



# Hovering Securely in the Cloud

26 Nov 2012 (Information Security Seminar)

*Ricci IEONG*

*CSA-HK&M Chapter*

*Director of Education*

# About the Cloud Security Alliance

- Global, not-for-profit organization
- Over 40,000 individual members, around 200 corporate and affiliate members, 64 chapters worldwide
- Building best practices and a trusted cloud ecosystem
- Agile philosophy, rapid development of applied research
  - GRC: Balance compliance with risk management
  - Reference models: build using existing standards
  - Identity: a key foundation of a functioning cloud economy
  - Champion interoperability
  - Enable innovation
  - Advocacy of prudent public policy

*“To promote the use of best practices for providing security assurance within Cloud Computing, and provide education on the uses of Cloud Computing to help secure all other forms of computing.”*

# Cloud Security Alliance

The screenshot shows the Cloud Security Alliance website homepage. At the top, the browser address bar displays <https://cloudsecurityalliance.org>. The website header features the CSA logo and navigation links for Press Releases, Press Coverage, Blog, and Contact. A search bar is located in the top right corner. Below the header is a dark navigation bar with links for HOME, ABOUT, MEMBERSHIP, EDUCATION, CERTIFICATION, CHAPTERS, STANDARDS, RESEARCH, and EVENTS. The main content area is divided into several sections:

- Cloud Security Alliance Innovation 13 Conference:** A large banner for the conference held on January 24, 2013, in Silicon Valley, CA. It is sponsored by the Silicon Valley Chapter of the Cloud Security Alliance.
- Mission Statement:** A section with a shield icon stating the organization's purpose: "To promote the use of best practices for providing security assurance within Cloud Computing, and provide education on the uses of Cloud Computing to help secure all other forms of computing." A "LEARN MORE" button is provided.
- Latest News:** A section titled "LATEST NEWS" with a dropdown arrow, featuring a news item from November 07, 2012, about the first annual Ron Knode Service Award winners.
- Latest in Research:** A section titled "LATEST IN RESEARCH" with a dropdown arrow, featuring a research report from November 08, 2012, on security guidance for mobile computing.
- Welcome New Members:** A section with a globe icon and text welcoming new members to the organization.

The bottom of the browser window shows a taskbar with several open files, including PDFs and a tar.gz file.

# CSA Asia Pacific Expansion



- CSA to set up corporate HQ in Singapore as per joint press release on 20 July 2012
- Founding sponsors of the corporate HQ are IDA, EDB and Trend Micro
- Critical CSA research and projects will be used as an anchor in Singapore:
  - Global CSA Research Centre
  - Global Standards Secretariat
  - Global Centre of Excellence (CoE) for CCSK Training and Education
- Serving as a regional hub and operations magnet for established and emerging growth corporate members
- CSA partners with ASTRI to further APAC Cloud Security Initiatives

# CSA Events



Inauguration of CSA of Hong Kong & Macau Chapter held on May 17, 2012 at Hong Kong's Cyberport.

<http://www.isoc.hk/2012/04/building-trust-in-cloud-computing-summit-2012.html>

# Top 10 Strategic Technology trends for 2013

- Mobile Devices Battles
- Mobile Applications & HTML5
- Personal Cloud
- Internet of Things
- Hybrid IT & Cloud Computing
- Strategic Big Data
- Actionable Analytics
- Mainstream In-Memory Computing
- Integrated Ecosystems
- Enterprise App Stores

# What is Cloud Computing?

➤ Compute as a utility: third major era of computing

➤ Cloud enabled by

➤ Moore's Law

➤ Hyperconnectivity

➤ SOA

➤ Provider scale

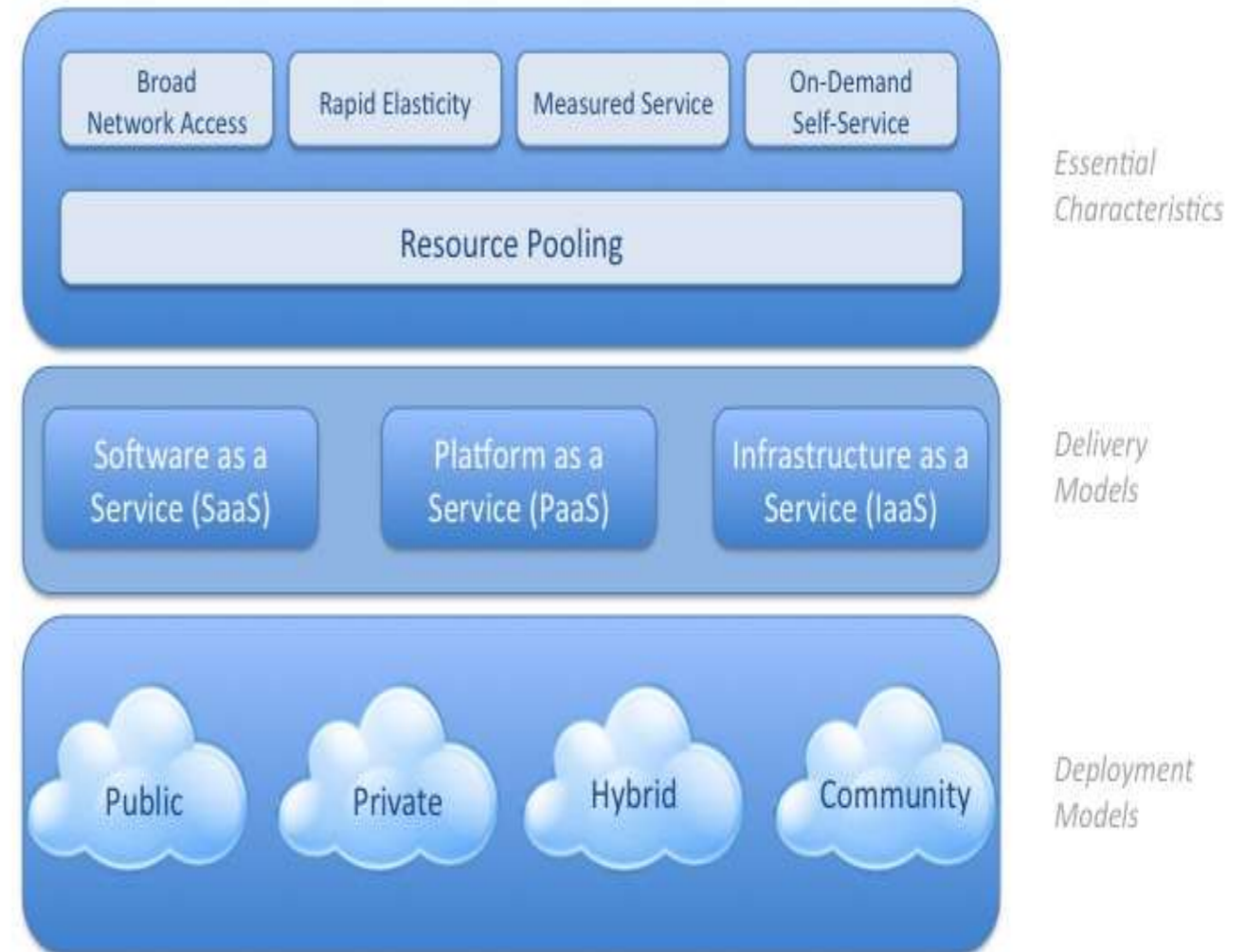
➤ Key characteristics

➤ Elastic & on-demand

➤ Multi-tenancy

➤ Metered service

Visual Model Of NIST Working Definition Of Cloud Computing  
<http://www.csrc.nist.gov/groups/SNS/cloud-computing/index.html>



# Cloud Business?

Cloud Applications  
(Apps-as-a-Service)



App Dev/Test      App Deploy

Cloud (Application) Platforms  
(Platform-as-a-Service)



Cloud Infrastructure  
(Infrastructure-as-a-Service)





# APAC SMB cloud market to hit \$19.8B in 2015

The screenshot shows a ZDNet article page. At the top, the ZDNet logo is visible with the tagline "and share them with your peers" and the year "2012". Below the logo, there is a navigation bar with "APAC SMB cloud market" and a search bar. The main content area features the article title "APAC SMB cloud market to hit \$19.8B" and a summary: "Small and midsize businesses in Asia-Pacific will spend US\$19.8 billion on cloud in 2015, up from US\$7.6 billion this year, giving service providers opportunities in virtualization, automation and hosting." The article is by Jamie Yap, dated September 20, 2012. To the right of the article is a Zenprise advertisement for BYOD (Bring Your Own Device) with the text "It doesn't have to be a four-letter word." and a "GET IT NOW" button. Below the advertisement are "Related Stories" including "BoxWorks 2012: Jive CEO argues enterprises need to embrace social, mobile", "Egnyte touts new storage infrastructure as 'cloud-agnostic' approach", "Intel unveils personal cloud platform for SMBs, consumers", and "Cloud accounting developers add phone apps". On the left side of the article, there are social media sharing options: 0 Comments, 1 vote, 46 likes, 105 tweets, and 55 shares. The footer of the page includes the ZDNet logo, social media links for @zdnet, and a footer with "Join | Log In | Privacy | Cookies".

