

HPC support in Sweden

Henric Zazzi

NAISS deputy user support manager

NAISS first year priorities

- Safeguard that users could continue research seamless during SNIC-NAISS transition.
- Secure continued operation of existing systems and interimistic users support.
- Negotiate an agreement with all large Universities about partnership for a delocalized solution for User Support through NAISS branches
- Apply for and secure increased funding to meet researchers increasing computational and storage demand
- Build trust in NAISS among the users of our resources.
- Build trust in a common way forward among people working across Sweden.
- Building new model for NAISS support organisation started 2024

NAISS user support funding

- The user support is mainly funded through a partnership agreement between several large universities, (4 or 1 MSEK/year per partner):
- **Partners:** Umeå universitet, Uppsala universitet, Linköpings universitet, KTH, Stockholms universitet, Karolinska Institutet, Chalmers, Lunds universitet
- **Entry level partners:** Göteborgs universitet, SLU, Luleå tekniska universitet, Linnéuniversitetet
- **Branch hosts:** KTH, Lund, Linköping, Umeå, Uppsala, Chalmers

Linnéuniversitetet 

 LINKÖPINGS
UNIVERSITET

 UMEÅ
UNIVERSITET

 UPPSALA
UNIVERSITET

 KTH
VETENSKAP
OCH KONST

 Stockholms
universitet

 LULEÅ
TEKNISKA
UNIVERSITET

 SLU

 KAROLINSKA
INSTITUTET
1810

 CHALMERS

 GÖTEBORGS
UNIVERSITET

 LUNDS
UNIVERSITET

LUNDS UNIVERSITET

Current NAISS support staff

User support managers

Torben Rasmussen, Henric Zazzi

Signed:

KTH

Arash Banaei
Jing Gong
Johan Hellsvik
Juan de Gracia
Mikael Djurfeldt
Parasuram Indragati
Gilbert Netzer
Ilari Korhonen

Signed:

Lund

Jonas Lindemann
Joachim Hein
Anders Follin
Rebecca Pitts
Roger Larsson
Nicolas Melot

Signing:

Linköping

Weine Olovsson
Hamish Struthers
Wei Zhang

Umeå

Negotiations:

Chalmers

Uppsala

What has been done this first year

- Collaborative tools
 - Mail, chat, competence matrix, git, webpage
- National documentation
 - Agreed upon common format for distribution
 - Common documentation webpage
- Common RT Policies
- NAISS support infrastructure
- Designing L2/L3 development support
- Collaboration with User Support Advisory Committee (USAC)

General support

Levels of support

Name	Type	Type of support	Funding
L1	Basic	user accounts, login issues, system permissions, security, ...	NAISS
L2	Mid-level	compilers, runtimes, scientific software installations and development, ...	NAISS
L3	Advanced	Flagship software development, ...	Local

