Principles of Building e-Security for Public e-Services

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Agenda

- Global (ICT) Trends
- IAM Segment – Overview
- Governmental Digital Identity – Current Status
- Digital Identity – Common Problems
- Implementing Digital Identity - Recommendations
- VALUE for Our (Government) Customers
- References

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Global (ICT) Trends

- **Challenge to Reduce Costs (TCO)**
- **Pressure on Fast Return On Investments (ROI)**
- **Globalization and Consolidation (Acquisitions, Mergers..)**
- **Slovakia and EU Relationship (EC Directives, SK laws)**
- **Emphasis on Security Influenced by Global Events and Legislation (11/IX/2001, Sarbanes-Oxley Act, Basel II)**
- **Development of NEW Segment on ICT Market – IAM**

IAM Segment - Overview

- **(I) Reducing Costs of ICT Infrastructure Management,**
- **(II) Increasing Security,**
- **(III) Improving Quality of Services.**

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Governmental Digital Identity – Current Status

- **Digital Signature**
  - codified in Europe by the Directive 1999/93/EC [2], which was applied to EU local legislations,
  - Directive specifies only the mechanism for digital signature creation and validity.
- **People Identification and Personal Data Management**
  - framework partially set by the Directive 95/46/EC [3], that specifies the rules concerning the personal data transfer and processing.
- **Inconsistency of Governmental Systems [4]**

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Digital Identity – Common Problems

- **Global Identifiers**
  - Many systems use GIs to identify users, such as Social Security Numbers, URLs or e-mail addresses.
  - GIs allow different sites to correlate information about users, which usually allows sites to gain more information that was specifically allowed by the user.
- **Insecure Workstations**
  - The typical user's workstation used for Internet access is not a secure environment.
  - Viruses and other malware can easily infect the workstation and gain control over all user's activities (observed passwords, mounted authentication mechanisms,

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Digital Identity – Common Problems (part II)

- **Honeypot effect**
  - Centralizing personal information in one place may be very convenient from the data management point of view, but such repository may create a very attractive target for attackers.
  - The effect is the same if the information is stored on the governmental servers, hosted by the Internet identity providers or kept on the user's workstation.

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Implementing Digital Identity – Recommendations [1]

- ***(I) Assessment of Identity Information Repositories,***
- ***(II) Deployment of Provisioning System,***
- ***(III) Creation of Central User Database,***
- ***(IV) Implementation of Single Sign-On,***
- ***(V) Deployment of Attribute Services,***
- ***(VI) Federation.***

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- ***(I) Assessment of Identity Information Repositories***

  - ***Make a quick analysis of your information assets and resources: user databases, organizational structure, user management procedures, legislative regulations, etc.***

  - ***The results will help in defining the requirements and scope of following steps.***

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- ***(II) Deployment of Provisioning System***

  - ***Automate and refine your user management procedures by implementing user provisioning system.***
  - ***Cleverly customized workflow engine that follows the dynamic organizational structure is usually the key here.***
  - ***Deployed provisioning system should provide tools for user database cleanup, the design and deployment of role-based access control mechanisms and end system monitoring.***

