



bwHPC & bwHPC-C5: Concept & Access

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ulm university universität
uulm



Notes & References

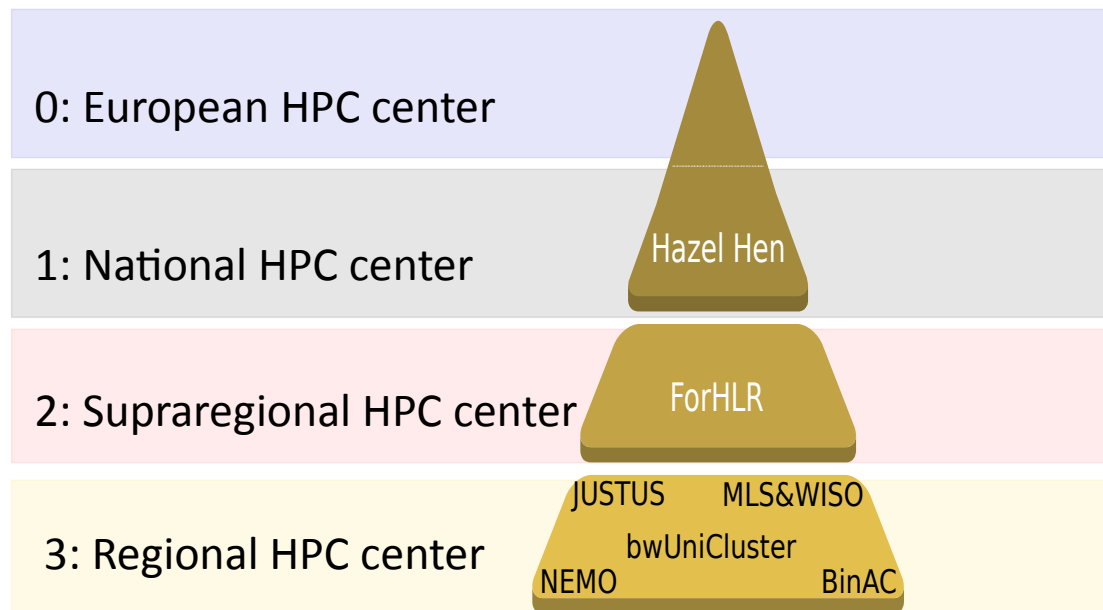
- This talk is a comprised repetition of talks:
 - „bwHPC+bwHPC-C5: Introduction and Concept“
 - „Access procedure: bw{Uni,For}Clusters & ForHLR“of the [introductory course on April 05, 2017](#) (for slides, read [here](#))

