Asia-Pacific
Economic Cooperation

2006/SOM1/ECSG/SYM/025
Agenda Item: 24

Overview of E-commerce Protection Technologies

Purpose: Information
Submitted by: Russia

APEC Symposium on Information Privacy Protection in E-Government and E-Commerce
Ha Noi, Viet Nam
20-22 February 2006

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RATA

Overview
of E-commerce Protection Technologies

Alexey Sabanov, Aladdin (Russia)

Contents

- Brief market analyze
- Trust Problems of E-commerce
- Identification and Authentication
- Privacy Access Control
- Hardware Authentication Devices
- Overview of Modern Protection Technologies

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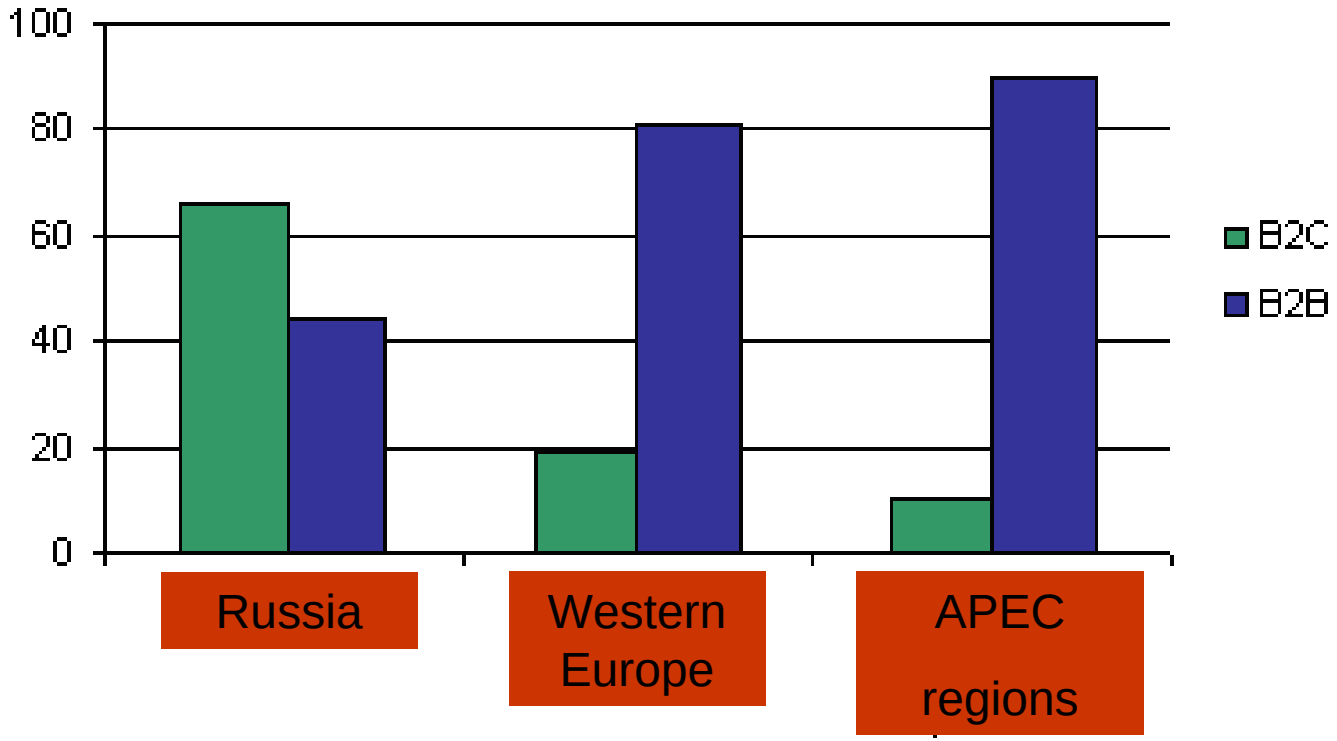
E- commerce market



