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Creating and Managing an Incident Response Team for a Large Company

Using good communication skills, clear policies, professional team members and utilizing training opportunities, a company can run a successful incident response team. CSIRTs will continue to serve as an important component in supporting the management of risk and security in the business. By utilizing these passive and active phases of a CSIRT, the business will improve its security efforts across the enterprise and protect confidentiality, integrity and availability of its information systems.

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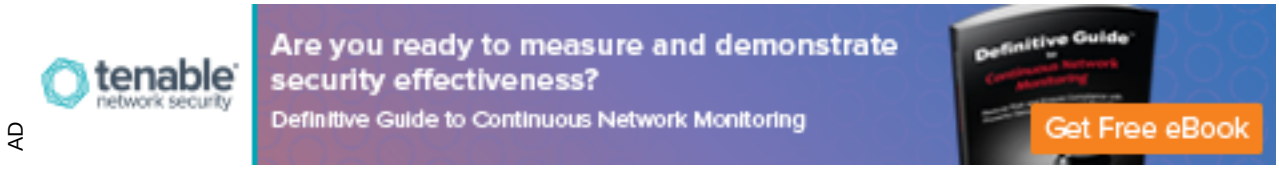

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Creating and Managing an Incident Response Team for a Large Company

GCIH Gold Certification

Author: Timothy Proffitt, tim@timproffitt.com

Adviser: Pedro Bueno

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1) Incident Response Team Basics

a) Introduction

The computer security incident response team's (C.S.I.R.T.) function is to react in a timely fashion, to intrusions, types of theft, denial of service attacks and many other events that have yet be to executed or considered against their company. The CSIRT will be responsible for investigating and reporting on malicious insider activity, internet spam, human resource violations and copyright infringements.

The CSIRT will typically be called into action by a notification or triggered event but can also be called into action by a discovery while performing one of many passive services. Call Centers, Help Desks, business unit liaisons, legal representatives, email notifications or anonymous forms from an Intranet will all be entry points into calling the CSIRT into action.

b) CSIRT Services

CSIRT serve several purposes. In addition to identifying, containing and eradicating a successful intrusion, the CSIRT will educate, communicate, execute vulnerability assessment, shape policy and more.

i) Passive Services

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There are several passive services that the CSIRT will perform to provide the company aide protecting its information systems in anticipation of future malicious activity.

Vulnerability Assessment

The CISRT will perform vulnerability assessment against company assets. The CSIRT will verify reported vulnerabilities and how they can be exploited. The vulnerability assessment service can help the business to identify infrastructure that is a high risk and can also provide data on a system that has had incident response procedures executed against it. The vulnerability assessment service will help identify when the recovery phase of an incident response effort has mitigated the intrusion. Maintaining current vulnerability assessment data for the company's high risk systems can better mitigate the security threats to the company.

Announcements and Information Disclosure

The announcement function is used to notify business units of potential threats to information systems, external virus outbreaks that can affect the infrastructure and new compliance objectives. The CSIRT will monitor technical developments and trends to help identify attack vectors. The announcement service will provide guidance to the business to aide in mitigating security threats before they happen.

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In some cases, when investigating an intrusion, a disclosure of sensitive information will be uncovered. In the case of medical information (ePHI) or identity theft data loss, the CISRT will perform defined disclosure procedures. Depending on what data was exposed and which state the personally identifiable information owner resides in, the disclosure notification procedures will vary. Disclosure procedures will involve crafting notification letters, obtaining identity theft protection services for the effected parties, working with corporate communications to deal with the media, and potentially providing law enforcement evidence of the intrusion.

Intrusion Detection Service

The intrusion detection service is conducted by the monitoring efforts of the CSIRT. In some cases the security group and the CSIRT will be separate teams and monitoring of IDS and IPS technologies may be shared. In these cases, alerting on intrusion information will be passed up to the CSIRT for incident handling. The intrusion detection service typically monitors intrusion detection equipment, intrusion prevention equipment, security event manager logs and performs periodic intrusion discovery procedures. When an event of interest is identified, the CSIRT will move into its active services mode.

ii) Active Services

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There are several services that the CSIRT will perform during an incident. The active services are typically what is expected of a CSIRT and are designed to contain, eradicate, recover, and report on an incident.

Incident Handling

Incident handling involves analyzing the incidents and events. Incident handling's goal is to identify the scope of the incident, document the damage caused, and provide available response tactics. Incident handling typically involves incident analysis, evidence collection, tracking the origins of the intruder, response support for the victim(s) of the attack and coordination among other IRT, administrators and service providers.

Vulnerability Handling

Vulnerability handling involves gathering data around operating system and application vulnerabilities. The CSIRT will perform assessments against hardware and software to verify suspected vulnerabilities and help determine how the vulnerabilities can be exploited. The service will aide in determining the proper response to repair a vulnerability and can notify others about the mitigating strategy.

Evidence Handling

Evidence can be defined as any object found on an information system that could be involved in attacking the system or other systems around it. These can be computer viruses but also include exploit scripts, toolkits, log files, or even hardware devices such as physical key loggers.

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Lessons Learned Reporting

The reporting service primary goal is to document what happened and how the business can improve its' defenses. The CSIRT will conduct a "lessons learned" or a post mortem meeting to discuss the incident and educate the management team. Incident Reporting is beginning to become an auditable event for external auditors to test against.

iii) Management Services

Awareness Training

Awareness training can be a service offered by the CSIRT. Since the CSIRT is typically conducting in depth investigations and vulnerability assessments against the businesses information assets, then next logical step is for the CSIRT to educate the technology teams about good security practices pertaining to the information systems that are being administered.

CSIRT will also seek opportunities to build awareness of the user base through newsletters, announcements, lessons learned, marketing campaigns, and websites.

Risk Assessments

The CSIRT can have important insight into risk assessments. When the business conducts a risk assessment to bring on a new technology or application, a member of the CSIRT should be a participant in the effort. The experience of the CSIRT members will help identify risk points, potential vulnerabilities, and threats.

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Compliancy Certifications

The CSIRT can also perform compliancy certifications. The team can conduct security evaluations on information systems or services to ensure the security or the pass / fail of a compliance regulation. The team can be used to provide guidance on best practices and recommendations for purchasing, installing or securing new systems.

c) CSIRT Policies and Standards

Policies are documented principles adopted by the management team. The policies of an organization should be clearly understood by the entire workforce and the knowledge of the incident response policy will allow the CSIRT to act on their responsibilities.

i) Incident Response Policy

Building an incident response policy involves several objectives.

