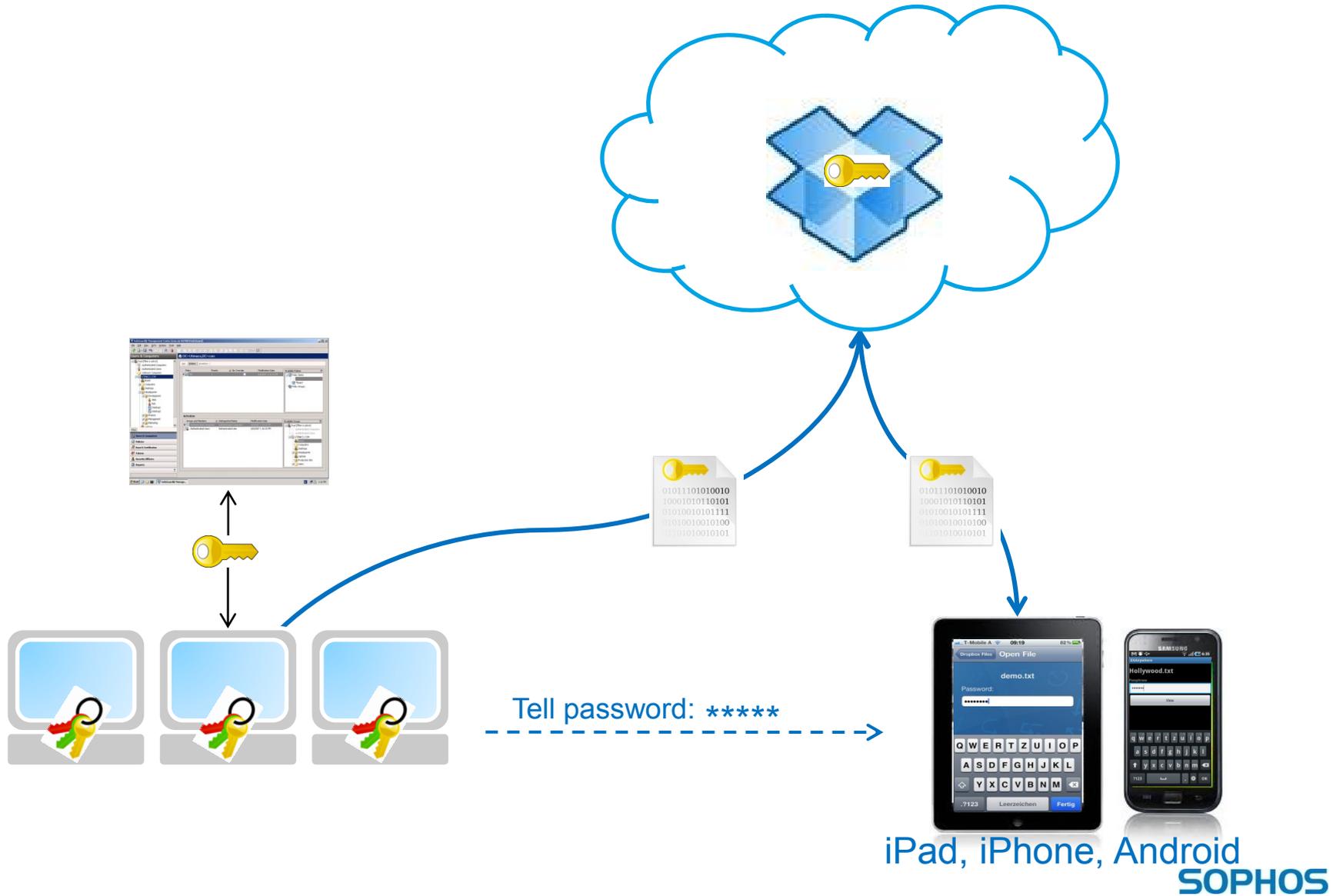
Cloud Storage

Risks

- Reveals data to third party
- Cloud is location-less
 - Cross border
- PCI DSS non-compliance