<http://www.zdnet.com/apac-smb-cloud-market-to-hit-19-8b-7000004570/>

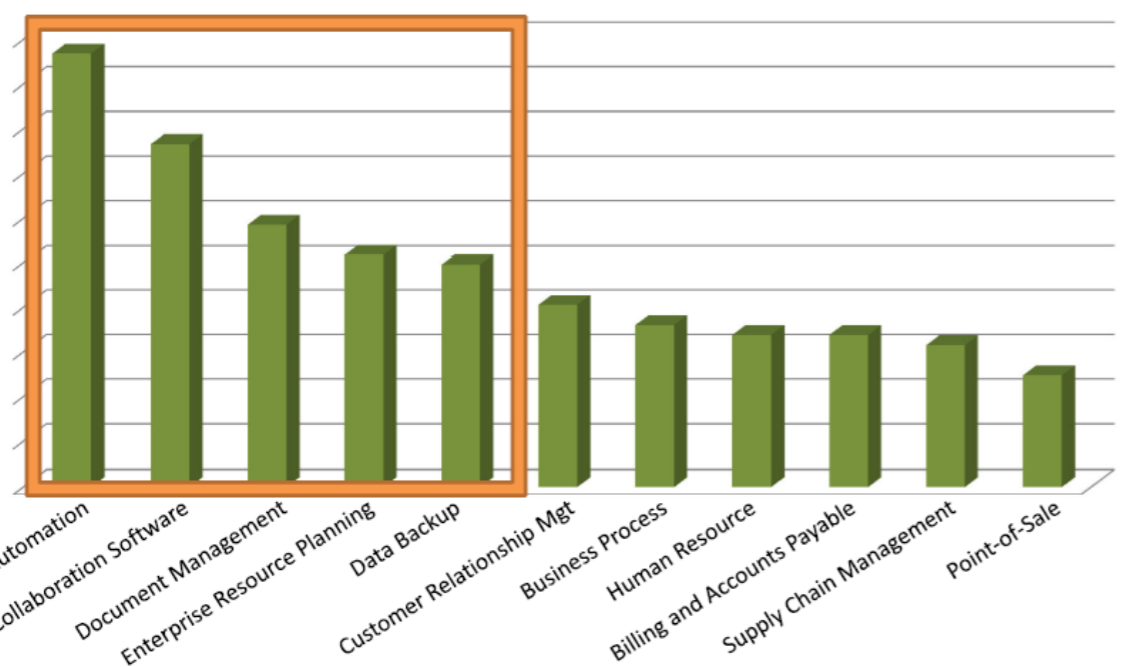
# Recent Cloud End User Survey by HKPC

## Cloud Adoption

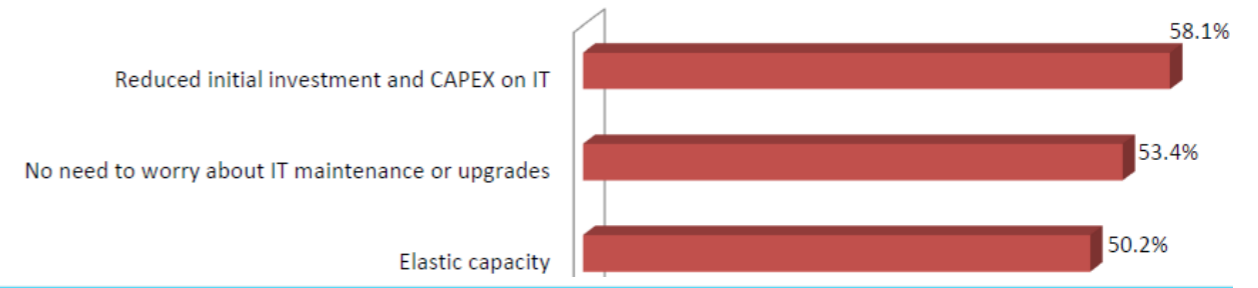
Are You Using Cloud Application?

Yes

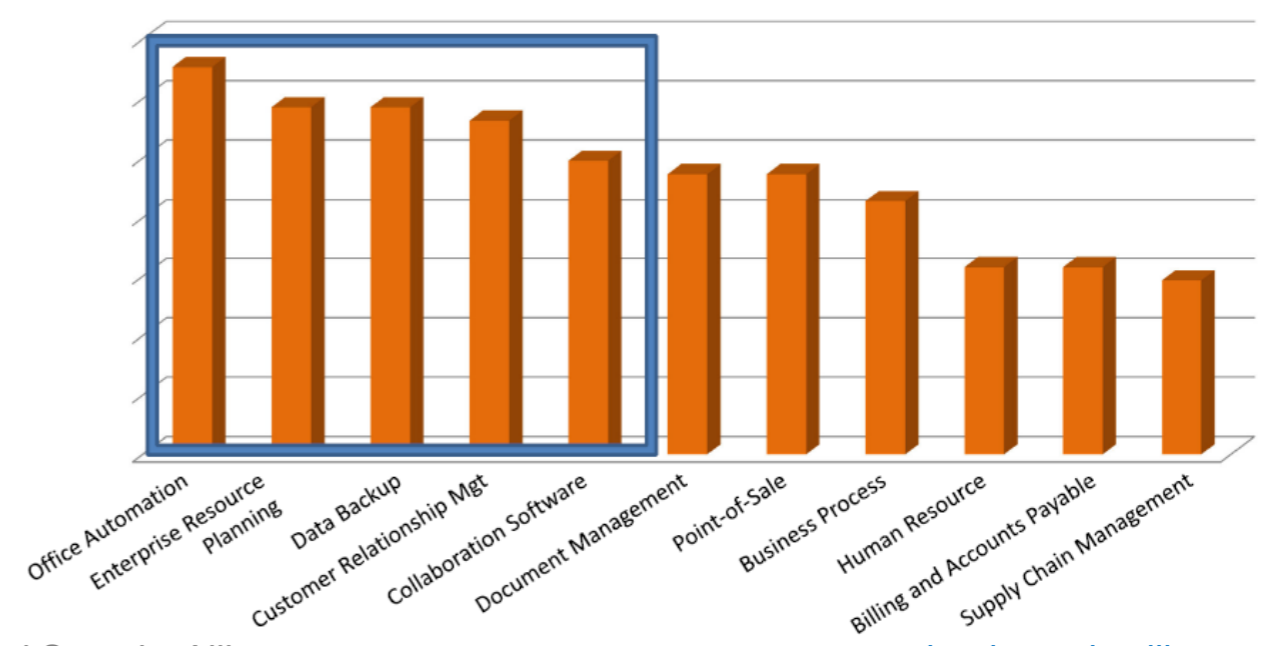
## Applications – Currently on Cloud



## Expected Benefits from Cloud Application



## Applications – To Be on Cloud



# SME in the Cloud

The screenshot shows a web browser window displaying the website [www.smbcloudsolutions.com.au/cloud-solutions/iaas.html](http://www.smbcloudsolutions.com.au/cloud-solutions/iaas.html). The page features the SMB Cloud Solutions logo and a navigation menu with links for Home, About Us, Cloud Services, Cloud Solutions, Managed Services, News, and Contact Us. A sidebar on the left lists services: Email & Archiving, Infrastructure as a Service, Software as a Service, Backup & Business Continuity, and Collaboration Tools. The main content area is titled "Infrastructure as a Service" and includes a paragraph about moving to the Amazon Cloud, an Amazon Web Services logo with a description of Amazon S3, and a list of benefits of cloud-based infrastructure.


**SMB Cloud Solutions**  
Phone: 03 9020 0501

Home About Us Cloud Services Cloud Solutions Managed Services News Contact Us

» Email & Archiving  
» Infrastructure as a Service  
» Software as a Service  
» Backup & Business Continuity  
» Collaboration Tools

## Infrastructure as a Service

By moving into the Amazon Cloud, small businesses can take advantage of the huge amount of storage and processing power that used to be out of reach to all but for larger enterprise companies.

 Amazon S3 provides a simple web services interface that can be used to store and retrieve any amount of data, at any time, from anywhere on the web.

Moving from physical, on-site, infrastructure into cloud based infrastructure can ensure that:

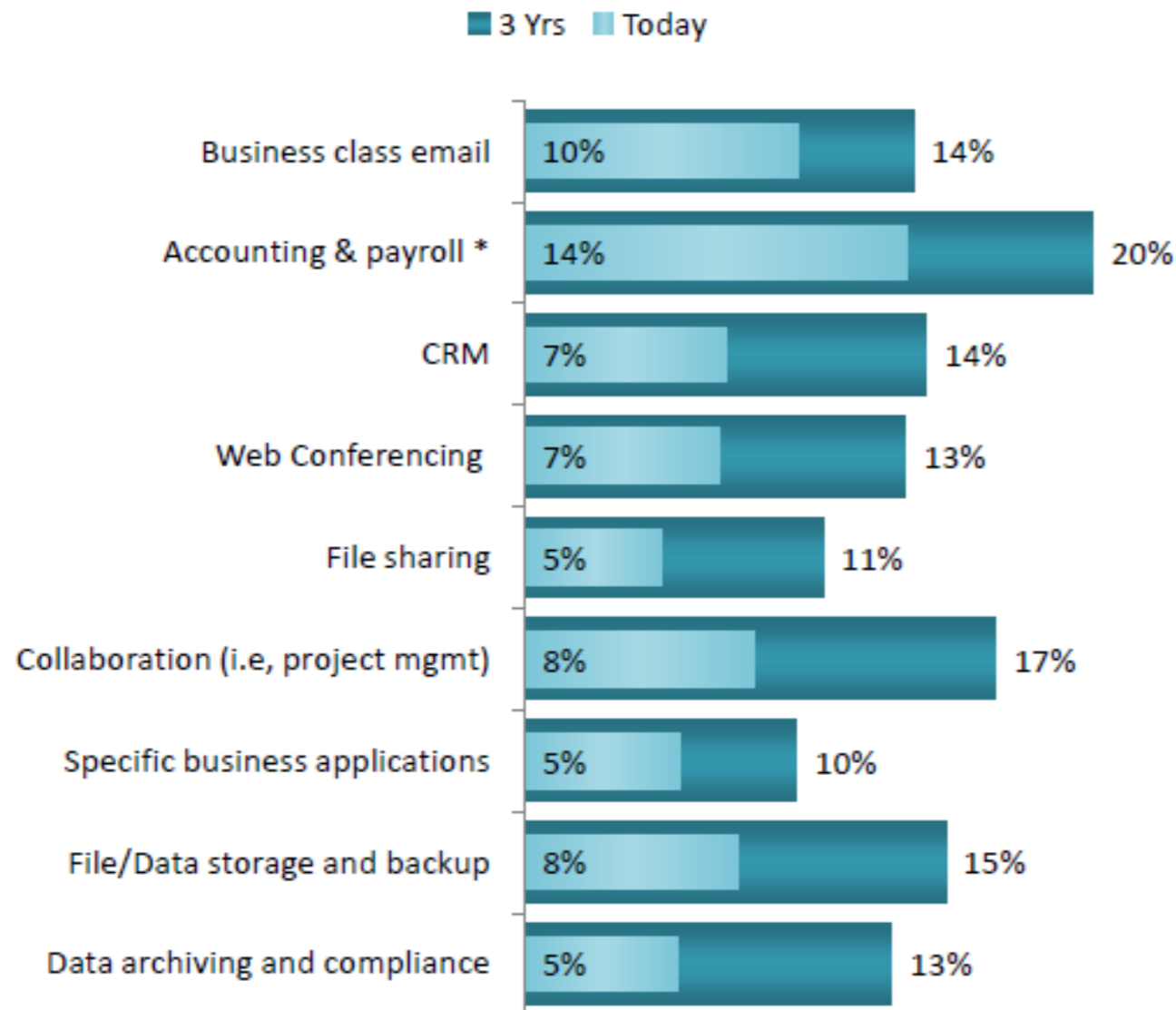
- File, Web or Application server provisioning and configuration occurs the same day as requested.
- All Servers are powered, stored, updated, backed up and maintained off-site.
- You are able to have servers built for testing or for special events and only be shared for each hour they are used.

