

CS3 2022 - Cloud Storage Synchronization and Sharing



Monday, 24 January 2022 - Thursday, 27 January 2022

Programme

CS3 2022 will be held online (24-28 January 2022). The online format of the conference will be as much informative, collaborative and entertaining as the previous virtual edition and all the previous physical editions. We will therefore favour shorter sessions with more opportunities for interactive networking. The final agenda will be compiled once we collect all the contributions.

The **main CS3 session** will be followed by two additional thematic workshops:

OCM workshop

ScienceMesh workshop

Keynotes

IPFS the InterPlanetary File System (<https://ipfs.io>) — preserve and grow humanity's knowledge by making the web upgradeable, resilient, and more open., Dr Yiannis Psaras, Protocol Labs

Dr Yiannis Psaras is a Research Scientist at Protocol Labs. He is a member of the Resilient Networks Lab where he is working on identifying and addressing future challenges that the IPFS, libp2p and Filecoin protocols are bound to come across. He is particularly interested in content routing design and optimization, the performance of libp2p's pubsub protocol, content naming and generally architectural extensions to support the resilience and growth of the IPFS and Filecoin networks. Before joining Protocol Labs he has spent more than 10 years in academia, the majority of which as a Lecturer at University College London, UK, where he investigated resource management techniques for current and future networking architectures with particular focus on “function-centric networks” to realize distributed and decentralized edge computing. He held a prestigious EPSRC Early Career Fellowship in the area of “content-oriented and service-centric edge-computing architectures” and has received five Best Conference Paper Awards in prestigious conferences. He has also been heavily involved in the effort to shift the Internet towards an Information-Centric Networking environment.

Experiencing a new Internet Architecture, Prof. Dr. Adrian Perrig, ETH Zurich (<https://netsec.ethz.ch/people/aperrig/>)

Born 1972, Perrig is a Swiss computer science researcher specialising in the areas of security, networking, and applied cryptography. He received his BSc degree in Computer Engineering from EPFL in 1997, MS and PhD degrees from Carnegie Mellon University in 1998 and 2001, respectively. He spent three years during his PhD working with his advisor Doug Tygar at the University of California, Berkeley. From 2002 to 2012, he was a Professor of Electrical and Computer Engineering, Engineering and Public Policy, and Computer Science (courtesy) at Carnegie Mellon University, becoming Full Professor in 2009. From 2007 to 2012, he served as the technical director for Carnegie Mellon's Cybersecurity Laboratory (CyLab). During this time he built a research project called SCI-FI (Secure Communications Infrastructure for a Future Internet). A research project aimed at building a next-generation secure internet architecture. The project later got renamed into SCION (Scalability, Control, and Isolation On Next-generation networks). Since 2013, he is Professor at ETH Zurich, leading the Network Security Group, whose research “revolves around building secure and robust network systems—with a particular focus on the design, development, and deployment of the SCION Internet architecture.

Digital Market: a level playing field for EU Tech sector, Frank Karlitschek, Nextcloud

This keynote develops the details of the antitrust complaint to the EC over OneDrive.

Frank Karlitschek is a free software developer, entrepreneur and privacy activist. He founded the Nextcloud and the ownCloud projects and was involved in several other free software projects. He published the "User Data Manifesto" and is a regular speaker at conferences. Frank also enjoys taking photos of interesting people and places.

Main session

Decentralised Web and Storage

Citizen and open source initiatives to give the web and cloud back to people. This session invites for a discussion about the "obscure fate of data in Cloud storage" and technical solutions that may help to solve this problem. How do Solid (SOcial LInked Data) - few so far - applications handle users' personal data stores and how they compare to successful open source social networks like Mastodon or Diaspora. And most importantly, how to technically address the choice of storage by the user, alias content owner, other than relying on trust.

Our new reality: "tele-everything" in post-COVID-19 era... and what it means for CS3 community?

We are entering the new era where most of our daily activities will happen online... tele-working, tele-learning, ... This will almost certainly affect our community as a whole. What it means for the CS3 services and for our users? Should we adapt or re-focus our services? We invite contributions reflecting in general on this subject and participation in the campfire discussion.

