Partitioning Trust in Network Testbeds

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Bad for:

- Scale
- Hardware diversity
- Geographic diversity
- Efficient resource use
- Client tools
Federation:

Working together . . .

. . . while maintaining local autonomy.
How will we trust each other?
Flat trust
Does it work?
Update Available

A security and stability update for Firefox is available:

Firefox 6.0.1

It is strongly recommended that you apply this update for Firefox as soon as possible.

View more information about this update
Certificate:
Data:
  Version: 3 (0x2)
  Serial Number:
  Signature Algorithm: sha1WithRSAEncryption
  Issuer:
    emailAddress = info@diginotar.nl
    commonName = DigiNotar Public CA 2025
    organizationName = DigiNotar
    countryName = NL
  Validity
    Not Before: Jul 10 19:06:30 2011 GMT
    Not After : Jul 9 19:06:30 2013 GMT
  Subject:
    commonName = *.google.com
    serialNumber = PK000229200002
    localityName = Mountain View
    organizationName = Google Inc
    countryName = US
  Subject Public Key Info:
    Public Key Algorithm: rsaEncryption
    RSA Public Key: (2048 bit)
      Modulus (2048 bit):
What went wrong?

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<th>Political</th>
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Flat trust $\Rightarrow$ Complete trust
Partitioned trust
Principles of partitioned trust

- Partition object namespace
- Associate trust roots with partitions
- Allow externally verifiable identities
- Separate authentication and authorisation
Object Namespaces

urn:publicid:IDN+emulab.net+user+gary
Externally verifiable

- Verifiable outside issuing trust domain
- Self-contained
- Can be traced back to a trust root
- No online dependencies
http://www.emulab.net/
http://www.protogeni.net/
http://www.geni.net/