Signals

Quarterly security assessment

Q2 2018

CommonwealthBank

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I'm proud to present to our valued clients and partners our twelfth edition of Signals.

Signals aims to empower business executives with unique insights into the cyber threat environment and advice on the strategies and controls necessary to ensure a robust defence.

Regular readers of Signals will be aware that in February the Notifiable Data Breaches scheme took effect, raising the bar on what's expected of Australian organisations in the event of a data breach. Creating a Data Breach Response Plan is widely recommended – including by the privacy regulator – as an essential step to enable your businesses to respond appropriately to a breach and comply with the scheme. We share our insights on implementing a plan and using it to influence broader change.

On that note, I hope our analysis and advice continues to provide context and confidence for your security strategy.

Contents

Horizon Scan

Upcoming events of interest

2018 Jul 31

Melbourne

SINET 61

SINET is an international cyber security community that seeks to connect industry, government, innovators and researchers. It runs events across the globe. SINET61 is the organisation's Australian conference, which has had strong Government support.

2018 Oct 19

Melbourne

OWASP

Commonwealth Bank's Digital Protection Group will again be the principal (Diamond) sponsor of AppSecDay, the annual application security conference organised by the Open Web Application Security Project (OWASP). AppSecDay provides a forum for software developers, testers, DevOps engineers and security professionals to improve the security of their apps. The event features talks and hands-on technical workshops led by prominent Australian developers and security professionals. Signals has 10 conference passes and 4 training packages to give away to clients of Commonwealth Bank (up to two per organisation). Talk to your CBA relationship manager if you're keen to snare them! Tickets are otherwise between $80 and $150 from http://appsecday.io

2018 Nov 16-17

Michael Fowler Centre, Wellington, New Zealand

KIWICON 2038

After a brief hiatus, KIWICON is back for 2018 with a distinctly cyberpunk vibe. KIWICON is the principle gathering of New Zealand and Asia-Pacific's cyber security researchers, practitioners and policymakers.

Editorial Panel

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Welcome

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A heightened security consciousness

Many security and security-minded technology professionals have long been aware of the risk posed by cyber threats and have been working hard to protect their organisations for many years. There must have been times when some of these dedicated practitioners felt like they were toiling in the dark. Broader awareness of the importance of cyber security hasn't always been a feature of our societies.

Happily, we may have crossed a line in the public's consciousness around the value and importance of good security.

The European Union's General Data Protection Regulation and Australia's Notifiable Data Breach schemes - both which took effect this year - are notably strong statements from authorities about their expectations when it comes to privacy and data protection. Voluntary standards and 'best efforts' by organisations to protect consumers appear to no longer suffice. The introduction of these regimes has arguably raised the public's expectations as well.

Governments are also making plain their intent to prioritise security outcomes. In both Australia and the US in recent months there has been hesitation - to put it mildly - around the purchase of mobile technology from Chinese manufacturers. The reticence about these products – which some consider cheaper and even technologically superior – comes squarely down to security concerns.

> "In both Australia and the US in recent months **there has been hesitation** - to put it mildly - **around the purchase of mobile technology** from Chinese manufacturers"

And, as you'll read in this edition of Signals, the move to a more secure web via HTTPS adoption continues to gain speed. By the time you are reading this, Google will have implemented a change to mark all HTTP pages "not secure" in its popular Chrome browser. The tech giant says the web should be "secure by default".

These overt gestures in favour of security represent a positive trend that will hopefully make all of our security conversations – with our boards, suppliers, and customers – a little easier in the months and years ahead.

