

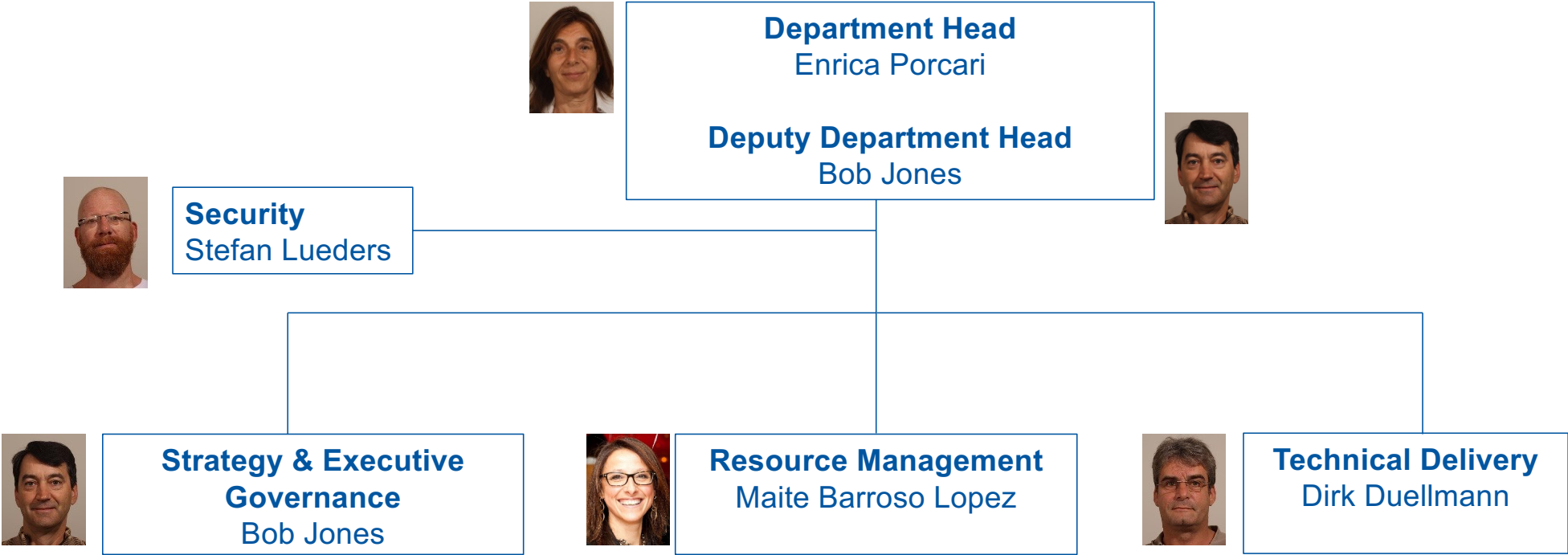
CERN IT Department - Overview Technical Services



2022

Enrica Porcari & IT Group Leaders

IT Department



IT-RM : Resource Management

Increase quality and accountability of personnel and budget resources

- Puts together a holistic view of IT department budgets (Personnel/Material and Operation/Projects)
- Manages all aspects of IT department personnel and implement initiatives to meet the IT strategy in order to attract, develop and engage the employees

IT-GOV : Strategy & Executive Governance

Drives the execution of the IT strategy

- Hosts the CERN computer security, business continuity and architecture teams
- Leads engagement with other departments and sectors
- Oversees R&D and innovation programmes
- Leads internal and external IT communications



IT-TD: Technical Delivery



Group Leader:
Dirk Duellmann



Deputy:
Bernd Panzer-Steindel



Natalie Kane

TD-SM: Service Management

IT-TD: Technical Delivery

The group coordinates the activities in the Technical Delivery cluster of groups and the management of IT technical services. This includes the service provisioning, resource planning, optimisation and change management in accordance with Organization and user needs

- Handles all Service Management activities in the IT Department and ensures ITIL implementation and overall operational responsibility for the CERN Service Management tool for all services across the whole of CERN.



