Cybersecurity

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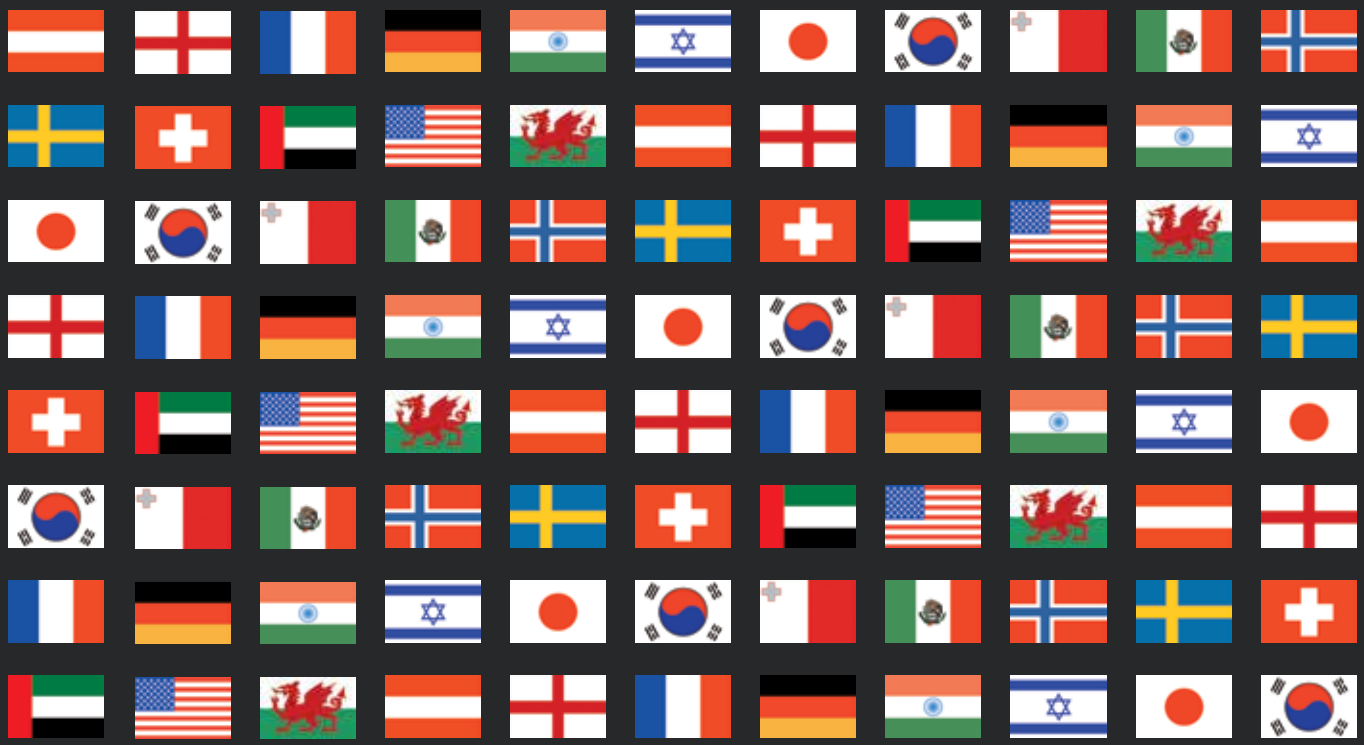

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GETTING THE DEAL THROUGH

United States

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Legal framework

1 Summarise the main statutes and regulations that promote cybersecurity. Does your jurisdiction have dedicated cybersecurity laws?

The United States generally addresses cybersecurity through sector-specific statutes, regulations and private industry requirements.

At the federal level, numerous agencies impose cybersecurity standards through a variety of regulatory and enforcement mechanisms. For example, the Federal Information Security Management Act (and implementing guidance) establishes cybersecurity standards for federal government agencies and their contractors. Similarly, the Gramm-Leach-Bliley Act (GLBA) and the Health Insurance Portability and Accountability Act (HIPAA) (and implementing regulations and agency guidance) require entities in the financial services and health sectors, respectively, to employ technical, administrative and physical safeguards to protect customer information from unauthorised access or use. Several states have also enacted state parallels to the GLBA and HIPAA requirement. The Federal Risk and Authorization Management Program (FedRAMP) is a government-wide programme that provides a standardised approach to security assessments, authorisation and continuous monitoring for companies providing cloud services to federal civilian agencies.

