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Managing Business Risks provoked by Security Threats

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Agenda

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- What is IT security ?
- The security management process
- Security management and ITIL synergies

The Three Fundamental Principles

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- IT security consists in the preservation of data
  - Confidentiality
  - Integrity
  - Availability

Confidentiality

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- **Ensuring information is accessible only to those authorised**

- Theft of credit card details
- Email communications interception
- Password sniffing

Integrity

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- **Ensuring the accuracy and completeness of information**

- Change articles unit price on an e-commerce platform
- Modify an employee salary amount

Availability

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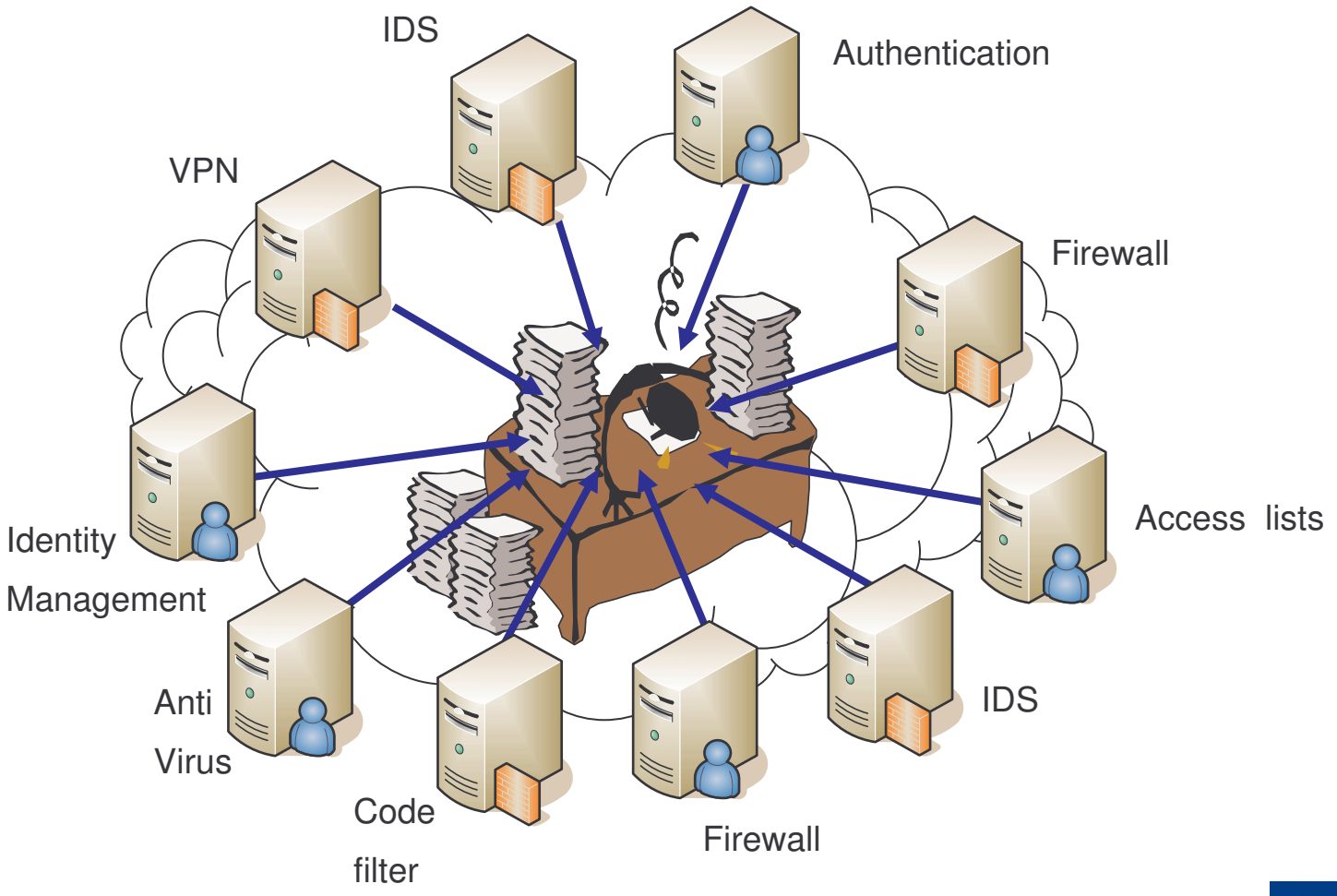
- **Authorised users have access to information when required**