IT-CA: Collaborative Applications



Group leader:
German Cancio Melia



Deputy:
Jose Benito Gonzalez Lopez



Pedro Ferreira

CA-CTE: Conferencing Technology



Thomas Baron

CA-GES: Groupware and Engineering Services



Jose Benito Gonzalez Lopez

CA-IR: Institutional Repositories










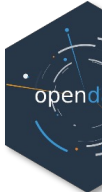




Lars Holm Nielsen

CA-OSR: Open Science Repositories



IT-CA: Collaborative Applications

- Conferencing technology:   
 - Indico, video conferencing (Zoom), Mattermost, Webcast, Newdle, document conversion / media transcoding, ...
- Groupware and Engineering:    
 - E-mail Infrastructure; tools for Mechanical Engineering, Electronics Design Automation, Mathematics, ...
- Institutional Repositories:   
 - CDS / CDS Videos, Library Catalogue, Digital Memory, Open Data, ...
- Open Science Repositories:
 - Zenodo, Invenio / InvenioRDM and related projects 

IT-DA: Databases & Analytics



Group Leader:
Eva Dafonte Perez



Deputy:
Ignacio Coterillo Coz



Jose Carlos Luna Duran

DA-AV: Analytics and Visualisation



Miroslav Potocky

DA-DB: Database Services



Pedro Andrade

DA-DS: Data Stores



Ignacio Coterillo Coz

DA-MMS: Messaging, Monitoring and Streaming



IT-DA: Databases & Analytics

The group is responsible for service delivery and evolution of databases, data stores, monitoring, messaging, streaming, analytics and data visualisation solutions for the different CERN communities.

The sections provide:

- Frontend analytics services: Interactive analytics platforms, central reporting platforms and dashboards infrastructure
- Database instances, instance management, administration and troubleshooting for several types of relational database software.
- Different types of data store services (file stores, document stores) for the entire CERN community.
- Messaging, data Streaming and Monitoring platforms and services for the different CERN communities.



ORACLE®



DBOD
DATABASE ON DEMAND

Includes
MySQL

influxdb

PostgreSQL



2022

Enrica Porcari & IT Group Leaders

IT-PW: Platforms & Workflows



Group Leader:
Eric Grancher



Deputy:
Andreas Wagner



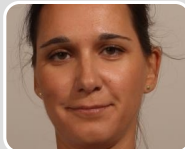
Artur Wiecek

PW-ARW: Application and Reusable Workflows



Hannah Short

PW-IAM: Identity and Access Management



Aleksandra Wardzinska

PW-PI: Platforms Infrastructure



Andreas Wagner

PW-WA: Web and Authoring



IT-PW: Platforms & Workflows

- **Identity and Access Management: Single Sign-on, certification authority, groups and account management, WLCG IAM**
 - Tools for developing and deploying applications
 - Issue tracking (Jira)
 - Version control system (GitLab)
 - Sentry error tracking
 - Container platforms: Kubernetes and OpenShift
- **Tools for creating and maintaining web sites and documentation**
 - Content management: Drupal, WordPress (application template)
 - CERN Search as a service
 - Documentation using markup language: TWiki, CodiMD, GitLab Pages
 - Surveys: LimeSurvey
 - Authoring: Overleaf, Google Workspace
 - CERN Notifications
 - SharePoint (being transitioned from "on-premises" to cloud hosting)
 - Web hosting (AFS, DFS, EOS) and certificate procurement (Sectigo)
 - CERN Library Proxy (EZproxy), OJS (Open Journal System) for RCS-SIS
- **Tools for computational workflows**
 - Machine learning platform (Kubeflow)
 - Reproducible analysis platform (REANA)
 - Contribution to Open data platform (CERN Open Data)
- **Hosting for third party applications (administrative and engineering)**



IT-CS: Communication Systems



Group Leader:
Tony Cass



Deputy:
Aurelie Pascal



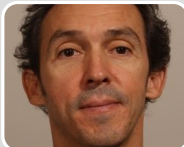
Marwan Khelif

CS-CT: Communication Tools



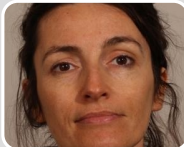
John Shade

CS-DO: Deployment & Operations



David Gutierrez Rueda

CS-NE: Network Engineering













Aurelie Pascal

CS-TR: Telecoms & Radio



IT-CS: Communication Systems

- Network services:
 - Campus network, including site-wide  coverage
 - Datacentre networks for physics (LCG) and infrastructure (ITS) services
 - Networking for experiments, including high-bandwidth links for online data recording
 - The Technical network to support essential accelerator infrastructure
 - External network connections and firewalls   
 - Network infrastructure—DHCP, DNS, timeservers, 
- Telephony services:
 - Landline/fixed services, including  CERN's phone exchange, softphone clients—CERNphone & CERNphone mobile —and external connectivity
 - Mobile, including 3G/4G coverage for the underground areas
- Other services:
 -  Digital Radio Communication Infrastructure
 - Interconnection infrastructure for Internet Service Providers: 
 -  infrastructure for IoT devices

IT-SD: Storage & Data Management



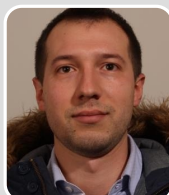
Group Leader:
Jakub Moscicki

Deputy:
Oliver Keeble



Oliver Keeble

SD-GSS: General Storage Services



Luca Mascetti

SD-PDS: Physics Data Services



Michael Davis

SD-TAB: Tape, Archives and Backups



IT-SD: Storage & Data Management

Mandate: ensure coherent design, development, operation and evolution of storage and data management services at CERN for all aspects of physics, user and project data and general needs of the Laboratory.