CNews Analitics, 2004

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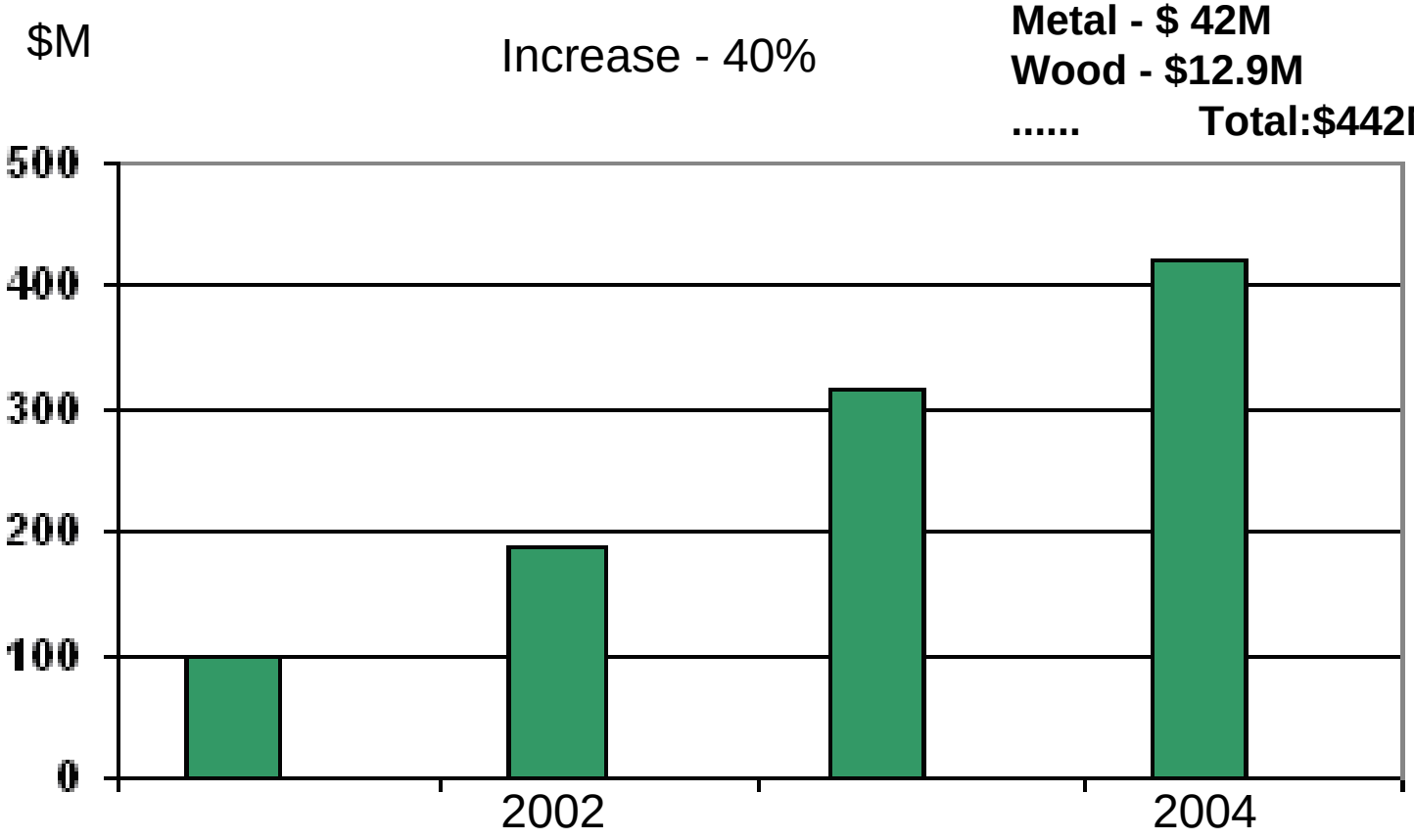
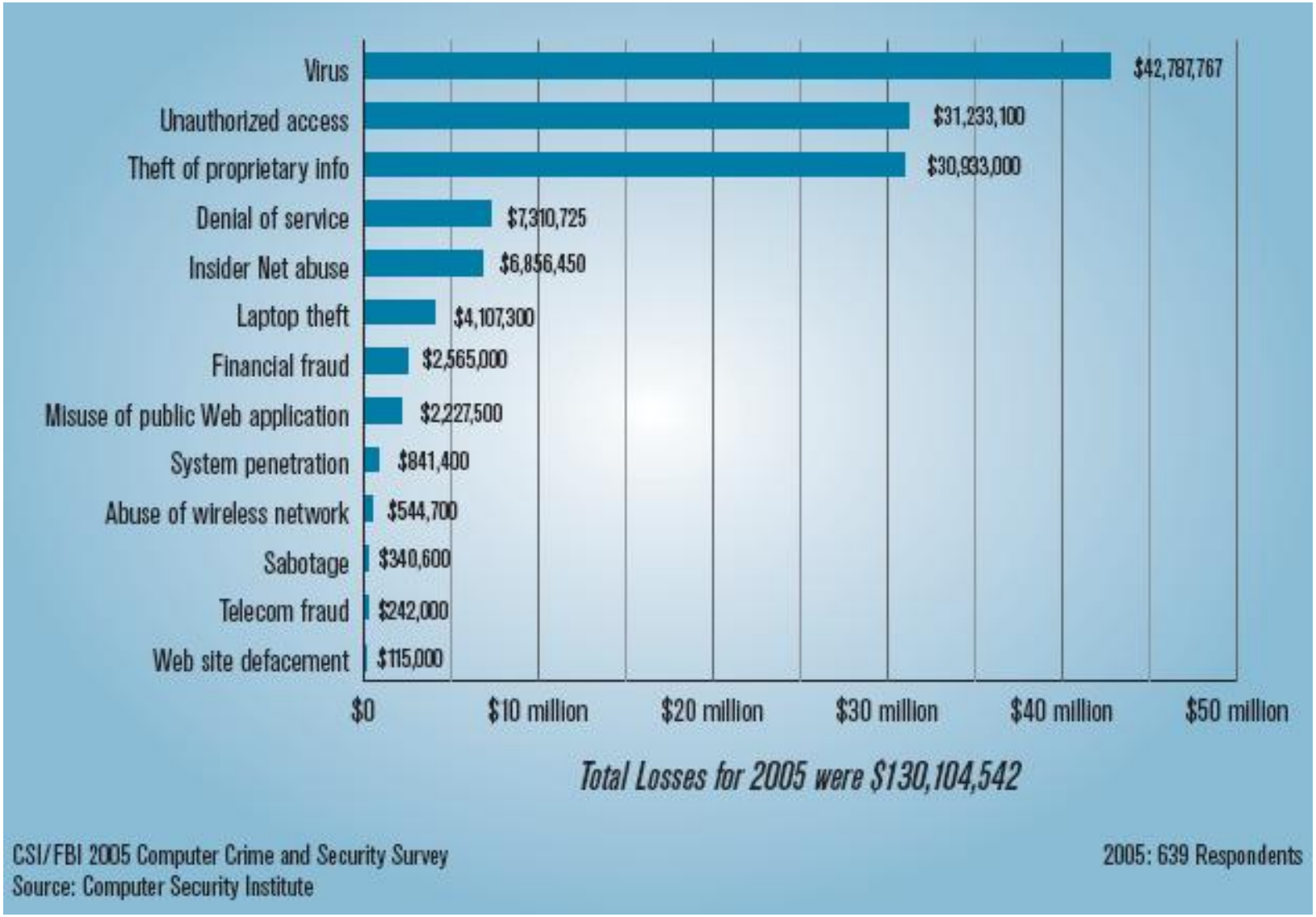
Russia B2B market

Energy - $348.2M
Universal – $32,6 M
Metal - $ 42M
Wood - $12.9M
..... Total:$442M



www.cnews.ru: NAUET (НАУЭТ), 2004

Topicality: financial loss



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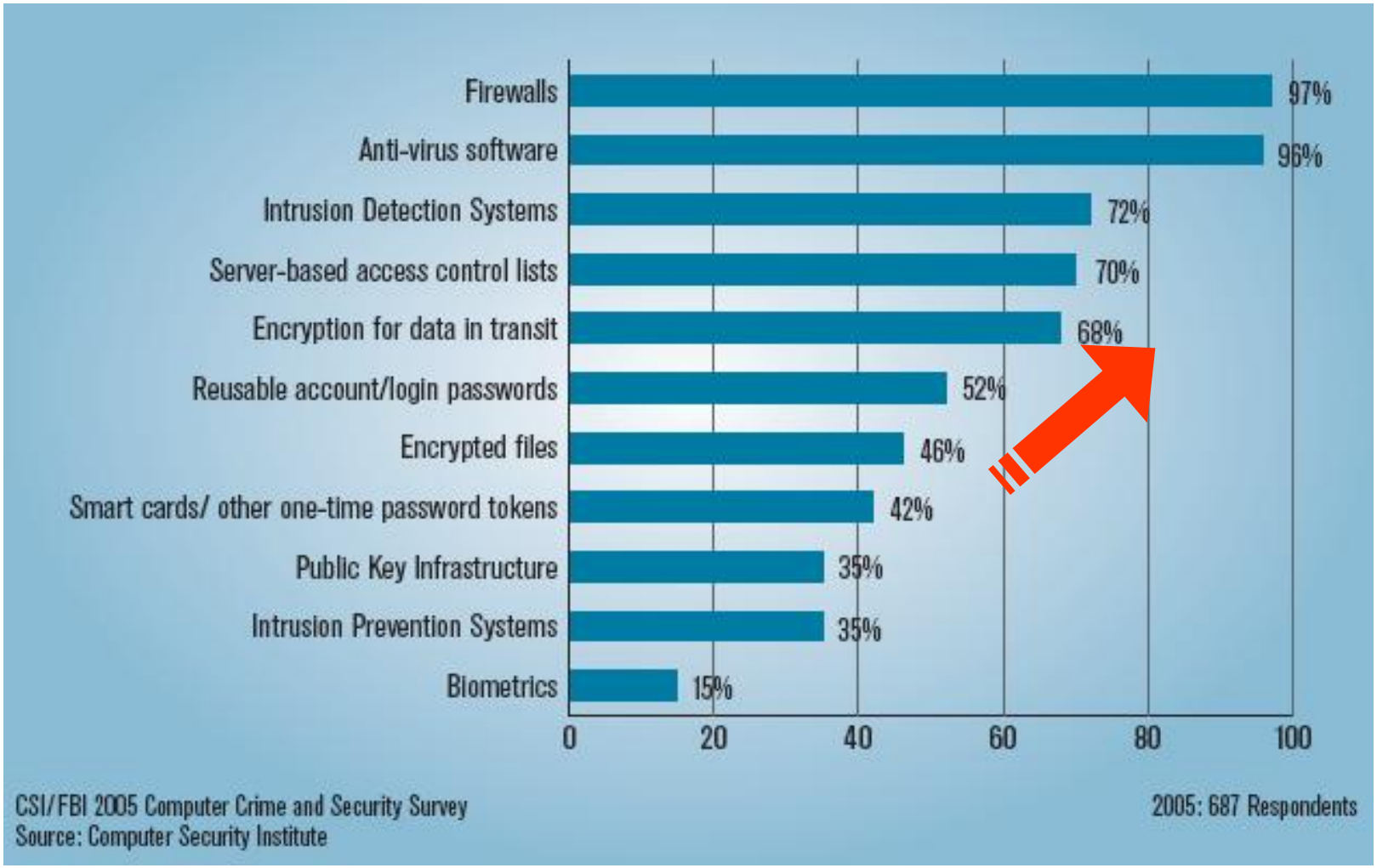
Security Solutions Used