Ready to learn more about how SMB Cloud Solutions can move your business into the Cloud?  
[Contact Us Today](#)

# SME Cloud Adoption Study by Microsoft 2011

## Workloads Addressed by Paid Cloud Services today and in 3yrs

All companies, N=3258

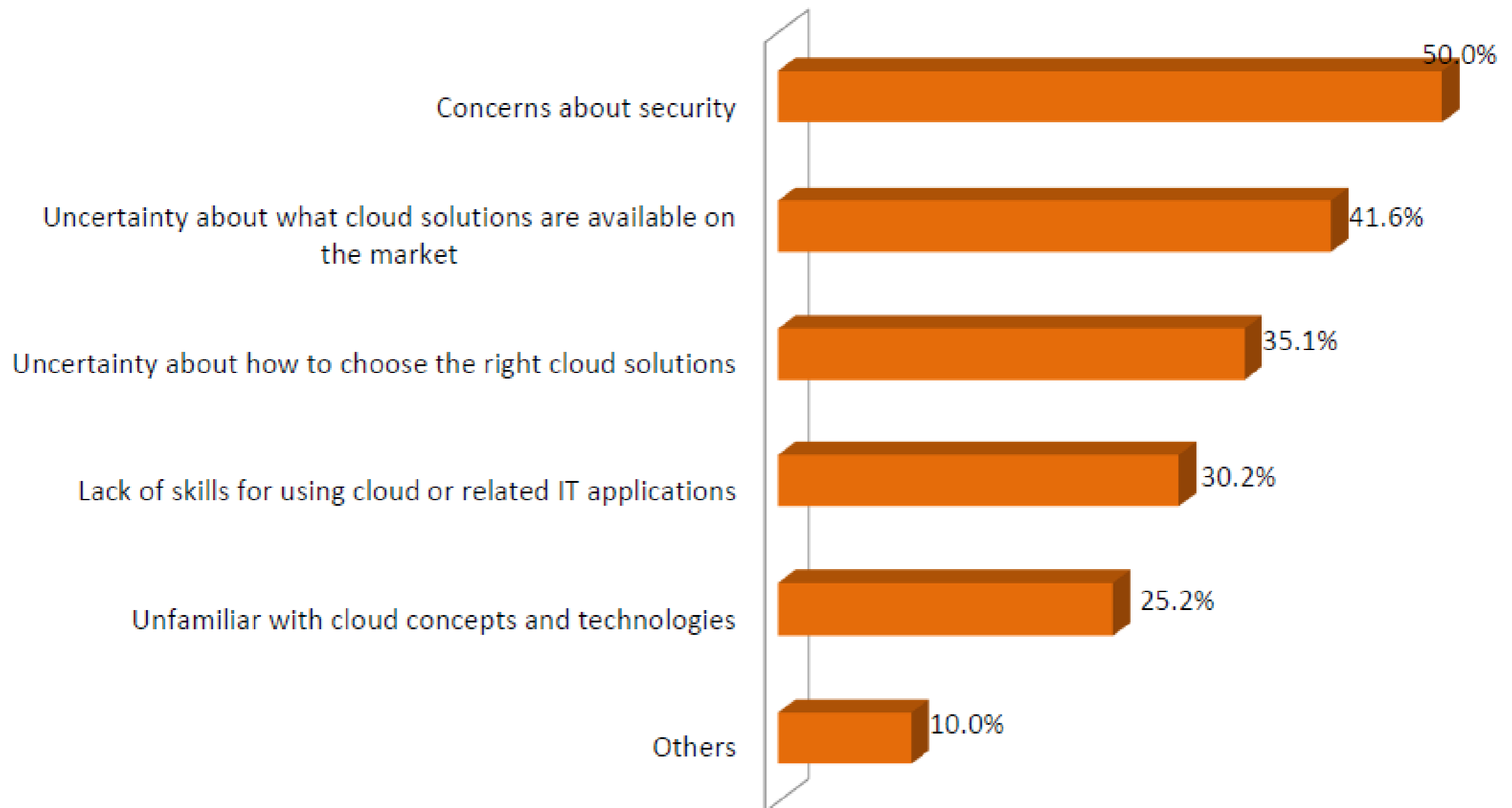


## Number of employees (Today → 3 yrs.)

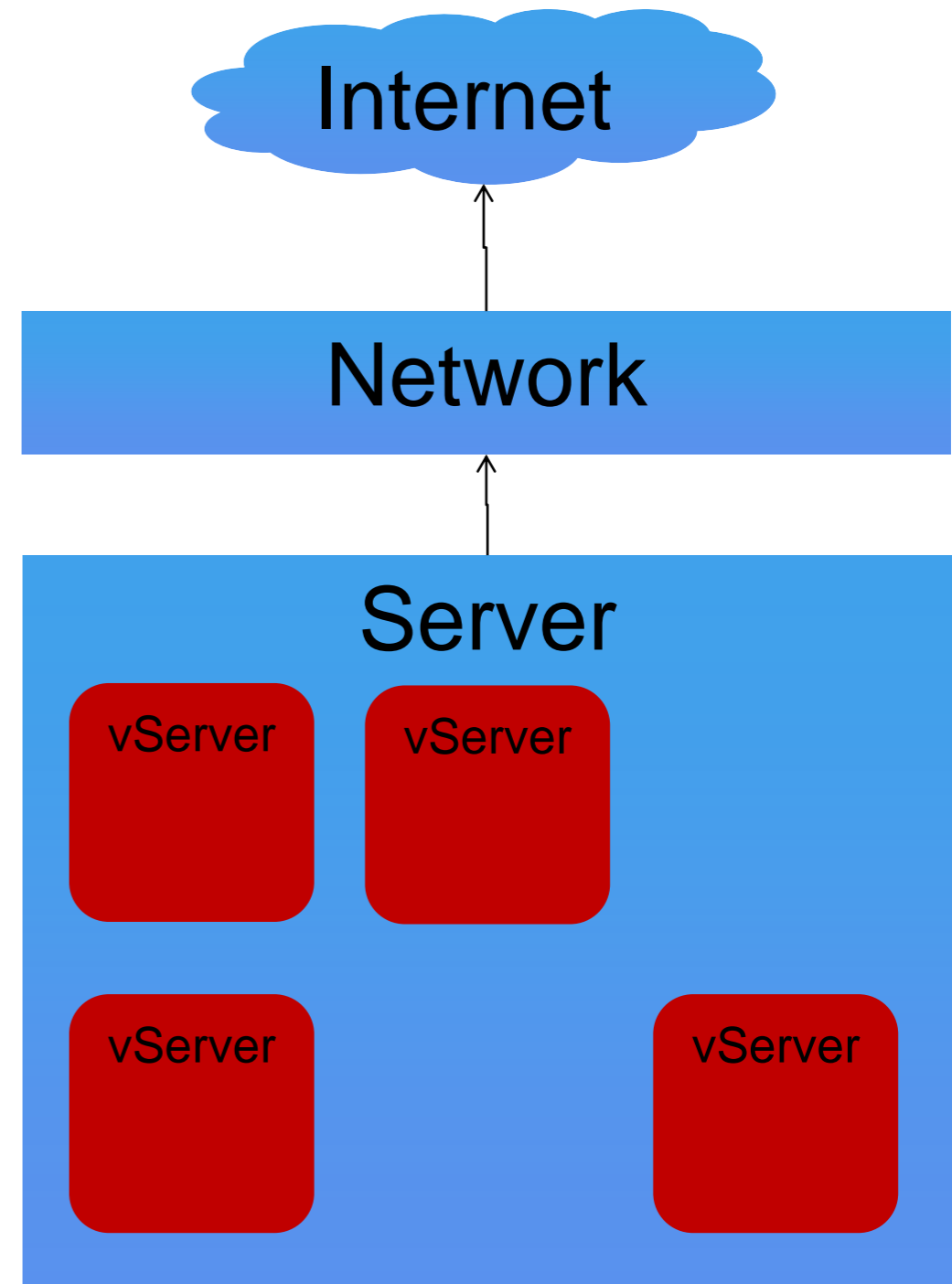
|                                   | 2-10<br>N=1180 | 11-50<br>N=1033 | 51-250<br>N=1045 |
|-----------------------------------|----------------|-----------------|------------------|
| Business class email              | 9% → 13%       | 12% → 16%       | 15% → 21%        |
| Accounting & payroll *            | 12% → 18%      | 18% → 25%       | 24% → 32%        |
| CRM                               | 6% → 13%       | 11% → 17%       | 15% → 24%        |
| Web Conferencing                  | 6% → 13%       | 8% → 15%        | 11% → 20%        |
| File sharing                      | 4% → 10%       | 7% → 13%        | 11% → 20%        |
| Collaboration (i.e, project mgmt) | 7% → 16%       | 11% → 18%       | 18% → 29%        |
| Specific business applications    | 6% → 9%        | 5% → 11%        | 7% → 13%         |
| File/Data storage and backup      | 7% → 14%       | 10% → 18%       | 12% → 24%        |
| Data archiving and compliance     | 4% → 12%       | 11% → 17%       | 11% → 22%        |

