Over the last two decades the Center For Development of Advanced Computing (C-DAC) has created a global brand name in high performance computing with its indigenously developed PARAM supercomputers. The Bioinformatics Group at C-DAC leverages this expertise to delve into complex biological systems to provide high throughput solutions and services.

Poznan Supercomputing and Networking Center (PSNC) is one of the largest high performance computing centers in Poland, providing network, computation and storage resources for the scientific community. PSNC operates the metropolitan network POZMAN and the national broadband network PIONIER.

C3SE at Chalmers University of Technology is one of six centers in the Swedish National Infrastructure for Computing (SNIC), a national metacenter for high performance computing under the Swedish Research Council.

The Center for Research Computing (CRC) at the University of Notre Dame operates a state of the art high performance computing facility, providing advanced computing support to the Notre Dame community and external partners in academia and industry. The CRC facilitates research across a broad range of disciplines, including chemistry, biology, genetics and medical science.

University Corporation for Advanced Internet Development (UCAID), also known as Internet2, is an exceptional community of U.S. and international leaders in research, academia, industry and government who create and collaborate via innovative technologies. Together, they accelerate research discovery, advance national and global education, and improve the delivery of public services. The Internet2 community touches nearly every major innovation that defines our modern digital lives, and continues to define "what's next."

Open Health Systems Laboratory (OHSL) and its strategic partners undertake projects in life sciences, which are innovative, path breaking proof-of-concepts requiring cross-sector collaboration. OHSL was conceived to focus on building global team science consortia by leveraging the best biomedical informatics, information and communication technology to address key questions of medical science.

International Consortium for Technology in Biomedicine
ICTBioMed

connecting clouds
for global research

The goal of the International Consortium for Technology in Biomedicine, ICTBioMed, is to provide an open cloud infrastructure connecting high performance computing hardware, software and data science expertise with a global footprint for biomedical research. ICTBioMed partners fully support the Big Data to Knowledge (BD2K) mission in the belief that data intensive science is the future of health and medicinal research.

Initiated by the Open Health Systems Laboratory (OHSL), ICTBioMed has brought together three major supercomputing and network centers in India, Poland and Sweden. Internet2 has been associated with the effort from the beginning. The Center for Research Computing at the University of Notre Dame has recently joined the consortium with resources in the US. The four supercomputing centers are connected by advanced international research and education networks (IRENs) and host the cloud computing environment in their respective regions.

ICTBioMed has been working together for the past couple of years. Activities include:

Connecting biomedical research institutions through their cloud infrastructures

Collecting and integrating a toolset of mostly open source software and providing access to datasets of interest to its present and future users

