Distributed Big Data Assets Sharing & Processing

Trusted Data Processing in Untrusted Environments.

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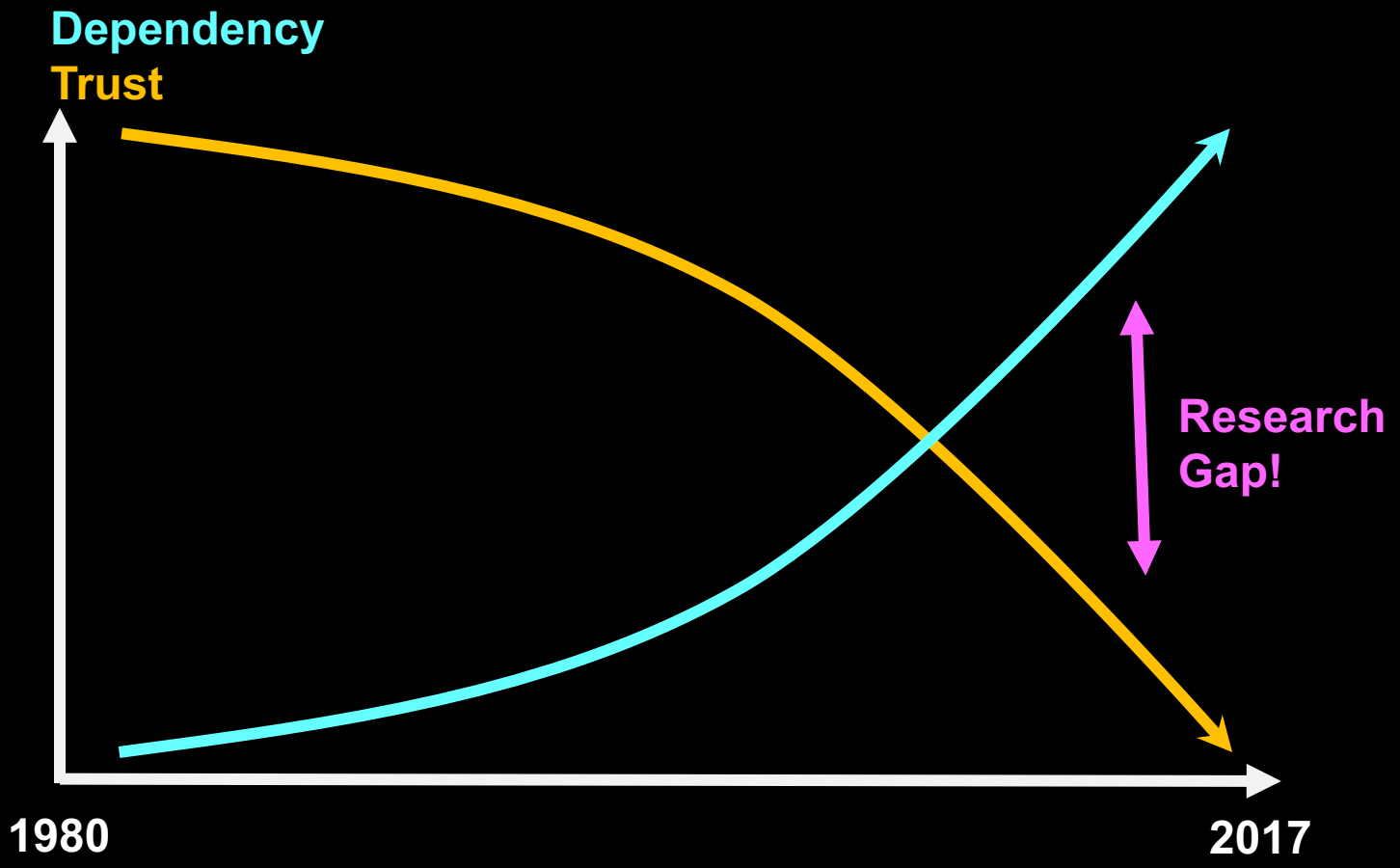
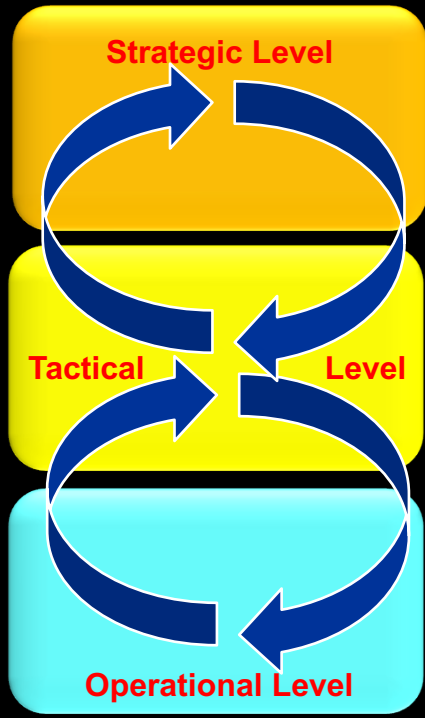
Fading Trust in Internet