- For all the details, check:
 - bwHPC Wiki: <http://www.bwhpc.de/wiki>

1. Introduction

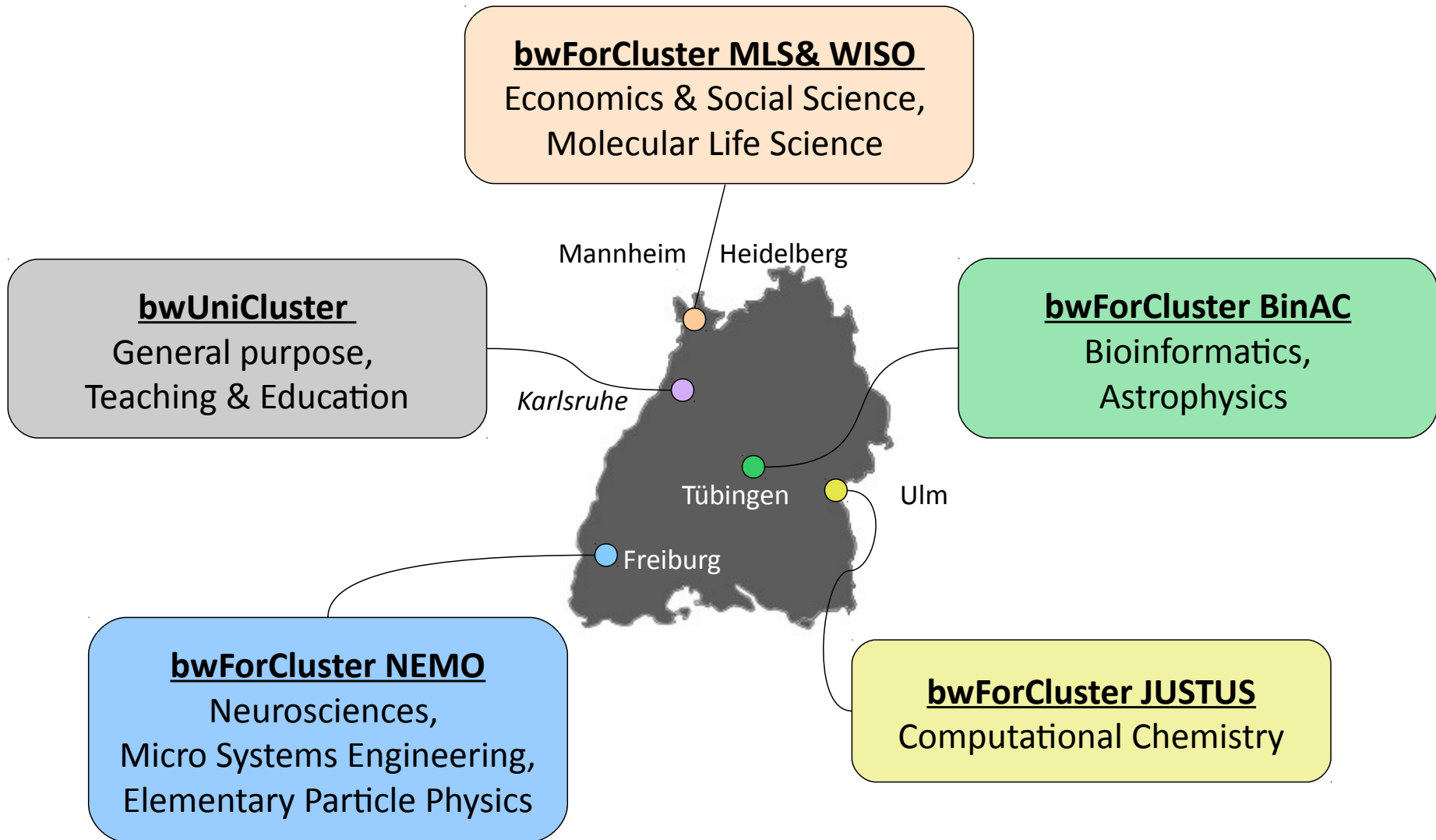
What is bwHPC ?

- **bwHPC** (Baden-Württemberg High Performance Computing) is the initiative betw. 2013 and 2018 for implementing a federated HPC cluster, support and service infrastructure.
- Current HPC clusters in BaWü acc. HPC tier (level) classification:



Uniqueness of bwHPC? **Coordinated and federated HPC @tier 3!**

Tier 3 Clusters & Purpose

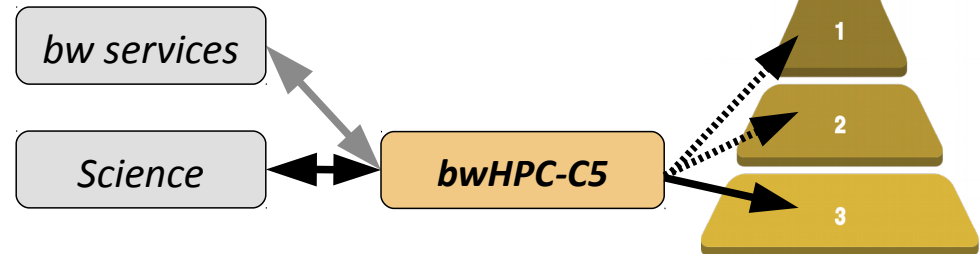


What is bwHPC-C5 ?