\* Reflects companies using hosted service for Payroll

# HKPC Survey – Reasons not using Cloud



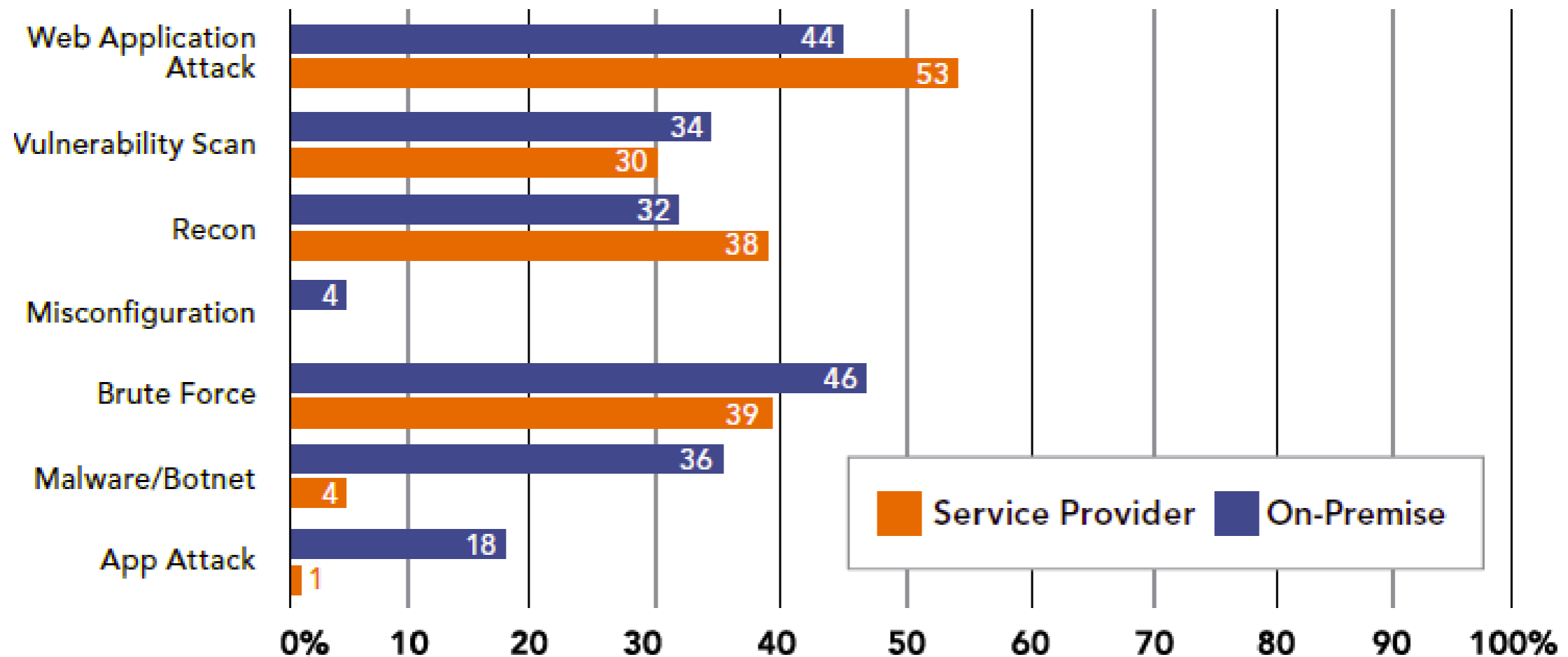
# Cloud = 劊房??



# Latest Attack report on Cloud Security

FIG. C

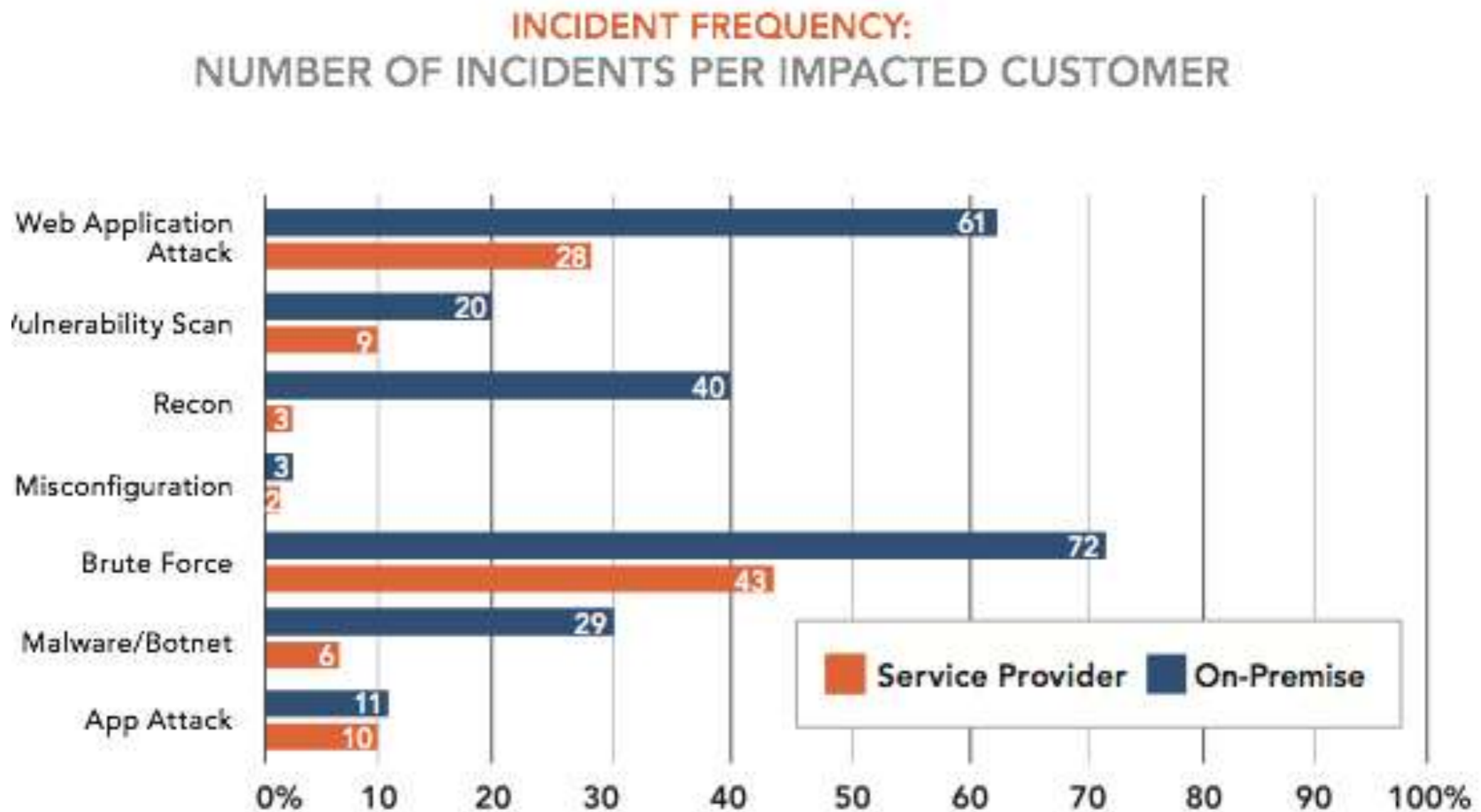
## INCIDENT OCCURRENCE: TOP THREE INCIDENT CLASSES



Alert Logic State of Cloud Security Report Fall 2012

# Latest Attack report on Cloud Security

FIG. D



Alert Logic State of Cloud Security Report Fall 2012



# Latest Attack report on Cloud Security

## ➤ Other key points:

- IT Services companies that have a public presence experienced a large number of **Web application attacks**
- E-commerce and SaaS environments are frequent targets of **scanning**
- **Malware** is seen more frequently in Financial Services
- A significant number of Media companies are being targeted by hacktivists

# CloudAccess.net attacked by DDoS

« Sony brings in investigators following attack      Anonymous accused in PSN outage »

## GridFast.net DDoS Attack

It would appear that [CloudAccess.net](#) and their ISP [GridFast.net](#) have been the victim of a targeted Distributed Denial of Service Attack affecting up to and including level 3 routers.

[CloudAccess.net](#) is a host most commonly known by the JOOMLA content management framework and more so by 'trial' users of the JOOMLA content management system via [demo.joomla.org/](#). JOOMLA; a content management system similar to that of WordPress which enables users with limited time and interest to create and update their online presence. [Cloudaccess.net](#), [GridFast.net](#) and [demo.joomla.org/](#) are currently unavailable at the time of writing this article.

**Maybe not at the moment!**

[The best Joomla hosting in the world](#)

The best Joomla hosting in the world.  
[ns1.gridfast.net/](#) - Cached

[CloudAccess.net](#) first notified users of service interruptions at around 16:00 GMT on May 4th 2011. These users included all those who signed up to [CloudAccess.net](#) in order to use a 30 day demo of JOOMLA.

Distributed Denial of Service Attacks also known as DDoS attacks cause the target system to become overloaded from malicious users and essentially shut itself down to all users, including the genuine users.

A distributed denial-of-service (DDoS) attack is one in which a multitude of compromised systems attack a single target, thereby causing denial of service for users of the targeted system. The flood of incoming messages to the target system essentially forces it to shut down, thereby denying service to the system to legitimate users.

The first email users received from [CloudAccess.net](#) stated -

**Please be aware that we are having a network issue at the ISP level. We are actively working**

May 2011

| M  | T  | W  | T  | F  | S  | S  |
|----|----|----|----|----|----|----|
|    |    |    |    |    |    | 1  |
| 2  | 3  | 4  | 5  | 6  | 7  | 8  |
| 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 |    |    |    |    |    |

« Apr      Jun »

**Log In**

Username

Password

Remember Me

[Register](#)  
[Lost Password](#)

**Pages**

- [About](#)
- [Contact Us/News Tips](#)
- [Contributions Welcome!](#)
- [News Feed](#)
- [Forum Info](#)

gogn\_Resources\_m8....pdf    proposal - UHS v6.docx    AST-0075634\_appcel....pdf    Portal SRA report - Q....zip    Show all downloads...

# Diablo III Users account hacked

The screenshot shows a web browser window with the URL [threatpost.com/en\\_us/blogs/report-diablo-iii-users-find-accounts-hacked-gold-stolen-ar](http://threatpost.com/en_us/blogs/report-diablo-iii-users-find-accounts-hacked-gold-stolen-ar). The page features a navigation bar with categories like Mobile Security, Privacy, SMB, Social Engineering, Virtualization, Vulnerabilities, and Web Security. The main article is titled "Report: Diablo III Users Find Accounts Hacked, Gold Stolen And New 'Mystery' Friends" by Paul Roberts, dated May 21, 2012, at 4:58 PM. The article text discusses reports of hacked accounts and stolen virtual gold on the Diablo III game platform. A sidebar on the right lists "Today's Most Popular" news items, including a new Linux rootkit, a stolen NASA laptop, and Facebook enabling HTTPS. A Kaspersky advertisement for a webinar on mobile security is also visible. The browser's taskbar at the bottom shows several open files, including a Word document, a PDF, and zip files.