First, an Incident Response Policy cannot be enforced unless it has management approval. Endorsement by management is critical. Without this approval the team will be destined to encounter business road bocks that will hinder a timely incident response. In some cases, it may not even be allowed.

Second, the policy must be clear. Any employee should be able to easily understand what the policy is about. If a non-technology oriented employee is confused by the policy, then the policy should be rewritten.

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Third, the policy must be to the point A long winded policy will either be a bad policy or one that would include sections that should be in a procedure document instead.

Forth, the policy must be usable and implementable. Avoid statements that sound appropriate but will be open to interpretation. At the same time, the policy should not include objectives that the CSIRT will not be able to execute due to business processes or corporate culture.

Once the policy as been created, it is important to make regular checks against its effect on the workforce. When changes occur in the business direction or new technology systems are implemented, update the policy to match the new processes.

ii) Incident Response Standards and Procedures

A successful CSIRT is a team that has documented standards and procedures. Standards should be written from how the CSIRT will begin its investigations and report the findings to standards written for how the CSIRT will be trained and what authority the members will be granted.

A good standard will define when the CSIRT will contain and clean up incidents and when the team will watch and gather information for litigation.

Having good recovery procedures are essential. It is very rare to find a CSIRT member that has mastered every operating system and application in

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your environment. Having procedures to follow on how to correctly down and restore a system can help prevent time consuming efforts and alleviate some of the stress of the incident.

These written procedures will aide the CSIRT in formalizing how investigations are carried out, how evidence is handled, what organizations are notified at what times, how post mortem reporting is conducted, how malicious software is to be eradicated and how to perform a recovery of a information system.

iii) Code of Conduct

The code of conduct policy for the CSIRT is a set of rules outlining how a team member will behave in a way that supports the goals of the incident response team and the mission statement of the company. The code of conduct will be used when no other policy or procedure applies. It should reflect the natural behavior of a professional incident handler. An example of a CSIRT code of conduct policy was written by the original manager of the CERT,[1] Rich Pethia.

iv) Disclosure Policy

It is important to define the CSIRT disclosure policy. Without the policy, the team will have no guidance on who to disclose to, what to disclose and when to disclose the information. Traditionally, CSIRT staff treated all

[1] CERT Coordination Center. .

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information reported to them as confidential and information around security incidents were not distributed to other organizations. In some cases, law enforcement or other response teams were included when coordinating the response to the incident.

The policy should outline the information disclosure restrictions placed on the CSIRT staff. What will be reported to law enforcement? If the incident involved the disclosure of personally identifiable information, when do you disclose to the affected individuals? Personal information includes, but is not limited to, information regarding a person's home or other personal address, driver's license, marital status, financial information, credit card numbers, bank accounts, parental status, sex, race, religion, political affiliation, personal assets, home or other personal phone numbers, and so on. Did the incident involve the disclosure of electronically protected healthcare information as defined in HIPAA?[2] Did the incident involve social security numbers? If the CSIRT is to engage law enforcement, can the business afford to have equipment confiscated?

The disclosure policy will specify (sometimes legal) limitations that outlines how or when law enforcement is notified, customers are notified, external CSIRTs and upper management.

There are very clear state laws in the United States that outline when companies must notify individuals that their personal information has been disclosed by unauthorized events. At least 35 states, as of Q1 2007, have

[2] http://hipaa.yale.edu/guidance/index.html

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enacted legislation requiring companies and government agencies to disclose security breaches involving personal information[3].

Arizona	Ariz. Rev. Stat. § 44-7501
Arkansas	Ark. Code § 4-110-101 et seq.
California	Cal. Civ. Code § 1798.82
Colorado	Col. Rev. Stat. § 6-1-716
Connecticut	Conn. Gen Stat. 36A-701(b)
Delaware	De. Code tit. 6, § 12B-101 et seq.
Florida	Fla. Stat. § 817.5681
Georgia	Ga. Code § 10-1-910 et seq.
Hawaii	Hawaii Rev. Stat. § 487N-2
Idaho	Id. Code §§ 28-51-104 to 28-51-107
Illinois	815 Ill. Comp. Stat. 530/1 et seq.
Indiana	Ind. Code § 24-4.9
Kansas	50-7a01, 50-7a02 2006 S.B. 196,
Louisiana	La. Rev. Stat. § 51:3071 et seq.
Maine	Me. Rev. Stat. tit. 10 §§ 1347 et seq.
Michigan	2006 S.B. 309, Public Act 566
Minnesota	Minn. Stat. § 325E.61, § 609.891
Montana	Mont. Code § 30-14-1701 et seq.
Nebraska	Neb. Rev Stat 87-801 et. seq.
Nevada	Nev. Rev. Stat. 603A.010 et seq.
New Hampshire	N.H. RS 359-C:19 et seq.
New Jersey	N.J. Stat. 56:8-163
New York	N.Y. Bus. Law § 899-aa
North Carolina	N.C. Gen. Stat § 75-65
North Dakota	N.D. Cent. Code § 51-30-01 et seq.
Ohio	Ohio Rev. Code § 1349.19, §1347 et seq.
Oklahoma	Okla. Stat. § 74-3113.1
Pennsylvania	73 Pa. Cons. Stat. §
Rhode Island	R.I. Gen. Laws § 11-49.2-1 et seq.
Tennessee	Tenn. Code § 47-18-2107

[3] http://www.ncsl.org/programs/lis/cip/priv/breachlaws.htm

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Texas	Tex. Bus. & Com. Code § 48.001 et seq.
Utah	Utah Code § 13-44-101 et seq.
Vermont	Vt. Stat. Tit. 9 § 2430 et seq.
Washington	Wash. Rev. Code § 19.255.010
Wisconsin	Wis. Stat. § 895.507

Timing of a disclosure event is imperative. It is important to perform incident investigations and be as certain as possible about the disclosure events. At the same time the CSIRT should be notifying the victims as soon as possible. If the duration between the identification and the notification are too great, the company can face litigation and even greater loss of public opinion.[4] It is imperative that the CSIRT utilize legal council when drafting a disclosure communication to anyone as this notification can have enormous consequences to the company's reputation.