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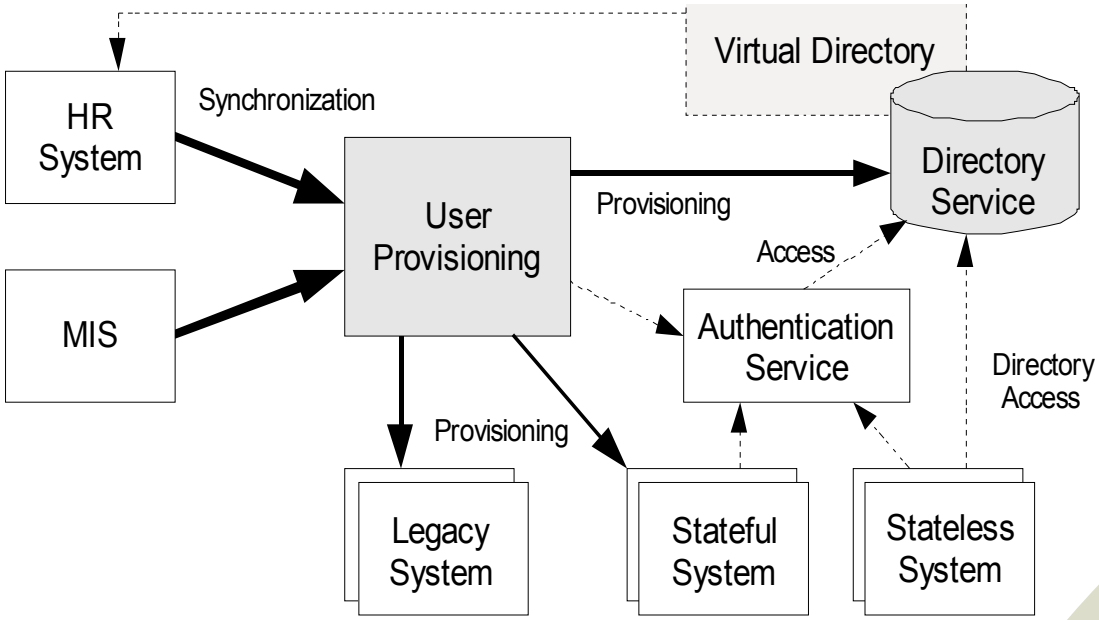
- ***(III) Creation of Central User Database***
  - ***Use the deployed provisioning system to create and maintain a central user database, usually as a replicated directory server. This database may act as an authoritative source for the systems in following steps.***



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- ***(III) Creation of Central User Database***

  - ***Alternatively, use virtual directory or metadirectory techniques to create the central user database. The central user database is not central in the way that all systems must use it.***

  - ***The database is supposed to hold authoritative data that some important (usually infrastructure) services will use.***

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- ***(IV) Implementation of Single Sign-On***
  - ***Using the central database implement Single Sign-On as the authentication service.***
  - ***The implementation of SSO may be quite straightforward for web applications and very complex for legacy applications.***

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- ***(V) Deployment of Attribute Services***

  - ***Using central user database and authentication service. The simplest attribute service may be implemented by sharing parts of directory server with other applications.***
  - ***But as your Service Oriented Architecture evolve, more complex attribute services will be needed, most probably in the form of infrastructure web services.***
  - ***This allow the deployment of relatively lightweight services, that do not need to maintain their own user databases.***

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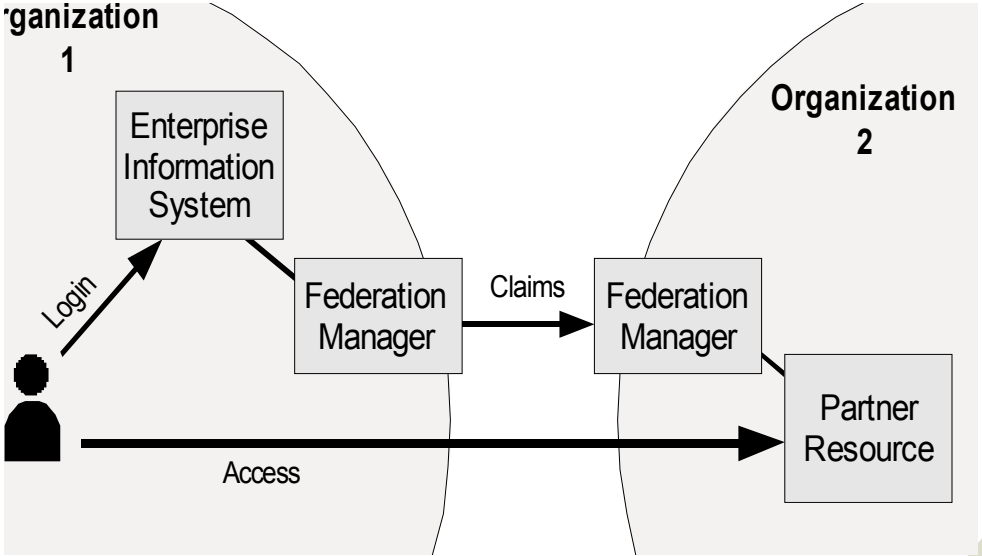
- ***(VI) Federation***
  - ***Connect your digital identity services with similar services in other organizations by joining a federation relationship.***
  - ***Use of federation allows better degree of cross-organizational cooperation.***