Mobile Security | Privacy | SMB | Social Engineering | Virtualization | Vulnerabilities | Web Security

Home > Hacks >

May 21, 2012, 4:58PM

## Report: Diablo III Users Find Accounts Hacked, Gold Stolen And New 'Mystery' Friends

by Paul Roberts

Follow @paulfroberts

Share 60

3 Comments

Blizzard Entertainment's update to the mega-popular Diablo game franchise hit a major snag over the weekend, after users started peppering support boards and the company with reports of raided accounts, missing virtual "gold" and mysterious new friends.

The reports began on Saturday, just four days after the new game was released to ravenous fans who made the game the most pre-ordered game title in history. Hundreds of users have registered complaints about raided accounts and the theft of hard-won virtual goods in forums on Blizzard's Battle.net gaming site. Many report being the victims of account takeovers while they were online, suggesting that hackers may be taking advantage of a vulnerability in Blizzard's software or Battle.net gaming platform.

Online forums on Blizzard's Battle.net online gaming site soon filled with comments from players in the U.S. and Europe. One, titled "[I lost all my money and items?](#)" logged hundreds of comments from Diablo III users whose accounts were pilfered, often while they were online playing.

**Editor's Pick**

RockYou Agrees to \$250K  
FTC Fine Over Loss Of 32m  
Passwords

Comments left on Sunday from a player using the handle "Tactics" were common.

"I was playing with 2 friends and we all got disconnected, as it happens once and a while. After we logged back in, I got booted out of the game

**Today's Most Popular**

- New Linux Rootkit Emerges
- Stolen NASA Laptop Puts 'Large Number' of Employees at Risk
- France Accuses US of Using Flame Malware to Hack President's Network
- Facebook Enabling HTTPS by Default for North American Users
- Attackers Compromise Adobe Connect User Site

**KASPERSKY**

### Mobile Security: What are the Real World Risks?

Join Ryan Naraine, Kaspersky Senior Security Strategist, for this informative webinar!

**November 15, 2012  
at 2:00 PM EST**

[Register Today >](#)

proposal - UHS v6.docx | AST-0075634\_appcel...pdf | Portal SRA report - Q...zip | OGCIO MWS SRA Re...zip | Show all downloads...

# LinkedIn 6.5 million password hashed stolen

The screenshot shows a web browser window displaying a Threatpost article. The article title is "LinkedIn Investigating Password Leak That Could Affect 6.5 M" by Christopher Brook. The article text discusses a password leak at LinkedIn, mentioning that 6.46 million hashed passwords were stolen and posted on a Russian web forum. It also notes that LinkedIn is investigating the leak and that the breach would affect less than 5 percent of its 150 million plus members. The article includes several paragraphs of text and a sidebar with a Kaspersky advertisement for a mobile security webinar.

## LinkedIn Investigating Password Leak That Could Affect 6.5 M

by Christopher Brook

Share Like 39

1 Comment

**UPDATE** Professional social networking site LinkedIn [announced](#) early Wednesday morning that it was looking into reports of stolen passwords, according to a post on their Twitter page.

The tweet substantiates reports by [several news outlets](#) that a hacker was able to download the hashed passwords of 6.46 million members from the site. The cache of passwords was posted onto a Russian web forum, [InsidePro](#), where hackers are being encouraged to help decipher the reportedly unsalted SHA-1 hashes.

While the alleged breach would only affect less than 5 percent of LinkedIn's 150 million plus members, countless security firms are pushing users of the site to change their passwords.

The Santa Monica-based social network has had a tough go of it lately. Earlier this week, the company caught flak after its mobile application was found transmitting information from users' calendar apps, including full meeting notes, locations, participants, passwords and dial-in phone numbers, in plain text. The mobile application issue is being presented by researchers Yair Amit and Adi Sharabani of [Skycure Security](#) at a [cybersecurity conference](#) (.PDF) in Tel Aviv today.

To coincide with the presentation, LinkedIn [posted a blog entry](#) earlier this morning to clarify any concerns users may have with its app's mobile calendar feature.

The company stresses that when it sends sensitive information to its servers, it's done with the users' permission via SSL but claims going forward, it will no longer send data from the meeting notes section of users' calendar events.

Last August, LinkedIn was forced to make a change in its social advertising model after users and privacy

**KASPERSKY**

### Mobile Security: What are the Real World Risks?

Join Ryan Naraine, Kaspersky Senior Security Strategist, for this informative webinar!

**November 15, 2012 at 2:00 PM EST**

[Register Today »](#)

# Data Security in Cloud Starts from users

The screenshot shows a web browser window displaying a news article on the Network World website. The URL in the address bar is [www.networkworld.com/news/2011/081711-dropbox-249830.html](http://www.networkworld.com/news/2011/081711-dropbox-249830.html). The article is titled "Dropbox cloud was a haven for data thieves, researchers say" and is dated August 17, 2011. The article text discusses how files stored in Dropbox were vulnerable to unauthorized access via three attacks. A sidebar on the right features a Salesforce advertisement and a "Latest News" section with several headlines. The browser's taskbar at the bottom shows several open files, including "Preliminary\_Assess...pptx", "Thesis 0.28-6 (1).docx", "Hakin9\_03\_2012\_TBO.pdf", and "Hakin9\_11\_2012.zip".

www.networkworld.com/news/2011/081711-dropbox-249830.html

neustar  
View Our Resources »

News

## Dropbox cloud was a haven for data thieves, researchers say

Data could be stolen, hidden in the Dropbox cloud, SBA researchers say

By Tim Greene, Network World  
August 17, 2011 03:00 PM ET

Add a comment Print Twitter LinkedIn +1 Dribbble Facebook Like 81 Briefcase More

Network World - Files entrusted to cloud-storage provider [Dropbox](#) were susceptible to unauthorized access via three attacks devised by security researchers, but the provider has since closed the vulnerabilities.

Dropbox could also be used as a place to store documents clandestinely and retrieve them from any Dropbox account controlled by an attacker.

Researchers who presented their work at [USENIX Security Symposium](#) say they had developed the exploits last year but gave Dropbox time to fix the problems before making the exploits public.

**POLITICS:** [Can the Obama Administration fix your identity management problems?](#)

First they managed to spoof hash values that are supposed to identify chunks of data stored in Dropbox's cloud. Dropbox checks these values to see if the chunks are already stored in the cloud and if so just links them to the account of the user who sent the hash.

By spoofing hashes, they were able to have Dropbox grant them access to arbitrary pieces of other customers' data, say the researchers from SBA Research in Austria. Since the

salesforce  
Try the world's #1 CRM sales app free for 30 days.  
See why more than 100,000 companies love it.  
Get the free trial

### Latest News

- Huawei security chief: We can help keep U.S. safe from 'Net threats
- Most memorable tech industry apologies of 2012: From Apple to Google to Microsoft
- Windows 8 gets first critical Patch Tuesday security bulletins
- Hottest Android news and rumors for the week ending November 9
- iPhone 5 design, quality demands slows manufacturing

[View more Latest News](#)

Preliminary\_Assess...pptx Thesis 0.28-6 (1).docx Hakin9\_03\_2012\_TBO.pdf Hakin9\_11\_2012.zip Show all downloads...

# Zeus Targets Cloud Payroll Services

The screenshot shows a web browser window with the address bar displaying [www.trusteer.com/blog/zeus-targets-cloud-payroll-service-siphon-money-enterprises](http://www.trusteer.com/blog/zeus-targets-cloud-payroll-service-siphon-money-enterprises). The page content includes a sidebar with navigation links (Case Studies, Datasheets, White Papers, Blog, Learning Center, Recorded Webinars), a main article titled "Zeus Targets Cloud Payroll Service to Siphon Money from Enterprises" by Amit Klein dated April 10, 2012, and a right-hand sidebar with a "Subscribe to our blog" button and sections for "White Papers", "Case Studies", and "Datasheets".

**Zeus Targets Cloud Payroll Service to Siphon Money from Enterprises**  
Amit Klein | April 10, 2012

With critical business services migrating to the cloud, service providers have become a prime target for cybercriminals. In the latest example of financial malware targeting enterprises, we have discovered a Zeus attack that focuses on cloud payroll service providers. These attacks are designed to route funds to criminals, and bypass industrial strength security controls maintained by larger businesses.

Our researchers have captured a Zeus configuration that targets Ceridian, a Canadian human resources and payroll solutions provider. In this attack, Zeus captures a screenshot of a Ceridian payroll services web page ([https://clients.powerpay.ca/powerpay/Logon\\*](https://clients.powerpay.ca/powerpay/Logon*)) when a corporate user whose machine is infected with the Trojan visits this website. This allows Zeus to steal the user id, password, company number and the icon selected by the user for the image-based authentication system.

**NEED SUPPORT**

Company Number: 12345  
User ID: User  
User Password: \*\*\*\*\*

Select Security Image:

proposal - UHS v6.docx | AST-0075634\_appcel....pdf | Portal SRA report - Q....zip | OGCIO MWS SRA Re....zip | Show all downloads...

# Cloud Service Linode Hacked, Bitcoin Accounts Emptied

The screenshot shows a web browser window displaying a Threatpost article. The browser's address bar shows the URL: [threatpost.com/en\\_us/blogs/cloud-service-linode-hacked-bitcoin-accounts-emptied-030212](http://threatpost.com/en_us/blogs/cloud-service-linode-hacked-bitcoin-accounts-emptied-030212). The article is dated March 2, 2012, at 1:18 PM. The title is "Cloud Service Linode Hacked, Bitcoin Accounts Emptied" in a large, bold, red font. The author is Paul Roberts, with a "Follow @paulfroberts" button. Social sharing options for Twitter, Facebook, and LinkedIn are visible, along with a "Share" button and a "Like" button with a count of 5. There are also 2 comments indicated. The main text of the article states: "A security compromise at Linode, the New Jersey-based Linux cloud provider, has warned customers that hackers breached a Web-based customer service portal used by the company and emptied the Bitcoin accounts of eight Linode customers. One Linode customer reports the theft of Bitcoins totalling around \$14,000." Below this, it mentions that Linode acknowledged the incident on Friday, which occurred early Wednesday, and that no customer credit card information or credentials were taken. An "Editor's Pick" sidebar on the left lists three related articles: "Breach at Bitcoinica Exchange Nets \$87,000 In Online Currency", "FBI Concerned About Bitcoin Usage Among Cybercriminals", and "Stratfor Website Back Online". A "Most Commented Stories" section is also visible at the bottom right. At the bottom of the browser window, several PDF files are open in the download bar: "gogn\_Resources\_m8....pdf", "proposal - UHS v6.docx", "AST-0075634\_appcel....pdf", and "Portal SRA report - Q....zip". A "Show all downloads..." link is also present.