Disclosure Procedures to External CSIRT

There will be times where the company CSIRT will want to notify external CSIRT such as the CERT/CC, FIRST[5], or private Managed Security Solutions Partners (MSSP). To be successful, it is important that coordination occurs among law enforcement, National CSIRTs and the research community who have experience in responding to security incidents. External CSIRTs can play an important role by helping their constituents protect their systems, detect, identify, and analyze compromises to the security of those systems and effectively coordinate the response to the attack. External CSIRT teams

[4] http://www.privacyrights.org/ar/ChronDataBreaches.htm
[5] http://www.first.org/members/teams/

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can also be evangelists in promoting and helping other organizations build effective incident management capabilities.

The details for sharing of information will change depending on the incident and how the external CSIRT will benefit from the information. Information is typically disclosed to:

- Inform other CSIRT of a large attack.
- Inform other teams about a new vulnerability or attack vector.
- Contact other sites that are the target of an incident to help coordinate the remediation.

Procedures should be clearly written for the internal CSIRT to follow when submitting an incident outside the organization. When reporting intruder activity, it is important to ensure that you provide enough information for the external CSIRT to be able to understand and respond to your report, but still filter any information that would be considered sensitive to the company.

v) Evidence Handling Procedures

During the CSIRT's active services, it is important to track information pertaining to the incident. This tracking of information should be at a level of detail that can be useful for recalling the event years later. Handling procedures should record information in logical organized methods to provide historical records and actions taken by the team. In many cases, this information can be used for statistical reporting purposes in management

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reports. For every incident, best practices capture and track, at a minimum, the following set of information:

- Local Tracking Number / External CSIRT Tracking Number
- Category of Incident
  - Disclosure, Hacking Attempt, Worm Outbreak, Malicious Insider, etc.
- Brief Description
- Contacts for all Parties Involved
- Subjective Priority
  - Critical, High, Medium, Low, Informational
- Evidence Gathered
  - who, what, where, why, how, when
- History of Actions
  - Record all actions by the team. This will be important if litigation is an optional outcome.
- Current Status of the Incident
  - Active, On Hold, Complete, etc.

CSIRT should utilize electronic collaboration tools such as a Microsoft SharePoint Server. Team members should have a single point to deposit, search, and update data on incident activities. Additionally, incidents should be archived for some predetermined period of time, using the collaboration tool. The SharePoint tool allows for a repository of electronic data, online workflow capabilities, versioning, automatic alerting and very flexible role

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based access for team members and additional stake holders outside the team.

Physical evidence should be maintained in a designated "war room". An empty office or conference room can be converted into a CSIRT war room with the understanding that the team will have sole access to a physically secured room. Locking cabinets for hard drives, tapes, and notes on tracking of the equipment are a must.

2) Primary Phases of the CSIRT

The functions that the CSIRT perform during active services are going to be considered the heart of the CSIRT mission. These primary functions are preparation, identification, containment, eradication, recovery, and lessons learned.

a) Identification

How does the company detect an event? What triggers the CSIRT into action? The answer for most is a mixed one.

- Technology departments deploy intrusion prevention sensors, monitor firewall logs, review honeypot activity[6], analyze antivirus alerts, review vulnerability assessment reports, examine authentication events, etc.

[6] http://www.honeynet.org is a popular open source honeypot project

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- Business units will typically educate and raise awareness about security risks to make the workforce use their eyes and ears to identify suspicious activity.

When either of these groups detects an event, the CSIRT should be notified.

i) Triage Role

The goal of the triage role is to ensure that information about an event is gathered from a single point of contact. The triage role is the primary contact for the CSIRT for the business. Contacted by email, fax, telephone, anonymous form, or hallway conversation, the triage role will kick off the incident procedures by calling into action the correct team members to start the investigation.

The company should be trained on how to report information to the CSIRT. The triage role should be clearly defined, contact methods should be easily accessible, simple and defined procedures for reporting and clear guidelines on types of events to be reported.

ii) Identification Tasks

The CSIRT should have a member of the management team as its sponsor. This is typically the CSO, CIO or VP over the technology department. Notify your sponsor that an investigation has started. If

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additional resources are needed outside the CSIRT, the sponsor will help with obtaining what is needed.

It is in the identification function that a primary incident handler should be assigned. The responsibility of the primary handler is to ensure coordination, documentation, and communication with the CSIRT and any other departments or organizations[7] directly involved. The primary handler will be responsible for the quality of the incident handling procedures for the assigned event.

The information gathered in this identification phase is critical. The first goal of the team is to determine whether the incident reported is actually an incident. The team will be asking assessment questions such as, what are the affected systems, if a vulnerability is present, the value of the system to the business (i.e. mission critical), can the vulnerability be exploited remotely, was this incident user error, was data exposed to unauthorized individuals, does this incident affect companies outside our own?

Be sure to establish good chain of custody scenarios. Document the "who, what, where, when", whenever possible. Each piece of evidence must be under the control of a CSIRT member at all times and document the storage of evidence if it is secured. The chain of custody will be important for law enforcement if the evidence is going to be used in litigation.

[7] See appendix for law enforcement contact information

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b) Containment

The containment function is designed to prevent the attack from affecting systems, people, or organizations any more than it has already. The CSIRT is now trying to keep the scenario from getting worse.

A decision must be made when entering the containment phase. If evidence collected is going to be used for litigation, care must be taken to keep the system(s) from becoming contaminated by the containment efforts. Drives should be imaged, back ups performed, original copies secured, etc. Always use a backup or a copy to perform the incident handling procedures.

The CISRT should perform multiple backups as soon as it is practical. The backups can be used for forensics or in the off chance that containment procedures render the system(s) inoperable. In most cases, original media will be cataloged and secured, while a backup copy will be used to restore the system for eradication and recovery.

The containment phase can involve many tasks: Patching systems, password changes, firewall rule changes, account management, stopping of services and RootKit / Antivirus system scans. On the employee side the CSIRT may place phone calls to halt a business process, obtain paper materials or printouts that contain false information or send a corporate wide communication to alert the workforce.

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c) Eradication

The eradication phase involves the removal of any malicious activity or artifacts left by the intrusion. Typically eradication engages in removing virus infections, backdoor software, data left by the intruder and uninstalling attack tools. If the system was hit with any flavor of a rootkit, formatting hard drives, reloading the system, patching and restoration from backup is highly recommended.

Vulnerability assessment and analysis is typically performed during the eradication phase. Initiating system and network level vulnerability scans will help the team find open vulnerabilities. In many cases, attackers often use the same vulnerability across the entire network. A quality scanner such as Qualys[8] or Foundscan can go a long way in providing your CSIRT will vulnerability data. The CSIRT should research the vulnerability against the known information repositories such as CERT or BugTraq to understand the impact of the exploit against the company.