Support Level

Staff

Financing

L3

L2

L1

Software development

Time limited

Job scheduling

Installation

Parallelisation

Optimization

Development advice

Scaling

Licenses

Platform access

Graphical

Productivity

Login

User accounts

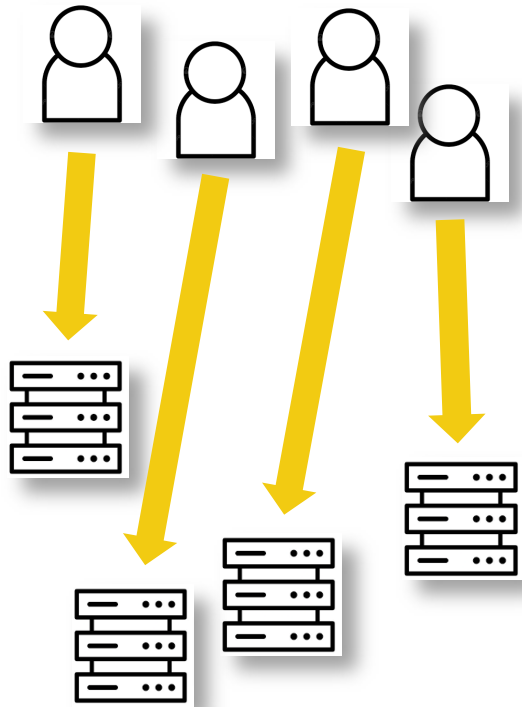
Sys Admin

AE/
RSE

NAISS

Local

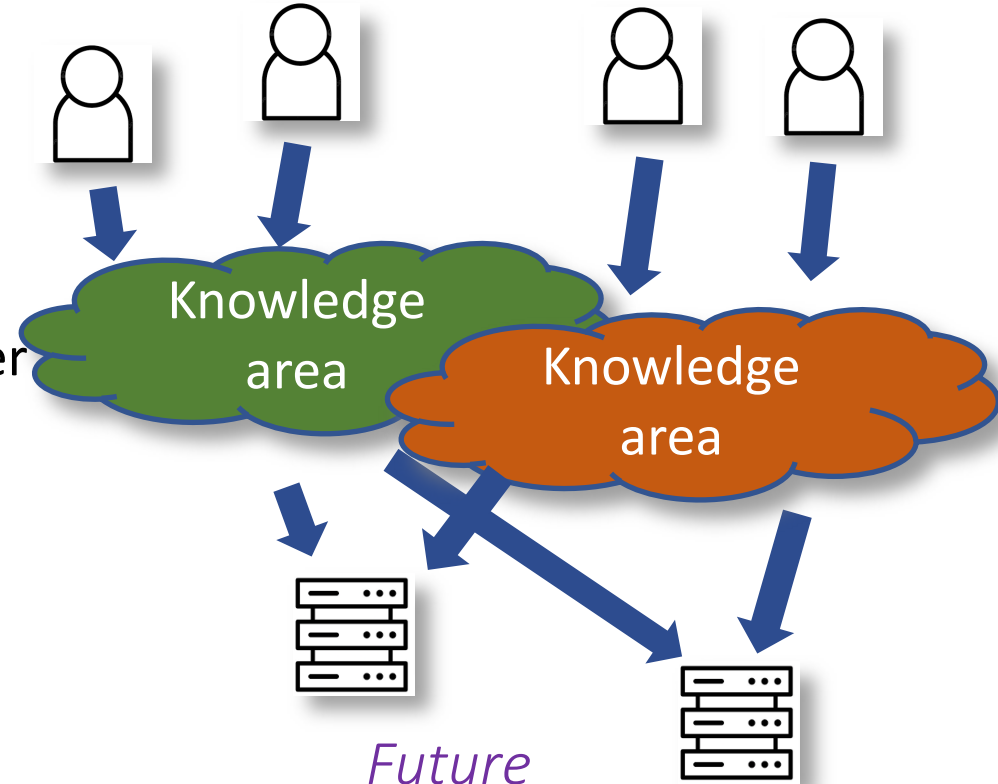
L2 Support collaboration



Current

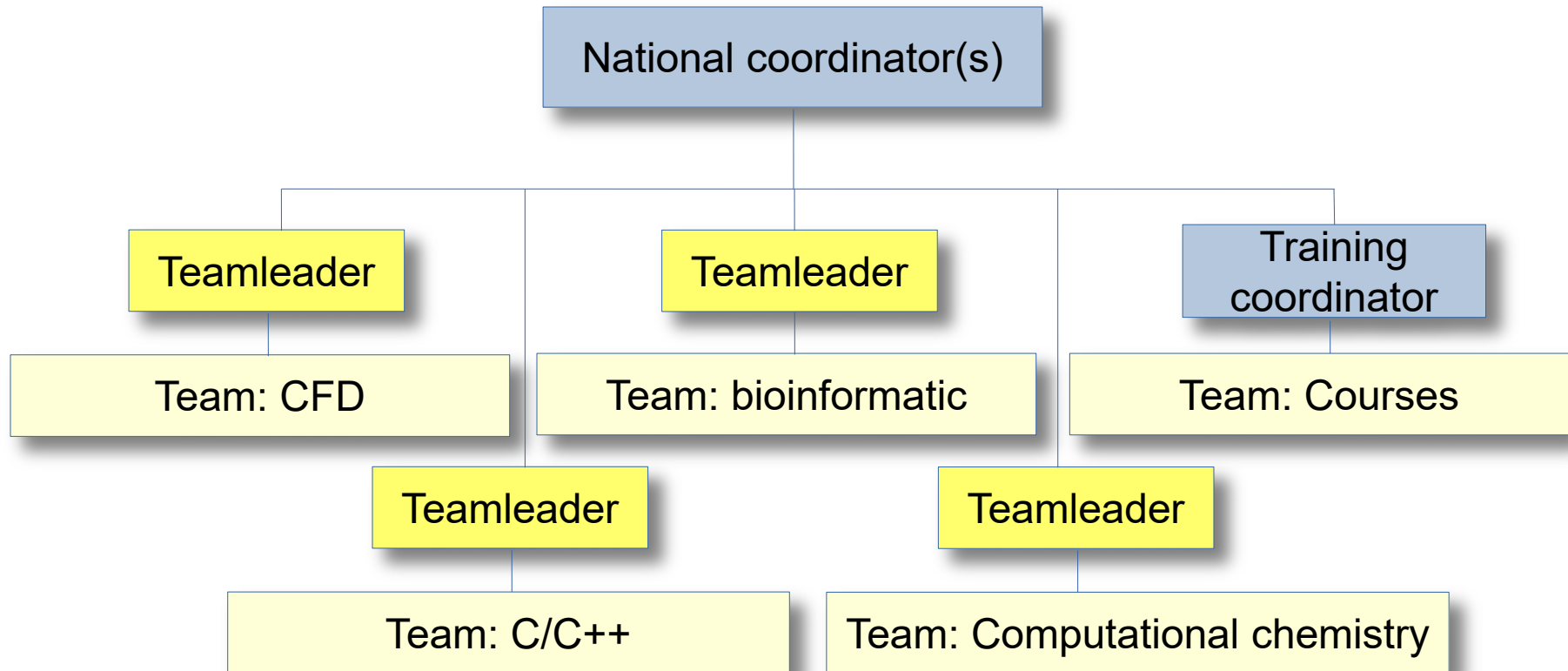


- Collaboration
- Knowledge transfer
- National support
- Responsibility



Future

Vision of support infrastructure



Competence Matrix

Set of competences in various categories

- Software
- Frameworks
- Programming languages

Defined in the SUPR portal

Map NAISS application experts knowledge areas

Java	Experienced
MATLAB	Beginner
Pascal	Experienced
Perl	Beginner
Python	Intermediate
R	Experienced

Standard för svensk indelning av forskningsämnen 2011

1: Natural sciences

106: Biological Sciences

10602: Biochemistry and Molecular Biology	Experienced
10604: Cell Biology	Intermediate
10605: Immunology (medical to be 30110 and agricultural to be 40302)	Intermediate
10606: Microbiology (medical to be 30109 and agricultural to be 40302)	Intermediate
10609: Genetics (medical to be 30107 and agricultural to be 40402)	Experienced
10610: Bioinformatics and Systems Biology (methods development to be 10203)	Experienced

3: Medical and Health Sciences

301: Basic Medicine

30108: Cell and Molecular Biology	Experienced
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Software

EasyBuild	Intermediate
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What are they used for?

- Technical reviews of medium/small proposals
- Create awareness of in-house expertise

Tagging support requests

- Using competence matrix to indentify expertise in handling specific support requests
- Tickets submitted via SUPR are tagged when initially submitting support request
- Tickets can be tagged manually in our ticketing system
- Tickets can be searched and filtered directly on needed expertise