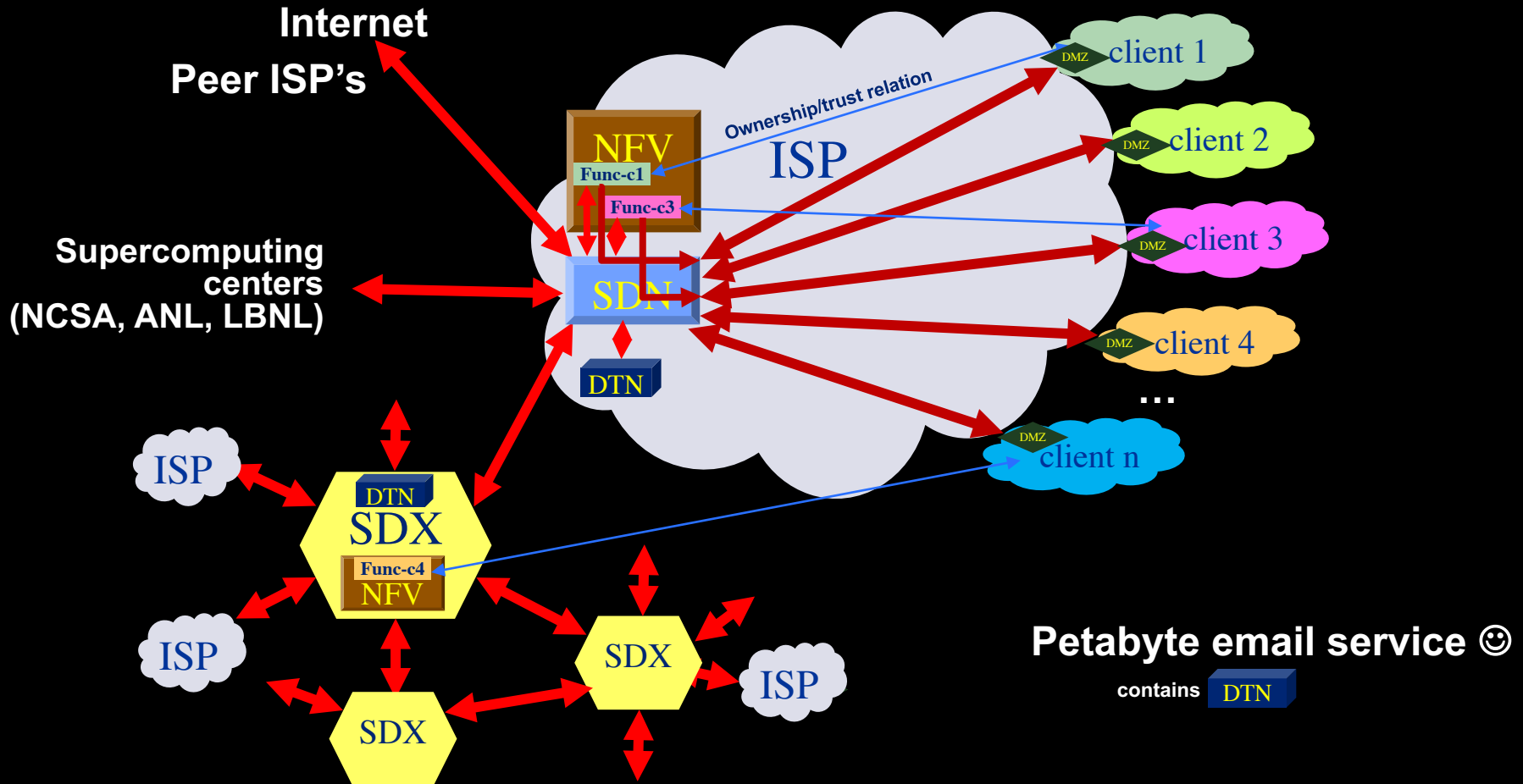


Main problem statement

- Organizations that normally compete have to bring data together to achieve a common goal!
- The shared data may be used for that goal but not for any other!
- Data may have to be processed in untrusted data centers.
  - How to enforce that using modern Cyber Infrastructure?
  - How to organize such alliances?
  - How to translate from strategic via tactical to operational level?
  - What are the different fundamental data infrastructure models to consider?