Improving the defenses of the systems or business process affected is vital. New firewall rules, host based intrusion prevention technologies, upgrades to more secure applications and patching are good techniques for improving the defenses. If the vulnerability is not removed, the system can become compromised all over. Business process can be strengthened by objectives such as implementing least access principles, encryption mechanisms and social engineering awareness.

[8] http://www.qualys.com/solutions/vulnerability_management/

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d) Recovery

The recovery phase is used to bring the restored system(s) back into production. Recovery will typically take place, according to the system owner, after business unit testing has been conducted.

Monitoring is an important objective during this phase. When the incident system(s) are brought back into production use, monitoring must be conducted to validate the eradication was successful. Auditing the operating system logs, intrusion detection or prevention logs, checking for backdoor ports, reviewing firewall logs and searching for any new vulnerabilities are standard procedures.

e) Lessons Learned

The best way to improve on a company's defense is to learn from the mistakes made. The goal of the lessons learned reporting is to finalize the CSIRT documentation, and create a post mortem report for review. In most cases, a meeting is scheduled within a week to review the report. The report should focus on events leading up to the incident, generally what occurred, what was done to contain and eradicate, and what can be done to mitigate the vulnerability in the future. The reporting phase is a good time to note organizational problems that conflicted with the CSIRT's procedures and suggest improvements. Invite the correct management, stake holders and information technology individuals to better expose the CSIRT's efforts. The

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lessons learned meetings can be a good place to obtain approval to fix business processes, obtain newer technologies, update incident handling procedures and to educate the business.

It is important to have the CSIRT members involved in the incident complete the lessons learned documentation as close to completing the incident as possible. These post mortem reports should be short but professional and designed for executive consumption.

3) CSIRT Membership

Outsiders may view the CSIRT as a team of highly educated technologists. Although technical experience is a good prerequisite, there are several attributes that are needed for a successful incident team. It is important for the company's management team to understand the needs of the CSIRT. Specific incident response training, paid time off, and membership buy in from across the company are several topics that will need to be agreed upon.

a) CSIRT Staff

One of the challenging facets of building a successful incident response team is to employ a multifaceted team. A typical team will have the following schema:

- Primary Members

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  - Technology Security Specialists
  - System Administrators
  - Network Engineers
  - Desktop Support Specialists
  - Disaster Recovery Coordinators
- Secondary Members
  - Inside Legal Council
  - Corporate HR Specialist
  - Corporate Communication Specialist
  - Physical Security or Facilities Coordinator
  - Management Team Sponsor

Geographically diverse companies will need to work out the combination of remote handlers with a centralized team. The primary members will be the core of the CSIRT and will work the majority of the smaller incidents. The secondary members will be expected to join the CSIRT when an event requires their expertise. A hoax email virus infection will not require the secondary members to be called into action, but payroll laptops going missing will no doubt call the entire team into action.

Interpersonal Skills

Having a wide range of skills is a high priority, but communication skills will greatly improve the reputation of the team. You may find expert security engineers that would seem to be a fit in the CSIRT except for a lack of interpersonal skills. The team members should have common sense, exhibit

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effective oral and written communication skills, show diplomacy when dealing with external groups, have the ability to follow standards and procedures, show integrity and have the willingness to continue their education.

Technical Skills

Technical skills will be important for a successful CSIRT. The primary members of the team will need to have a good amount of experience in their individual fields to effectively handle a security incident. Senior network engineers, senior system administrators, and senior security specialists will be good candidates for membership. The technical understanding provided by the experienced primary members will be needed for the large variety of incident scenarios that will be investigated.

b) CSIRT Training

Training of the CSIRT is important. Training will increase the skills of the team as new technologies are available, keep the team practiced, and educate the newest members.

Training should focus not only on forensic analysis and eradication techniques, but other general skills in communication, project management, evidence handling, team building, intruder techniques, compliancy laws, privacy laws and ethics. The team should be periodically evaluated to determine ways to expand the skills that would increase the competency of the CSIRT.

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Technical skills such as, but not limited to, firewall technologies, router and switch infrastructures, TCP/IP, Operating system installation and hardening, security event manager concepts, intrusion prevention technologies, vulnerability assessment techniques, wireless infrastructures, secure programming concepts, etc. should always be kept current.

New team members can be overwhelmed with the standards and procedures that they will be introduced to as an incident handler. In most cases, new CSIRT members will be paired with an experienced handler as a mentor. As the new team member becomes familiar with the roles of an incident handler, they can be used to draft communications, compose lessons learned reports for review, aide in research or work with evidence documentation.

c) Extensions of the CSIRT

A CSIRT, on occasion, may find that it will be unable to staff full time members. In these cases the CSIRT will need to develop good relationships with the subject matter experts needed when an incident is being investigated. The CSIRT policy can outline how outside employees can be called into service of the incident team when a set of criteria is met. You will see this situation more often for the human resources, legal council and physical facilities members. The management team should be clear on when the CSIRT can utilize these head count and what priority can be used. This standard

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should be well established in advance so that these extended staff can be called into action quickly.

4) Conclusion

Using good communication skills, clear policies, professional team members and utilizing training opportunities, a company can run a successful incident response team. CSIRTs will continue to serve as an important component in supporting the management of risk and security in the business. By utilizing these passive and active phases of a CSIRT, the business will improve its security efforts across the enterprise and protect confidentiality, integrity and availability of its information systems.