Faster access to support staff with the needed knowledge

Problem Type

Select the problem type that best describes what you want support for. If no other type is appropriate, select **Other issues**.

Centre and Resource

If your problem is related to a specific resource at a centre, select that. If your problem is related to multiple resources at a centre (or no resource listed here at all), select the centre and mention the resources in the problem description below.

Project

If your problem is related to a specific project, select that.

Categories

You may select up to five categories related to your problem from the list below of programming languages, software tools and frameworks. Doing this helps us route the support request to the right people.

Summary

Provide a concise one-line summary of your problem. It will be used as the subject line in emails about this problem. A good summary makes it easier for the issue to reach the correct persons.

Do not use only generic phrases like "Help", "Problem", "Question", etc.

Description

Software development support

Vision for software support



L2

- Funded by NAISS
- How to run on HPC
- Development Advice
- Basic parallelisation
- Basic optimization

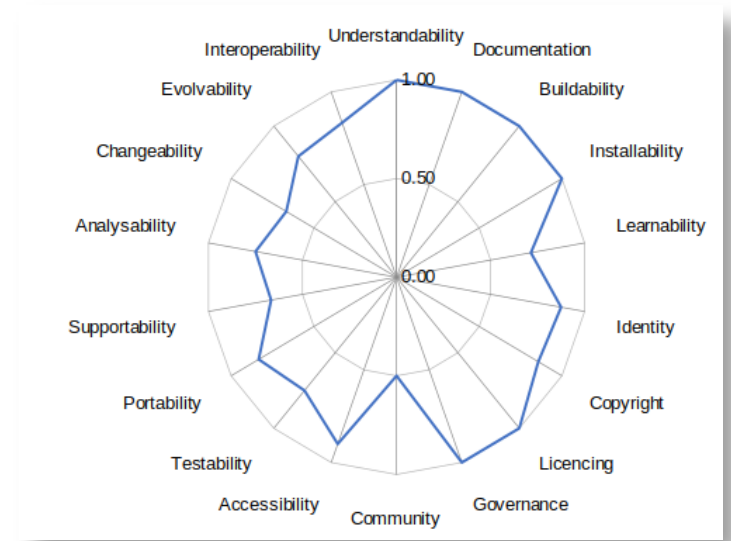
L3

- Funded by branch
- Project management
- Production
- Benchmarking
- Scaling



Evaluating L2 development support

- Simple proposal
- Evaluation criteria
- Collaboration with researchers
- Funded and lead by NAISS
- Short term support
- When and how to escalate L3 dev support



How does L3 development Support work at PDC



- Flagship software development
- Funded by local branch
- **Coordinated by NAISS**



Summary

- Tools for simplifying support and collaborate across branches
- Enabled knowledge area specific support from Low → Advanced level
- Designing procedures to help users to get support for developing software
- Establishing a career path for Application experts
- Get advice and user experience from **User Support Advisory Committee**
- Visibility, Outreach!