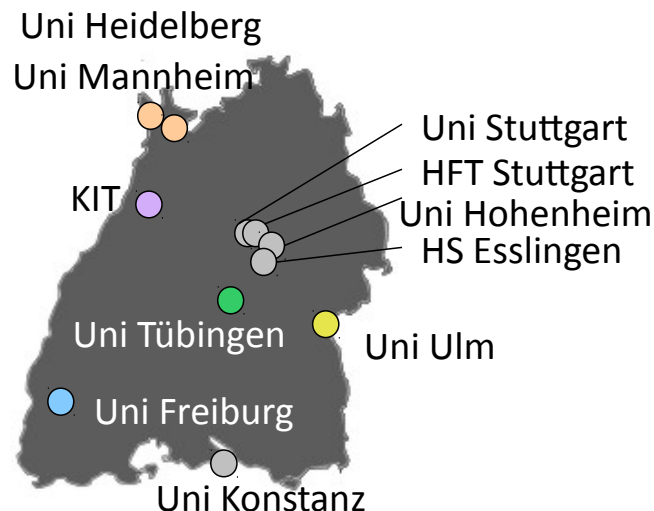
- Coordinated Compute Cluster Competence Centers

Goal:

- Bridging Science & HPC
- Bridging HPC tiers
- Embedding services



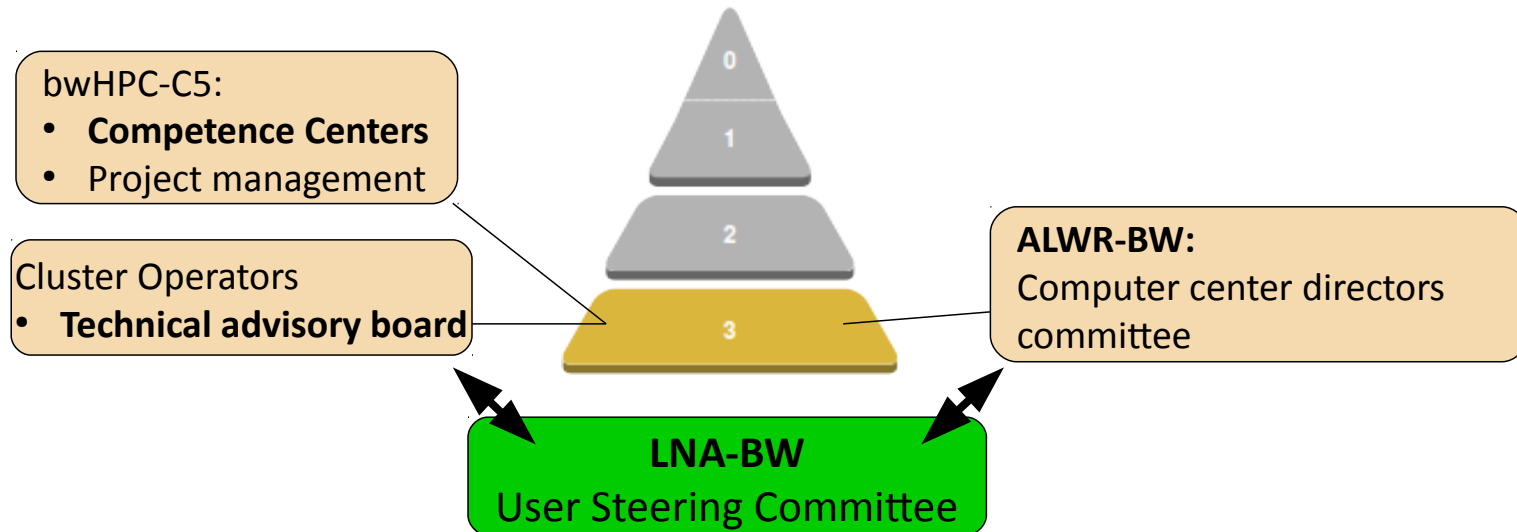
- The HPC Competence Centers comprise experts from 11 Universities.



bwHPC-C5: support

- Provides HPC generic softwares, Data management tools, [seminars](#), [workshops](#), [documentation](#) and best practices repository ([bwHPC Wiki](#)).
- Users can contact the Competence Centers via [email](#) and [ticket system](#).
- The cluster specific support is also provided via [email list](#) of cluster, [ticket system](#) and telephone.