- Malicious code takes network down
- Distributed Denial of Service attack
- Database corruption

The Initial Goal : Prevent



Usual Questions

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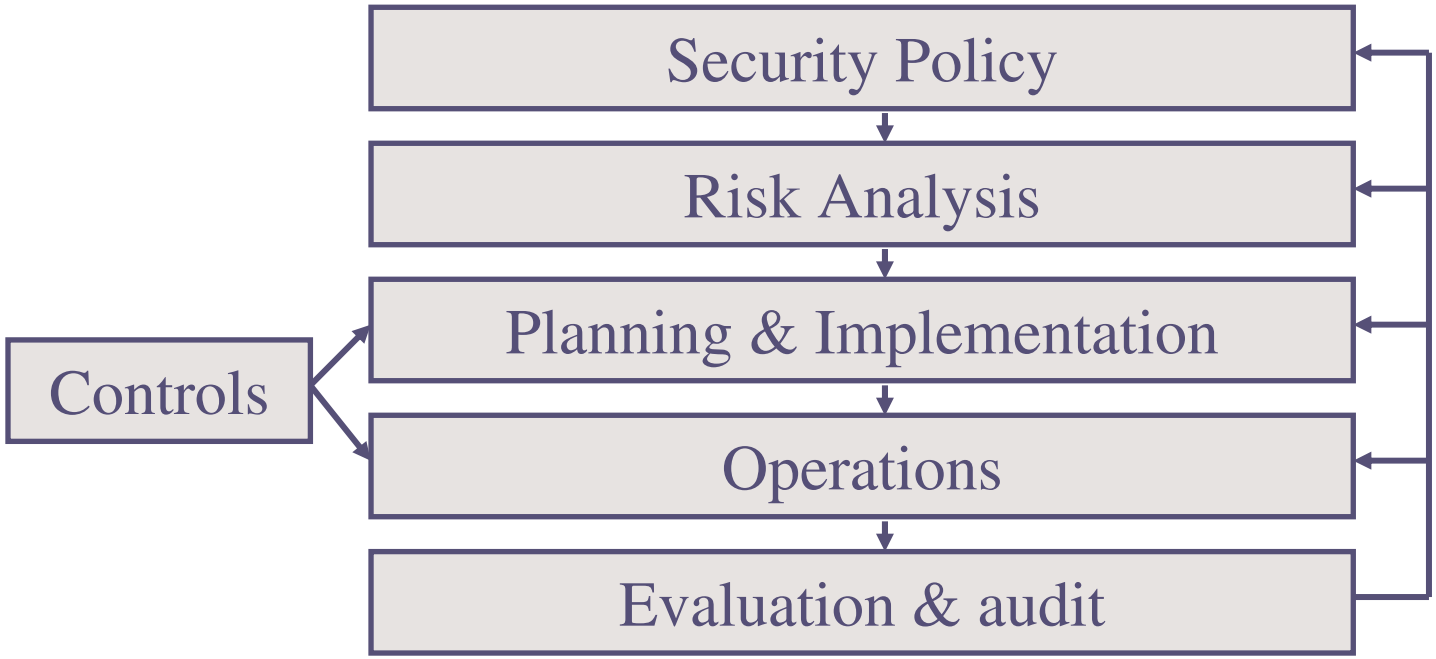
- Which version of the firewall do we run ?
- Who did update the IDS with the latest signatures and when was it ?
- Is our web server vulnerable to the new worm discovered this week-end ?
- Does it make sense to buy an application firewall ?
- What should I do if our web banking platform gets compromised ?

Security Management



Security Policy

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- Synthesis of best practices in terms of security
- Defines a global framework regarding security in the enterprise
- Balance between productivity and security
- Must have top management strong support
- Valid for everybody in the company
- Must state what happens in case of non respect

- Is of no use if :
  - Not distributed across the enterprise
  - Its application is not controlled

Risk Analysis

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- Probability that threats exploit vulnerabilities, inducing loss
- Risk = Threat x Vulnerability
- Quantitative approach
  - AV x EF = SLE
    - AV: asset value, EF: exposure factor, SLE: single loss expectancy
  - SLE x ARO = ALE
    - ARO: annualized rate occurence, ALE: annualized loss expectancy

Controls

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- Goal : Put controls in place in order to bring risk to an acceptable level, as defined by the security policy

- Organisational measures
  - Incident response, operational procedures, user awareness…
- Technical
  - Authentication, access control, encryption…