In October 2016, the Department of Defense (DoD) enacted a significant rule (revising an earlier interim version of the rule issued in 2015) applicable to companies that do business with the US defence community. The new rule is a DoD regulation that establishes prescriptive cybersecurity requirements as part of the Defense Federal Acquisition Regulations Systems (DFARS), which mandates the use of cybersecurity-related contract clauses in all DoD contracts other than contracts for commercially available off-the-shelf (COTS) items. These clauses are mandatory 'flowdown' terms to subcontractors at all tiers where the subcontractors' 'efforts will involve' so-called 'covered defence information'. The rule, which includes requirements with respect to security controls and cyber-incident reporting, has been highly criticised by industry as being overly burdensome. Earlier in the year, the Federal Acquisition Regulations (FAR) Council published its own rule, which is intended to prescribe 'the most basic level' of safeguards for all acquisitions by any US federal executive agency, when a contractor's information systems may contain 'Federal contract information'. The FAR rule requires contractors to implement a set of safeguards that are a subset of those required under the DFARS rule. Like the DFARS rule, the FAR rule also excludes contracts for acquisitions of COTS items.

For companies handling consumer data, the Federal Trade Commission (FTC), the main federal consumer protection agency responsible for enforcing the prohibition on 'unfair and deceptive acts or practices', frequently enforces minimum security requirements with respect to entities collecting, maintaining or storing personal information. In June 2015, the FTC issued 'Start with Security' guidance, which identifies the FTC's lessons learned from over 50 data security enforcement actions brought by the FTC since 2001. This guidance advises companies to incorporate a series of 10 lessons learned, ranging from authentication controls to network segmentations.

For publicly traded companies, the Sarbanes-Oxley Act of 2002 and implementing regulations require publicly traded companies to maintain a system of internal controls over financial reporting. Regulatory guidance has stated that '[m]anagement's evaluation of the risk of misstatement [of financial reports] should include consideration of the vulnerability of the entity to fraudulent activity . . . and whether any such exposure could result in a material misstatement of the financial statements.' To meet these requirements, companies are audited to determine the extent to which they maintain a series of IT 'general controls' on systems designated as related to financial reporting.

Some subject-matter specific cybersecurity standards focus narrowly on a single constituency or a single government agency. For example, the Veterans Affairs Information Security Enhancement Act, passed in 2006 as part of the Veterans Benefits, Health Care, and Information Technology Act, requires the Department of Veterans Affairs (VA) to implement agency-wide information security procedures to protect sensitive personal information held by the VA and VA information systems. On 28 December 2016, the Food and Drug Administration issued final guidance on considerations for the post-market management of cybersecurity in medical devices. The guidance states that medical device cybersecurity is a shared responsibility among stakeholders, including healthcare facilities, patients, providers and manufacturers of medical devices. It recommends that companies address cybersecurity vulnerabilities during the design and development of medical devices, and also states that manufacturers should address cybersecurity vulnerabilities after medical devices have entered the market.

There are also numerous pending legislative proposals to regulate the security of certain sectors, including the automotive sector, data brokers and certain energy companies.

A handful of states have also adopted general security requirements that apply to companies conducting business in their state, collecting personal information about residents or citizens of their states, or both. A primary example is the Massachusetts Standards for the Protection of Personal Information of Residents of the Commonwealth. These regulations require companies collecting personal information about Massachusetts residents to develop written information security programmes containing administrative, technical and physical safeguards. Other states have enacted narrower requirements, such as security requirements for particularly sensitive information (eg, payment card data, mental health information) and secure disposal requirements for electronic or paper media containing sensitive personal information.

In the criminal context, the Computer Fraud and Abuse Act (CFAA) outlaws intrusions into or interference with the security of a government computer network or other computers connected to the internet. In addition, several federal surveillance laws prohibit unauthorised eavesdropping on electronic communications, which can limit a variety of cybersecurity activities. For example, the Electronic Communications and Privacy Act (ECPA) prohibits unauthorised electronic eavesdropping. The Wiretap Act prevents the intentional interception, use or disclosure of wire, oral or electronic communication, unless an exception applies. The Stored Communications Act (SCA) precludes intentionally accessing without authorisation, a facility through which an electronic communication service is provided and thereby obtaining, altering or preventing authorised access to a wire or electronic communication while it is in electronic storage.

Beyond regulatory standards, many organisations are subject to voluntary standards or are required by contract to comply with

cybersecurity requirements. Of particular note, the payment card industry in the United States establishes its own cybersecurity standards (the Payment Card Industry Data Security Standards (PCI-DSS)) that apply to merchants or vendors that process payment card data. The federal government has also focused substantially in recent years on the establishment of voluntary cybersecurity requirements, particularly for critical infrastructure entities, which are generally entities that provide vital services to a large part of the population. In 2013, the President issued Executive Order 13636, 'Improving Critical Infrastructure Cybersecurity' to establish a process for the government to create voluntary cybersecurity standards applicable to critical infrastructure entities. Pursuant to this Executive Order, the National Institute of Standards and Technology (NIST) issued a voluntary 'Cybersecurity Framework', which provides a risk-based approach to cybersecurity, and references various national and international standards.