bwHPC: governance



2. Registration




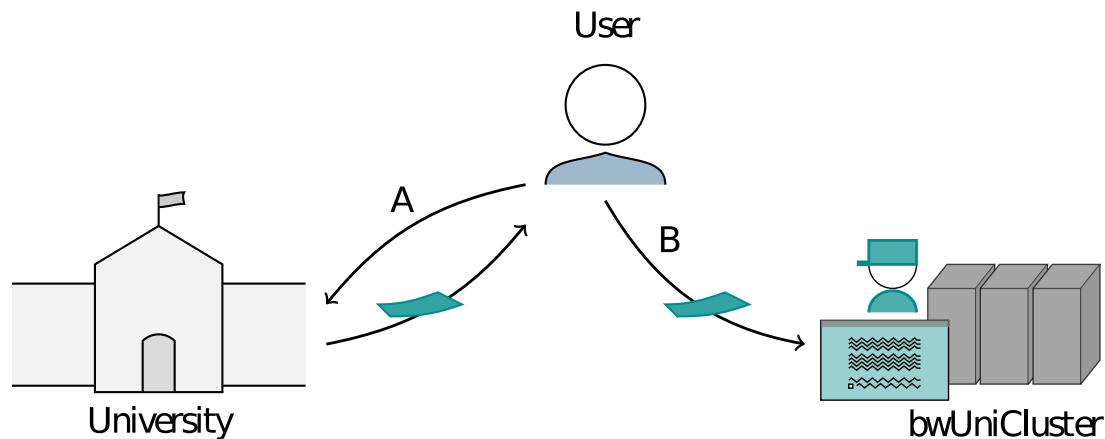
Registration

Different clusters → different registration processes

- bwUniCluster
- bwForCluster
- ForHLR Phase I & II

Registration Process - bwUniCluster

- Access only for members of shareholder universities.
- Authorization via bwUniCluster entitlement  issued by the universities.
- More Details: http://www.bwhpc-c5.de/wiki/index.php/BwUniCluster_User_Access



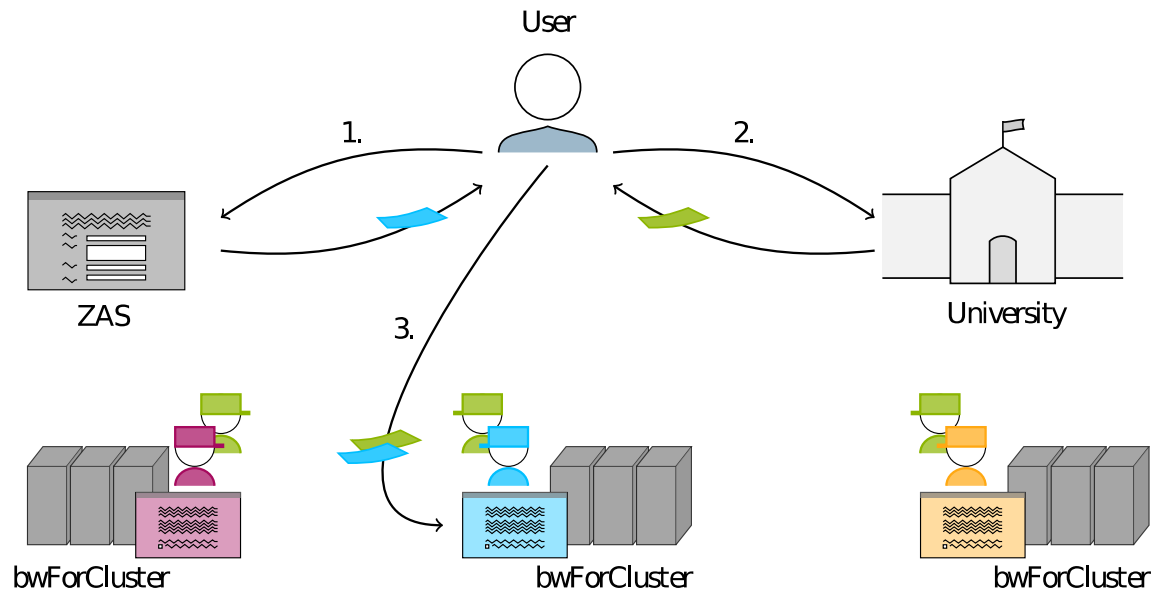
Step A: Obtainment of [bwUniCluster entitlement](#)

- Each university has its own entitlement granting policies!