Home > Hacks >

March 2, 2012, 1:18PM

## Cloud Service Linode Hacked, Bitcoin Accounts Emptied

by Paul Roberts

Follow @paulfroberts

Share Like 5

2 Comments

A security compromise at Linode, the New Jersey-based Linux cloud provider, has warned customers that hackers breached a Web-based customer service portal used by the company and emptied the Bitcoin accounts of eight Linode customers. One Linode customer reports the theft of Bitcoins totalling around \$14,000.

In a post on the company blog Friday, Linode [acknowledged the incident](#), which occurred early Wednesday, and said it had isolated the compromised support account, and that no customer credit card information or credentials were taken. However, the attackers appeared to have targeted a handful of Linode customers who used the service to host Bitcoin wallets, allowing them to pilfer thousands in virtual currency.

Linode did not immediately respond to a request for comment from Threatpost.

**Editor's Pick**

- Breach at Bitcoinica Exchange Nets \$87,000 In Online Currency
- FBI Concerned About Bitcoin Usage Among Cybercriminals
- Stratfor Website Back Online

Bitcoin is a three year-old decentralized virtual cash system that relies on peer to peer networking, digital signatures and cryptographic proofs to trasact payments online. Bitcoins are the units of currency used in payments and are issued by the Bitcoin network.

In a [blog post on the Web site bitcoinmedia.com](#), Marek Palatinus, a Linode customer from the Czech Republic said that a Bitcoin wallet he hosted on Linode was emptied of 3,000 Bitcoins early Thursday.

### Today's Most Popular

- New Linux Rootkit Emerges
- Stolen NASA Laptop Puts 'Large Number' of Employees at Risk
- France Accuses US of Using Flame Malware to Hack President's Network
- Facebook Enabling HTTPS by Default for North American Users
- Attackers Compromise Adobe Connect User Site

**91% OF BUSINESSES EXPERIENCED AT LEAST ONE CYBER THREAT**

Are you coping in the chaos? See where your business stands against IT risks

See how you compare...

Create your own infographic now

### Most Commented Stories

gogn\_Resources\_m8....pdf proposal - UHS v6.docx AST-0075634\_appcel....pdf Portal SRA report - Q....zip Show all downloads...

# CloudStack Critical Vulnerability

The screenshot shows a web browser window with the URL [threatpost.com/en\\_us/blogs/critical-flaw-reported-cloudstack-100912](http://threatpost.com/en_us/blogs/critical-flaw-reported-cloudstack-100912). The page features a navigation menu with categories like Apple, Cloud, Compliance, Critical Infrastructure, Cryptography, Government, Hacks, Malware, Microsoft, Mobile Security, Privacy, SMB, Social Engineering, Virtualization, Vulnerabilities, and Web Security. The main article is titled "Critical Flaw Reported in CloudStack" by Dennis Fisher, dated October 9, 2012, at 1:36 PM. The article text states: "The Apache Software Foundation is warning users about a configuration problem in the open-source CloudStack platform that could allow an attacker to take a number of unwanted actions, including deleting all of the virtual machines on a system." It further explains that CloudStack is a project under incubation at the Apache Software Foundation and that users can download vulnerable versions up to October 7. A quote from John Kinsella of the Apache CloudStack PPMC is included: "The CloudStack PPMC was notified of a configuration vulnerability that exists in development versions of the Apache Incubated CloudStack project. This vulnerability allows a malicious user to execute arbitrary CloudStack API calls. A malicious user could, for example, delete all VMs in the system. Addressing this issue is especially important for anybody using CloudStack in a public environment," John Kinsella of the Apache CloudStack PPMC wrote in a report on the bug. The article concludes by stating that users can mitigate the effects of the vulnerability by logging into the CloudStack database and making a small configuration change. On the right side of the page, there is a "Today's Most Popular" section with a list of articles, including "New Linux Rootkit Emerges" and "Stolen NASA Laptop Puts 'Large Number' of Employees at Risk". At the bottom of the page, there is a Kaspersky advertisement for a webinar titled "Mobile Security: What are the Real World Risks?" scheduled for November 15, 2012, at 2:00 PM EST. The browser's taskbar at the bottom shows several open files, including "gogn\_Resources\_m8....pdf", "proposal - UHS v6.docx", "AST-0075634\_appcel....pdf", and "Portal SRA report - Q....zip".

Apple | Cloud | Compliance | Critical Infrastructure | Cryptography | Government | Hacks | Malware | Microsoft  
Mobile Security | Privacy | SMB | Social Engineering | Virtualization | Vulnerabilities | Web Security

Home > Cloud Security >

October 9, 2012, 1:36PM

## Critical Flaw Reported in CloudStack


by Dennis Fisher  
Follow @DennisF

Share Like 11

Comment

The Apache Software Foundation is warning users about a configuration problem in the open-source CloudStack platform that could allow an attacker to take a number of unwanted actions, including deleting all of the virtual machines on a system.

CloudStack is a project that's under incubation at the Apache Software Foundation and there hasn't yet been an official release of the platform. However, users can download versions of it from the Apache project page and all of the versions up until Oct. 7 are vulnerable to this issue. The vulnerability is considered critical, but the maintainers of the project have developed a workaround to mitigate the effects of the bug.

 "The CloudStack PPMC was notified of a configuration vulnerability that exists in development versions of the Apache Incubated CloudStack project. This vulnerability allows a malicious user to execute arbitrary CloudStack API calls. A malicious user could, for example, delete all VMs in the system. Addressing this issue is especially important for anybody using CloudStack in a public environment," [John Kinsella of the Apache CloudStack PPMC](#) wrote in a report on the bug.

In order to mitigate the effects of the vulnerability, users can log into the CloudStack database and make a small configuration change:

**Today's Most Popular**

- New Linux Rootkit Emerges
- Stolen NASA Laptop Puts 'Large Number' of Employees at Risk
- France Accuses US of Using Flame Malware to Hack President's Network
- Facebook Enabling HTTPS by Default for North American Users
- Attackers Compromise Adobe Connect User Site

**KASPERSKY**

### Mobile Security: What are the Real World Risks?

Join Ryan Naraine, Kaspersky Senior Security Strategist, for this informative webinar!

November 15, 2012  
at 2:00 PM EST

Register Today »

gogn\_Resources\_m8....pdf | proposal - UHS v6.docx | AST-0075634\_appcel....pdf | Portal SRA report - Q....zip | Show all downloads...



# Self-assessment questions

- Evaluate what is critical to business?
- What's the purpose of cloud service?
- How to prepare for data protection?
- How to continuous monitor the incident?
- How to preserve evidence if any incident happened?

# Don't Overlook the A-Z of Cloud Security

## 1. Selection of Cloud Service Provider



## 2. Contractual and Commercial Terms



## 3. Access Control



## 4. Data Protection



## 5. Cloud Administration



## 6. Service Continuity

# 1. Selection of Cloud Service Provider



- a) Understand **risks** and determine **acceptance levels**
- b) Select those who can explain their security features, preferred to have attained **security certification**
- c) Select those with service level agreements commensurable with the **importance of the business function**
- d) Select those who can provide **secure channels** for transmitting and storing sensitive data
- e) Select those with good reputation with no major **reported security incidents**

# 2. Contractual and Commercial Terms



- f) Understand undertaking **security and privacy policies**
- g) Check data ownership and how data can be **permanently deleted**
- h) Beware of “bundled consent” which signs you up for other **unknown or unnecessarily services**
- i) Beware of “**secondary uses**” of your account information or services without your knowledge or consent
- j) Know the **exit process**

# 3. Access Controls

- k) Use **stronger authentication** means whenever possible
- l) Choose **different passwords** for different user accounts
- m) **Change passwords** periodically
- n) **Delete accounts** or change passwords when there are staff changes



# 4. Data Protection

- o) Think twice when **storing sensitive data**; assess the impact if data is exposed
- p) Store sensitive data only if it is absolutely essential and that you have **additional protection measures**
- q) Make sure **only intended recipients can have access** to your shared sensitive data
- r) Use **encryption** when storing and transmitting whenever possible



# 5. Cloud Administration



- s) Establish simple easy to understand **cloud usage policies** or rules for your staff to follow
- t) Appoint a **suitable staff** as the cloud service administrator
- u) Provide **basic security awareness training** for staff using the cloud service
- v) **Protect devices** used to access the cloud

# 6. Service Continuity



- w) Evaluate **potential damage** when service is unavailable
- x) **Develop business continuity plan** and contingency plan if service or data is not available
- y) Maintain **local backup copy of your important data** stored in the cloud service
- z) Prepare **exit strategy** to transfer data back to the company



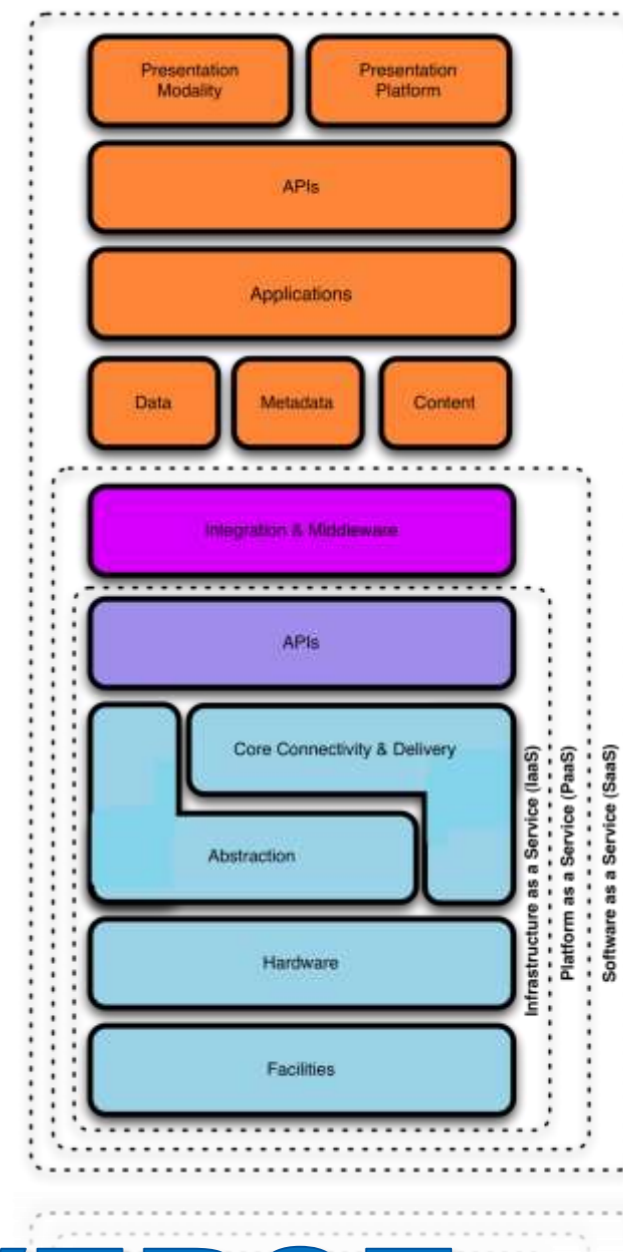
# How do we build the “Trusted Cloud”?