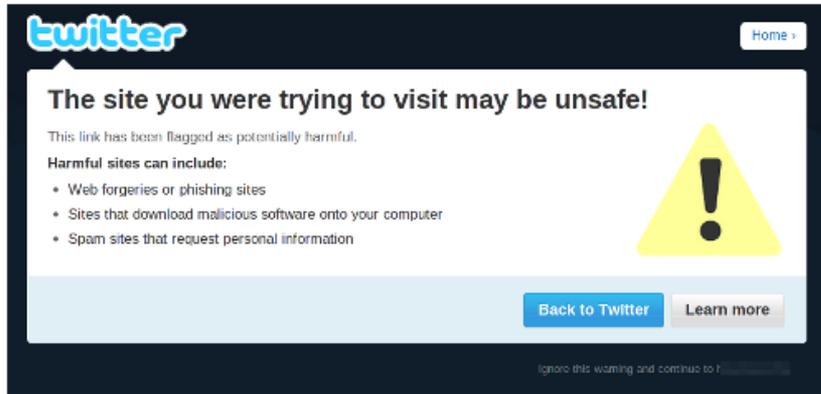


Cloud Encryption



So should we trust the Cloud?

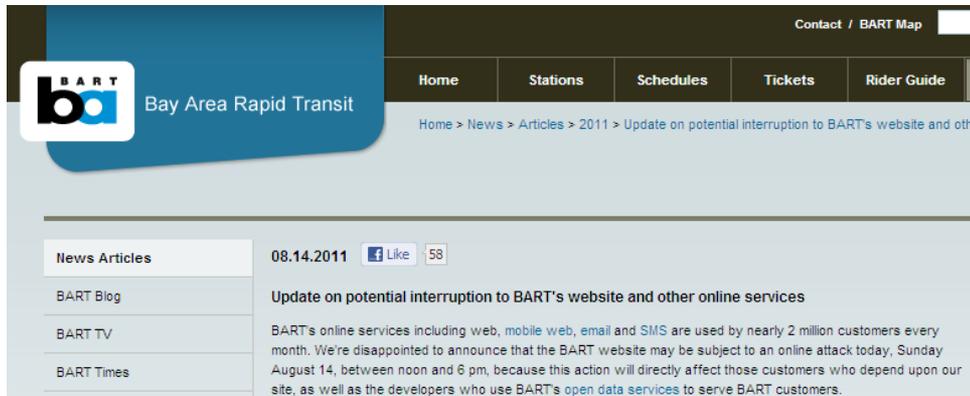
It depends with what ... and then do it with caution



smh.com.au
The Sydney Morning Herald

Breaches of privacy by large corporations the real problem

August 3, 2011
OPINION



There is help and information

Stay informed and ask questions of your provider

SOPHOS

WHAT WE DO

Your Needs | Why Sophos | Products

GETTING ANSWERS

Support | Threat Center

WHAT'S HAPPENING

Security News/Trends

Partners

Home > Security News & Trends > Security Trends > Social Media Security Toolkit > Download

Download Now

Social media security toolkit

- Your free social media security toolkit
- Safety tips to learn, share and help others
- Tools to secure your organization



WinZip - sophossocialmediasecuritytoolkiteng.zip

File Actions Options Help

New Open Favorites Add Extract Encrypt View CheckOut Wizard

Name	Type	Modified	Size	Rati
sophos-example-social-media-security-policy.pdf	Adobe Acrobat Document	10/02/2010 11:22 AM	57,828	11%
sophos-example-social-media-security-policy.rtf	Rich Text Format	10/02/2010 6:53 AM	556,070	81%
sophos-avoid-being-phished-video.wmv	Windows Media Audio/...	10/02/2010 11:49 AM	24,399,...	2%
sophos-safe-passwords-video.wmv	Windows Media Audio/...	10/02/2010 12:50 PM	24,755,...	1%
sophos-security-threat-report-jan-2010.pdf	Adobe Acrobat Document	16/02/2010 9:38 PM	3,381,576	34%
sophos-social-media-statistics-and-real-life-examples.pptx	Microsoft Office Power...	11/02/2010 10:05 AM	2,335,470	8%
sophos-social-media-the-business-implications.pptx	Microsoft Office Power...	11/02/2010 10:11 AM	1,000,093	12%
sophos-social-media-threats.pptx	Microsoft Office Power...	11/02/2010 11:13 AM	6,194,054	7%
sophos-threatsaurus-a-z.pdf	Adobe Acrobat Document	16/02/2010 9:42 PM	2,631,377	12%
Thumbs.db	Data Base File	16/02/2010 9:45 PM	5,632	42%
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sophos-top-tips-for-using-social-media-safely.swf	Shockwave Flash Object	1/02/2010 10:02 AM	326,398	0%

Selected 0 files, 0 bytes Total 12 files, 64,592KB

SOPHOS

simple + secure