Step B: Web registration at <https://bwidm.scc.kit.edu/> + questionnaire (https://www.bwhpc-c5.de/en/ZAS/bwunicluster_survey.php)

- Login via bwIDM with your university account

Registration Process - bwForClusters



Step 1: Registration at „Central Application Site (ZAS)“

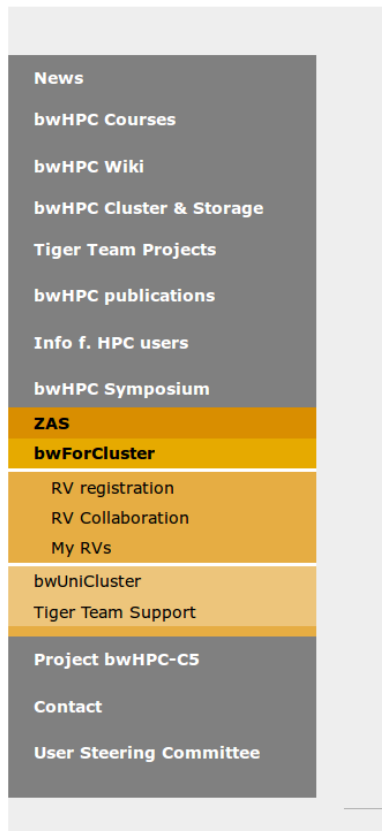
- Approval  of Cluster Assignment Team (CAT)

Step 2: Get bwForCluster entitlement  by own university

Step 3: Web registration at designated bwForCluster site

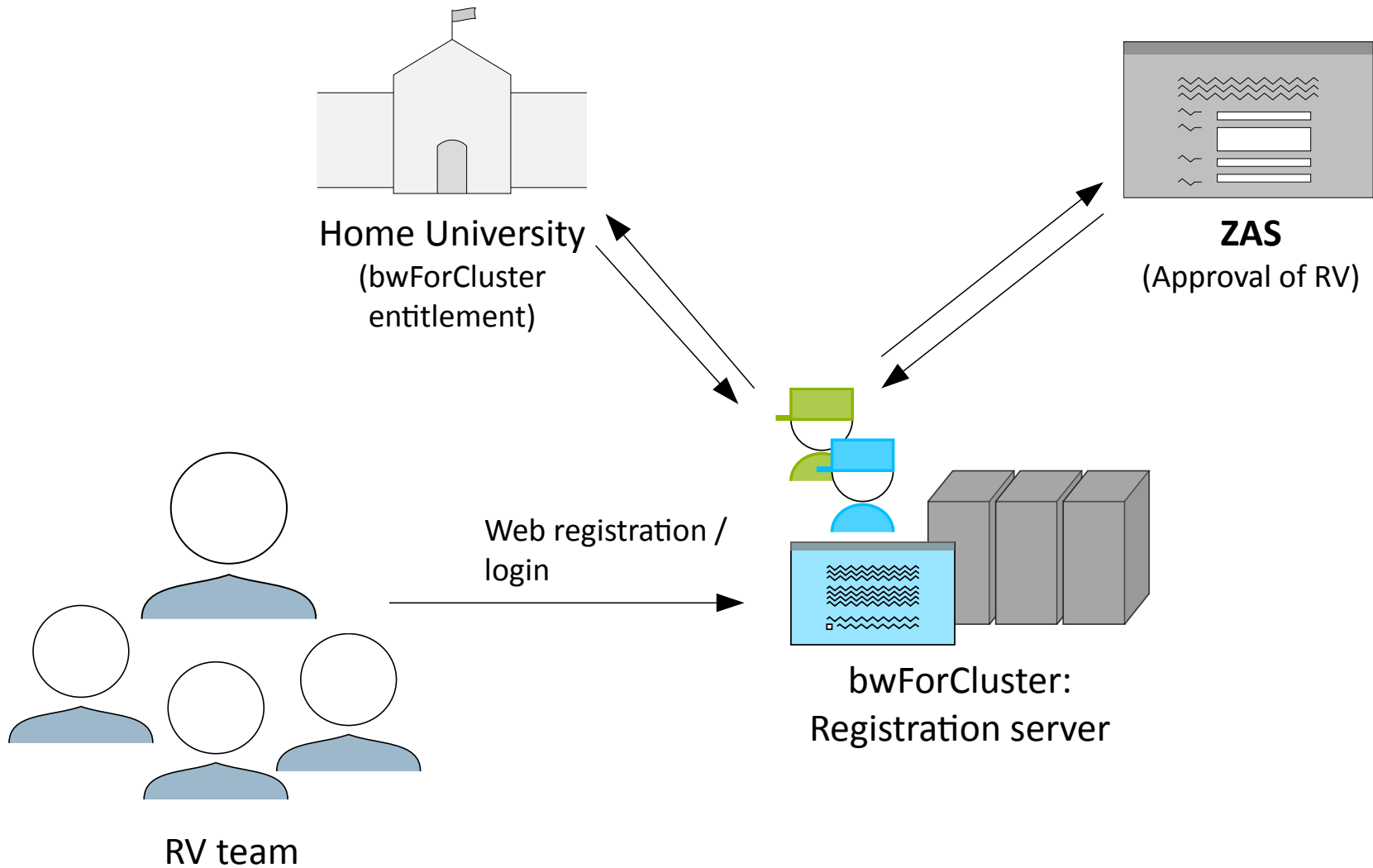
- e.g. <http://bwidm.rz.uni-ulm.de/>, bwForCluster JUSTUS (Computational Chemistry)

