



Science & Technology
Facilities Council

Great Expectations Moonshot, Grids, & Clouds

Jens Jensen, STFC

JANET Networkshop, 13 Apr
2011

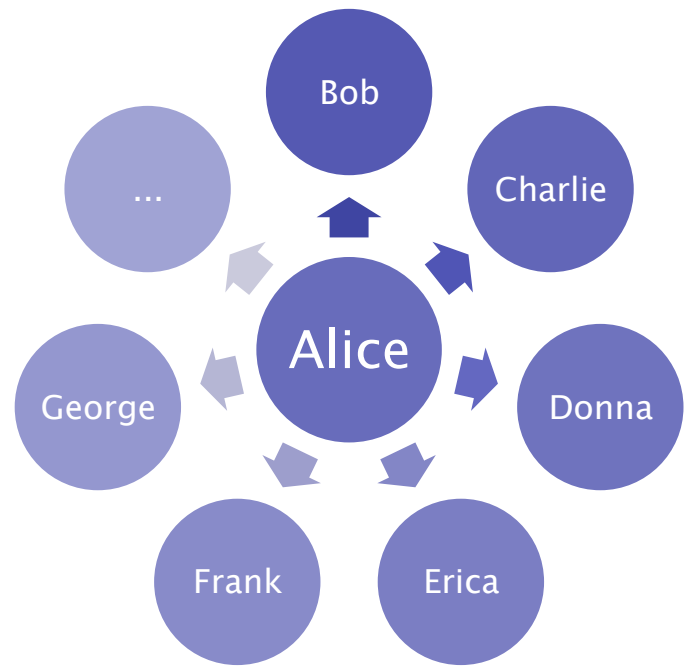


Background

- Scalable trusted infrastructures
- A(A(A))I
- Interoperation
- Standards

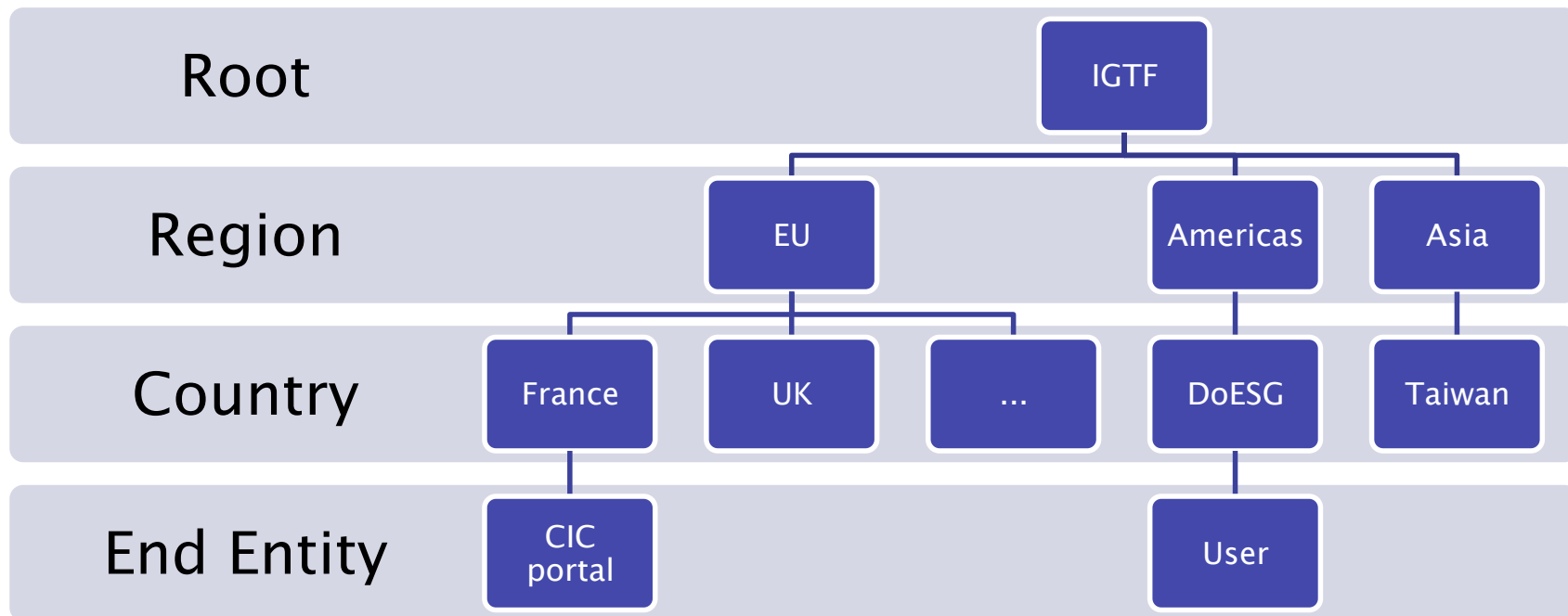


Scaling and Trust





Scaling Trust (Example)



EduROAM is of course another example!



Observations – what *we* want

- Flexible federations facilitate fundamental functional features
- Decisive delegation delimits decentralised dabbling, destroys dastardly deceitfulness



A(A(A))I

- IGTF/PMA/CA, VOMS, APEL
- Shib IdP, Shib AA, ??
- K5 AS, K5 TGS, ??
- WS-Federation, -, ??



Delegation

- X.509 → RFC3820
- OAuth (RFC5849)
- K5 → forwardable/proxiabile tickets,
- Various ad-hoc “solutions”



Other Considerations

- Performance
- Scalability
- Cross-domain trust
- Robustness
- Security
- LoA
- “Securability”
- Maturity
- Maintainability
- Cost of operations
- Cost of support
- Usability
- Patents/standards
- Peer reviewed
- Extensibility
- Interoperability



Technical Background

- RADIUS = Remote Authentication Dial-In User Service
- EAP = Extensible Authentication Protocol (RFC3748)
- GSSAPI = Generic Security Services Application Programming Interface



EAP!

- EAP is modular, with lots of “plugins”
 - EAP negotiation
 - Protocol descriptions can focus on high level interactions
 - Need for mandatory types



Who are Major Status and General Failure?

- GSSAPI is generic, supporting lots of security methods
 - Extended with delegation proposals



State of the Union

- Works with MyProxy (D Kouril, CESNET)
 - X.509 certificates can be generated
- Delegation currently being discussed



Caveats

- Needs to work with existing A(A(A))I
 - Nobody wants a whole new infrastructure
- Certificates protect infrastructure
- Future proof? e.g. other devices



Caveats

- Interoperation is good
- Plugging things together is interesting
 - And potentially extremely useful
- Conversion is useful, too



