Towards Understanding IT Security Professionals and Their Tools

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IT Security is Critical
IT Security is Expensive

organizations worldwide to spend in 2007

$1.55 trillion on IT

7-9% on IT security

$108 billion

Forrester Research

Cyber crime market worldwide

$105 billion

John Viega, McAfee
How to Develop Better Tools?

- How tools are actually used?
- What works & what doesn't?
- What needs to be improved?
Outline

- HOT Admin project
- How We Did the Study
- What we got
- Summary
HOT Admin:
Human Organization and Technology Centred Improvement of IT Security Administration

- **Purpose**
  - Tool evaluation: methodology
  - Tool design: guidelines & techniques

**Work Plan**

- Field study
- Models
- Techniques & Methodologies
- Validation & Evaluation

sponsors and partners

Entrust
NSERC CRSGN
SAP
Human Organization and Technology Centred

Human → Organizational

Technological

hotadmin.org
hotadmin.org
Here are some related websites for: hotadmin.org

Sponsored Links
Claims Administration
Learn about the challenges and how technology can help you
www.ClaimVantage.com

Simplify & Centralize Win
Management tasks are centralized and made simple. Great Admin Tool!
www.softwareshelfdistribution.com

Hot Babes In Your Bed
Loneliness Sucks - Fill Your Life With Hot Babes. Video Example!
www.PickUp101.com

Filipinas look for love
Pretty girls from Philippines look for serious relation worldwide
www.filipinokisses.com

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Find a Hot Russian Babe Online E-mail Amazing Girls Today!
www.Anastasiaweb.com

Third Party Verification
Automated or Live Agent Turn-key, No Capital Costs
www.intelemedia.com

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Update your fall look for less with sweet deals on sexy red boots
www.personalshopper.com

Sizing Guide for MySQL
Free Sizing Guide and Performance Benchmarks for MySQL on Blade
www.mysql.com

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How We Do the Study
Data Collection

Questionnaires: 28

Interviews: 18

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Analysis

Focus Topics

• Activities
  • Prioritization
  • Skills
  • Knowledge
  • Resources

• Tools
  • What
  • Why
  • How

• Errors
  • Prevention
  • Detection
  • Recovery

• Communication
  • Common ground
  • Coordination
  • Decision making

Themes

• Activities
• Tools
• Usability issues

Theory Building
Grounded Theory
What We Got
No Security Admins!

- system analysts
- application analysts
- business analysts
- technical analysts
- system administrators
- application programmers
- auditors
- IT managers
- security leads
- network leads

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... what makes me [a security] analyst is that I'm also involved in developing the policies and procedures ...
an analyst is also someone who's doing a certain amount of troubleshooting and someone who's, I guess, a little bit more portable in terms of what their daily responsibilities are going to be like.
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Study Participant
“I have a security team that I work with. They don't report to me but I actually work with them and they sort of are represented by the different areas.”

Study Participant
Three Main Kinds of Responsibilities

Respond
- Security incident
- Patch cycle
- Troubleshooting
- …

Design
- Wireless access
- Filter script
- Application security architecture
- …

Maintain
- Firewalls
- Legacy systems
- Records
- …

So what?
Disjoint responsibilities → fosters distributed security teams/tools
Activity Chain

- Monitor
- Be notified
- Prioritize
- Use/create documentation
- Solicit information
- Search
- Analyze
- Correlate
- Verify
- Choose/deploy response
- Report

So what?
- Dependence
- Short term decision making
- Deployment of
  - Resources
  - Knowledge
  - Skill
Skills: Tacit Knowledge and Creativity

- Pattern recognition & inferential analysis
- Bricolage
  - The construction or creation of a work from a diverse range of things which happen to be available

So what?
- Finding gaps in support
- New kinds of tools
- Tool improvement
- New usability testing methods
They Wanted Tools That:

- Can be accessed from office, home, hotel
- Can fit with existing management practices
  - customizable
  - flexible reporting
- Offer ease of practical documentation
- Minimize the risk of overlooking critical information
- Minimize workload
Summary of IT Security Management Characteristics

- Loosely coordinated teams
- Security distributed over different kinds of responsibility
- High level of tacit knowledge and creativity