What is ZAS

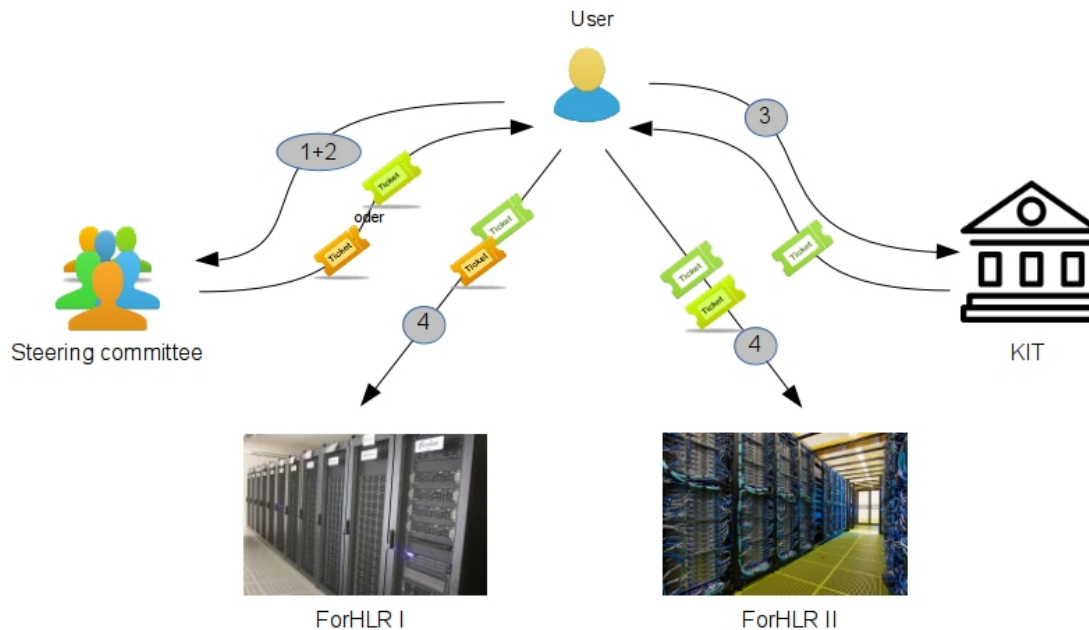


- Web interface of HPC clusters (in the state BW) to handle the user compute activities.
- Nomenclature:
 - RV = Planned compute activities (Rechenvorhaben).
 - RV Responsible: The person who does the registration of of the RV (applicant)
 - Cluster Assignment Team: aka CAT; assigns the exact cluster according to the RV requirement.
 - RV collaboration = The team (managers and coworkers)
- An RV approval is valid
 - Only on one bwForcluster for a period of one year after the approval
 - For all team members

Registration Process: bwForClusters



Registration Process – ForHLR I & II



Step 1: „Online Proposal Form“. (<http://www.scc.kit.edu/forschung/4971.php>)
(granting preliminary access)

Step 2: Peer-reviewed extended project description (3-5 pages).
PDF-file must be send to forhlr-projects@lists.kit.edu

