

In Infrastructures ... we Trust!

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Over a quarter century of distributed computing research and development has brought together a strong community that is willing to trust each other. Scaling well beyond the 'human circle of trust' that lies in the order of a few hundred, we have built computing infrastructures for scientific research across continents and disciplines spanning hundreds of thousands of people – leveraging federated identity from your home organisation, policy-bridges spanning domains and regions, and a unique multi-lateral approach to trust. This has enabled global research as diverse as high-energy physics in the LHC Computing Grid or structural biology, and giving the social sciences a 'trusted research environment' for sensitive data.

Today, the trust and identity system witnesses a time of unprecedented change, with new technologies and protocols. But recent authentication protocols are oft designed around a single-source world view, matching the small set of large private providers that dominates the public user identity space today, their branded 'login' buttons ubiquitous on the web. Meanwhile, our multi-lateral federated trust is as relevant and vibrant today as ever: while technology may change, the foundations of collaboration and the structure of our research communities remains.

So how will we shape the next decade of research infrastructure collaboration?

As we evolve our blueprint for federated access to services and the guidelines that make it work together, we now start to connect millions rather than the first hundred thousand users. Today, we see the scale-out from research computing collaboration to enabling access to diverse services and data sets, and we start applying our research federation models to education. Are we up to new architectures, global policy harmonisation, and sharing of good practice and operational expertise, making our very ICT itself become the research instrument we need?

Bio:

David Groep is programme leader of the Physics Data Processing (PDP) programme on advanced computing at Nikhef and extraordinary professor of e-Infrastructure at Maastricht University. His research interests include trust, identity, and security for multi-domain ICT infrastructures, authentication and authorization collaboration models, and scaling behaviour of resource-balanced operational e-Infrastructures, including networks, storage, and computing systems - and how data intensive research can exploit them in an effective way. David Groep is Chair of EUGridPMA and was the founding chair of the Interoperable Global Trust Federation IGTF in October 2005. He is a member of the Dutch National Permanent Committee on Large-Scale Research Infrastructures (PC-GWI) the Dutch Research Council's Committee on Digitalisation of Research (CDI), and Dutch National e-Infrastructure executive. He is leading the policy and best practice harmonization activities in the AARC Community and AEGIS, is a member of the steering committee for the WISE Information Security for E-infrastructures collaboration, and a member of the European Open Science Cloud AAI working group.

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