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Trust Problems of E-commerce

- Guarantee of confidentiality (number of a credit card, a delivery date of the goods, the address,…)
- Guarantee of data integrity
- Sufficient level for controlling of operation participants:
  - The seller should be assured that the buyer will not refuse purchase and in solvency of the buyer
  - The bank-emitter should check up the seller before realization of his requirement for payment of purchase
  - The buyer should be assured that seller is real, instead of false

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Some Trust Problems of E-commerce: Security weaknesses

- sensitive financial details for online paying ;
- trade secrets and other confidential information;
- privacy of e-commerce actions:
  - pay bills,
  - trade stocks and shares,
  - file our income tax returns,
  - conduct legally transactions;
  - vote in government elections;
  - ...

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PKI Trusted Services

- Authentication,
- Access control,
- Trust internet - banking services,
- Assured privacy data delivery,
- Encryption,
- E-signature.

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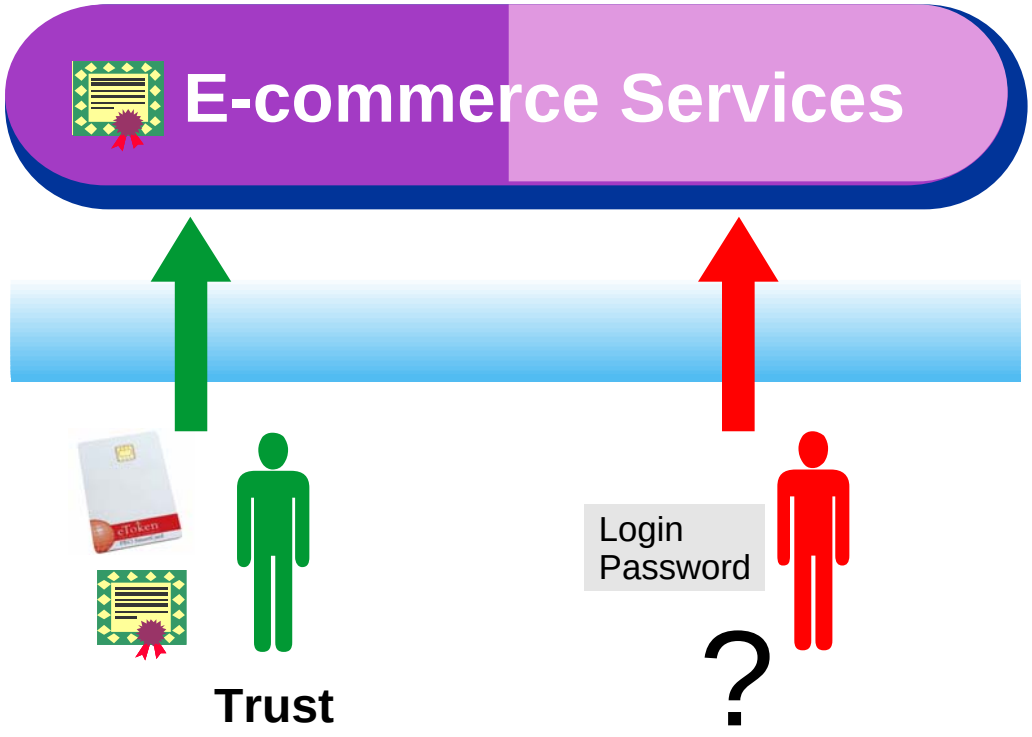
The role of Authentication



Use of strong authentication may be one of the way for trust users to e-commerce

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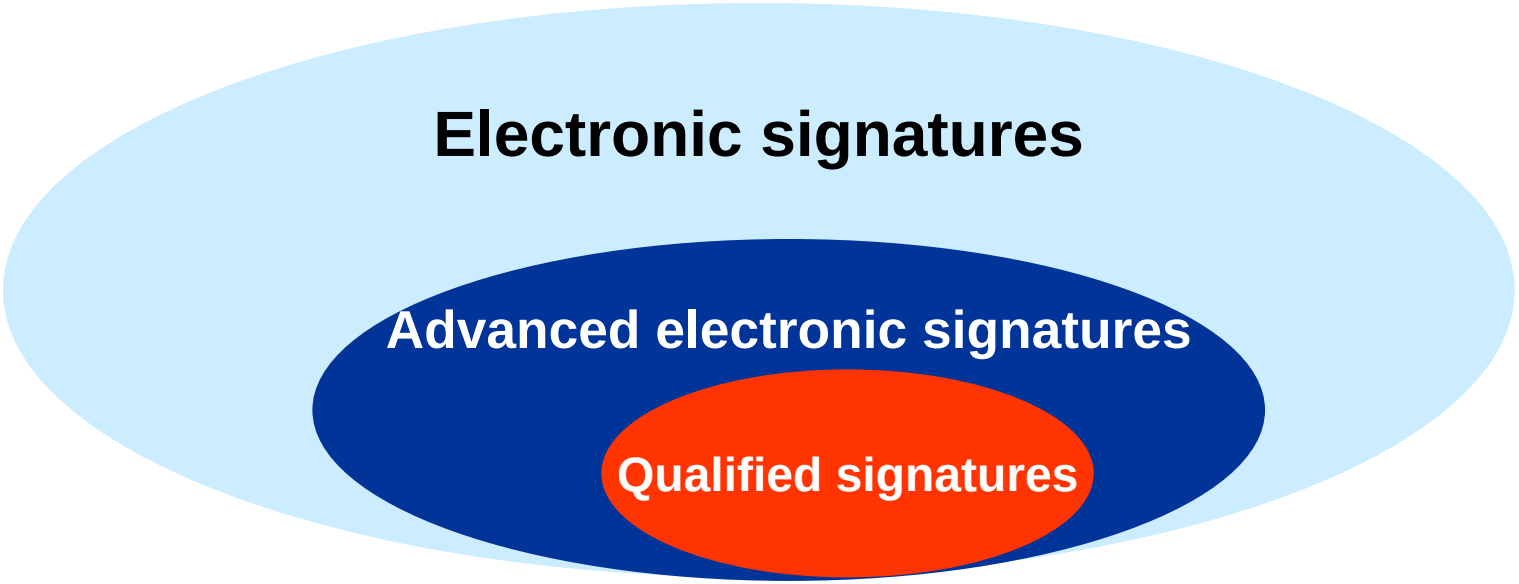
E-Signatures Types