Step 3: Fill out of the [ForHLR access form](#) for each project collaborator.
Form must be send to SCC-Service desk or scanned to haefner@kit.edu

Step 4: Personal registration for ForHLR I & II on website <https://bwidm.scc.kit.edu>

3. Login

Login

Windows

- GUI: [MobaXterm](#), PuTTY

- Connection via **ssh**

UserID: [**<prefix>_<username>**]

Host, e.g. bwUniCluster:

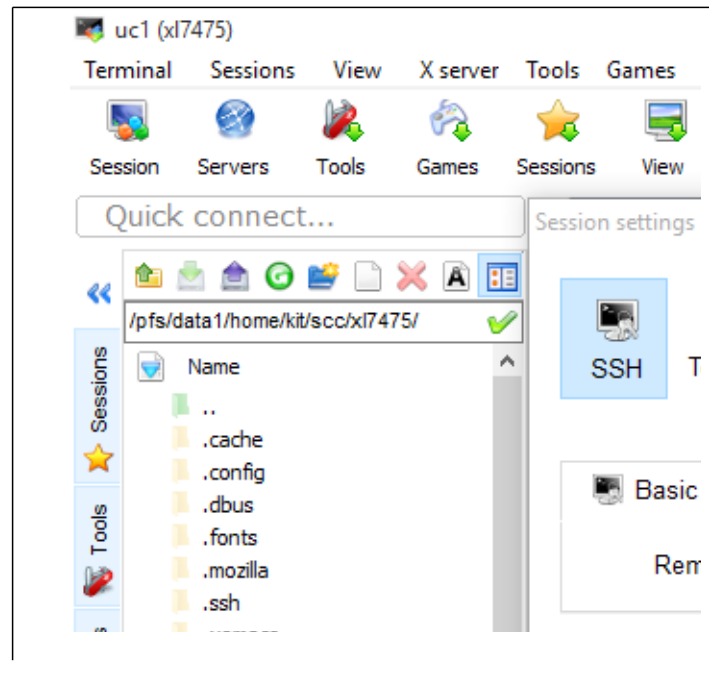
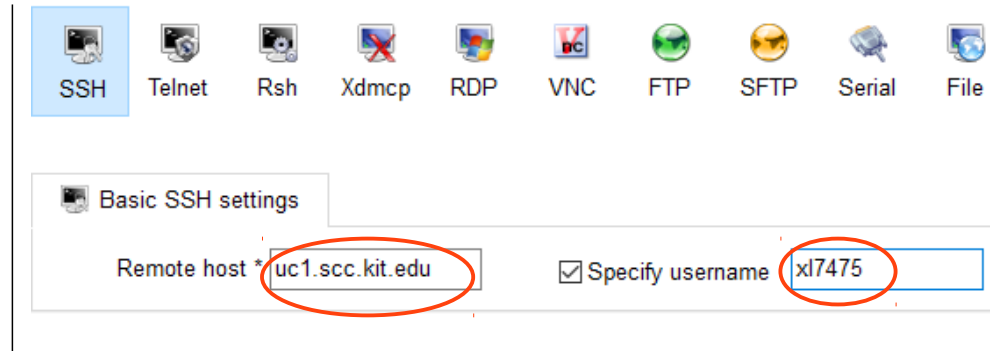
bwunicluster.scc.kit.edu

or

uc1.scc.kit.edu

Linux / macOS

- Command line interface (CLI)



4. File transfer

File transfer - Linux

| | |
|--|--|
| <pre>\$ scp <sourcefile> <targetfile></pre> | secure copy (remote file copy program) |
| <pre>\$ scp -r <sourcedir> <targetdir></pre> | recursively copy entire directories |
| <pre>\$ sftp <targetdir> \$ put get <sourcefile></pre> | secure file transfer program upload/download file |

■ Example: Transfer [paket.tar](#) from local to bwUniCluster

■ **scp:**

```
$ scp paket.tar xy_ab1234@uc1.scc.kit.edu:dir/  
xy_ab1234@uc1.scc.kit.edu's password:
```