Cyber Security:

Trends and Observations

Key trends observed during the quarter

State-sponsored attackers targeting network infrastructure

Network infrastructure devices such as routers continue to be a prime target for attackers. While large amounts of critical data flow through them, these devices are known to often contain basic security weaknesses. Routers often ship with lower levels of security than other hardware and network and device operators can be less attentive to changing default settings or applying security patches. In April, the US, UK and Australian governments revealed Russian state-sponsored attackers had compromised routers of government and private-sector organisations, critical infrastructure providers, and the internet service providers worldwide[ix]. In May, researchers revealed 500,000 routers had been infected by malware – dubbed VPNFilter – which was also attributed to Russian state actors[xi]. These forms of compromise could allow attackers to modify or monitor traffic passing through routers, or render them unusable. Commentators assessed these infiltrations were likely a case of actors establishing a foundation for a future attack.

CHECKLIST

- Authorities recommend rebooting network devices. This will potentially disrupt the malware and assist authorities to identify infected devices.[xii]
- Update your device firmware and continue to apply future updates rigorously in accordance with the manufacturer's instructions.
- Change default settings on routers, in particular admin passwords. Consider limiting device management access to whitelisted hosts and disable remote management settings.

New breaches and regulations intensify privacy focus

New data protection regulations and globally prominent data breaches coincided in the first half of 2018 to bring privacy to the fore. In the wake of the Cambridge Analytica scandal, Facebook's approach to data privacy was examined in detail in April when CEO Mark Zuckerberg testified to the US congress in April. The company acknowledged user data had been mishandled and has since announced changes to its privacy settings. Europe's General Data Protection Regulation (GDPR) scheme commenced in May, heightening public and regulator focus on privacy. Australian businesses may need to comply with the GDPR if they offer goods and services in the EU or monitor the behaviour of individuals in the EU.

CHECKLIST

- Consult the Office of the Australian Information Commissioner for its guidance[xxix] for Australian businesses on the new requirements in the EU's General Data Protection Regulation, and how businesses can comply with Australian and EU privacy laws.
- A good data breach response plan is a fundamental precursor to a good breach response and to ensuring your organisation meets its legal obligations. Read our Deep Dive "Into the Breach" for our insights on implementing such a plan.

Email payment fraud spreading

Notwithstanding rapid development of exploits and sophisticated technical attacks, human deception remains a key backbone of success for financially-motivated cybercrime. A recent report[xvii] by the Australian Competition and Consumer Commission revealed Australian businesses suffered over $22.1 million in losses in 2017 as a result of business email compromise scams. These scams typically involve fraudulent email payment requests sent to accounts staff that appear to come from an organisation's supplier or CEO. A more recent variant has emerged in Australia's active property and real estate sector. The sector has been a particularly attractive to fraudsters of late according to analysts[xviii], with deposits, settlement[xix] and bond payments being targeted. In June, e-conveyancing platform PEXA revealed the theft of $250,000 in settlement funds[xx], using tactics with similarities to email payment fraud.

CHECKLIST

- Assume your domain and those of your suppliers/ business partners can be spoofed. Whitelist use of your domain for sending email using SPF (Sender Policy Framework) and DMARC (Domain Message, Authentication, Reporting and Compliance).
- Enforce strict staff compliance with payments processes, ensuring clear separation of duties. Large or unexpected payments should not be made on the basis of an email without additional verification.
- Ensure staff with the authority to make large transactions have completed security awareness training. Commonwealth Bank offers clients access to eLearning modules on email security should you wish to deploy to your staff, including a mobile eLearning module specifically on Email Payment fraud. Talk to your relationship or account manager for access.
- Refer to our special edition of Signals on Email Payment Fraud[xxi], which collates research and provides clients a checklist of the basic countermeasures.

By the Numbers

$22.1 million
lost by Australians in 2017 through business email compromise[i]

63
data breaches in first six weeks of mandatory data breach notification scheme[ii]

15,000 hours
paid overtime by law firm DLA Piper's IT team to recover from NotPetya malware infection[iii]

39%
of malware cases are ransomware, making it the most prevalent form[iv]