Advanced electronic signature:
- qualified certificate
- certificate is in file system of smart card or token
- private key protected by PIN

Qualified signature:
advanced electronic signature
secure signature creation token
private key can't leave token

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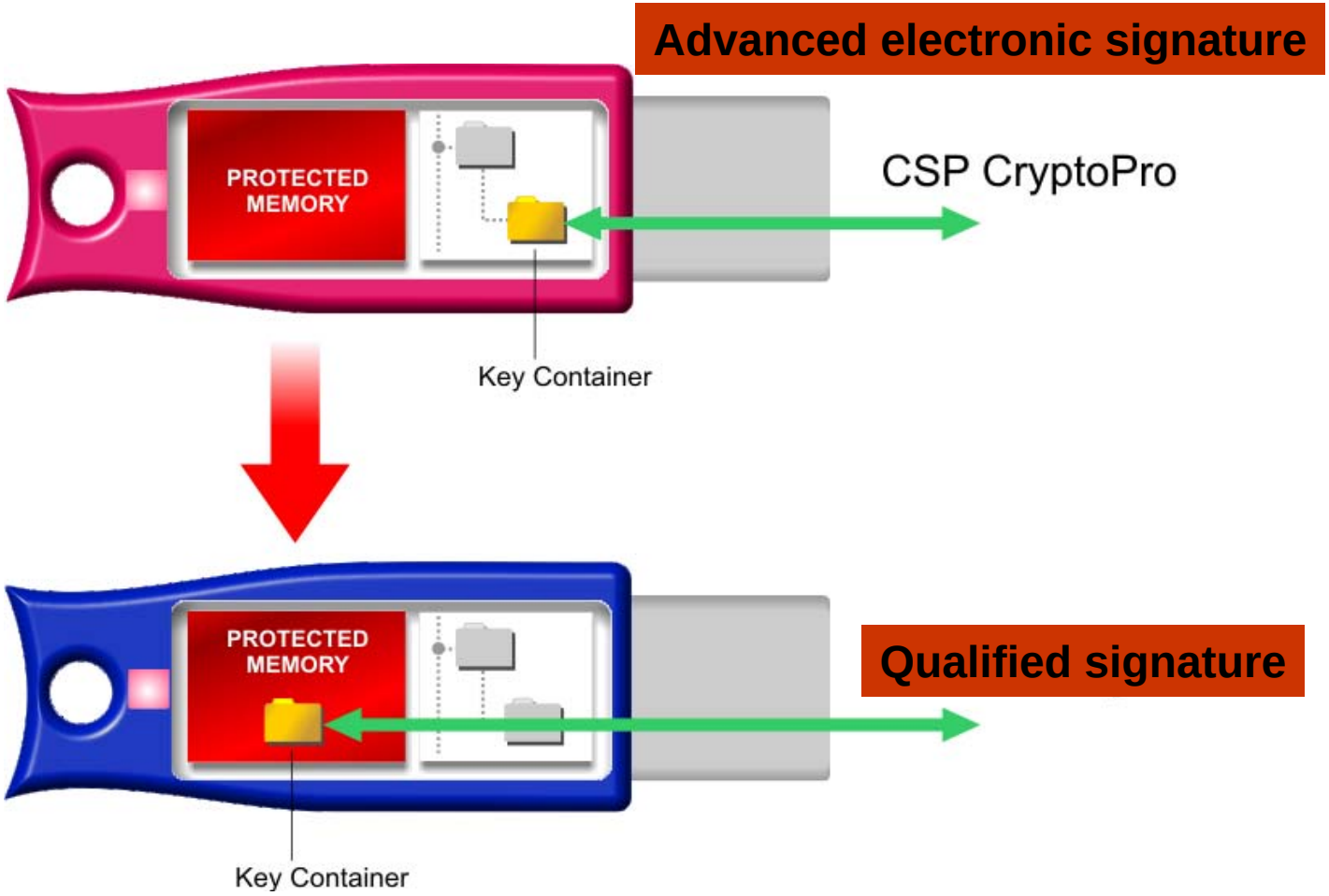
Signatures Types