Future research with European Open Science Cloud

EOSC will be the future ecosystem for European research and digital collaboration. This changing European landscape presents new opportunities and challenges for the CS3 community. This session will allow to understand the latest evolution of EOSC and to discuss how the CS3 community results could fit into EOSC and what the EOSC could mean for the CS3 community in a short and longer term.

CS3 Community Site Reports

There is a growing number of sync&share services deployed and operated in the CS3 community. This session is an opportunity to present current status and plans, user feedback as well as share operational experience: main issues and concerns for your service. This session will provide a sort-of-family-photograph and a competence map of all CS3 services.

In particular we welcome newcomers to the community to introduce themselves.

User Voice: Novel Applications, Data Science Environments & Open Data

This track is for novel applications and user scenarios which are enabled by the CS3 services with innovative data access and sharing functionality.

Many CS3 institutes are experimenting with new ways to support data science on their collaborative storage fabric. Activities such as quick-prototyping, educational and outreach tools have been quite successful.

One such example is the usage of interactive notebooks which enable collaborative data processing. Notebooks naturally become environments for data curation, data preservation, educational and outreach. The ease of access and the self-documenting feature of notebook-based environments complement and cooperate with sync and share environment.

Likewise, examples of successful production-grade data analytics environments are also available. Analysis platforms have the potential to become the aggregation point for other services, notably specialised data viewers, collaboration tools, documentation and more.

More recently direction has been emerging where CS3 services may become the fabric to implement new classes of services focusing on open-data access and data preservation.

Keywords: JupyterLab & Notebooks, FAIR, ORCID, OpenAIRE, GPUs, Spark, Analytics, DTN, FTS, Grid.

Collaborative Platforms

This track focuses on collaborative platforms and techniques to enhance sharing at the application level (Office, Groupware and Productivity). As a matter of fact more and more web-based tools are becoming available and become accessible as web-based applications within Sync&Share platforms. CS3 sites are proposing ways to host such services in a coherent way augmenting their final value, e.g. via combining Office functionality and sharing capabilities.

File Sync&Share Products

This is the presentation session for software companies developing File Sync&Share products: evolution and latest releases, planned new features and development roadmap.

Past speakers included: Dropbox, Nextcloud, Owncloud, Powerfolder, Pydio, Seafile, Syncany

Scalable Storage Backends for Cloud, HPC and Global Science

This storage track is the place for providers, advanced users and integrators of innovative storage solutions. The need of selecting and supporting effective storage solutions (notably in the multi-PB area) should not overshadow the difficulty and costs to maintain these solutions without creating long-term support nightmares. Nowadays cloud storage is required to deliver multiple functionalities within a single data repository, e.g. serving sync&share mobile access along with high-performance HPC access. Solutions from vendors and experience from the sites will be discussed in this track.

Technology & Research

Classic CS3 track presenting and discussing technical building blocks of CS3 services: technology, design, experimentation and engineering results. It includes topic like:

Interoperability: CS3APIs, OCM

Algorithms and protocols for file sync and sharing;

Sharing and metadata semantics;

Service reliability and data integrity;
Innovative desktop and mobile integration;
Monitoring and performance analysis;
New user interfaces;
APIs and command-line tools.

Interoperability protocols and APIs: thematic workshop

All things interoperability: OCM, CS3 APIs, REVA, ...

This is the follow up from previous workshops.

Topics will include:
Release Status
Testing & validation infrastructure
Extensions
Community & governance
AOB

Science Mesh Workshop - Global Platform for Scientific Collaboration

This is a 2nd Science Mesh workshop and a followup from ScienceMesh Workshop at CS3 2021.

Access the detailed agenda page [here](#)

Highlights:
How to join the Science Mesh federation?
New research communities and ESFRI infrastructures (Environmental Studies, Photon and Neutron Science, Humanities and Social Studies, Astrophysics and Particle Physics)
Long-term sustainability and interoperability with European Open Science Cloud

ScienceMesh (sciencemesh.io) is a global collaboration service for researchers, educators, data curators and analysts based on OCM and CS3 APIs.

Science Mesh is developed by the EU-funded Horizon 2020 CS3MESH4EOSC project (<https://cs3mesh4eosc.eu>) which aims at expanding on the collective experience of the CS3 community and providing a sustainable framework for future technical collaboration within the CS3 community in a larger context of the European Open Science Cloud.

Main session