Cyber Security:
Trends and Observations

Web platforms raise the bar

An organisation's presence on the internet involves interaction with a variety of stakeholders, including technology platforms, regulators, browsers and other entities that are responsible for administering aspects of the web. These parties can play a role in whether your digital assets are viewed as secure. One of the more influential web players – Google – is introducing updates to its Chrome browser (the most widely-used browser) to more overtly signal a website's lack of security. From July, Chrome will explicitly mark all HTTP pages (where communication is unencrypted) as "not secure". These steps are motivated by a view that the web should be "secure by default"[xxii], and are part of a broader move[xxiii] by browsers to highlight inferior security practices, such as serving forms over unencrypted connections. More generally, we see online security claims increasingly attracting scrutiny. In April, the UK's Advertising Standards Authority ruled[xxiv] a Barclays Bank advertisement to be misleading by implying a green padlock on a website indicated users were protected against online fraud.

CHECKLIST

- Consider protecting your websites with HTTPS, to protect communications with your customers and to continue to provide them with confidence in the security of your websites. This can also ensure your sites continue to support the latest functionality, with HTTPS increasingly considered a base requirement for new features.
- Review the published stance and guidance from major browsers[xxv] on the importance of HTTPS.
- In light of these changes to the way websites will be displayed, and increased scrutiny of the public and regulators, review any advice you're giving to customers about how to determine a website's security.

Supply chain attacks continue to dominate

As security company Kaspersky defends itself against growing assertions[xxvi] about links to Russian agencies, the risks associated with software supply chains has been further highlighted by malicious code found in software used by companies to track and recover lost laptops. In May, researchers revealed instances of the LoJack for Laptops software agent had been connecting to domains associated with Russian-aligned hacker group Fancy Bear. Attacks such as these – where malware is implanted into the software supply chain – have grown 200 per cent, according to security firm Symantec[xxvii]. NotPetya – one of the more prominent examples of a supply chain attack – has recently been dubbed by the White House "the most destructive and costly cyber-attack in history". We assess that supply chain risk looms as an increasing area of concern for industries rapidly embracing connectivity and technology. A recent report[xxviii] into the health sector observed a number of internet-connected systems and tools used by healthcare organisations could be discovered online through scanning tool Shodan, and potentially exploited by attackers for remote attacks.

CHECKLIST

- The security standards of potential suppliers and their ability to meet your security obligations should be key factors in your procurement decisions, particularly in cases where customer data is being stored.
- Ensure you have an active security compliance program that compels suppliers and other partners to protect your data to an agreed standard.
- With increased scrutiny and obligations around reporting data breaches, it is vital to have a plan and in place for how your organisation would respond to a breach of customer data via a supplier or third party.

Web publishing tools exploited for cryptomining

Attackers continually seek to extract the largest possible impact from their efforts by targeting vulnerabilities in popular software platforms known to be used by many organisations. Content Management Systems (CMS), commonly used to maintain and publish websites, have long been a popular target for this reason. In April, researchers revealed that vulnerabilities in the Drupal CMS could allow attackers to remotely execute code on underlying servers. By May, hundreds of sites[xiii] were found to be running malicious code, including cryptomining malware that uses up server CPU power to mine cryptocurrency for attackers (the last edition of Signals outlined this trend). The vulnerabilities have also been used to install malware that would enable denial of service attacks. Similar remote code execution vulnerabilities have also recently been found in PHP[xiv], the popular programming language that also underpins the Drupal CMS.

CHECKLIST

- If your organisation is running a Drupal site/sites, ensure your administrators patch your systems immediately. If you had not patched by early April (when attacks against the vulnerabilities were being observed), you may need to assume the compromise of your site and consider restoring from a backup. Drupal's security team has published extensive guidance[xv] on the issue.
- Review the Australian Signals Directorate's lists of preventative controls to mitigate the risk of malware infection. The ASD's "Essential Eight' recommends – among other controls – that organisations prioritise vulnerability and patch management programs to prevent infections.
- In light of the continued exploitation of vulnerabilities by attackers in order to mine cyptocurrency, actively monitor CPU utilisation and network traffic for abnormalities. Systems showing high CPU usage or abnormal traffic might be suggestive of an infection.
- Continue to educate your software developers to write secure code and be aware of common vulnerabilities and how attackers exploit them. The Open Web Application Security Project[xvi] (OWASP) publishes guidance on the top 10 web application security risks. Consider sending developers to AppSecDay, OWASP's annual application security conference (sponsored by Commonwealth Bank).