Evaluation & Audit

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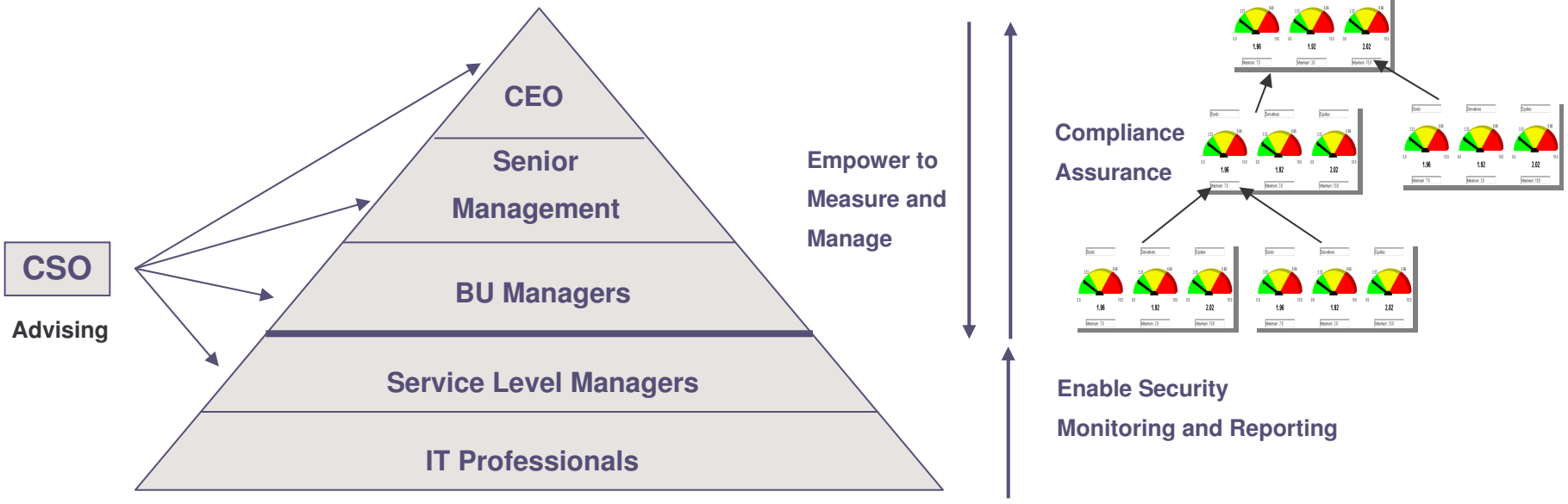
- Goal : Check that existing controls produce expected results

- Organisational
  - Operational procedures review, user awareness evaluation…
- Technical
  - System, network and application audit
  - Penetration tests
  - Source code audit

Motivations

The Players


CEO
Senior Management
BU Managers
Service Level Managers
IT Professionals
CSO
Advising
Empower to Measure and Manage
Compliance Assurance
Enable Security Monitoring and Reporting

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Service Support / Security Management Integration

Service Desk

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- Security “FrontOffice”
  - Service desk should be able to identify security issues in requests, classify and track them
  - Escalate security issues if necessary
  - Identify malware propagations
  - Consolidate data in order to adapt security management
  - User awareness opportunity
- User and profile management

Incident Management

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- Integration of the security monitoring in the ITIL incident management process
- Security incident response could be a sub-part of ITIL incident management
- Integrate forensics analysis into incident management to address the conflict between service availability and incident analysis

Problem Management

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- Vulnerability management should be part of ITIL problem management
- Compliance issues should be considered as problems in order to be tracked, and subject to reporting

Change Management

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- Security management can initiate changes (technical or organisational)
- Security management can be affected by changes in others processes
- Security management should have an impact in any change request

Release Management

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- Security should be introduced in the release management process from the beginning on, to avoid being the blocking element at the end of the process
- Security management should clearly define CIA requirements for any project and introduce them in the release management process
- Security products and patch management could also be managed within the release management process

Configuration Management

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- Each configuration item could be assigned a risk rating in order to facilitate security management

ITIL and Security Management

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- Minimise costs through tight integration of security, quality and service management
- Achieve efficiency through early consideration of security elements already in concept, planning and operation of IT services
- Creation of well defined interfaces for customers and partners
- Provide measurable IT services
- Enlight links between business needs, IT processes and infrastructure usage
- Consequent planning and operation of IT services regarding security, quality and efficiency
- Costs for IT security are often seen as general fix costs. The possibility to assign costs to concrete processes allow to distribute the spent amount to specific cost centers

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