- **General Storage Services**

- Filesystems, sync&share, block and object storage
- User and project storage with universal file access, data analysis interfaces and collaboration capabilities
- Storage building blocks for cloud services

- **Physics Data Services**

- Large-scale disk storage for LHC and SME experiments
- Storage for Tier-0 processing for online and offline workflows
- Worldwide file transfer and distribution

- **Tape, Archives and Backups**

- Tier-0 custodial storage for LHC and SME experiments
- General purpose archival and backup services



CERN
Tape Archive



IT-CD: Compute & Devices



Group Leader:
Alberto Pace

Deputy:
Arne Wiebalck



Gavin McCance

CD-CC: Compute and Configuration



Arne Wiebalck

CD-CLI: Cloud and Linux Infrastructure



Michal Kwiatek

CD-DPP: Device Provisioning and
Productivity



IT-CD: Compute & Devices

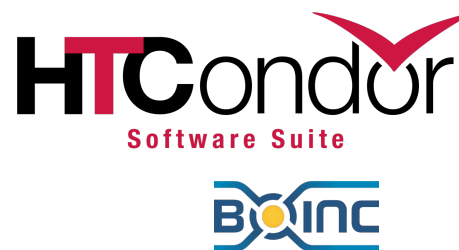
- Compute and Configuration

- > Scientific computing services for WLCG and CERN
Lxplus, Acron, Batch, HPC, Volunteer
- > Configuration and Operations Services:
Puppet / Foreman, DNSLB, Teigi (+Vault), License Servers
- > WLCG Services
VOMS, MyProxy, BDII, HammerCloud



- Cloud and Linux Infrastructure

- > Provisioning of Compute Resources via OpenStack
Virtual & Physical Machines, Container Clusters, GPUs
- > Linux Engineering and Software Building
Deployment & Operation of Enterprise Linux, image & package building

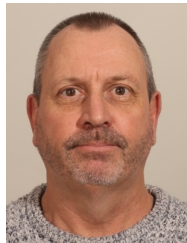


- Device Provisioning and Productivity

- > Windows Support & Infrastructure
Active Directory, Windows Terminal Servers, CMF 🏠
- > Mac Support, iOS, Android
- > Application Provisioning
Microsoft 365, Adobe Creative Cloud, PDF-XChange



IT-FA: Fabric



Group Leader:
Wayne Salter

Deputy:
Olof Barring



Jarek Polok

FA-HCT: Hardware commissioning and Tools



Eric Bonfillou

FA-HPS: Hardware Procurement and Support



Olof Barring

FA-IO: Infrastructure and Operations

IT-FA: Fabric

The group procures, manages and operates the layer providing IT equipment for the CERN experiments and users community, the Data Centres and associated Computing Facilities, as well as the site-wide IT managed conference rooms.

- Projects
 - ❖ Design, construction and operation of the PCC (Prévessin Computer Centre)
- DC Operations including Supporting Tools
- Procurement of CPU Server and Storage, Office Computing Equipment, Printers and AV Equipment
- Conference Room Support
- Printer and Public Display Support
- Hardware Labs
 - ❖ R+D activities under Openlab
 - ❖ System Administration and Operation



Service Status

- **Service Status Board**
 - Access SSB (<http://cern.ch/ssb>) for Incidents, Planned Interventions or Changes affecting services provided by IT and SMB
- **Service Availability Board**
 - Access SAB (https://cern.service-now.com/service-portal?id=service_availability) for Availability of CERN Computing Services



Technical Delivery Meetings

- IT Technical Users Meeting (ITUM)
 - Quarterly information meeting for general user community
 - Indico category
- Problem and Incident Management (PIM/C5)
 - Fridays at 9 am
 - external representation: EP-SFT, FAB-BC, ATS
 - Indico category
- Change and Release Management (CMRB)
 - manages planned Service Changes
 - at the conclusion of a service improvement/retirement/replacement project
 - involving stakeholder representatives as reviewers
 - reviews communication plan and remaining risks