By the Numbers

US$1.1 billion
in cryptocurrency-related thefts during the past six months[v]

58%
of Australia and New Zealand organisations increased security spending in 2017[vi]

76%
of breaches are financially motivated[vii]

Organisations have
72 hours
to report breaches under GDPR[viii]

Deep Dive:

Into the Breach

Turning your Data Breach Response Plan into a vehicle for change

Lucy Mannering
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Readers will be aware that Australian organisations are now subject to mandatory data breach reporting obligations under the Notifiable Data Breaches (NDB) scheme. The scheme requires that businesses notify individuals likely to be 'at risk of serious harm' as a result of a data breach relating to their personal information. These new regulatory requirements, combined with continually evolving cyber threats and ever heightening expectations around privacy, have made a strong Data Breach Response Plan (DBRP) a fundamental necessity.

The need for a DBRP won't be news to many readers. In the lead up to the NDB scheme taking effect, much has been written on this topic and, specifically, on how to create a DBRP. In this feature, we share our insights from having implemented a DBRP, and lessons on turning the DBRP from an isolated artefact into a foundation for a strong response culture.

Why have a response plan?

Let's briefly recap the benefits of having a DBRP. Most obviously, having a comprehensive plan in place ensures you are best prepared for a data breach. We've written in previous editions of Signals[xxx] that the quality of a breach response can be more impactful on public trust than the breach itself.

A DBRP allows you to clarify roles and responsibilities, highlight escalation guidelines and identify resources required in the event of a data breach incident. It's also an effective way to educate your organisation on what happens in the event of a breach.

The DBRP is also a key way to ensure compliance against the NDB scheme, and is itself a useful artefact to communicate your privacy practices to the Australian Information Commissioner, in the event of an investigation.

What should be in a DBRP?

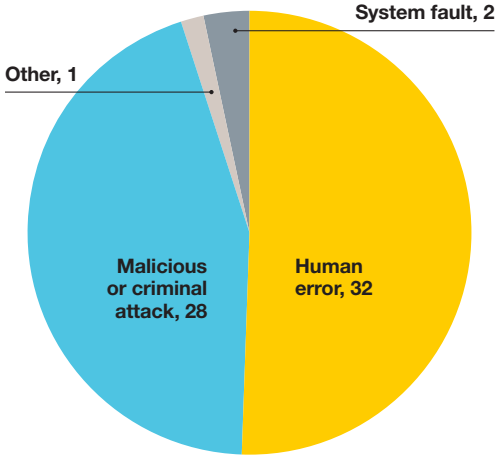
The Office of the Australian Information Commissioner offers a comprehensive data breach preparation and response guide, which includes guidance on developing a data breach response plan[xxxi].

While the importance of responding quickly to a data breach response may be understood, for many staff the precise stages of a response will be unfamiliar. The DBRP is an effective tool to communicate the lifecycle of and drive consistency in data breach incident response. At a high-level, the DBRP should cover these stages:

Identification: Once identified, assign an incident owner to assess the scope of the event, contain the incident and minimise harm and commence investigation. The incident owner plays a key role in the response process. Considering this, it may be most appropriate for the incident owner to be someone with risk or compliance accountabilities.

Assessment: An impact assessment will determine whether notification is necessary, and whether a larger incident response team is needed. Tools such as the 5x5 risk matrix can be used here.

Source of the breaches reported in the quarter



Source: OAIC [xlvii]

WITHIN 24 HOURS OF THE INCIDENT BEING IDENTIFIED:

- Appoint an incident owner
- Conduct initial investigation
- Conduct an initial impact assessment
- Escalate where necessary

Reporting & Escalation: For serious incidents, strategies to notify customers, the regulator and senior executive committees will be developed and executed at this stage.