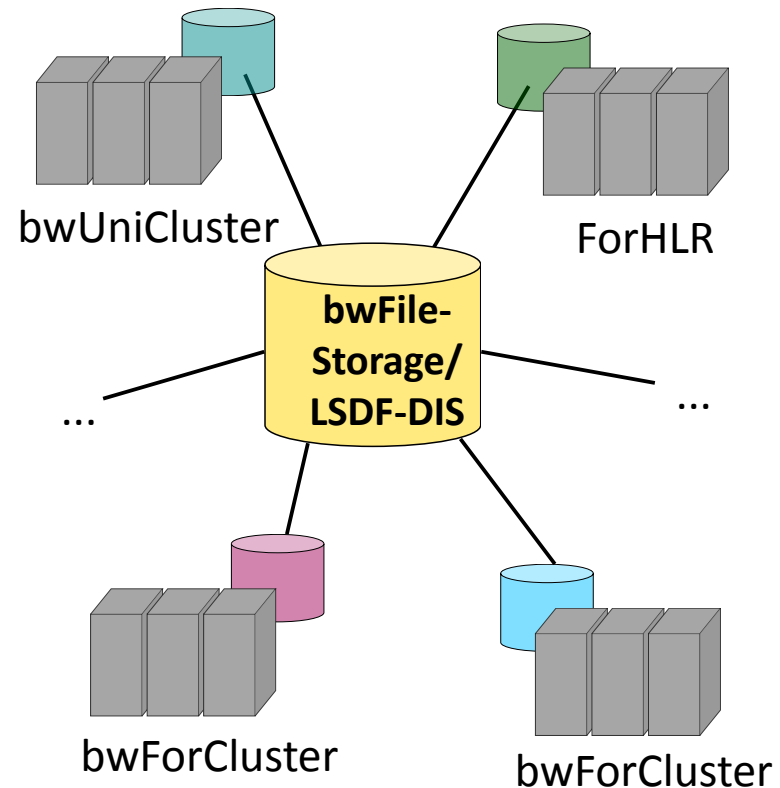
■ **sftp:**

```
$ sftp: xy_ab1234@uc1.scc.kit.edu:dir  
xy_ab1234@uc1.scc.kit.edu's password:  
Connected to uc1.scc.kit.edu.  
Changing to: ${HOME}/dir  
sftp> put paket.tar
```

5. bwFileStorage

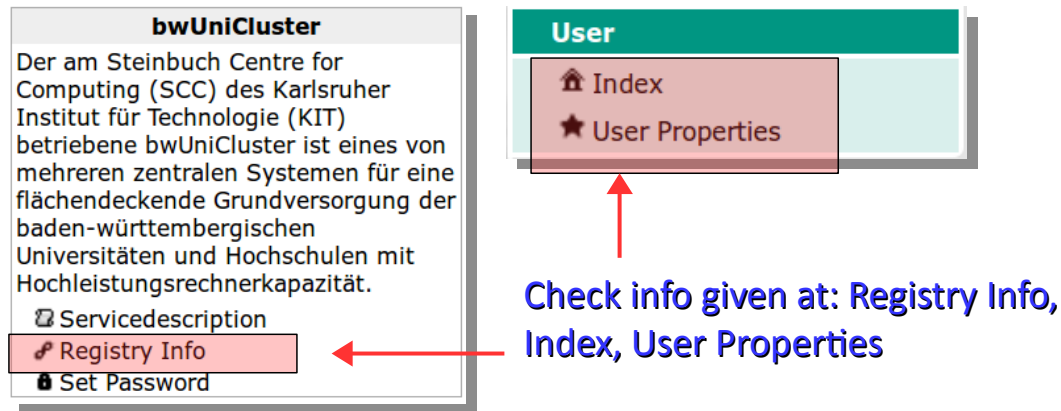
BwFileStorage / LSDF-DIS

- Central storage located at KIT
- 100GB disk space per user
- Requirements
 - bwFileStorage entitlement
 - web registration at <https://bwidm.scc.kit.edu>
- Hosts
 - Via web: <https://bwfilestorage.lsd.f.kit.edu>
 - Via ssh: `bwfilestorage-login.lsd.f.kit.edu`



FAQ

- “I cannot login”, why?
 - Login at registration server of your cluster
 - e.g. bwUniCluster → <https://bwidm.scc.kit.edu>



- @ bwUniCluster: Check if you’ve done the questionnaire within 14 days after the registration.