BioMedIT Local Nodes – Zurich Example
Personalized Health Alliance Basel-Zurich Workshop

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BioMedIT – Integrating Data for Biomedical Research

Secure BioMedIT environment

Clinical Research Data Lake

Healthy Reference Cohort Data

Model Organism Reference Data

International Reference Data

Citizen Data

Healthy Records

Genomics data

Metabolomics data

Imaging Data

Physiology Data

Bio Banks

Healthy Innovation

Clinical Research Data Lake

Project Data

Project Data

Project Data

Research and Innovation Projects

PHRT MS

FGCZ

Thierry Sengstag and Bernd Rinn | 2018-01-22 | 2
BioMedIT – Integrating Data for Biomedical Research

Hospitals

Scientific Facilities

Citizen Data

Public Data

Secure Environment

RDN Zurich

Leonhard Med

Researchers

Citizen Data

Public Data

Model Organism Reference Data

Healthy Reference Cohort

Imaging Data

Genomics data

Metabolomics data

Physiology Data

Clinical Research Data Lake

Genomics data

Metabolomics data

Imaging Data

Healthy Reference Cohort

Model Organism Reference Data

Imaging Data
Biomedical Collaborative IT Environment: Focus Zurich

- ETH Zürich
- ID Scientific IT Services B. Rinn
- Research Data Service Center R. Naef
- ZI S3IT M. Riedi
- BioMedIT RDN ZH
- SPHN IT Team ZH
- BioMed IT
- University Hospital Zurich
- Universität Zürich

- sciCORE T. Sengstag

- BioMedIT RDN BS
- Vital-IT I. Xenarios
- SPHN DCC
- BioMedIT RDN LS/GE/BE
Leonhard Med – High Performance Computing Infrastructure

- **Login Node**
- **File-transfer**
- **NFS Storage (SSD) for system data and /home**
- **Parallel Filesystem**
- **CPU Nodes**
- **GPU Nodes**
- **Infiniband**
- **DMZ**
- **Ethernet**
- **Firewall zones**
Leonhard Med – Data and Computing Platform

- **Identity**: Users from Swiss Universities and Hospitals
- **Authorization**: User Group per Research Project
- **Tools**:
  - Github
  - Singularity
  - Docker
  - Conda
  - Genomics
  - Proteomics
  - Metabolomics
  - Imaging
  - Analysis
- **Data**:
  - Research Data
  - Clinical Data
  - Reference Data

All PH data are treated as Confidential

**Leonhard Med**
Leonhard Med: computing and data platform of RDN Zurich
- Secure space for sensitive biomedical data
- High-performance computing environment
- Data Management, Sharing and Interoperability Services

BioMedIT Regional Data Nodes (RDNs) + DCC
- Bring clinical and research data together in a secure space
- Enable collaborative biomedical research projects and data sharing
- Ensure interoperability of data and workflows

SPHN IT Team Zurich
- Support SPHN driver and development projects in Zurich
- Enable data flow between USZ, UZH and ETH
- Interacts closely with all BioMedIT RDNs and SPHN DCC
Questions?