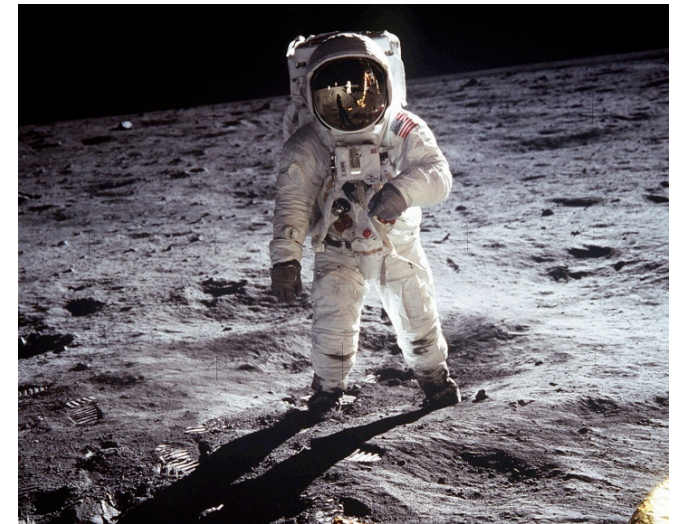
Federations

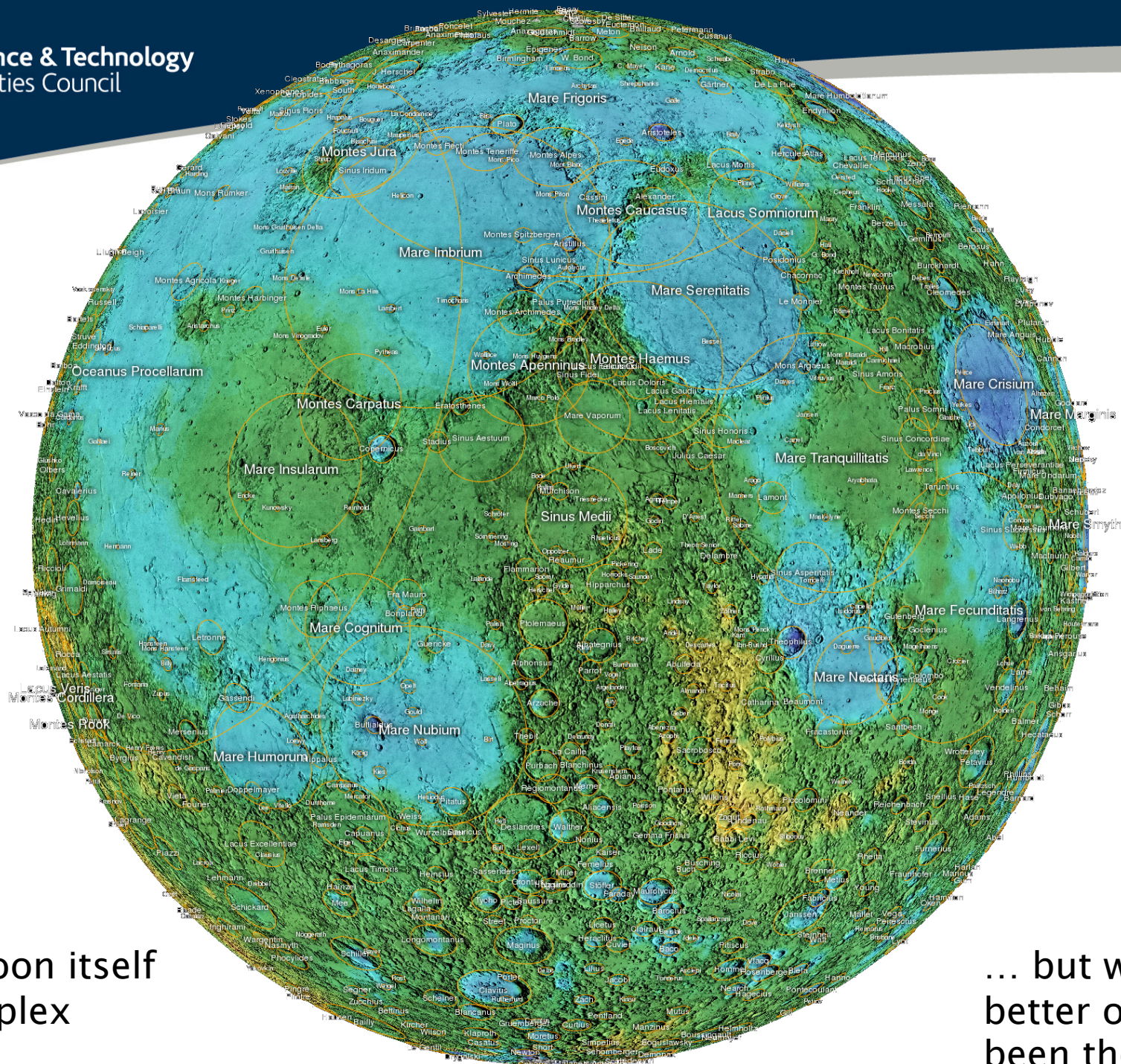
- More than technical
- Depend on policies
- LoA



The Dangers of Shooting for the Moon

- You might hit it 😊
- But you're not there till you hit it





The Moon itself
is complex

... but we are
better off having
been there