2 Which sectors of the economy are most affected by cybersecurity laws and regulations in your jurisdiction?

In several respects, the financial services industry and the healthcare sector are the most regulated sectors with regard to cybersecurity. Federal banking agencies promulgated several data security guidelines in 2000, including the 'Interagency Guidelines Establishing Information Security Standards'. This guidance states that certain covered 'financial institutions' are required to implement comprehensive written information security programmes including administrative, technical and physical safeguards 'appropriate to the size and complexity' of the financial institutions and 'the nature and scope of its activities'. The financial regulators, through the Federal Financial Institutions Examination Council (FFIEC), have also issued a series of booklets as part of the IT Examination Handbook, covering issues ranging from information security to outsourcing technology services to management and governance. In October 2016, banking regulators issued an advanced notice of proposed rulemaking, seeking comment on possible enhanced cybersecurity risk management standards for certain financial institutions. The Securities and Exchange Commission (SEC) has also issued guidance to public companies (as well as to the financial services institutions it regulates), and has articulated steps the SEC will take in the future to ensure cybersecurity preparedness in the securities sector. In the healthcare sector, under the HIPAA, the Department of Health and Human Services (HHS) has adopted security standards to protect individually identifiable health information. In March 2016, the HHS announced that it was launching audits to assess compliance with the HIPAA.

3 Has your jurisdiction adopted any international standards related to cybersecurity?

The United States has not adopted any international cybersecurity standards into law. However, NIST has created a 'Cybersecurity Framework,' pursuant to Executive Order 13636, establishing voluntary standards applicable to critical infrastructure companies that incorporate many of these international benchmarks as examples of best practice to help US companies manage and reduce cybersecurity risks.

4 What are the obligations of responsible personnel and directors to keep informed about the adequacy of the organisation's protection of networks and data, and how may they be held responsible for inadequate cybersecurity?

All directors and officers (D&Os) owe their companies the fiduciary duties of care, loyalty and good faith. Given the broad-based impact of cybersecurity threats and data breaches on business viability and reputation, D&Os can no longer expect their company's IT department to successfully manage these concerns in isolation. Instead, successful boards lead their organisations in addressing and incorporating cybersecurity concerns into all facets of business decision-making and processes.

Regulators, particularly in the financial services sector, have made clear that they expect board and management involvement in data security. For example, the financial sector Interagency Guidelines Establishing Information Security Standards provide that the board of directors or an appropriate committee of the board shall approve the entity's written information security programme and oversee the development, implementation and maintenance of the programme, including assigning specific responsibility for its implementation and reviewing reports from management. Similarly, the FFIEC issued an updated version of the Management Booklet of its IT Examination Handbook in November 2015, which emphasises the importance of board oversight and management implementation of effective IT programmes, including IT security. The enhanced cybersecurity risk management standards proposed by the banking agencies in their recent advanced notice of proposed rulemaking would also include enhanced requirements regarding board and management involvement, including outlining specific reporting chain and organisational requirements.

US corporate directors are, generally, not required by law to have specific expertise in cybersecurity areas. D&Os are generally responsible for proactively monitoring, managing and educating themselves on risks to the company, including cybersecurity risks and trends. Boards that fail to account for cybersecurity risks to a business may leave their companies vulnerable to a variety of civil litigation claims for failure to adequately maintain cyber and data protections, and prevent unauthorised access to consumer personal and financial information. In light of the growing emphasis on managing cybersecurity concerns, an increasing number of companies in the United States hire outside experts to report to the board on cybersecurity issues on a regular basis. In addition, boards are increasingly examining board committees to ensure that there is appropriate board oversight of the company's data security and privacy procedures. The proposed enhanced cybersecurity risk management standards for financial institutions would, however, require boards to either have cybersecurity expertise or maintain access to internal or management experts.

5 How does your jurisdiction define cybersecurity and cybercrime?

The United States lacks consistent and clear definitions for cybersecurity and cybercrime. In general, cybercrime is defined by the CFAA as accessing a protected computer without authorisation or exceeding authorised access to such protected computer. A 'protected computer' includes computers used in interstate communication, such as computers connected to the internet. 'Cybersecurity' is generally not defined in law, although the DoD and the General Services Administration published recommendations in 2014 calling for common cybersecurity definitions for federal acquisitions in order to increase efficiency and effectiveness in the public and private sector.

6 What are the minimum protective measures that organisations must implement to protect data and information technology systems from cyberthreats?

Industries vary with respect to the protective measures required to be taken to thwart cyberthreats and data breaches. Both healthcare and certain financial services entities have minimum requirements they are required to meet. However, these requirements are generally broad and do not include specific technical standards. For example, although HHS regulations identify a specific level of encryption that companies should use, companies are not required to use it. Instead, encrypting data provides a safe harbour for companies otherwise facing notice obligations in the event of a data security breach. Under the new government contract mandatory contract clauses, the DoD and other federal agency contractors and subcontractors holding certain (broadly defined) categories of information (covered defence information and federal contract information, respectively) are required to comply with security requirements prescribed in NIST Special Publication 800-171, 'Protecting Controlled Unclassified Information in Nonfederal Information Systems and Organizations' (with only a subset required for non-DoD contractors) while DoD contractors and subcontractors providing IT services or cloud services are required to comply with other security requirements specified in the contract or in DoD cloud security guidance. Contractors providing cloud services to civilian government agencies under FedRAMP are also required to comply with certain contractual security requirements.