Deploying perfSONAR and OpenStack, including container synchronization with real data load
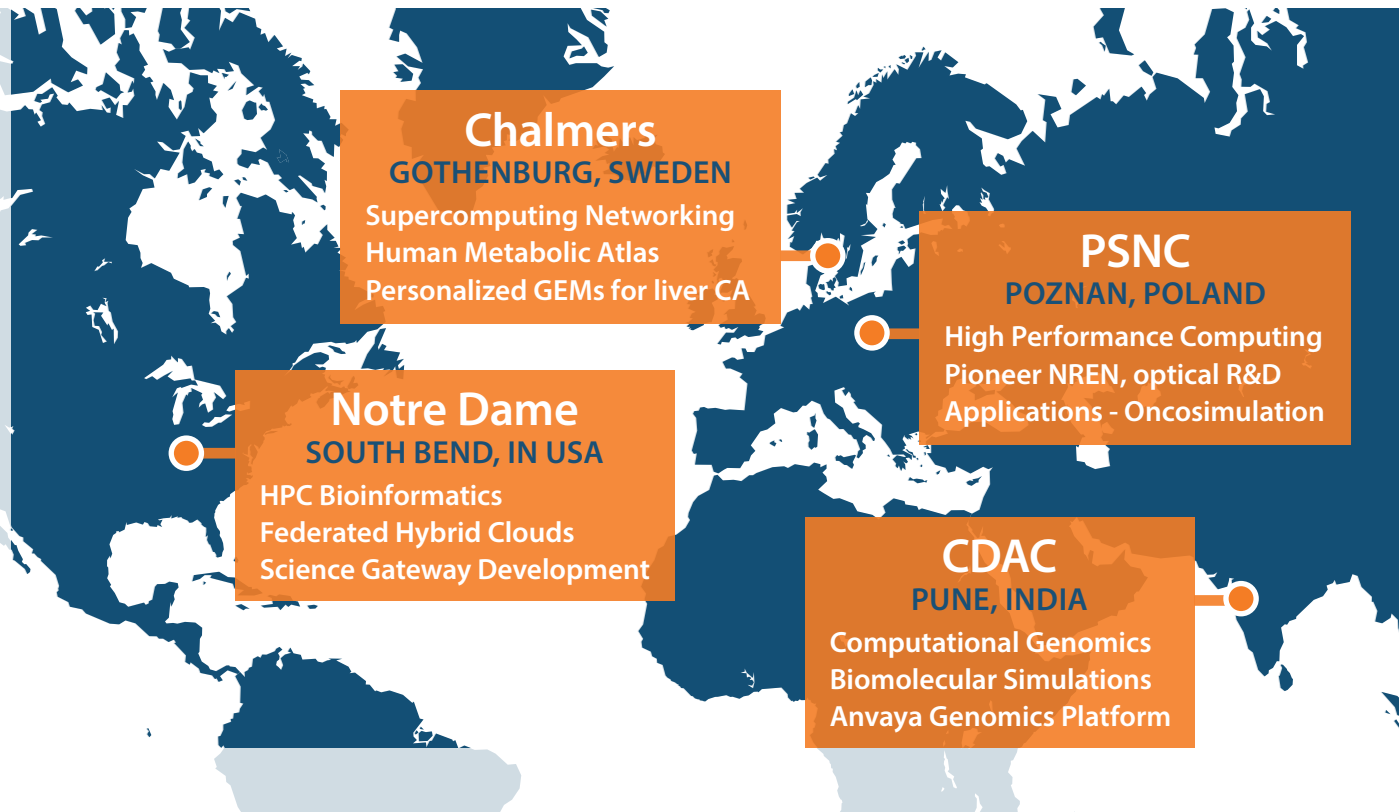
Identifying use cases and deploying proof of concept activities

Interoperability with similar networks

Face-to-face consultations and weekly conference calls for coordination

Proposal development as a consortium

Regularly presenting the status at professional meetings to seek wider participation from scientists as well as computer research organizations

OPEN HEALTH SYSTEMS LABORATORY
http://www.ohsl.us

CTR FOR DEVELOPMENT OF ADVANCED COMPUTING
http://www.cdac.in/

POZNAN SUPERCOMPUTING AND NETWORKING CTR
http://www.man.poznan.pl/online/en/

C3SE AT CHALMERS UNIVERSITY OF TECHNOLOGY
http://www.chalmers.se/EN/

NOTRE DAME CENTER FOR RESEARCH COMPUTING
http://crc.nd.edu

INTERNET 2
http://www.internet2.edu

perfSONAR
http://www.perfsonar.net/

OpenStack
http://www.openstack.org/

connecting clouds for global research

Chalmers
GOTHENBURG, SWEDEN

**Supercomputing Networking
Human Metabolic Atlas
Personalized GEMs for liver CA**

PSNC
POZNAN, POLAND

**High Performance Computing
Pioneer NREN, optical R&D
Applications - Oncosimulation**

Notre Dame
SOUTH BEND, IN USA

**HPC Bioinformatics
Federated Hybrid Clouds
Science Gateway Development**

CDAC
PUNE, INDIA

**Computational Genomics
Biomolecular Simulations
Anvaya Genomics Platform**

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