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Appendix A

FBI & Secret Service FIELD OFFICES

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Birmingham
FBI 205.326.6166/205.715.0232
2121 8th Avenue N.
Birmingham, AL 35203-2396
USSS 205.731.1144/205.731.0007
Daniel Building
15 South 20th Street, Suite 1125
Birmingham, AL 35233

Mobile
FBI 334.438.3674/251.415.3235
One St. Louis Centre
1 St. Louis Street, 3rd Floor
Mobile, AL 36602-3930
USSS 334.441.5851/334.441.5250
Parkview Office Building
182 St. Francis Street
Mobile, AL 36602

Montgomery
USSS 334.223.7601/334.223.7523
Colonial Financial Center
1 Commerce Street, Suite 605
Montgomery, AL 36104

ALASKA

Anchorage
FBI 907.276.4441/907.265.9599
101 East Sixth Avenue
Anchorage, AK 99501-2524
USSS 907.271.5148/907.271.3727
Federal Building & U.S. Courthouse
222 West 7th Avenue, Room 559
Anchorage, AK 99513

ARIZONA

Phoenix
FBI 602.279.5511/602.650.3024
201 East Indianola Avenue, Suite 400
Phoenix, AZ 85012-2080
USSS 602.640.5580/602.640.5505
3200 North Central Avenue, Suite 1450
Phoenix, AZ 85012

Tucson
USSS 520.670.4730/520.670.4826
300 West Congress Street, Room 4-V
Tucson, AZ 85701

ARKANSAS

Little Rock
FBI 501.221.9100/501.228.8509
24 Shackleford West Boulevard
Little Rock, AR 72211-3755
USSS 501.324.6241/501.324.6097
111 Center Street, Suite 1700
Little Rock, AR 72201-4419

CALIFORNIA

Fresno
USSS 209.487.5204/559.487.5013
5200 North Palm Avenue, Suite 207
Fresno, CA 93704

Los Angeles
FBI 310.477.6565/310.996.3359
Federal Office Building

11000 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90024-3672
USSS 213.894.4830 213.894.2948
Roybal Federal Building
255 East Temple Street, 17th Floor
Los Angeles, CA 90012

Riverside
USSS 909.276.6781/909.276.6637
4371 Latham Street, Suite 203
Riverside, CA 92501

Sacramento
FBI 916.481.9110/916.977.2300
4500 Orange Grove Avenue
Sacramento, CA 95841-4205
USSS 916.930.2130/916.930.2140
501 I Street, Suite 9500
Sacramento, CA 95814-2322

San Diego
FBI 858.565.1255/858.499.7991
Federal Office Building
9797 Aero Drive
San Diego, CA 92123-1800
USSS 619.557.5640/619.557.6658
550 West C Street, Suite 660
San Diego, CA 92101

San Francisco
FBI 415.553.7400/415.553.7674
450 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102-9523
USSS 415.744.9026/415.744.9051
345 Spear Street
San Francisco, CA 94105

San Jose
USSS 408.535.5288/408.535.5292
U.S. Courthouse & Federal Building
280 S. First Street, Suite 2050
San Jose, CA 95113

Santa Ana
USSS 714.246.8257/714.246.8261
200 W. Santa Ana Boulevard,
Suite 500
Santa Ana, CA 92701-4164

Ventura
USSS 805.339.9180/805.339.0015
5500 Telegraph Road, Suite 161
Ventura, CA 93003

COLORADO

Colorado Springs
USSS 719.632.3325/719.632.3341
212 N. Wahsatch, Room 204
Colorado Springs, CO 80903

Denver
FBI 303.629.7171/303.628.3085
1961 Stout Street, 18th Floor
Denver, CO 80294-1823
USSS 303.866.1010/303.866.1934
1660 Lincoln Street
Denver, CO 80264

CONNECTICUT

New Haven
FBI 203.777.6311/203.503.5098
600 State Street
New Haven, CT 06511-6505
USSS 203.865.2449/203.865.2525
265 Church Street, Suite 1201
New Haven, CT 06510

DELAWARE

Wilmington
USSS 302.573.6188/302.573.6190
One Rodney Square
920 King Street, Suite 414
Wilmington, DE 19801

DISTRICT OF COLUMBIA

Washington, D.C.
FBI (HDQRS.)
202.278.2000/202.278.2478
601 4th Street NW
Washington, D.C. 20535-0002

USSS 202.406.8000/202.406.8803
1100 L Street NW, Suite 6000
Washington, D.C. 20005
USSS (HDQRS.)
202.406.5850/202.406.5031
950 H Street NW
Washington, D.C. 20223

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FBI 904.721.1211/904.727.6242
7820 Arlington Expressway
Jacksonville, FL 32211-7499
USSS 904.296.0133/904.296.0188
7820 Arlington Expressway,
Suite 500
Jacksonville, FL 32211

Miami
FBI 305.944.9101/305.787.6538
16320 NW Second Avenue
North Miami Beach, FL 33169-6508
USSS 305.629.1800/305.629.1830
8375 NW 53rd Street
Miami, FL 33166

Orlando
USSS 407.648.6333/407.648.6606
135 West Central Boulevard,
Suite 670
Orlando, FL 32801

Tallahassee
USSS 850.942.9523/850.942.9526
Building F
325 John Knox Road
Tallahassee, FL 32303

Tampa
FBI 813.273.4566/813.272.8019
Federal Office Building
500 Zack Street, Room 610
Tampa, FL 33602-3917
USSS 813.228.2636/813.228.2618
501 East Polk Street, Room 1101
Tampa, FL 33602

West Palm Beach
USSS 561.659.0184/561.655.8484
505 South Flagler Drive
West Palm Beach, FL 33401

GEORGIA

Albany
USSS 229.430.8442/229.430.8441
Albany Tower
235 Roosevelt Avenue, Suite 221
Albany, GA 31702

Atlanta
FBI 404.679.9000/404.679.6289
2635 Century Parkway Northeast,
Suite 400
Atlanta, GA 30345-3112
USSS 404.331.6111/404.331.5058
401 West Peachtree Street, Suite
2906
Atlanta, GA 31702

Savannah
USSS 912.652.4401/912.652.4062
33 Bull Street
Savannah, GA 31401

HAWAII

Honolulu
FBI 808.566.4300/808.566.4470
Kalanianaole Federal Office
Building
300 Ala Moana Boulevard, Room 4-230
Honolulu, HI 96850-0053

USSS 808.541.1912/808.545.4490
Kalanianaole Federal Office
Building
300 Ala Moana Boulevard, Room 6-210
Honolulu, HI 96850

IDAHO

Boise
USSS 208.334.1403/208.334.1289
Federal Building – U.S. Courthouse
550 West Fort Street, Room 730
Boise, ID 83724-0001

ILLINOIS

Chicago
FBI 312.421.4310/312.786.2525
E.M. Dirksen Federal Office
Building
219 South Dearborn Street, Room 905
Chicago, IL 60604-1702

USSS 312.353.5431/312.353.1225
Gateway IV Building
300 S. Riverside Plaza, Suite 1200
North
Chicago, IL 60606

Springfield
FBI 217.522.9675/217.535.4440
400 West Monroe Street, Suite 400
Springfield, IL 62704-1800
USSS 217.492.4033/217.492.4680
400 West Monroe Street, Suite 301
Springfield, IL 62704