Merchants, payment processors and other parties dealing in payment cards, such as credit cards, are required to comply with various technical requirements under PCI-DSS, which are implemented via contract between parties and are not enacted into law. These standards include 12 categories of requirements that companies must meet with respect to the security of payment card information. Companies failing to comply risk fines from the payment card brands.

Apart from these mandatory standards, NIST's Cybersecurity Framework created in response to Executive Order 13636 catalogues best practices for identifying, protecting, detecting, responding to and recovering from cybersecurity incidents by creating adaptable benchmarks and recommendations. While these standards are explicitly not mandatory, some have suggested that widespread adoption of this Framework by companies may result in the Framework representing a new 'standard of care' for US businesses generally.

7 Does your jurisdiction have any laws or regulations that specifically address cyberthreats to intellectual property?

Both the Digital Millennium Copyright Act and the CFAA prohibit certain cyberthreats to US intellectual property rights, including threats arising from cyber intrusions. In mid-2016, the US enacted the Defend Trade Secrets Act, which authorises trade secret owners to file a civil action in federal court seeking relief for trade secret misappropriation. The bill is seen by many as an important tool for businesses to sue insider threats and other cyberthieves for intellectual property theft.

In addition, the federal government has issued two strategies under President Obama to address cyberthreats to US trade secrets and intellectual property rights. The 'Strategy on Mitigating Theft of US Trade Secrets' aims to protect US trade secrets abroad, promote voluntary best practices, enhance domestic law enforcement and improve legislation. The 'Joint Strategic Plan on Intellectual Enforcement' focuses on improving transparency in intellectual property policy and rulemaking, ensuring inter-agency coordination and securing US rights abroad.

8 Does your jurisdiction have any laws or regulations that specifically address cyberthreats to critical infrastructure or specific sectors?

Some federal agencies in the United States have promulgated standards associated with protecting critical infrastructure entities from cyber intrusions. Of particular note, the Federal Energy Regulatory Commission (FERC) has established 'Critical Infrastructure Protection Reliability Standards' to address potential vulnerabilities in the bulk-electric system. These standards require certain electricity grid 'bulk-power' system asset owners and operators to document, report and provide compliance evidence on a variety of security controls to the North American Electric Reliability Corporation (NERC) and FERC. They also require the characterisation of all cyber systems that influence the bulk-electric system as low, medium or high impact. In addition, these standards call for responsible entities to identify, assess and correct deficiencies in their cyber policies. Additionally, the Transportation Security Administration (TSA) has statutory authority to promulgate regulations related to pipeline physical security and cybersecurity, though it has not yet exercised this authority to issue cybersecurity requirements. And, as discussed above, the financial, healthcare and government contracting sectors are subject to regulatory or contractual requirements to implement administrative, technical and physical safeguards to prevent or mitigate a cyberattack.

The President of the United States has also issued Executive Order 13636, 'Improving Critical Infrastructure Cybersecurity', that calls for the enhancement of security measures to protect critical infrastructure. This Executive Order does not establish mandatory standards but, instead, requires the creation of minimum voluntary standards for the protection of critical infrastructure entities. In so doing, it attempts to balance efficiency, safety, privacy, business confidentiality and civil liberties in the cybersecurity realm. Pursuant to this Executive Order, NIST issued a voluntary 'Cybersecurity Framework', which provides a risk-based framework and identifies best practices for identifying, protecting, detecting, responding to and recovering from cybersecurity incidents. The Cybersecurity Act of 2015, which was enacted in December 2015, includes several significant provisions designed to facilitate the sharing of cybersecurity threat data among the government and private sector companies, and marks the end of a multi-year effort to find a compromise between industry demands for liability protection for cybersecurity information-sharing and privacy concerns regarding government access to such information.

9 Does your jurisdiction have any cybersecurity laws or regulations that specifically restrict sharing of cyberthreat information?

In the United States, the ECPA, which includes the SCA, restricts sharing of, and government access to, certain private electronic communications. The ECPA includes three titles. Title I outlaws unlawful interceptions of wire, oral and electronic communications. Title II is the SCA, which restricts the disclosure of electronic communications held in electronic storage by third-party electronic communication and remote computing service providers. Title III regulates the use of pen registers or trap and trace devices, which are devices that can acquire metadata, such as phone numbers. Many states have similar laws against government and private wiretapping, some of which are even more stringent than the federal laws, including some states with two-party consent requirements for wiretapping.