Rectifying & Resolving: The incident should be reviewed to extract lessons and inform development of a prevention plan.

Implementing a DBRP successfully

Having built your plan, bringing it to life within your organisation is another matter. Here are some key lessons we've learnt.

Get buy-in, use stick and carrot: You want the DBPR to be a living and actively-used document, so invest time and energy in communicating its importance and benefit for your organisation. Communications issued by your most senior executives will draw staff attention to the DBRP's role in ensuring the organisation meets its legal requirements. This alone may not be enough to drive proactive use

Deep Dive:
Into the Breach

> When a data breach occurs, **a quick and effective response can have a positive impact on people's perceptions** of an organisation's trustworthiness. That is why being prepared for a data breach is important for all organisations that handle personal information.

of the DBRP. For that, promote the DBRP not just as a compliance vehicle, but as a tool that supports your business to build great outcomes for customers, especially by protecting their privacy.

Build supporting infrastructure around the DBRP: In many organisations, the creation of a DBRP will bring a more structured and rigorous process for identifying potential data breaches than previously has been in place. It's likely there will be an immediate spike in potential incidents being reported – you'll need teams and processes to support the organisation using the DBRP and appropriate systems to log, triage and action incidents. Systems should also be capable of drawing out trends and insights from the data you are logging (more on this later).

Assemble an effective response team: The data breach response team is central to the effective execution of the data breach response plan. The aforementioned OAIC guide describes how to compose such a team, with key roles including legal and compliance staff, cyber security and forensics teams, HR support (for breaches due to staff action) and communications experts. In our experience, staff that have a deep understanding of the organisation are vital to the response team, particularly to assess and understand the parties and data involved in an incident, in order to determine seriousness and accountabilities. Finally, the members of the data breach response team will differ for specific incidents depending on the organisation and the circumstances of the incident. It may not even be necessary to involve a broad response team for certain incidents. The key is to have a variety of expertise available on an on-call basis.

INCIDENT MANAGEMENT BEST PRACTICE

- Commence remedial action at the earliest opportunity
- Minimise risk of harm to individuals and the organisation
- Preserve evidence to maintain integrity of the fact find process
- Maintain legal privilege and confidentiality.
- Engage relevant business units to provide support
- Maintain records of decisions and reasoning
- Apply escalation protocols and continue to assess impact as investigations continue

Codenames and war rooms: Having implemented a data breach response plan, ideally you'll be having more regular and open conversations about potential data breaches and how to respond to them. This is a positive outcome, but needs to be managed with discretion. Devise codenames for incidents – better that staff are heard discussing "MOONSTONE" than "the incident where customer files were lost by staff on the bus". Allocate dedicated physical space (war room) for response teams to meet.

Getting the most value from your DBRP

Effective implementation of the DBRP will include the collection and reporting of data that can be analysed to inform a better understanding of your organisation's privacy culture, and drive strategic improvements.

After a few months of the NDB scheme, we've seen how data that results from having a DBRP in place provides key insights, including:

- **Hotspots in your business** – By collecting data on potential incidents over time, an improved understanding of data management practices right across the organisation develops. Privacy and security teams can better understand teams or business units that may be particular hotspots and target accordingly.

- **Patterns of behaviour** – Breaches can take many forms – from loss of physical files, to data theft through cyber-attack, to staff inadvertently emailing documents to the wrong person. The OAIC's first quarterly report[xxxii] indicated human error was the cause of the largest number of eligible data breaches. Your own data may similarly illuminate particular practices, patterns or points-in-time that lead to higher number of data incidents.

- **Informing policy, technology and training needs** – building on the last point, data from the DBRP can drive changes to policies or workplace technologies, or lead to new staff training programs, in order to address known hotspots and improve the organisation's privacy posture. Having a regular spot on the agenda of senior forums in your organisation where these insights can be shared will help drive these changes.

