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Building an AppSec Program from Scratch

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Manager Application Security

Intro: Who's Who

Chris Pfoutz

- Schooled as a developer
- 10 years Infosec
  - Consulting
  - Financial Services
  - Risk Assessments
  - AppSec
- Spent 2 years developing an application security program for a global financial technology company
- Spent the last year participating in an established 6 person team at Deloitte Touche Tohmatsu Limited.

Intro: Audience Survey

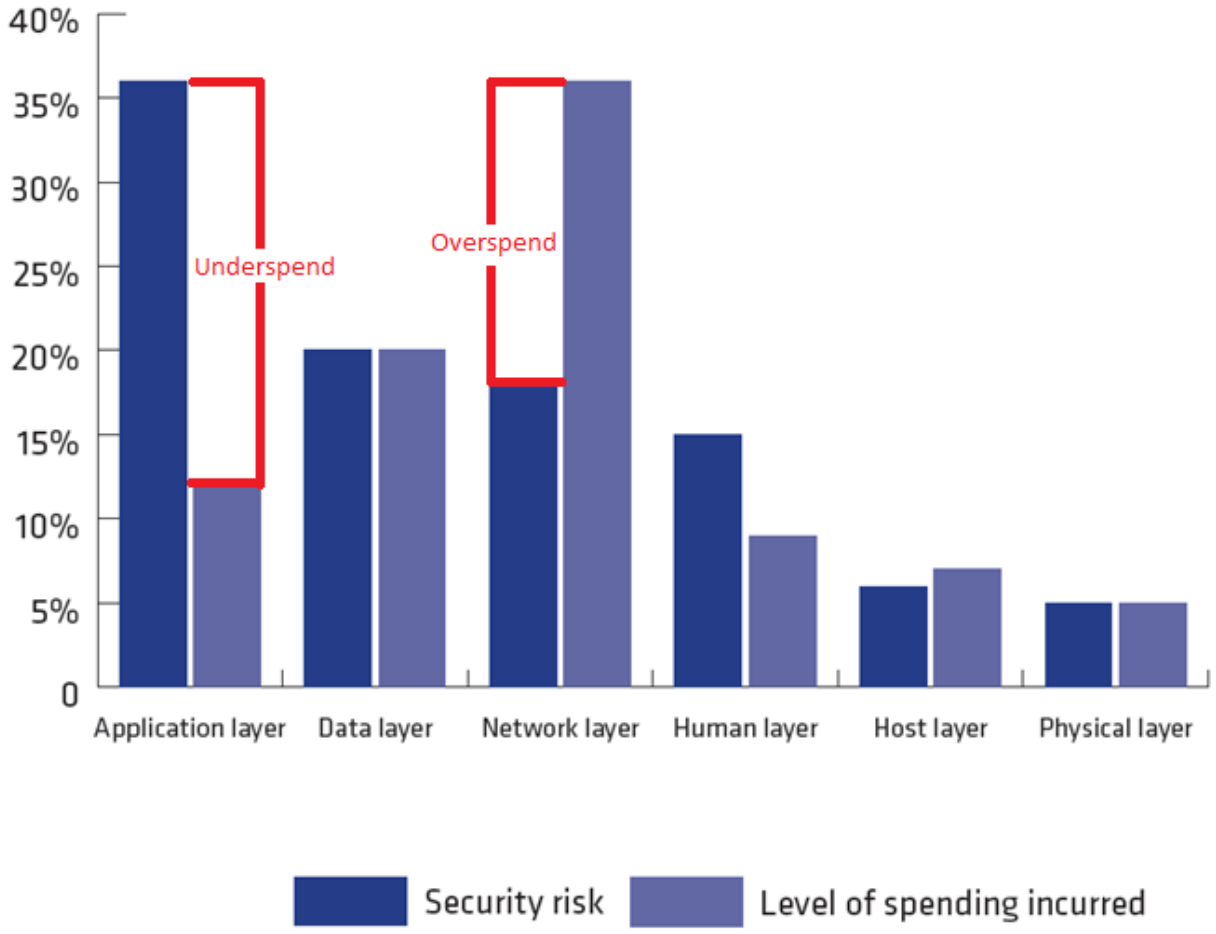
Show of Hands

- General IT or aspiring into security
- Security – General or other non-AppSec
- AppSec
- Development