The GLBA Privacy Requirements mandate that financial institutions give consumers privacy notices that explain the institution's information-sharing practices. Consumers also have the right to opt-out and limit some of the information shared. Financial institutions must protect the information collected about individuals, except for information collected in business or commercial activities. Other statutes, such as the Right to Financial Privacy Act, restrict the sharing of certain financial information with the government, subject to several exceptions.

In the healthcare sector, the HIPAA Privacy Rule protects all individually identifiable health information stored or transmitted by a covered entity or its business associate in any media. In particular, the HIPAA Privacy Rule regulates how covered entities use and disclose protected health information. It also creates limitations on the release of health records to third parties, creates accountability through civil and criminal penalties and enables patients to determine how their information is used and whether any disclosures have been made.

The Cybersecurity Act of 2015, which was enacted in December 2015, includes several significant provisions designed to facilitate the sharing of cybersecurity threat data among the government and private sector companies, and marks the end of a multi-year effort to find a compromise between industry demands for liability protection for cybersecurity information-sharing and privacy concerns regarding government access to such information. The Departments of Homeland Security (DHS) and Justice have issued guidance, as required by the Act, regarding the processes for sharing information with the government.

10 What are the principal cyberactivities that are criminalised by the law of your jurisdiction?

In general, a wide variety of criminal laws touch cybersecurity one way or another. For example, federal criminal statutes address the following activities, among others:

- computer hacking;
- identity theft;
- economic espionage;
- trade secret theft;
- breaking into computer systems and accessing, modifying or deleting data;
- stealing confidential information;
- defacing internet websites; and
- flooding websites with high volumes of irrelevant internet traffic to make websites unavailable to actual customers.

Many state laws have also been amended over the past several years to enact similar criminal prohibitions associated with cyber intrusions. For example, in 2016, California amended its criminal laws to prohibit the use of 'ransomware', which is malware often designed to lock access to a computer until a ransom is paid.

11 How has your jurisdiction addressed information security challenges associated with cloud computing?

There is no overarching framework for regulation of cloud computing information security. However, companies in several economic sectors, particularly the health, financial and government contracting sectors, are subject to guidance or regulations applicable to cloud security. In general, requirements for cloud security focus on the same basic issue: cloud computing is a species of outsourcing and a company

moving data to the cloud remains responsible for the secure handling of that data.

For example, HIPAA regulations require entities covered by HIPAA to execute a business associate agreement with their service providers (including cloud providers) if their service providers are being provided access to personal health records. These agreements subject the service provider to many of the same privacy and security restrictions as the initial covered entity. Similarly, the GLBA regulations and FFIEC guidance require financial services companies to exercise diligence and oversight over their third-party information technology providers, which include cloud providers.

In addition, FedRAMP is a government-wide programme that incorporates cloud computing into federal government civilian agencies' IT capabilities through the authorisation and use of certified cloud computer providers. It also provides a standardised approach to securing cloud products and services. The DoD has issued its own cloud security requirements, as well as special mandatory contractual clauses for DoD cloud service providers.

12 How do your jurisdiction's cybersecurity laws affect foreign organisations doing business in your jurisdiction? Are the regulatory obligations the same for foreign organisations?

Foreign organisations that do business in the United States are generally subject to state and federal laws to the same extent as US businesses operating in the same jurisdictions and collecting information about US individuals.

Best practice

13 Do the authorities recommend additional cybersecurity protections beyond what is mandated by law?

The NIST Cybersecurity Framework, issued in response to direction from Executive Order 13636, Improving Critical Infrastructure Cybersecurity, provides voluntary cybersecurity standards for protecting private sector computer networks owned or operated by critical infrastructure entities. NIST issued the first version of the Cybersecurity Framework in February 2014.

The Framework is divided into three parts: Framework Core, Implementation Tiers and Framework Profile. The Framework Core is designed to identify key cybersecurity activities common across all critical infrastructure networks. These are activities that companies should address when creating programs to protect critical computer systems and that identify best practices for communicating risks throughout an organisation. Specifically, the Framework Core consists of five functions designed to provide company decision-makers with a strategic view of cybersecurity risk management: identify, protect, detect, respond and recover.

For each function, the Framework identifies existing technical standards from NIST and other standards bodies to serve as 'informative references' in support of the technical implementation of the functions.

The Implementation Tiers provide context on how an organisation views cybersecurity risk and the processes in place to manage that risk. The Tiers range from Partial (Tier 1) to Adaptive (Tier 4) and describe an increasing degree of rigour and sophistication in cybersecurity risk management practices based on the business needs of the organisation.

The Framework Profile is intended to help organisations 'establish a roadmap' for prioritisation of organisational efforts to reduce cybersecurity risks. Organisations are encouraged to focus on identifying and eliminating gaps between the 'Current Profile', which identifies cybersecurity outcomes currently being achieved, and the 'Target Profile', which indicates the outcomes needed to achieve cybersecurity risk management goals.