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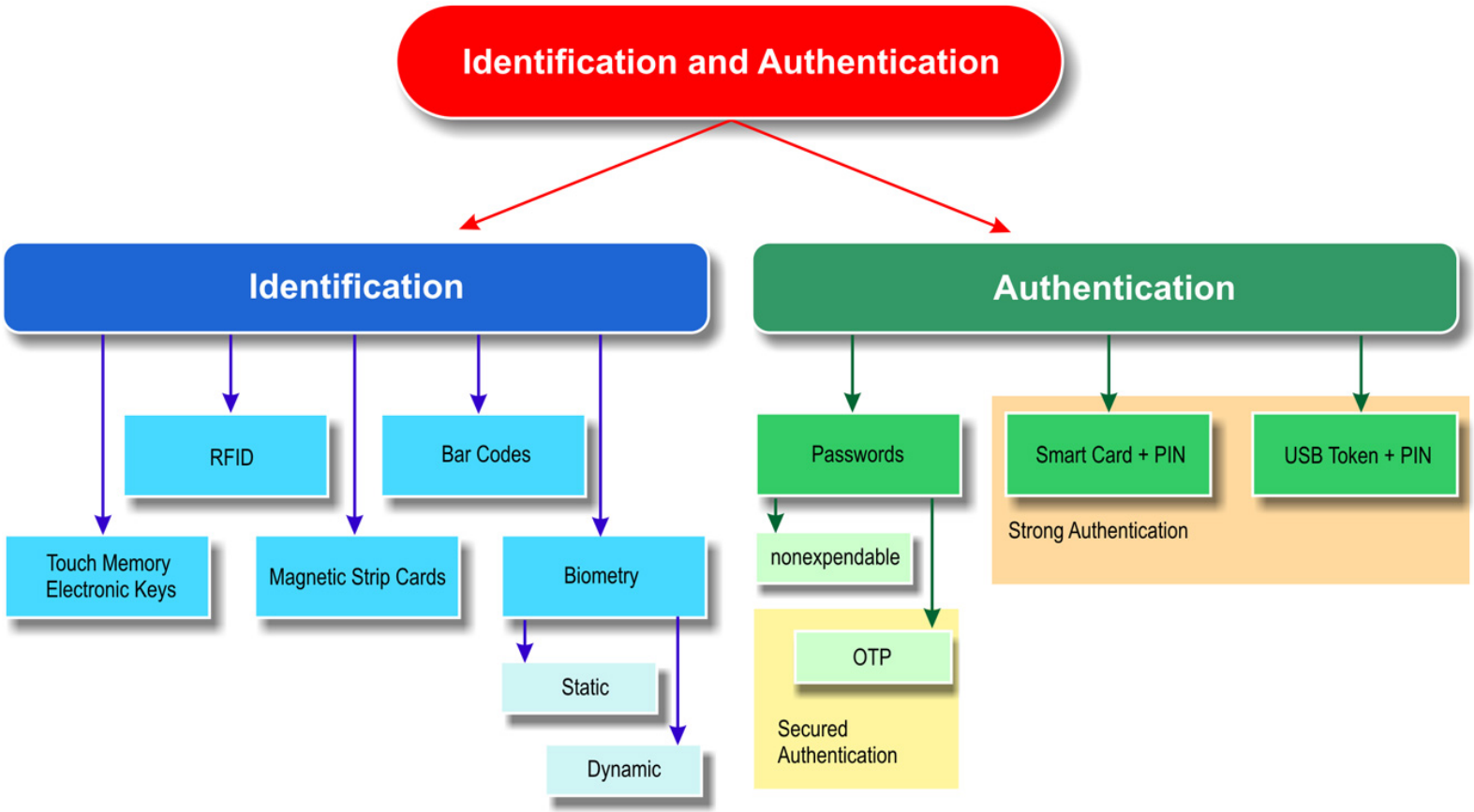
Identification and Authentication



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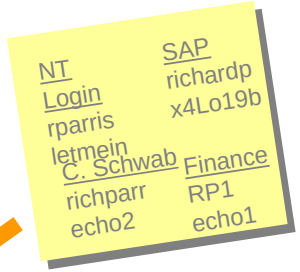
Single (universal) Smart card

