Identity Management

Identity Management
Evolution of the Idea

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Agenda

• Introduction
• Evolution
  – Webs of Trust
  – Public Key Infrastructure
  – OpenID
• Software project - Reputation Database
• Conclusions
Introduction

• What is a digital identity?
  – Bond between real and electronic worlds
• How can we verify it?
  – Centralized
    • Centralized authority
  – Decentralized
    • Distributed authority
Identity

- How do you verify yourself?
  - “Something I know.” – a password
  - “Something I am.” – a fingerprint
  - “Something I have.” – a key card

- Credentials
  - Verification of my claims

- Resource authorization
  - per-resource identity
    - club cards
  - global identity
    - driving license
Evolution – Webs of Trust

- Application of real world situations
  - Direct approach
- Easy to understand and implement
- Non-boolean/Fuzzy trust relationships
- Separated federations problem
- Doesn't scale well
Evolution – Public Key Infrastructure

- Centralized
  - Feature & disadvantage
- Highly secure
- Scalable
  - OCSP responders
- Complex implementation
Evolution – OpenID

- Single identity
- Single Sign On
- Unified standard
- I-Names
  - @onoclea*ceo
  - @onoclea*billing
- I-Numbers - xri://1234.1234.abcd.abcd
- Attribute Exchange
  - Account provisioning
Reputation Database – Software Project

• Trust Visualization and Management Tool
• Features
  – Visualizes effective trust characteristics
  – Gathers trust bonds
  – Studies trust relations
• Web Application
  – OpenID Enabled
**Details for Entrusted001**

<table>
<thead>
<tr>
<th><strong>Name</strong></th>
<th>Entrusted001</th>
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<tbody>
<tr>
<td><strong>URI</strong></td>
<td><a href="http://entrusted001.tld">http://entrusted001.tld</a></td>
</tr>
<tr>
<td><strong>Added by</strong></td>
<td>pjs</td>
</tr>
<tr>
<td><strong>Added on</strong></td>
<td>2008-02-20</td>
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<tr>
<td><strong>Last modified</strong></td>
<td>2008-02-24</td>
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**Statistics**

<table>
<thead>
<tr>
<th><strong>Number of trusts</strong></th>
<th>257</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean trust level</strong></td>
<td>49.6887159533</td>
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<tr>
<td><strong>Median trust level</strong></td>
<td>48.00228</td>
</tr>
<tr>
<td><strong>Standard deviation</strong></td>
<td>29.8622552101</td>
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**Distribution**
Reputation Database – Screen shot #2

Standard deviation: 29.8822332101

Distribution

Graphs

Trust distribution
Conclusions

- Different technologies for different situations
  - Small/Closed groups – Webs of Trust
  - Corporate environment – PKI
  - World Wide Web – OpenID w/ i-Names
- OpenID – an open and extensible framework
- Standards
  - Interoperability
  - Unification
Are there any questions?
Thank you for your attention!