INDIANA

Evansville
USSS 812.985.9502/812.985.9504
P.O. Box 530
Newburgh, IN 47630

Indianapolis
FBI 317.639.3301/317.321.6193
Federal Office Building
575 N. Pennsylvania Street,
Room 679
Indianapolis, IN 46204-1585

USSS 317.226.6444/317.226.5494
Federal Office Building
575 N. Pennsylvania Street,
Suite 211
Indianapolis, IN 46204-1585

South Bend
USSS 219.273.3140/219.271.9301
P.O. Box 477
South Bend, IN 46625

IOWA

Des Moines
USSS 515.284.4565/515.284.4566
210 Walnut Street, Suite 637
Des Moines, IA 50309-2107

KANSAS

Wichita
USSS 316.269.6694/316.269.6154
Epic Center
301 N. Main Street, Suite 275
Wichita, KS 67202

KENTUCKY

Lexington
USSS 859.223.2358/859.223.1819
3141 Beaumont Centre Circle
Lexington, KY 40513

Louisville
FBI 502.583.3941/502.569.3869
Federal Building
600 Martin Luther King Jr. Place,
Room 500
Louisville, KY 40202-2231
USSS 502.582.5171/502.582.6329
Federal Building
600 Martin Luther King Jr. Place,
Room 377
Louisville, KY 40202-2231

LOUISIANA

Baton Rouge
USSS 225.389.0763/225.389.0325
One American Place, Suite 1502
Baton Rouge, LA 70825

New Orleans
FBI 504.816.3000/504.816.3306
2901 Leon C. Simon Drive
New Orleans, LA 70126
USSS 504.589.4041/504.589.6013
Hale Boggs Federal Building
501 Magazine Street
New Orleans, LA 70130

Shreveport
USSS 318.676.3500/318.676.3502
401 Edwards Street
Shreveport, LA 71101

MAINE

Portland
USSS 207.780.3493/207.780.3301
100 Middle Street
West Tower, 2nd Floor
Portland, ME 04101

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Baltimore
FBI 410.265.8080/410.281.0339
7142 Ambassador Road
Baltimore, MD 21244-2754
USSS 410.962.2200/410.962.0840
100 S. Charles Street, 11th Floor
Baltimore, MD 21201

Eastern Shore
USSS 410.268.7286/410.268.7903
U.S. Naval Academy
Police Dept., Headquarters Building 257,
Room 221
Annapolis, MD 21402

Frederick
USSS 301.293.6434/301.694.8078
Rowley Training Center
9200 Powder Mill Road, Route 2
Laurel, MD 20708

MASSACHUSETTS

Boston
FBI 617.742.5533/617.223.6327
One Center Plaza, Suite 600
Boston, MA 02108
USSS 617.565.5640/617.565.5659
Thomas P. O'Neill Jr. Federal Building
10 Causeway Street
Boston, MA 02222

MICHIGAN

Detroit
FBI 313.965.2323/313.237.4009
Patrick V. McNamara Building
477 Michigan Avenue, 26th Floor
Detroit, MI 48226
USSS 313.226.6400/313.226.3952
Patrick V. McNamara Building
477 Michigan Avenue
Detroit, MI 48226

Grand Rapids
USSS 616.454.4671/616.454.5816
330 Ionia Avenue NW, Suite 302
Grand Rapids, MI 490503-2350

Saginaw
USSS 989.752.8076/989.752.8048
301 E. Genesee, Suite 200
Saginaw, MI 48607

MINNESOTA

Minneapolis
FBI 612.376.3200/612.376.3249
111 Washington Avenue South,
Suite 1100
Minneapolis, MN 55401-2176
USSS 612.348.1800/612.348.1807
U.S. Courthouse
300 South 4th Street, Suite 750
Minneapolis, MN 55415

MISSISSIPPI

Jackson
FBI 601.948.5000/601.360.7550
Federal Building
100 West Capitol Street
Jackson, MS 39269-1601
USSS 601.965.4436/601.965.4012
Federal Building
100 West Capitol Street, Suite 840
Jackson, MS 39269

MISSOURI

Kansas City
FBI 816.512.8200/816.512.8545
1300 Summit
Kansas City, MO 64105-1362
USSS 816.460.0600/816.283.0321
1150 Grand Avenue, Suite 510
Kansas City, MO 64106

Springfield
USSS 417.864.8340/417.864.8676
901 St. Louis Street, Suite 306
Springfield, MO 65806

St. Louis
FBI 314.231.4324/314.589.2636
222 Market Street
St. Louis, MO 63103-2516
USSS 314.539.2238/314.539.2567
Thomas F. Eagleton U.S. Courthouse
111 S. 10th Street, Suite 11.346
St. Louis, MO 63102

MONTANA

Great Falls
USSS 406.452.8515/406.761.2316
11 Third Street North
Great Falls, MT 59401

NEBRASKA

Omaha
FBI 402.493.8688/402.492.3799
10755 Burt Street
Omaha, NE 68114-2000
USSS 402.965.9670/402.445.9638
2707 North 108 Street, Suite 301
Omaha, NE 68164

NEVADA

Las Vegas
FBI 702.385.1281/702.385.1281
John Lawrence Bailey Building
700 East Charleston Boulevard
Las Vegas, NV 89104-1545
USSS 702.388.6571/702.388.6668
600 Las Vegas Boulevard South,
Suite 600
Las Vegas, NV 89101

Reno
USSS 775.784.5354/775.784.5991
100 West Liberty Street, Suite 850
Reno, NV 89501

NEW HAMPSHIRE

Manchester
USSS 603.626.5631/603.626.5653
1750 Elm Street, Suite 802
Manchester, NH 03104

NEW JERSEY

Atlantic City
USSS 609.487.1300/609.487.1491
Ventnor Professional Campus
6601 Ventnor Avenue
Ventnor City, NJ 08406

Newark
FBI 973.792.3000/973.792.3035
1 Gateway Center, 22nd Floor
Newark, NJ 07102-9889
USSS 973.656.4500/973.984.5822
Headquarters Plaza, West Towers,
Speedwell Avenue, Suite 700
Morristown, NJ 07960

Trenton
USSS 609.989.2008/609.989.2174
402 East State Street, Suite 3000
Trenton, NJ 08608

NEW MEXICO

Albuquerque
FBI 505.224.2000/505.224.2276
415 Silver Avenue SW, Suite 300
Albuquerque, NM 87102
USSS 505.248.5290/505.248.5296
505 Marquette Street NW
Albuquerque, NM 87102