# How CSA can support us?

- 4 main areas
  - Research
  - Education
  - Certification
  - Collaborations

# CSA RESEARCH – THE DOOR TO THE CLOUD+SECURITY UNIVERSE



*AGILITY – COMMUNITY - MERITOCRACY*

# IMPACT OF CSA RESEARCH

## CSA RESEARCH



### DRIVING INNOVATION

Mobile, Big Data, Telecom, Innovation Initiative

### GLOBAL REACH

Connecting to great minds and building a community of professionals:

- Individuals
- Chapters Worldwide
- Corporations
- Governments

### PRIVATE SECTOR

Enabling migration into the cloud

### HEALTHCARE

Impacting patient care, privacy and research

### CLOUD STANDARDS

**ISC:** International Standardization Council

### CERTIFICATION

**STAR:** Security, Trust, & Assurance Registry (self-certification)  
**OCF:** Open Certification Framework (third-party certification)

### EDUCATION & TRAINING

**CCSK TRAINING:** Certificate of Cloud Security Knowledge

### GUIDANCE & TOOLS

**GRC STACK:** Governance, Risk Management, and Compliance  
**CloudCERT:** Responding to cloud vulnerabilities, threats, and incidents

### STANDARDS DEVELOPMENT ORGANIZATIONS

Developing cloud standards

### CLOUD SERVICE PROVIDERS

Promoting transparency and security practices

### LEGAL

Influencing legal, ethical, and privacy issues, and affecting change within legal perspectives

### ASSESSOR/AUDITOR

Developing globally accepted auditing controls & processes

### ACADEMIA & GOVERNMENT

Creating partnerships and fostering education

### TECHNOLOGY

Encouraging innovation and impacting cloud technologies

**INDUSTRY IMPACT**

### ENABLING INNOVATION

Creating markets, goods, and services

### REDEFINING ROLES

Changing how we work

### CREATING CULTURE

Influencing how we live

### INFLUENCING CHANGE

Affecting the way we think

### BUILDING ALLIANCES

Bridging the gap across nations and organizations

### DEFINING TRUST

Creating assurance within the cloud

**WORKFORCE IMPACT**

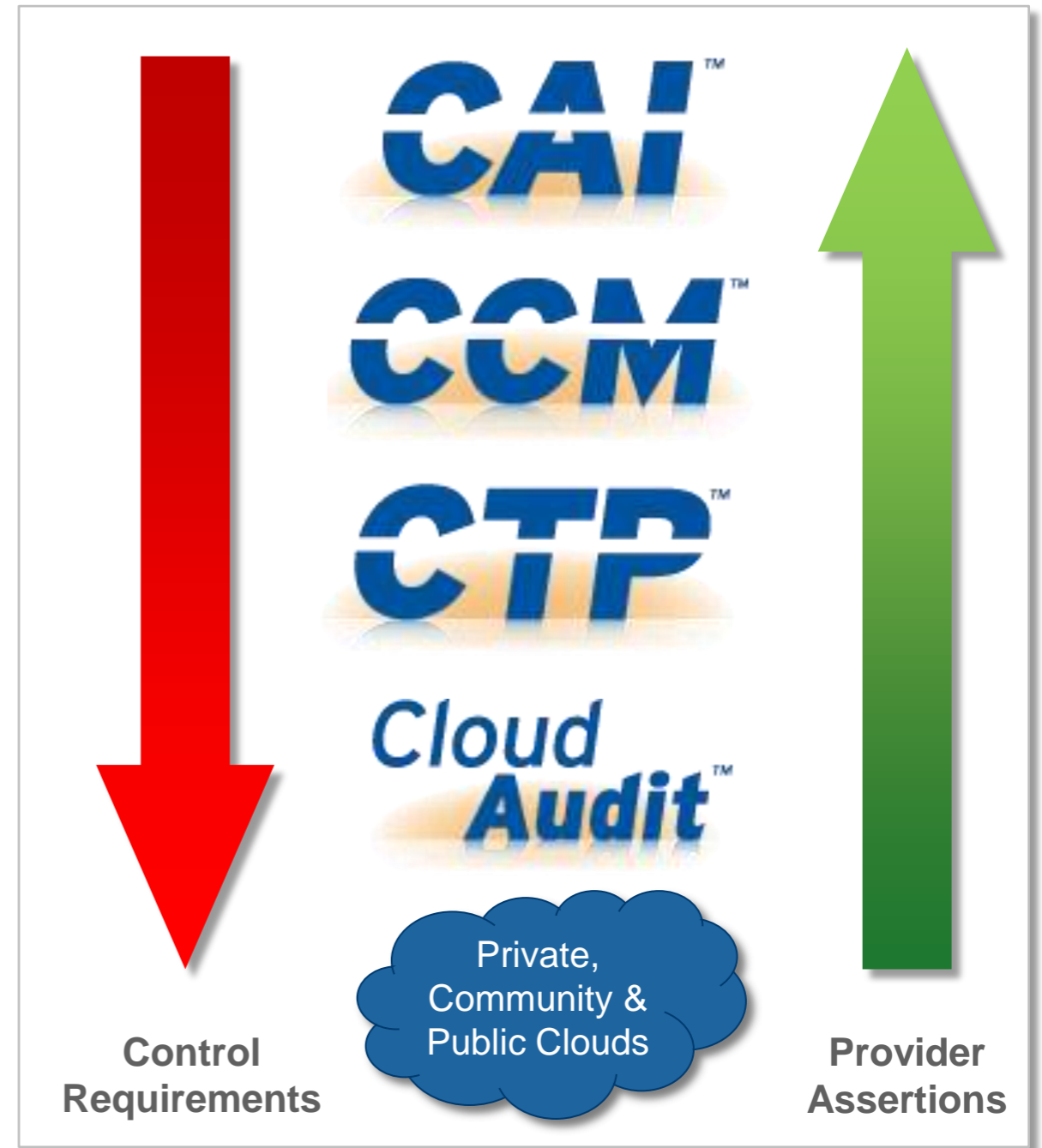
# Research portfolio

- Our research includes fundamental projects needed to define and implement trust within the future of information technology
- CSA continues to be aggressive in producing critical research, education and tools
- 22 Active Work Groups and 10 in the pipeline



# CSA GRC Stack

- Family of 4 research projects
  - Cloud Controls Matrix
  - Consensus Assessments Initiative
  - Cloud Audit
  - Cloud Trust Protocol
- Tools for governance, risk and compliance management



# Cloud Controls Matrix Tool



- Controls derived from guidance
- Mapped to familiar frameworks: ISO 27001, COBIT, PCI, HIPAA, FISMA, FedRAMP, etc.
- Rated as applicable to S-P-I
- Customer vs. Provider role
- Help bridge the “cloud gap” for IT & IT auditors

The screenshot shows the Microsoft Excel interface for the Cloud Controls Matrix (CCM) tool. The spreadsheet is titled "Microsoft Excel - CSA Controls Matrix (CM)\_v2.0.xlsx [Read-Only]". The main data area is a table with columns for Control Area, Control ID, Control Specification, and Cloud Service Delivery Model Applicability (SaaS, PaaS, IaaS). The applicability is marked with 'X' in the relevant cells. The table also includes columns for Scope Applicability (Service Provider, Customer) and a column for the role (S, P, I).

| Control Area                                          | Control ID | Control Specification                                                                                                                                                                                                                                                                                                                                                                                                                              | Cloud Service Delivery Model Applicability |      |      | Scope Applicability |          |   |
|-------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|------|------|---------------------|----------|---|
|                                                       |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SaaS                                       | PaaS | IaaS | Service Provider    | Customer |   |
| Information Security - Portable / Mobile Devices      | IS-32      | Policies and procedures shall be established and measures implemented to strictly limit access to sensitive data from portable and mobile devices, such as laptops, cell phones, and personal digital assistants (PDAs), which are generally higher-risk than non-portable devices (e.g., desktop computers at the organization's facilities).                                                                                                     | X                                          | X    | X    | X                   | X        | C |
| Information Security - Source Code Access Restriction | IS-33      | User access to program source code shall be restricted to authorized personnel.                                                                                                                                                                                                                                                                                                                                                                    | X                                          | X    | X    | X                   |          |   |
| Information Security - Utility Programs Access        | IS-34      | The use of utility programs that might be capable of overriding system and application controls shall be restricted.                                                                                                                                                                                                                                                                                                                               | X                                          | X    | X    | X                   | X        | C |
| Legal - Non-Disclosure Agreements                     | LG-01      | Requirements for confidentiality or non-disclosure agreements reflecting the organization's needs for the protection of data shall be identified and reviewed at planned intervals.                                                                                                                                                                                                                                                                | X                                          | X    | X    | X                   | X        |   |
| Legal - Third Party Agreements                        | LG-02      | Agreements with third parties involving accessing, processing, communicating or managing the organization's information assets, or adding products or services to information assets shall cover all relevant security requirements. Agreements provisions shall include security (e.g., encryption, access controls, and leakage prevention) and integrity controls for data exchanged to prevent improper disclosure, alteration or destruction. | X                                          | X    | X    | X                   |          | C |