DBRP TOP DO'S AND DON'TS

DO – have clear accountabilities in your breach response team

DO – invest in a platform to log incidents and identify trends

DO – get exec support for the plan

DON'T – be unprepared for spike in reported incidents

DON'T – discuss incidents indiscreetly. Use codenames and war rooms

DON'T – leave business unsupported in executing DBRP. Training and OCM are key

Regulatory & Legal

New laws and legal precedents relevant to security strategy

Law enforcement operations target business email compromise

This quarter saw multiple law enforcement successes against the perpetrators of email payment fraud (also known as business email compromise), in which criminals use email to trick businesses into making fraudulent payments. In June, the FBI announced[xxxiii] two law enforcement operations – WireWire and Keyboard Warrior[xxxiv] – that resulted in the arrests of email fraudsters. "Operation WireWire", a six-month, globally-coordinated operation saw 74 arrests in the US, Nigeria and other countries, seized USD$2.4 million and disrupted $14 million in fraudulent payments. It wasn't clear the extent to which the arrests included key figures involved these fraudulent campaigns, which have resulted in billions of dollars of fraud. In June, Europol also announced the arrest of leading figures of an organised crime group alleged to be responsible for 18 million euros worth of fraud against European companies . A popular site that served as a launchpad for Distributed Denial of Service attacks – Webstresser.org – was also shut down in an international operation.

CHECKLIST

- Continue to remain vigilant to forms of email payment fraud, which has resulted in US $5 billion over two years.
- Ensure staff with the authority to make large transactions have completed security awareness training, and understand how to detect fraudulent payment requests.
- Refer to our special edition of Signals on Email Payment Fraud[xxxviii], which collates research and provides clients a checklist of the basic countermeasures.

Local regulators tighten focus on cyber risk

Australia's banking regulator, the Australian Prudential Regulation Authority, has released its first prudential standard on information security. While the standard is only applicable to deposit-taking institutions, insurers and superannuation funds, and is in draft form, it provides insight into the growing expectations on organisations that handle sensitive customer data to manage cyber risks.

CHECKLIST

- Review APRA's discussion paper[xxxix] on the new cross-industry prudential standard.

International collaboration initiatives to strengthen global resilience

Collaborative efforts to improve cyber security have gained steam in recent months, a continued positive sign of the collective approach needed to tackling cyber security challenges. Internationally, the Pacific Cyber Security Operational Network (PaCSON)[xl] was established in April, drawing together government incident response officials from across the Pacific. Australia also announced[xli] it will participate in North Atlantic Treaty Organisation's Cooperative Cyber Defence Centre of Excellence in Estonia, allowing it to engage with global experts on cyber defence. We anticipate these initiatives will improve the resilience and capability in the Asia-Pacific region. Domestically the Federal Government's Joint Cyber Security Centre's continue to facilitate improved collaboration between Australian government and businesses. The Sydney centre opened in March, with centres also operational in Brisbane, Melbourne and Perth.

CHECKLIST

- If your organisation is interested in becoming involved in a Joint Cyber Security Centre, contact CERT Australia. Clients that would like to find out how to benefit from Commonwealth Bank's contribution can email us.

Europe's GDPR takes effect

The European Union's General Data Protection Regulation (GDPR) scheme – new privacy regulations that carry heavy fines on organisations found to be non-compliant – commenced in May. In the lead up to the scheme taking effect, many online businesses revised their privacy policies in line with the legislation's heightened requirements around customer consent and transparency. The Australian senate has backed a motion by the Greens to explore aligning Australia's privacy regulations to the new EU standard. We anticipate a strengthened focus on data protection regulations for the foreseeable future.