Content

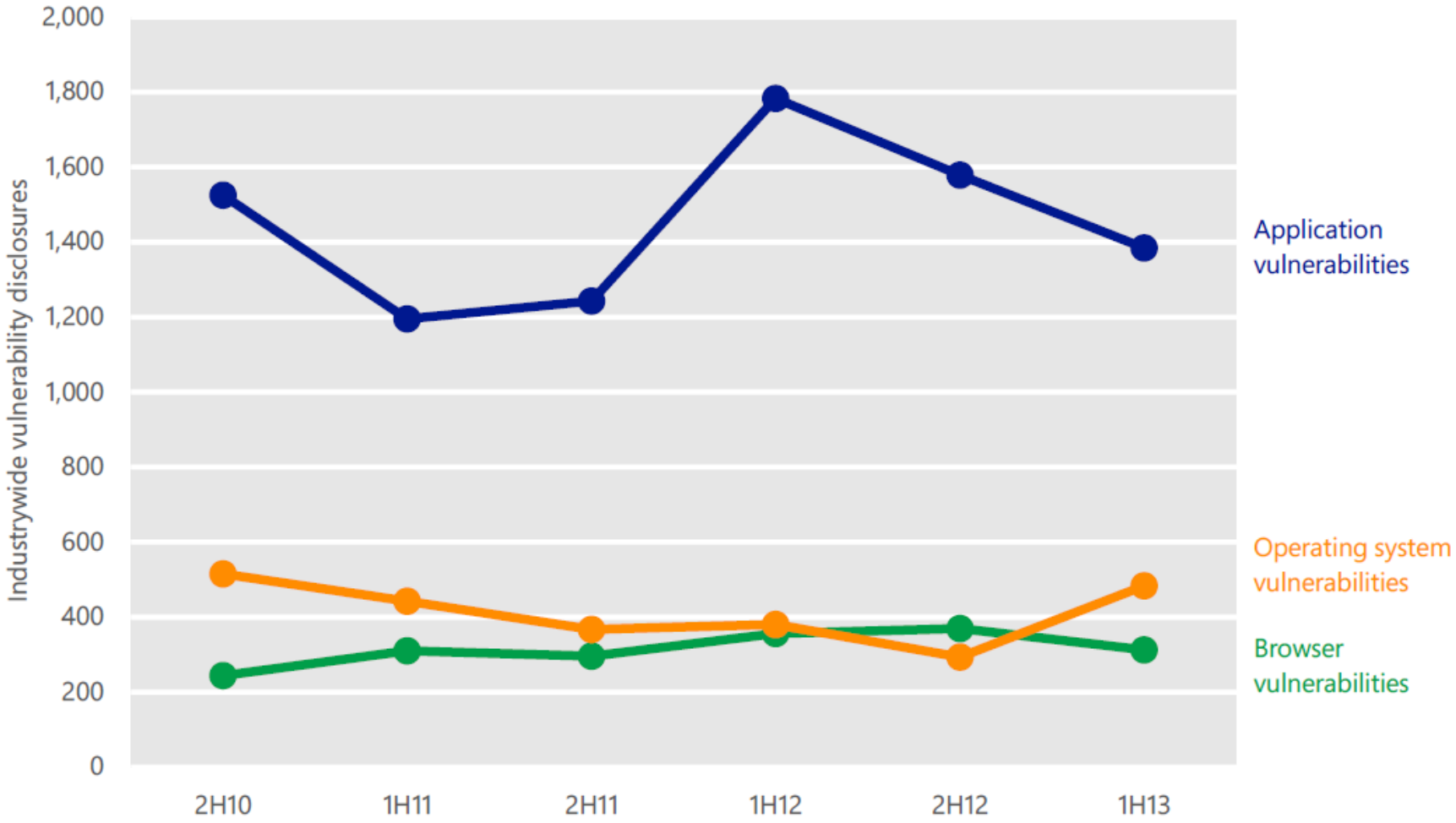
Section 1:
Why AppSec?

Spend



The State of Risk-based Security Management: US and UK; 2013. Ponemon Institute. Pp 40.

Vulnerabilities



Microsoft Security Intelligence Report Vol. 15; 2013. Microsoft. Pp. 23.

Challenges

- Relative infancy of the profession
- Traditional network/infrastructure focus
- Lack of qualified talent
- Lack of leadership understanding

Section 2:
How Most Companies Do It

How Most Companies Do Things

- Tell the network security person to buy an application scanner
- Scan everything
- Send pdfs to the developers
- Have your network pen testing company pen test apps where necessary
- Intended goal: Sexy program with immediate results

Why This Doesn’t Work

- How do you know what to scan and when to scan it?
- Do you have enough manpower?
- Are your developers really going to pay attention to a pdf?
- How will you keep track of the remediation?
- Result: Frustration

Section 3:
Steps to Build a Program

Step 1: Application Inventory

- Perfect for your GRC tool
- Sources
  - ✓ DR Inventory
  - ✓ Asset Inventory
  - ✓ Validate with IT and Business Owners
- Include COTS, in house developed and bespoke developed software