# The CAIQ Questionnaire

Copy of CSA-CAI-Question-Set-v1-1\_FINAL\_v6 - Microsoft Excel

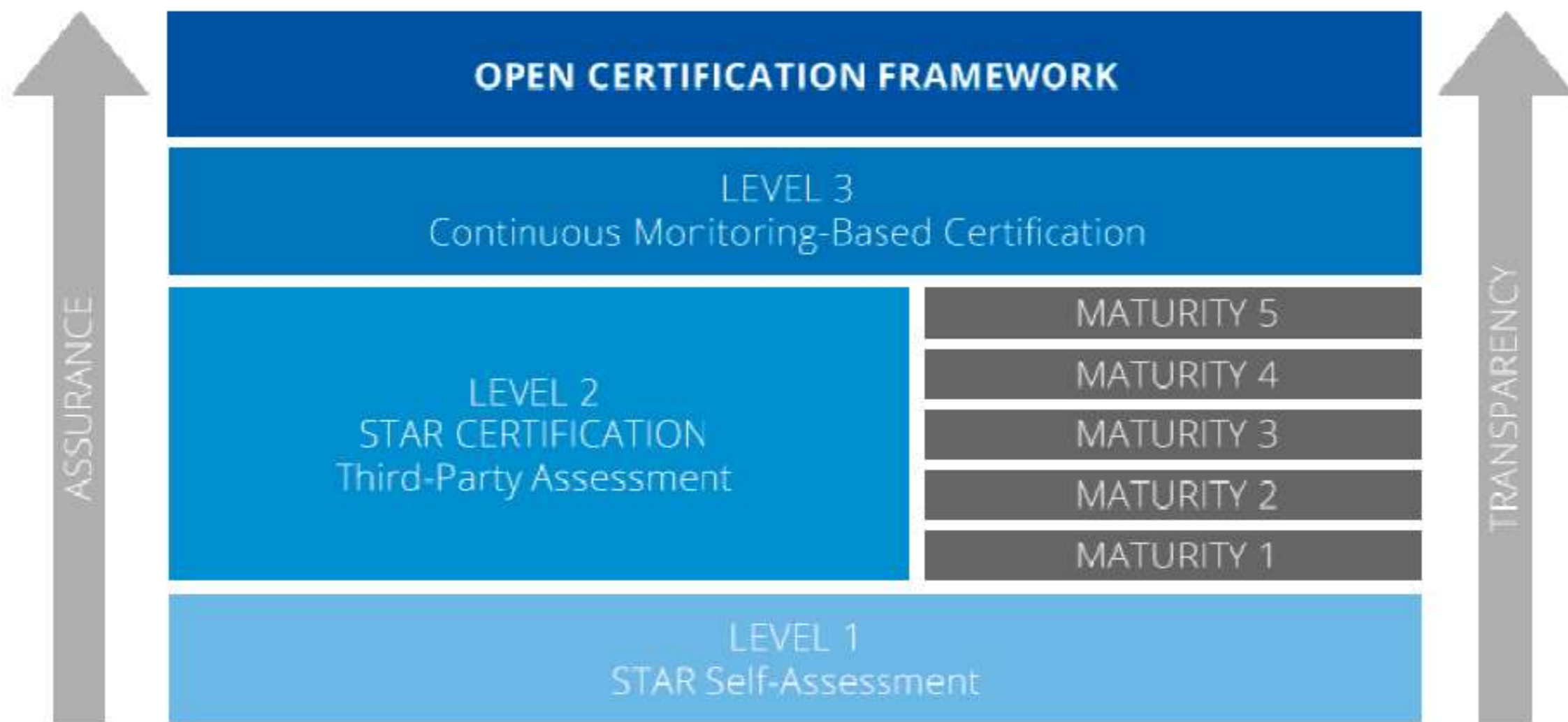
| Consensus Assessments Initiative Questionnaire v1.1 |       |         |                                                                                                                                                                                                    | CCMv1.1 Compliance Mapping |                                                    |                                                                                                         |
|-----------------------------------------------------|-------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Control Group                                       | CGID  | CID     | Consensus Assessment Questions                                                                                                                                                                     | COBIT                      | HIPAA                                              | ISO27001                                                                                                |
| New Development / Acquisition                       | RM-01 | RM-01.1 | Are policies and procedures established for management authorization for development or acquisition of new applications, systems, databases, infrastructure, services, operations, and facilities? | COBIT 4.1 A12, A 16.1      |                                                    | A.6.1.4<br>A.6.2.1<br>A.12.1.1<br>A.12.4.1<br>A.12.4.2<br>A.12.4.3<br>A.12.5.5<br>A.15.1.3<br>A.15.1.4  |
| Production Changes                                  | RM-02 | RM-02.1 | Do you provide tenants with documentation which describes your production change management procedures and their roles/rights/responsibilities within it?                                          | COBIT 4.1 A16.1, A17.6     | 45 CFR 164.308 (a)(5)(ii)(C)<br>45 CFR 164.312 (b) | A.10.1.4<br>A.12.5.1<br>A.12.5.2                                                                        |
| Quality Testing                                     | RM-03 | RM-03.1 | Do you provide your tenants with documentation which describes your quality assurance process?                                                                                                     | COBIT 4.1 PO 8.1           |                                                    | A.6.1.3<br>A.10.1.1<br>A.10.1.4<br>A.10.3.2<br>A.12.1.1<br>A.12.2.1<br>A.12.2.2<br>A.12.2.3<br>A.12.2.4 |



# CAIQ Questionnaire

- Control Group, Control Group ID (CGID) and Control Identifier (CID) all map the CAIQ question being asked directly to the CCM control that is being addressed.
- Relevant compliance and standards are mapped line by line to the CAIQ, which, in turn, also map to the CCM. The CAIQ v1.1 maps to the following compliance areas – HIPPA, ISO 27001, COBIT, SP800\_53, FedRAMP, PCI\_DSS, BITS and GAPP. V1.2 will additionally include mappings to Jericho Forum and NERC CIP.
- Each question can be answered by a provider with a yes or no answer.

# CSA Open Certification Framework





# EDUCATION

# Training courses available today

## ➤ CCSK Basic

One day course to enable student to pass CCSK

## ➤ CCSK Plus

Two day course includes practical cloud lab work

## ➤ CCSK Train-the-Trainer

Three day course including CCSK Plus

## ➤ GRC Stack Training

Additional one day course to use GRC Stack components

## ➤ PCI/DSS In the Cloud

Additional one day course focusing on achieving PCI compliance in cloud computing

## ➤ <http://cloudsecurityalliance.org/education/training/>

# New courses to be developed in the CoE in Singapore

## ➤ CCSK for IT & Security Architects

- Whitepaper: Security best practices for security architecture in the cloud derived from CSA Domain 1, Trusted Cloud Initiative Reference Architecture model and new materials.
- Courseware: Development of 3 day courseware derived from above whitepaper and other CSA materials.

## ➤ CCSK for Software Developers

- Whitepaper: Security best practices for software development in the cloud and recommended industry curriculum.
- Courseware: Development of 3 day courseware derived from above whitepaper and other CSA materials.

## ➤ CCSK for Cloud Auditing/Assurance (GRC Stack)

- Whitepaper: Security best practices for assurance in the cloud derived from CSA Guidance 3 and components of the GRC Stack research projects.
- Courseware: Development of 3 day courseware derived from existing GRC Stack courseware, above whitepaper and other CSA materials.



# CERTIFICATION

*<http://cloudsecurityalliance.org/education/>*

# Introducing Certificate of Cloud Security Knowledge (CCSK)

- The industry's first user certification program for secure cloud computing
- Based on CSA research framework, specifically the Security Guidance for Critical Area of Focus in Cloud Computing
- Designed to ensure that a broad range of professionals with responsibility related to cloud computing have a demonstrated awareness of the security threats and best practices for securing the cloud



# Certificate of Cloud Security Knowledge (CCSK)



- Benchmark of cloud security competency
- Measures mastery of CSA guidance and ENISA cloud risks whitepaper
- Understand cloud issues
- Look for the CCSKs at cloud providers, consulting partners
- Online web-based examination
- [www.cloudsecurityalliance.org/certifyme](http://www.cloudsecurityalliance.org/certifyme)





# COLLABORATIONS

*<http://cloudsecurityalliance.org>*

# How do you get involved?



Learn how you can participate in Cloud Security Alliance's goals to promote the use of best practices for providing security assurance within Cloud Computing

<http://www.linkedin.com/groups?gid=1864210>

<https://cloudsecurityalliance.org/get-involved/>

<http://www.linkedin.com/groups?gid=4069005> (HK&M)

# New Research Ideas

## Submit Your Research Ideas



- Do you have an idea for a research project on a cloud security topic? If so, please take the time to describe your concept. Ideas are monitored by the CSA research team, who will review your proposal and respond to you with feedback.

<https://cloudsecurityalliance.org/research/>, the Submit Ideas tab

## Contribute to the CSA library



- The Cloud Security Alliance is a community non-profit which is driven by its members. Have a white paper or information on a cloud security product you want to contribute?

<https://cloudsecurityalliance.org/education/white-papers-and-educational-material/>

# Cloud Security Alliance (HK&M)

The screenshot shows a web browser window displaying the LinkedIn group page for the Cloud Security Alliance, Hong Kong & Macau Chapter. The browser's address bar shows the URL [www.linkedin.com/groups?gid=4069005](http://www.linkedin.com/groups?gid=4069005). The LinkedIn interface includes a navigation bar with options like Home, Profile, Contacts, Groups, Jobs, Inbox, Companies, News, and More. The group's name is prominently displayed at the top, along with tabs for Discussions, Members, Promotions, Jobs, Search, and More. A central section allows users to start a discussion or share content. Below this, there are sections for 'Latest Discussions' and 'Latest Updates'. The 'Latest Discussions' section features a post by Antony Ma asking about presentation materials for the CSA congress in Nov 2011, with a reply from Ricci. The 'Latest Updates' section shows Antony Ma's comment on a user survey and Yann Carlier joining the group. The browser's taskbar at the bottom shows several open PDF files: 'hypervisor-vs-hostb....pdf', 'virtualization-security.pdf', and '9-richard.pdf'.

<http://www.linkedin.com/groups?gid=4069005> (HK&M)

Let's Get Started!

cloud  
**CSA** security  
alliance<sup>SM</sup>

cloud security alliance