CHECKLIST

- Review whether your business targets EU citizens in offering goods or services (i.e. has an office in the EU, markets in EU languages, offers services from a web site with an .eu domain, and/or trades in EU currencies) and, if so, seek legal advice. Any Australian business entity that does business in the EU involving access to an EU citizen's data must ensure that they have systems and processes in place ahead of the GDPR commencement date of 25 May, 2018.
- Consult the Office of the Australian Information Commissioner for its guidance for Australian businesses on the new requirements in the EU's General Data Protection Regulation, and how businesses can comply with Australian and EU privacy laws.
- Read the EU GDPR FAQ for a plain-English guide to the legislation.
- Our Deep Dive "Into the Breach" shares our insights on data breach response and implementing a data breach response plan.

Better Practice:

The latest advice your technology team should consider when setting security policies:

> Organisations today **cannot avoid being targeted by DDoS attacks**, says the Australian Cyber Security Centre

Some help meeting new data protection regulations?

For: CISOs, legal practitioners, regulatory and compliance teams

The Office of the Australian Information Commissioner (OAIC) has published a guide to securing personal information[xlii], which outlines the steps expected of an organisation to protect personal information under the Privacy Act. Importantly, the OAIC will refer to this guide when investigating whether an organisation has complied with its obligations. In a similar vein, for organisations that are subject to GDPR, the UK's Information Commissioner's Office has issued guidance on technical security outcomes[xliii] expected under the new European regulation.

Updated NIST Cyber Security Framework

For: CISOs and cyber security strategy teams

NIST has released an update to its Cybersecurity Framework[xliv], a widely used tool to guide organisations' cyber security strategy and investments. NIST recommends customising the framework according to your organisation's individual needs.

What's changed?

This version includes expanded sections on using the framework to perform self-assessments of cyber security risk and for supply chain risk management.

DDoS resilience

For: CISOs and network administrators

Organisations today cannot avoid being targeted by distributed denial-of-service (DDoS) attacks, says the Australian Cyber Security Centre. But it notes that there are measures they can implement to prepare and reduce the impact should such an attack occur. The centre has published this guide[xlv] with tips on preparing for, responding to and avoiding DDoS attacks.

The threat that "keeps IT security staff awake at night"

For: CISOs and security teams

CERT Australia minces no words, describing insider threat as "the hardest to mitigate, detect and prosecute". In this new guide[xlvi] , it recommends a multi-faceted approach to mitigating insider threat that goes beyond technology. Network monitoring, application whitelisting and strong access controls are among a strong baseline of technical controls recommended. Beyond that, CERT highlights the importance of cultural factors and staff education.

Phish Eyes

Recent phishing lures for your security awareness teams. Report hoax emails to hoax@cba.com.au

"ATO Refund" Scams

Tax time is typically when spammers and scammers break out new campaigns designed to dupe individuals into giving up their data under the guise of interacting with the government online. The Australian Taxation Office (ATO) has reported on a series of scams targeting Aussies that promise fast refunds via SMS or voicemail channels.

The text messages lure recipients into clicking on links using the promise of size-able tax refunds. Clicking on the link in the SMS directs the victim to a fake webpage that asks for personal details including credit card, CCV and Australian tax file numbers. Other variations of the scam involve recipients being asked to pay fees via credit card to receive their tax refunds.

The ATO is advising its customers to stay vigilant and be on the lookout for messages purporting to be from the tax office. Specifically, the ATO is urging customers to be wary of messages bearing the hallmarks of scams including messages that instil a sense of urgency, include non-official phone numbers or URLs that prompt customers to give away personal information.

It's not just the tax office being impersonated at tax time. End-of-financial year is when you're more likely to engage with government, which leads to a rise in government agency impersonation campaigns like this one from Medicare.