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200 McCarty Avenue
Albany, NY 12209
USSS 518.436.9600/518.436.9635
39 North Pearl Street, 2nd Floor
Albany, NY 12207

Buffalo
FBI 716.856.780/716.843.5288
One FBI Plaza
Buffalo, NY 14202-2698
USSS 716.551.4401/716.551.5075
610 Main Street, Suite 300
Buffalo, NY 14202

JFK
USSS 718.553.0911/718.553.7626
John F. Kennedy Int'l. Airport
Building 75, Room 246
Jamaica, NY 11430

Melville
USSS 631.249.0404/631.249.0991
35 Pinelawn Road
Melville, NY 11747

New York
FBI 212.384.1000/212.384.2745
or 2746
26 Federal Plaza, 23rd Floor
New York, NY 10278-0004
USSS 212.637.4500/212.637.4687
335 Adams Street, 32nd Floor
Brooklyn, NY 11201

Rochester
USSS 716.263.6830/716.454.2753
Federal Building
100 State Street, Room 606
Rochester, NY 14614

Syracuse
USSS 315.448.0304/315.448.0302
James Hanley Federal Building
100 S. Clinton Street, Room 1371
Syracuse, NY 13261

White Plains
USSS 914.682.6300/914.682.6182
140 Grand Street, Suite 300
White Plains, NY 10601

NORTH CAROLINA

Charlotte
FBI 704.377.9200/704.331.4595
Wachovia Building
400 South Tyron Street, Suite 900
Charlotte, NC 28285-0001
USSS 704.442.8370/704.442.8369
One Fairview Center
6302 Fairview Road
Charlotte, NC 28210

Greensboro
USSS 336.547.4180/336.547.4185
4905 Koger Boulevard, Suite 220
Greensboro, NC 27407

Raleigh
USSS 919.790.2834/919.790.2832
4407 Bland Road, Suite 210
Raleigh, NC 27609

Wilmington
USSS 910.815.4511/910.815.4521
One Rodney Square
920 King Street, Suite 414
Wilmington, DE 19801

NORTH DAKOTA

Fargo
USSS 701.239.5070/701.239.5071
657 2nd Avenue North, Suite 302A
Fargo, ND 58102
OHIO

Cincinnati
FBI 513.421.4310/513.562.5650
John Weld Peck Federal Building
550 Main Street, Room 9000
Cincinnati, OH 45202-8501
USSS 513.684.3585/513.684.3436
John Weld Peck Federal Building
550 Main Street
Cincinnati, OH 45202

Cleveland
FBI 216.522.1400/216.622.6717
Federal Office Building
1240 East 9th Street, Room 3005
Cleveland, OH 44199-9912
USSS 216.706.4365/216.706.4445
6100 Rockside Woods Boulevard
Suite 440
Cleveland, OH 44131-2334

Columbus
USSS 614.469.7370/614.469.2049
500 South Front Street, Suite 800
Columbus, OH 43215

Dayton
USSS 937.225.2900/937.225.2724
Federal Building
200 West Second Street, Room 811
Dayton, OH 45402

Toledo
USSS 419.259.6434/419.259.6437
4 Seagate Center, Suite 702
Toledo, OH 43604

OKLAHOMA

Oklahoma City
FBI 405.290.7770/405.290.3885
3301 West Memorial Drive
Oklahoma City, OK 73134
USSS 405.810.3000/405.810.3098
Lakepoint Towers
4013 NW Expressway, Suite 650
Oklahoma City, OK 73116

Tulsa
USSS 918.581.7272
Pratt Tower
125 West 15th Street, Suite 400
Tulsa, OK 74119

OREGON

Portland
FBI 503.224.4181/503.552.5400
Crown Plaza Building
1500 SW 1st Avenue, Suite 400
Portland, OR 97201-5828
USSS 503.326.2162/503.326.3258
1001 SW 5th Avenue, Suite 1020
Portland, OR 97204

PENNSLYVANIA

Philadelphia
FBI 215.418.4000/215.418.4232
William J. Green Jr. Federal
Office Building
600 Arch Street, 8th Floor
Philadelphia, PA 19106
USSS 215.861.3300/215.861.3311
7236 Federal Building
600 Arch Street
Philadelphia, PA 19106

Pittsburgh
FBI 412.471.2000/412.432.4188
U.S. Post Office Building
700 Grant Street, Suite 300
Pittsburgh, PA 15219-1906
USSS 412.395.6484/412.395.6349
1000 Liberty Avenue
Pittsburgh, PA 15222

Scranton
USSS 570.346.5781/570.346.3003
235 N. Washington Avenue, Suite 247
Scranton, PA 18501

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RHODE ISLAND

Providence
USSS 401.331.6456/401.528.4394
The Federal Center
380 Westminster Street, Suite 343
Providence, RI 02903

SOUTH CAROLINA

Charleston
USSS 843.747.7242/843.747.7787
5900 Core Avenue, Suite 500
North Charleston, SC 29406

Columbia
FBI 803.551.4200/803.551.4324
151 Westpark Boulevard
Columbia, SC 29210-3857
USSS 803.765.5446/803.765.5445
1835 Assembly Street, Suite 1425
Columbia, SC 29201

Greenville
USSS 864.233.1490/864.235.6237
NCNB Plaza
7 Laurens Street, Suite 508
Greenville, SC 29601

SOUTH DAKOTA

Sioux Falls
USSS 605.330.4565/605.330.4523
230 South Phillips Avenue, Suite 405
Sioux Falls, SD 57104

TENNESSEE

Chattanooga
USSS 423.752.5125/423.752.5130
Post Office Building
900 Georgia Avenue, Room 204
Chattanooga, TN 37402

Knoxville
FBI 865.544.0751/865.544.3590
John J. Duncan Federal Office Building
710 Locust Street, Suite 600
Knoxville, TN 37902-2537
USSS 865.545.4627/865.545.4633
John J. Duncan Federal Office Building
710 Locust Street, Room 517
Knoxville, TN 37902

Memphis
FBI 901.747.4300/901.747.9621
Eagle Crest Building
225 North Humphreys Boulevard, Suite 3000
Memphis, TN 38120-2107
USSS 901.544.0333/901.544.0342
5350 Poplar Avenue, Suite 204
Memphis, TN 38119

Nashville
USSS 615.736.5841/615.736.5848
658 U.S. Courthouse
801 Broadway Street
Nashville, TN 37203