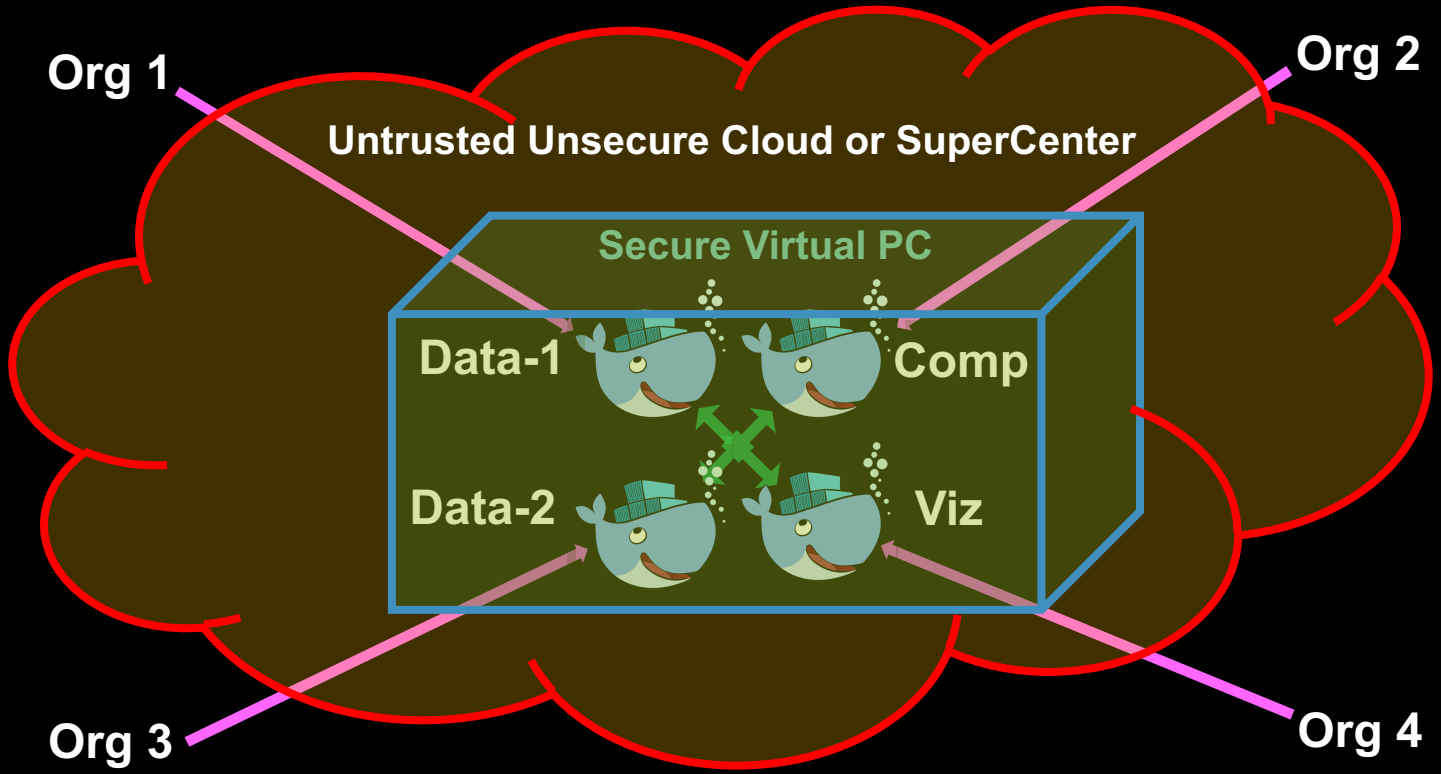


Networks of ScienceDMZ's & SDX's

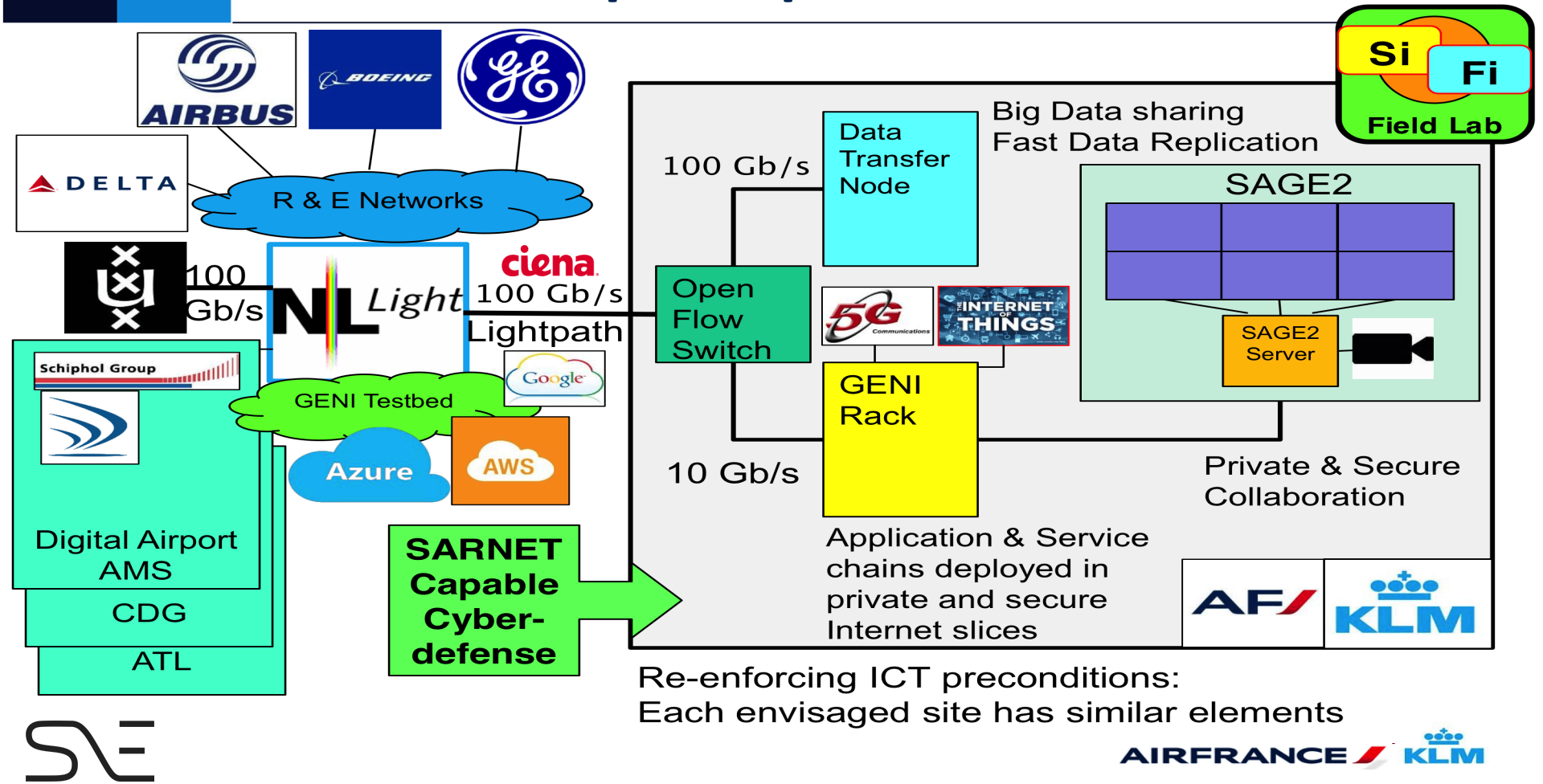


Secure Policy Enforced Data Processing

- Bringing data and processing software from competing organisations together for common goal
- Docker with encryption, policy engine, certs/keys, blockchain and secure networking
- Data Docker (virtual encrypted hard drive)
- Compute Docker (protected application, signed algorithms)
- Visualization Docker (to visualize output)



Ambition to put capabilities into fieldlab



Re-enforcing ICT preconditions:
Each envisaged site has similar elements

AIRFRANCE KLM

Program:

15h00 Cees de Laat, University of Amsterdam

Trusted Data Processing in Untrusted Environments.

15h05 Leon Gommans, Air France KLM

Trusted Big Data Sharing.

15h25 Rodney Wilson

Programmable Supernetworks, Science DMZ based Networking.

15h30 Panel of stakeholders Flash talks (~3 min each):

Inder Monga - ESnet - Data Science Driving Discovery.

Matt Zekauskas - Internet2 - Thoughts on Internet2 and Trusted Large Data Transfer.

Jerry Sobieski - NORDUnet - Issues of Big Data Sharing in a Global Science Collaboration.

Adam Slagell – NCSA - What are we trusting?

15h45 Panel discussion moderated by Cees de Laat

16h00 End of session.