14 How does the government incentivise organisations to improve their cybersecurity?

There have been numerous legislative proposals to develop incentives for organisations to improve their cybersecurity, including tying adoption of standards to incentives such as grants and streamlined regulation, or using tax credits, but, so far, these initiatives have not been passed or implemented.

The Cybersecurity Act of 2015, which was enacted in December 2015, includes several significant provisions designed to facilitate the sharing of cybersecurity threat data among the government and private sector companies, and marks the end of a multi-year effort to find a compromise between industry demands for liability protection for cybersecurity information-sharing and privacy concerns regarding government access to such information. Among other things, the Act provides liability protection for private sector entities to:

- monitor their own information systems, the information systems of another entity (with authorisation), and information on those information systems;
- operate 'defensive measures' applied to an entity's own information systems or the information systems of another entity (with authorisation); and
- share and receive cyberthreat indicators or defensive measures from other entities, with no duty to warn or act based on information received.

15 Identify and outline the main industry standards and codes of practice promoting cybersecurity. Where can these be accessed?

There are several cybersecurity standards applicable to specific industries. Of note are:

- the NIST Cybersecurity Framework, which establishes a voluntary standard for promoting cybersecurity. It can be accessed at www.nist.gov/cyberframework/;
- for financial institutions, the FFIEC has issued an Information Security Handbook that outlines audit guidelines for reviewing financial institutions' security practices, effectively providing best practices to protect against security breaches. It can be accessed at http://ithandbook.ffiec.gov/it-booklets/information-security.aspx;
- the PCI-DSS establish standards applicable to merchants or vendors that process payment card data. The current version of these standards (version 3.1, adopted in April 2015) can be found at www.pcisecuritystandards.org/documents/PCI_DSS_v3-1.pdf (though version 3.2, issued in April 2016, will go into effect in 2018); and
- a recently enacted set of standards applicable to certain defence contractors was established in late 2015 (and revised further in 2016) through amendments to the DFARS, which mandates the use of cybersecurity-related contract clauses in all DoD contracts. This new rule, which includes requirements with respect to security controls and cyber-incident reporting, has been highly criticised by industry as being overly burdensome and in need of revision. The rule is currently in effect, but it was open to a public comment period, and may be changed through the standard regulatory process. The rule can be found at 48 CFR subpart 204.73.

16 Are there generally recommended best practices and procedures for responding to breaches?

Guidance from NIST and other independent organisations generally recommend several key actions immediately after learning of a data security breach. Communication is of particular importance, both among company leadership and with key constituencies. Effective breach response often includes an incident response team made up of forensic experts and key personnel who can address legal, public relations, investor relations and SEC, insurance, IT, audit and customer concerns. Most breaches require a coordinated effort to gather the facts through forensic analysis. At the same time, company leaders may need to develop a strategy to respond to the incident. Outside experts often serve important roles in this regard. External counsel can help guide the response to a breach and can structure a forensic investigation in a manner that preserves legal privileges. Outside forensic experts may be necessary to bring special skills to the response and to ensure that company personnel have appropriate resources to address the situation. The FTC has also recently issued data breach response guidance, which outlines suggested steps for securing operations, fixing vulnerabilities and notifying appropriate parties.

17 Describe practices and procedures for voluntary sharing of information about cyberthreats in your jurisdiction. Are there any legal or policy incentives?

The Cybersecurity Act of 2015, which was enacted in December 2015, includes several significant provisions designed to facilitate the sharing of cybersecurity threat data among the government and private sector companies, and marks the end of a multi-year effort to find a

Update and trends

Legislators and regulators in the United States remain keenly focused on improving cybersecurity of critical infrastructure systems that are largely perceived as too vulnerable to cyberthreats. Although pressure will continue to grow to establish more uniform and clear cybersecurity standards, a consensus on how to craft such standards is likely to remain elusive. Some political leaders are advocating for regulatory mandates, and others are looking for industry-driven solutions to cybersecurity challenges. In the absence of any broad consensus for how to establish better cybersecurity standards, federal agencies in the United States are likely to continue efforts to craft more aggressive cybersecurity regulatory requirements applicable to particular economic sectors, such as recent efforts in the United States to impose far-reaching cybersecurity standards on companies operating in the government contract and financial sectors. Legislative action in the near term will almost certainly steer clear of establishing mandatory cybersecurity requirements, and will instead focus on creating incentives for private sector entities to share cyberthreat data more freely with one another and with the government.

compromise between industry demands for liability protection for cybersecurity information-sharing and privacy concerns regarding government access to such information.

The Defense Industrial Base (DIB) Voluntary Cyber Security and Information Assurance programme is a voluntary cybersecurity information-sharing programme between the DoD and eligible DIB companies. Companies in the programme receive certain threat information in return for sharing information regarding network intrusions that could compromise critical DoD programmes and missions. The rule establishing this programme was recently modified to conform with the newly issued DFARS rule (though, as with the DFARS rule, these changes were subject to comment and may be revised through the normal regulatory process).