TEXAS

Austin
USSS 512.916.5103/512.916.5365
Federal Office Building
300 E. 8th Street
Austin, TX 78701

Dallas
FBI 214.720.2200/214.922.7459
1801 North Lamar, Suite 300
Dallas, TX 75202-1795
USSS 972.868.3200/972.868.3232
125 East John W. Carpenter Freeway, Suite 300
Irving, TX 75062

El Paso
FBI 915.832.5000/915.832.5259
660 S. Mesa Hills Drive
El Paso, TX 79912
USSS 915.533.6950/915.533.8646
Mesa One Building
4849 North Mesa, Suite 210
El Paso, TX 79912

Houston
FBI 713.693.5000/713.693.3999
2500 East TC Jester
Houston, TX 77008-1300
USSS 713.868.2299/713.868.5093
602 Sawyer Street, Suite 500
Houston, TX 77007

Lubbock
USSS 806.472.7347/806.472.7542
1205 Texas Avenue, Room 813
Lubbock, TX 79401

McAllen
USSS 956.630.5811/956.630.5838
200 S. 10th Street, Suite 1107
McAllen, TX 78501

San Antonio
FBI 210.225.6741/210.978.5380
U.S. Post Office Building
615 East Houston Street, Suite 200
San Antonio, TX 78205-9998
USSS 210.472.6175/210.472.6185
727 East Durango Boulevard, Suite B410
San Antonio, TX 78206-1265

Tyler
USSS 903.534.2933 903.581.9569
6101 South Broadway, Suite 395
Tyler, TX 75703

UTAH

Salt Lake City
FBI 801.579.1400/801.579.4500
257 Towers Building
257 East 200 South, Suite 1200
Salt Lake City, UT 84111-2048
USSS 801.524.5910/801.524.6216
57 West 200 South Street, Suite 450
Salt Lake City, UT 84101

VERMONT

FBI 518.465.7551/518.431.7463
Contact field office located in Albany, NY
USSS 617.565.5640/617.565.5659
Contact field office located in Boston, MA

VIRGINIA

Norfolk
FBI 757.455.0100/757.455.2647
150 Corporate Boulevard
Norfolk, VA 23502-4999
USSS 757.441.3200/757.441.3811
Federal Building
200 Granby Street, Suite 640
Norfolk, VA 23510

Richmond
FBI 804.261.1044/804.627.4494
1970 East Parham Road
Richmond, VA 23228
USSS 804.771.2274/804.771.2076
600 East Main Street, Suite 1910
Richmond, VA 23219

Roanoke
USSS 540.345.4301/540.857.2151
105 Franklin Road SW, Suite 2
Roanoke, VA 24011

WASHINGTON

Seattle
FBI 206.622.0460/206.262.2587
1110 Third Avenue
Seattle, WA 98101
USSS 206.220.6800/206.220.6479
890 Federal Building
915 Second Avenue
Seattle, WA 98174

Spokane
USSS 509.353.2532/509.353.2871
601 W. Riverside Avenue, Suite 1340
Spokane, WA 99201

WEST VIRGINIA

Charleston
USSS 304.347.5188/304.347.5187
5900 Core Avenue, Suite 500
North Charleston, SC 29406

WISCONSIN

Madison
USSS 608.264.5191/608.264.5592
131 W. Wilson Street, Suite 303
Madison, WI 53703

Milwaukee
FBI 414.276.4684/414.276.6560
330 East Kilbourn Avenue
Milwaukee, WI 53202
USSS 414.297.3587/414.297.3595
572 Courthouse
517 E. Wisconsin Avenue
Milwaukee, WI 53202

WYOMING

Cheyenne
USSS 307.772.2380/307.772.2387
2120 Capitol Avenue, Suite 3026
Cheyenne, WY 82001

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SANS Seoul 2015	Seoul, KR	Sep 14, 2015 - Sep 19, 2015	Live Event
Data Breach Investigation Summit & Training	Dallas, TXUS	Sep 21, 2015 - Sep 26, 2015	Live Event
SANS Baltimore 2015	Baltimore, MDUS	Sep 21, 2015 - Sep 26, 2015	Live Event
SANS Perth 2015	Perth, AU	Sep 21, 2015 - Sep 26, 2015	Live Event
SANS Tallinn 2015	Tallinn, EE	Sep 21, 2015 - Sep 26, 2015	Live Event
SANS ICS Amsterdam 2015	Amsterdam, NL	Sep 22, 2015 - Sep 28, 2015	Live Event
SANS Bangalore 2015	Bangalore, IN	Sep 28, 2015 - Oct 17, 2015	Live Event
SANS DFIR Prague 2015	Prague, CZ	Oct 05, 2015 - Oct 17, 2015	Live Event
SANS Seattle 2015	Seattle, WAUS	Oct 05, 2015 - Oct 10, 2015	Live Event
SANS Tysons Corner 2015	Tysons Corner, VAUS	Oct 12, 2015 - Oct 17, 2015	Live Event
SOS: SANS October Singapore 2015	Singapore, SG	Oct 12, 2015 - Oct 24, 2015	Live Event
SANS Gulf Region 2015	Dubai, AE	Oct 17, 2015 - Oct 29, 2015	Live Event
SANS Cyber Defense San Diego 2015	San Diego, CAUS	Oct 19, 2015 - Oct 24, 2015	Live Event
SANS Tokyo Autumn 2015	Tokyo, JP	Oct 19, 2015 - Oct 31, 2015	Live Event
SANS South Florida 2015	Fort Lauderdale, FLUS	Nov 09, 2015 - Nov 14, 2015	Live Event
SANS Sydney 2015	Sydney, AU	Nov 09, 2015 - Nov 21, 2015	Live Event
SANS London 2015	London, GB	Nov 14, 2015 - Nov 23, 2015	Live Event
Pen Test Hackfest Summit & Training	Alexandria, VAUS	Nov 16, 2015 - Nov 23, 2015	Live Event
SANS Hyderabad 2015	Hyderabad, IN	Nov 24, 2015 - Dec 04, 2015	Live Event
SANS Cape Town 2015	Cape Town, ZA	Nov 30, 2015 - Dec 05, 2015	Live Event
SANS San Francisco 2015	San Francisco, CAUS	Nov 30, 2015 - Dec 05, 2015	Live Event
SANS Milan 2015	OnlineIT	Sep 07, 2015 - Sep 12, 2015	Live Event
SANS OnDemand	Books & MP3s OnlyUS	Anytime	Self Paced