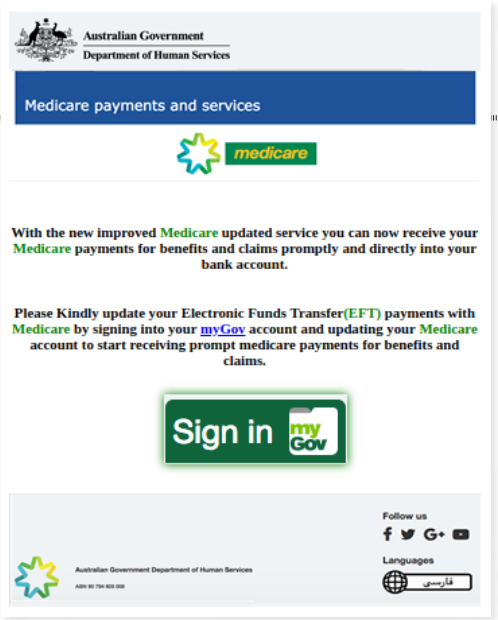
The Medicare scam is delivered via a phishing email and encourages recipients to sign into Medicare/MyGov in order to update their electronic funds transfer details.

Scammers have spoofed the Medicare logo and attention has been taken to create the look and feel of an official Medicare communication. A click on the hyperlink in the fake email feeds them through to a page designed to capture the recipient's banking details. There are two possible actions that occur after credentials are harvested:

1) The actor conducting the phishing campaign tries to log in using the recipients credentials and attempts to transfer money from their account
2) The actor conducting the phishing campaign focuses on packaging up stolen credentials for sale on the dark web

In the latter scenario, stolen credentials are generally sold to end users who will then log into the victim's account and transact funds. Additionally, stolen credentials are often packaged with other details (if available) such as a mobile number. The best line of defence for these types of attacks is to implement SMS authentication for first time transactions.

Meanwhile, scammers are also taking advantage of our universal love of stationary via an Officeworks phishing campaign. If recipients click on the link

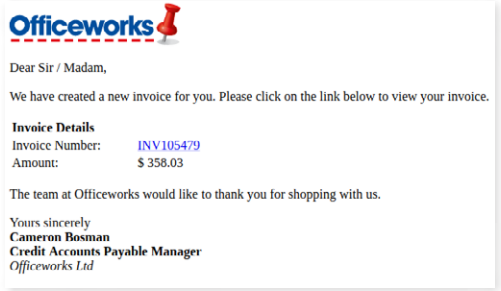


contained within this email, they will download malware called "Gozi", also known as "Ursnif".

The malware is aimed at harvesting customer credentials and/or injecting content into web pages to change transaction details.

Gozi is spyware that monitors network traffic and gathers login credentials stored in browsers and mail applications. It has screen capture and keylogging functions. Gozi typically injects a fake webpage requiring victims to change their passwords upon attempted login. This is typically followed by another social engineering screen that prompts victims to disclose a one-time password/ token code. In the past, Gozi has been successfully used to harvest user credentials through the mimicking of notices from the Australian Securities and Investments Commission (ASIC).

> "The Medicare scam is delivered via a phishing email and **encourages recipients to sign into Medicare/ MyGov** in order to update their electronic funds transfer details"



Endnotes

i https://www.accc.gov.au/system/files/F1240_Targeting%20scams%20report.PDF
ii https://www.oaic.gov.au/media-and-speeches/news/notifiable-data-breaches-first-quarterly-report-released
iii https://www.itnews.com.au/news/dla-piper-paid-15000-hours-of-it-overtime-after-notpetya-attack-490495
iv http://www.verizonenterprise.com/resources/reports/rp_DBIR_2018_Report_en_xg.pdf
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viii https://gdpr-info.eu/art-33-gdpr/
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Observations made in Signals are made using the confidence matrix and estimative language used by the US CIA. Our choice of words is very deliberate and based on both data and observations we source from our own telemetry and a measured degree of confidence in external sources.

Certainty	100%
Almost Certain	93% (give or take 6%)
Probable	75% (give or take 12%)
Even	50% (give or take 10%)
Unlikely or "improbable"	30% (give or take 10%)
Impossible	0%

Confidence in our assessments

High Confidence – based on high quality information from which it is possible to derive a solid judgment.

Moderate Confidence – based on information from trusted or reliable sources, without the necessary data or corroboration to warrant a higher level of confidence.

Low Confidence – the information is poorly corroborated, but is otherwise logical and consistent with a source's motivations.


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