PKI Certificates

Contactless Chip

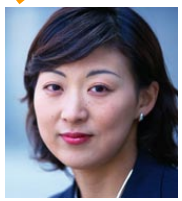


Passwords

Logical Access Controls

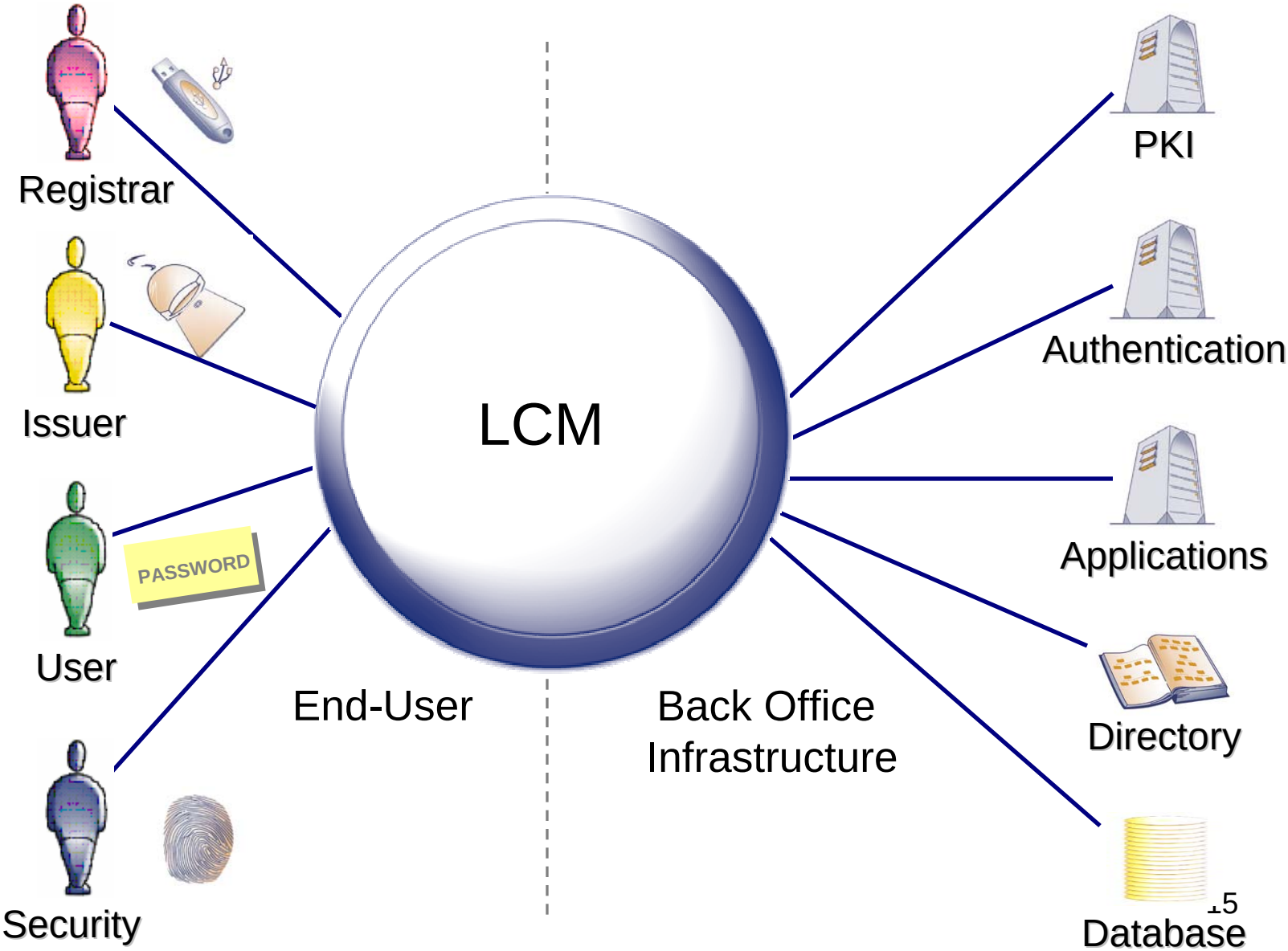
Barcode & Magnetic Swipe encoding

Biometric credentials



Flexible Role Definition

Life cycle management



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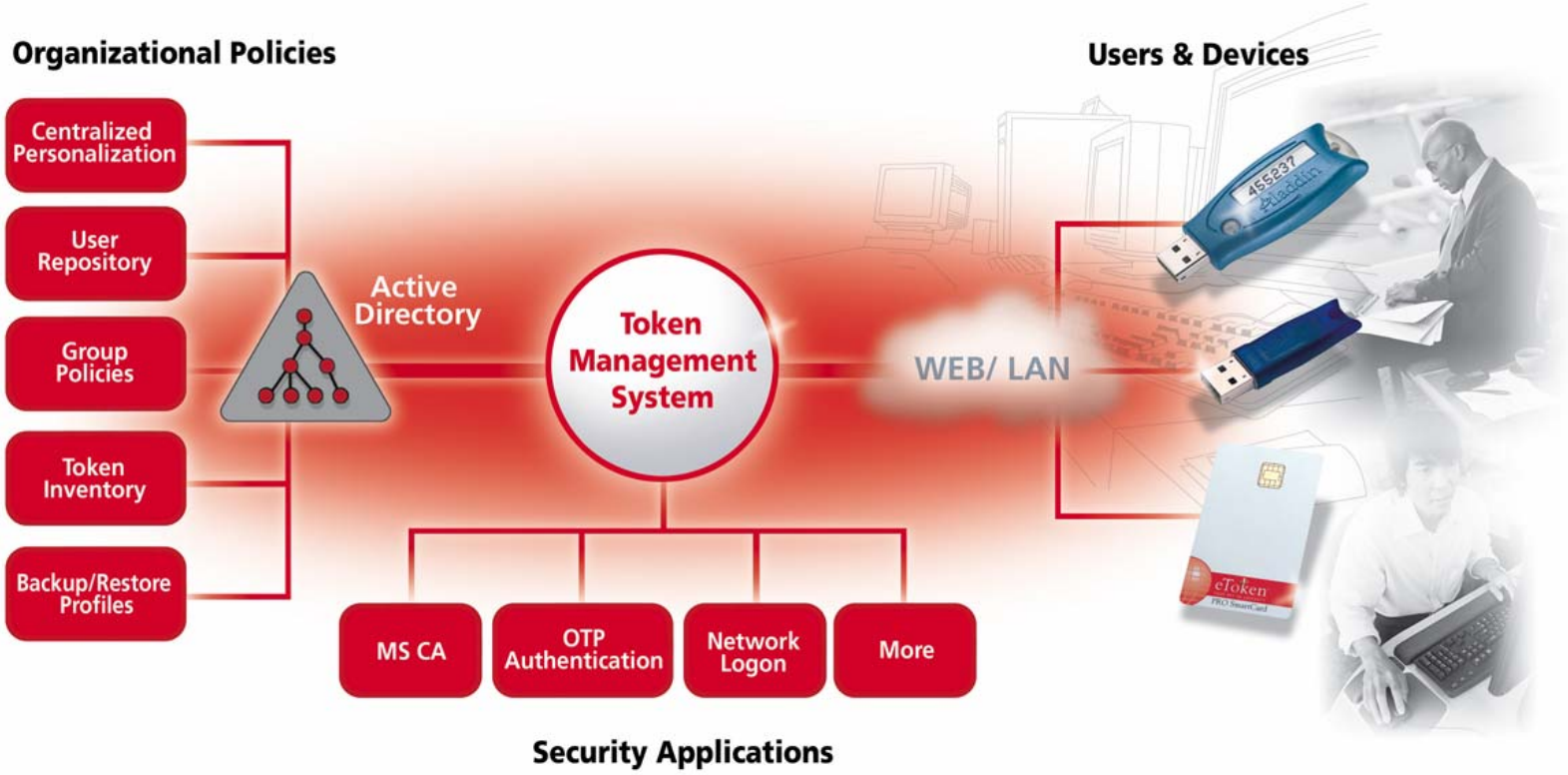
Example:
Token Management System



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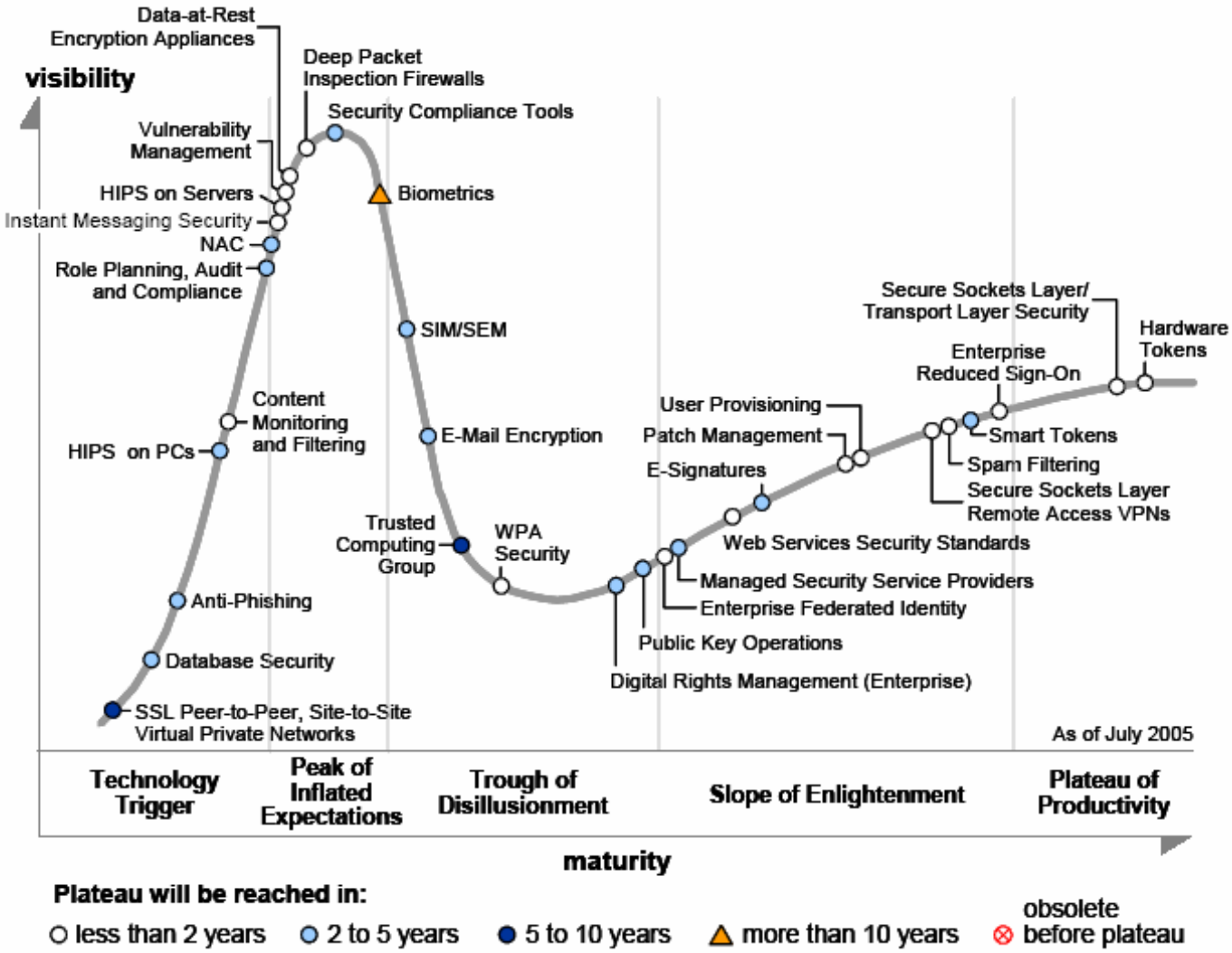
Information Security Technologies