Several industries have developed information sharing and analysis centres (ISACs) designed to share intelligence on cyber incidents, threats, vulnerabilities and associated responses present throughout the industries. The National Council of ISACs recognises the following centres: aviation, defence industrial base, emergency services, electric sector, financial services, information technology, maritime security, multi-state, communications, national health, nuclear, oil and gas, public transit, real estate, research and education, supply chain, surface transportation and water. In the wake of the recent increase in retail breaches, a new retail ISAC has also been established. US law firms and the automotive industry have also recently announced the establishment of industry ISACs.

Organisations may also choose to voluntarily share information with federal and state law enforcement and DHS to aid in the investigation and prosecution of criminal cybersecurity attacks.

18 How do the government and private sector cooperate to develop cybersecurity standards and procedures?

The DHS, the Federal Bureau of Investigation (FBI) and the DoD have all established information-sharing programmes aimed at encouraging the private sector to share information about cyberthreats, such as indicators of compromise. Likewise, the NIST Framework is intended to be a voluntary, industry-led standard that applies to all critical infrastructure sectors. In developing the framework, NIST issued a draft framework, engaged with stakeholders at cybersecurity framework workshops and solicited feedback and suggestions for the final framework. NIST continues to update and improve the framework as industry provides feedback on implementation. Additionally, the Cybersecurity Act of 2015, which was enacted in December 2015, includes several significant provisions designed to facilitate the sharing of cybersecurity threat data among the government and private sector companies, and marks the end of a multi-year effort to find a compromise between industry demands for liability protection for cybersecurity information-sharing and privacy concerns regarding government access to such information.

19 Is insurance for cybersecurity breaches available in the jurisdiction and is such insurance common?

Insurance for cybersecurity breaches is available in the United States, and is becoming far more common for companies to have, particularly in the wake of judicial opinions finding that general insurance policies do not cover cybersecurity breaches. DHS has worked with public and private sector stakeholders to examine the current cybersecurity insurance market and develop solutions to advance its capacity to incentivise better cyber-risk management.

Enforcement

20 Which regulatory authorities are primarily responsible for enforcing cybersecurity rules?

Enforcement of cybersecurity rules and standards falls to a variety of federal and state agencies. Various state attorneys general have initiated investigations of major data breaches and in some cases a group of US state attorneys generals have joined together to initiate multistate investigations of data breaches. At the federal level, the US Secret Service (Electronic Crimes Task Forces and Cyber Intelligence Section), FBI and DHS play leading roles in identifying and investigating cyber breaches. The SEC also requires disclosure of material cyber risks and incidents, and has initiated several investigations relating to cyber incidents and information security. The FTC has also investigated companies for failing to protect consumers' personal information and take reasonable cybersecurity steps. The FTC has reached over 50 settlements of enforcement actions related to the alleged failure of companies to take reasonable data security measures. The HHS also has authority to investigate data breaches involving medical patient information. The US Congress has also initiated its own investigations into prominent data breaches.

21 Describe the authorities' powers to monitor compliance, conduct investigations and prosecute infringements.

US federal and state authorities have wide-ranging authorities to monitor compliance, conduct investigations and prosecute infringements under numerous state and federal statutes. This includes the authority to demand documents and testimony, pursuant to legal process and other information relating to cybersecurity incidents.

22 What are the most common enforcement issues and how have regulators and the private sector addressed them?

The most common enforcement actions are based on allegations of insufficient cybersecurity practices and failure to disclose breaches involving consumer information. The FTC has an active enforcement programme examining companies that allegedly did not take 'reasonable' steps to protect consumer information. The FTC frequently seeks long-term consent agreements with companies that impose cybersecurity obligations. Such obligations may run for decades and require companies at their own expense to take certain security steps and have outside independent audits of the companies' compliance with the consent agreement. Individual state attorneys general have also initiated investigations and obtained settlements relating to the loss of consumer data. The SEC has sent a variety of letters to corporations requesting information on past cyber incidents. The private sector has responded through the creation of best practices, and NIST released a cybersecurity framework for private industry in early 2014.

23 What penalties may be imposed for failure to comply with regulations aimed at preventing cybersecurity breaches?

The most common penalties for failing to comply with cybersecurity-related regulations are related to the entry into consent orders with the federal or state government, class action lawsuits, civil penalties and payment card industry compliance fees (designed to ensure that credit card information is securely maintained). Other potential penalties include cease-and-desist orders; criminal penalties; limitations on activities, functions and operations; registration revocations; and termination of insurance.

24 What penalties may be imposed for failure to comply with the rules on reporting threats and breaches?

Penalties that may be imposed for failure to comply with the rules on reporting threats and breaches include civil enforcement penalties and monetary judgments through litigation.

25 How can parties seek private redress for unauthorised cyberactivity or failure to adequately protect systems and data?