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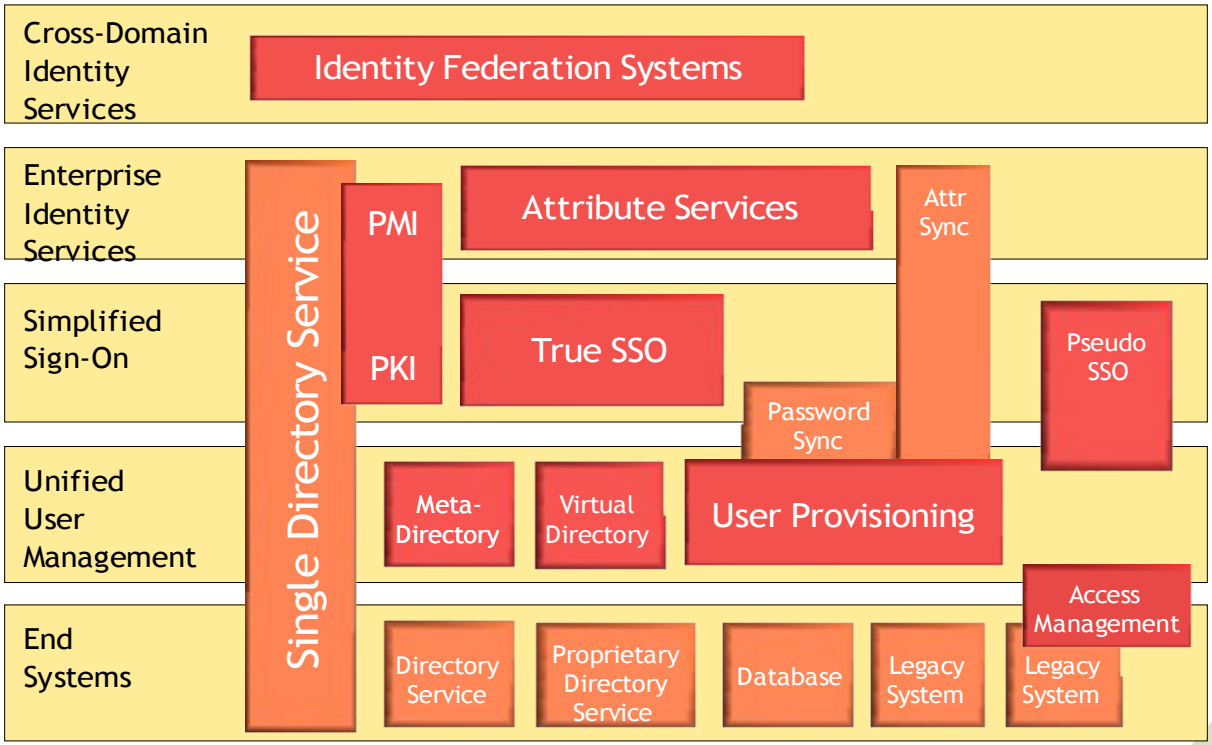
Digital Identity – Conclusion

- **Existing IAM Technologies – No Complete Solution**
  - **The different identity management technologies can be assigned to identity management architectural layers, as illustrated on the figure below :**



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PosAm VALUES for (Gov't) Customers

- **Domain knowledge of Public Sector,**
- **Trained and Certified IAM Professionals,**
- **Real World Implementation Experience,**
- **Individual Attitude and Long-Term Relationship,**
- **Trust is Commitment,**
- **VALUE – Useful Ideas,**
- **VALUE – Useful Technologies..**

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THANKS

for your attention

and

wishing you good times

in the congress

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