Gartner Group, Hype Cycle for Information Security, 2005



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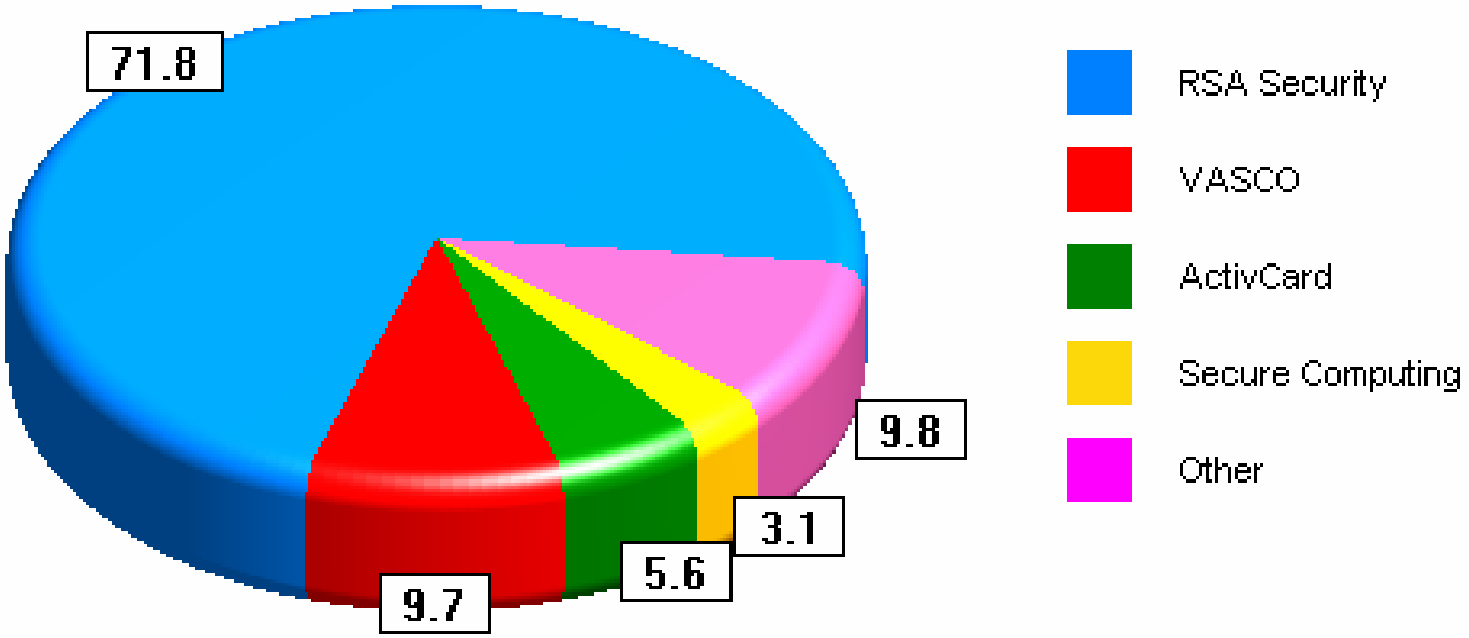
Hardware Tokens