Depending on the facts of a specific situation, parties may seek private redress under a variety of causes of action, including approximately 34 separate tort claims, 15 contract claims and other claims based on state and federal statutes. In particular, numerous state data breach notice laws contain individual rights of action, and consumers have brought class actions in response to data breaches involving sensitive personal information.

Threat detection and reporting

26 What policies or procedures must organisations have in place to protect data or information technology systems from cyberthreats?

There are currently no policies or procedures that all organisations must have in place to protect against cyberthreats. However, there are numerous federal and state laws, regulations and mandatory standards that pertain to securing privately owned IT systems and data in the United States' critical infrastructure sectors, resulting in a patchwork of regulatory requirements organisations must follow.

For instance, organisations performing contracts requiring a security clearance from the US government generally are covered by the National Industrial Security Program and are obligated to follow the National Industrial Security Program Operating Manual (NISPOM). The NISPOM includes a wide range of information system security requirements, including identification and authentication management, passwords and scanning for malicious code. Other federal contractors and subcontractors at all tiers are also required to comply with various security requirements under the new DoD and FAR rules.

Covered entities under the HIPAA must implement technical policies that allow only authorised persons to access electronic protected health information and have measures that guard against unauthorised access to electronic protected health information when it is transmitted over an electronic network.

Under the GLBA, financial institutions are required to identify and control risks to customer information and customer information systems and to properly dispose of customer information. Appropriate measures the institutions must take include access controls on customer information systems and monitoring systems and procedures to detect actual and attempted attacks on or intrusions into customer information systems.

The main example of a state law requiring companies to develop policies and procedures to protect data and systems from cyberthreat is the Massachusetts Standards for the Protection of Personal Information of Residents of the Commonwealth, which requires companies collecting personal information of Massachusetts residents to develop written information security programmes containing administrative, technical and physical safeguards that protect personal information.

27 Describe any rules requiring organisations to keep records of cyberthreats or attacks.

Currently there are no broad rules requiring all organisations to keep records of cyberthreats or attacks. Organisations within certain critical infrastructure sectors may be subject to sector-specific rules. For example, the new DoD rule requires companies to report cyber incidents affecting 'covered defence information' to DoD, and to maintain forensic evidence (including forensic images and packet captures) for 90 days in the event DoD decides to conduct a further review and requests that evidence. Additionally, companies subject to the PCI-DSS are required to maintain certain log and other forensic data for a period of time to facilitate forensic review and audit.

Because cybersecurity breaches may require disclosure and result in litigation or regulatory enforcement, organisations should be aware that they may be required to provide forensic evidence and information about any such attacks. Organisations should maintain records accordingly (consistent with standard preservation practices).

28 Describe any rules requiring organisations to report cybersecurity breaches to regulatory authorities.

Numerous federal and state regulations require organisations to report cybersecurity breaches to regulatory authorities.

Public companies may be required to disclose, through public filings with the SEC, material breaches that affect the company's products, services, relationships with customers or suppliers, competitive conditions or financial controls.

Defence contractors with 'covered defence information' on their systems that experience a cybersecurity breach must report the breach to the DoD.

Organisations covered by the HIPAA are required to notify the Secretary of the HHS following a breach of unsecured protected health information.

Most states also have enacted state data breach notice legislation, many of which require organisations to notify state attorneys general and other state regulatory agencies of security breaches involving sensitive, personally identifiable information that affect individuals in the state. Many of these states also require additional notice to individuals and, at times, the media, consumer credit reporting agencies, or both, of certain breaches that result in the loss of personally identifying information.

29 What is the timeline for reporting to the authorities?

Public companies may disclose material breaches to the SEC through a Form 8-K, the 'current report' companies must file with the SEC to announce major events that shareholders should know about.

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Depending on timing, these breaches may instead be reported in typical quarterly or annual securities filings.

For breaches that affect covered defence information, reports must be sent to DoD via http://dibnet.dod.mil/ within 72 hours of discovery of any cyber incident and must include specific, detailed data about the nature of the intrusion and any government projects possibly implicated. For breaches related to unsecured protected health information that affect 500 or more individuals, HIPAA-covered organisations are required to notify the Secretary of HHS without unreasonable delay, and in any case no later than 60 days after a breach. For breaches that affect fewer than 500 individuals, the Secretary may be notified of such breaches on an annual basis.

For notification to states regarding breaches affecting individuals in that state, most state laws require notification be made without undue delay and in the most expedient time possible, though some states include specific time frames.

Companies may also report breaches to law enforcement agencies, which the FTC has stated will be regarded favourably when considering whether to bring an enforcement action against a company.

30 Describe any rules requiring organisations to report threats or breaches to others in the industry, to customers or to the general public.

Most states require organisations to report security breaches involving personally identifiable information to individuals whose information was affected. Each state has its own rules, but typical requirements include that the notification be made in writing in the most expedient time possible. At the federal level, the HIPAA and the GLBA require covered entities to report breaches of sensitive health or financial information, respectively. Many state data breach laws include an exception for entities complying with these federal obligations.

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