Step 2: Business Impact Analysis (BIA) or Risk Scorecard

- Short, multiple choice questionnaire
- Fields to Collect
  - ➢ Confidentiality
    - ✓ Data Elements – intellectual property, PII, employment records
  - ➢ Integrity
    - ✓ Financial transactions
    - ✓ Branding
    - ✓ Embedded systems
  - ➢ Availability
    - ✓ Recovery Time Objective (RTO)
    - ✓ Brand
    - ✓ Revenue

Step 3: Risk Ranking and Checklist

- Segregate applications into 3-5 groups
- Develop set of controls applicable to each tier of application
  - ✓ Standards
  - ✓ Risk Assessment
- Inject validation checks to ensure assurance levels are in place
- Low risk applications may get green light

Step 4: Build Secure SDLC with Change Control Gates

- Determine where checkpoints belong
- Have PMO add checkpoints to official SDLC
- Establish sign off gates
- Make an example
- Don’t punish them for sins of the past

Section 4:
SDLC Components

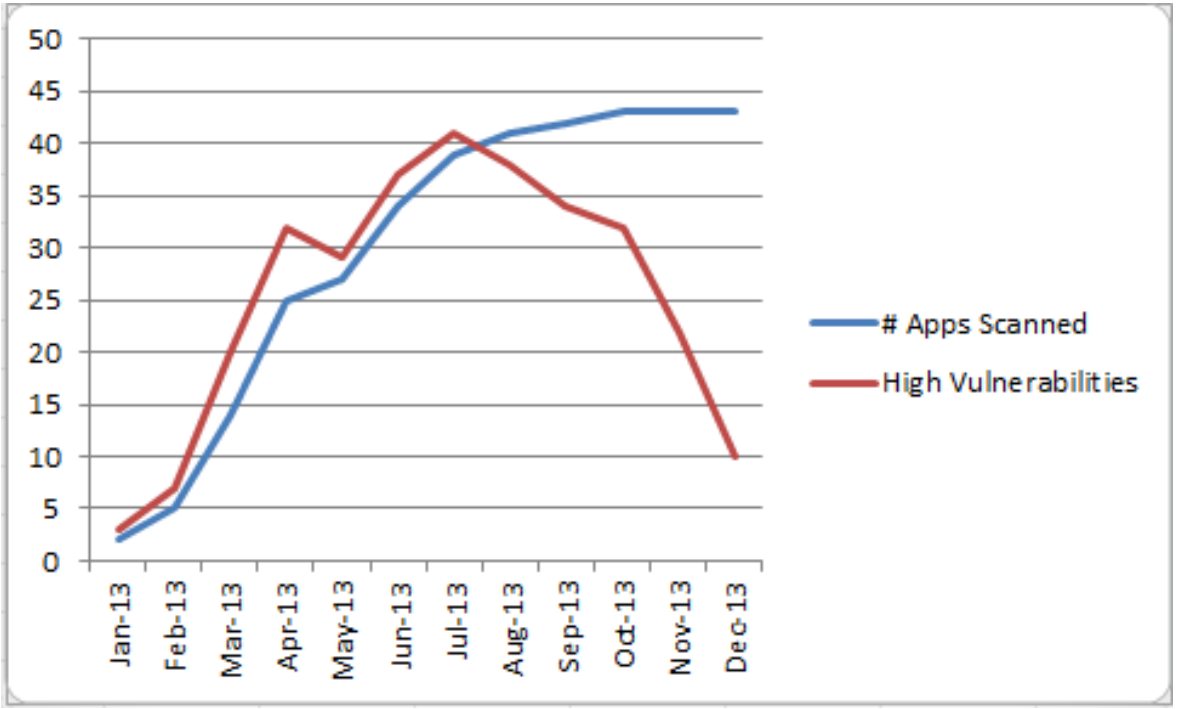
Vulnerability Assessments

- Dynamic Analysis
- Static Analysis
  - Binary Analysis
  - Source Code Analysis
- SaaS vs. In House
  - Integration with build train
  - Vendor Support
  - Resources
  - Cost
- What is the best tool?
- Penetration Testing
  - Test, fix, retest
  - Letter of attestation
- Design Reviews

Section 5:
Advice Along the Way

Metrics

- Show increase of testing activity overlayed with number of flaws
- Warn team management before providing a count of flaws per team
- Break out 5-10 most important flaws at each reporting level
- Break out security flaws in issue tracking
- Drive for incremental improvement
- Remember: Many flaws are legacy



Don’t Call Their Baby Ugly

Take a Developer’s Perspective

Developer Training and Architecture/Coding Standards Breed Success

Don’t Blindly Trust your Tools…or Your Pen Testers

You Software Security Team and Consultants Need an Application Focus

Treat Security Issues as Bugs

Resources

- OWASP Software Assurance Maturity Model
- Software Security: Building Security In by Gary McGraw
- The Web Application Hacker's Handbook: Finding and Exploiting Security Flaws by Dafydd Stuttard and Marcus Pinto

- Contact

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