IDC, 2004

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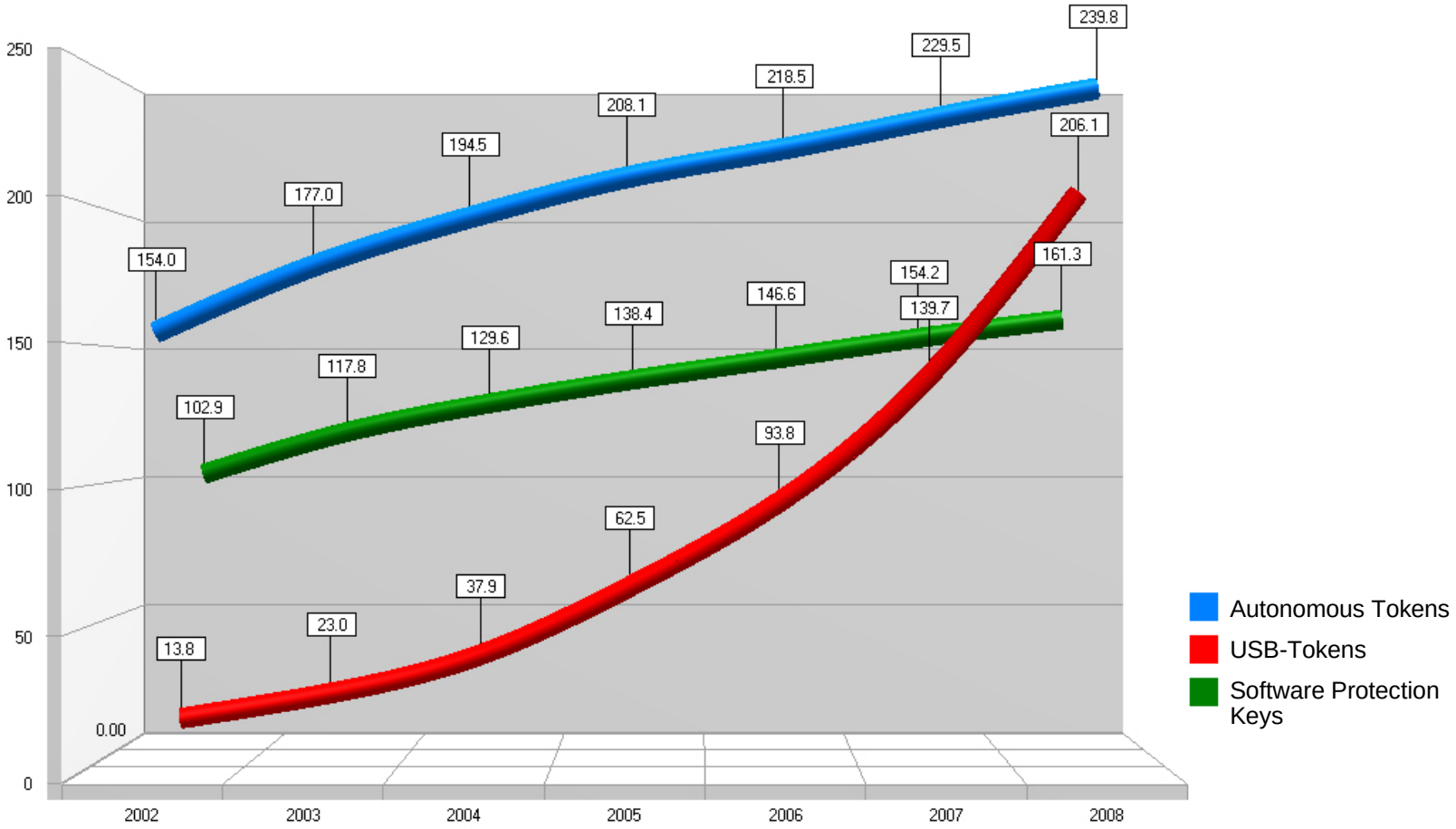
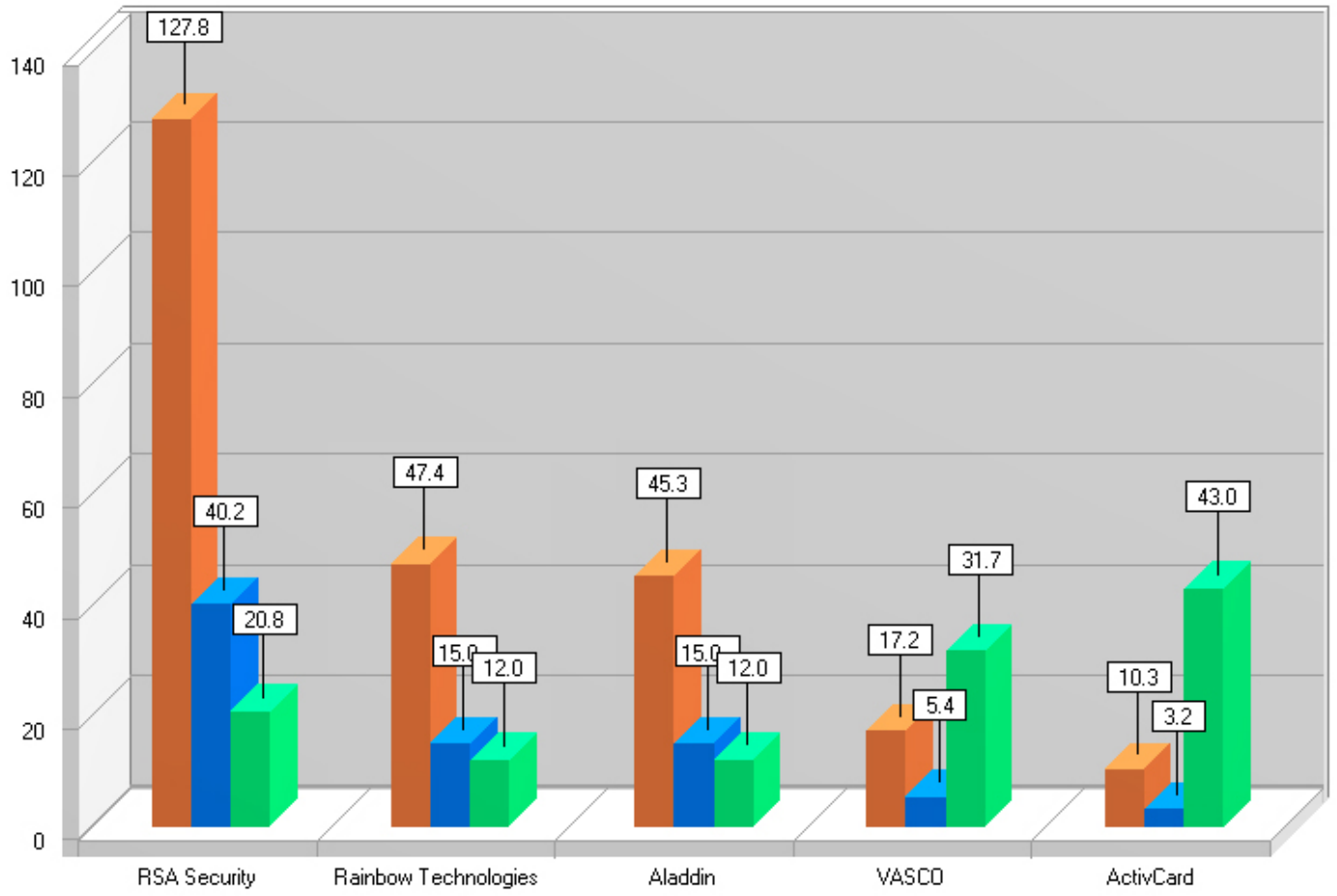
Expected dynamic of market



IDC, 2004

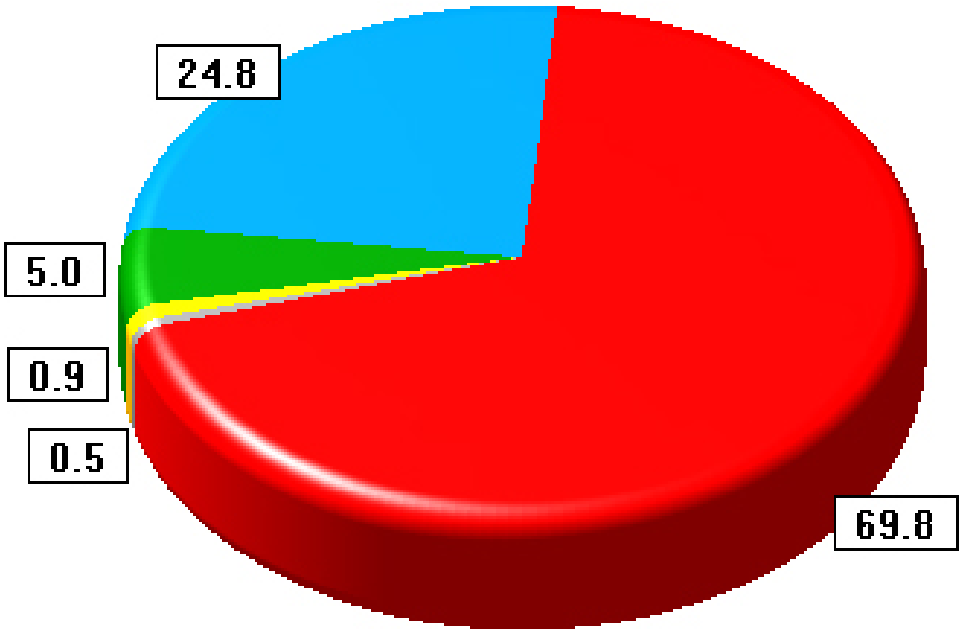
USB Tokens Market



Revenue, $M
Share of the Market, %
Increase Annual Profit, %

IDC, 2004

USB Tokens Market in Russia



Own evaluations

RUSSIAN INFORMATION TECHNOLOGY ASSOCIATION

Thanks you for attention

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