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# Software Infrastructure

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## And now for something completely different...

- Research and software in research is getting more and more complex
  - Developing software
  - Using software / tools
- Same requirements as professional software development
  - Without dedicated software developers
- Collection of questions we asked ourselves and you may ask yourselves as well?

## Status quo – Hard to understand all in all (1/2)

- Who has a comprehensive overview?
- Why is it so hard to get a comprehensive overview?
- Who's an expert for a certain aspect?
- Who has the rights to do a certain thing?
- How is everything connected?
- Isn't X redundant to Y?



## Status quo - Hard to understand all in all (2/2)

- Who is in charge of X?
- What's happening when I need X but Y is out of office?
- What do I need to do to achieve goal Z?
- Where do I find X?



Git repositories (pub. / int.)

GitHub

DKFZ PowerFolder

CDash (pub. / int.)

Network drives

Email

mbiteam@dkfz.de

mitk-mbi@dkfz.de

mitk-users@dkfz.de

Wikis (pub. / int.)

Bugzilla

DKFZ IM

Redmine

Git hooks / Server hooks

Different servers

VMs for Dartclients

## Workflows – from B like ‚bug fixing‘ to R like ‚release management‘

- How is X connected to Y and who is involved?
- Where and how is workflow Z defined?
- Why is X involved?
- What rights and roles have been established?



To exaggerate...

**Is it an ordered  
chaos?**

## How to improve? (1/2)

- We achieved a lot with our tools and workflows
- Some parts of our software infrastructure are great
- Nevertheless there are limits / workarounds
- Be honest: for certain things we're not pros...  
Gain know-how or give it away?





## How to improve? (2/2)

- Maybe we're just using some stuff not as efficient as possible?
- There are unbreakable rules (e. g. organization guide lines)
- The best software is useless unless the users don't know how to use it
- Different software tools? More software tools?



## Move forward in the right direction

- Simplify things
- Remove friction
- Don't walk in circles

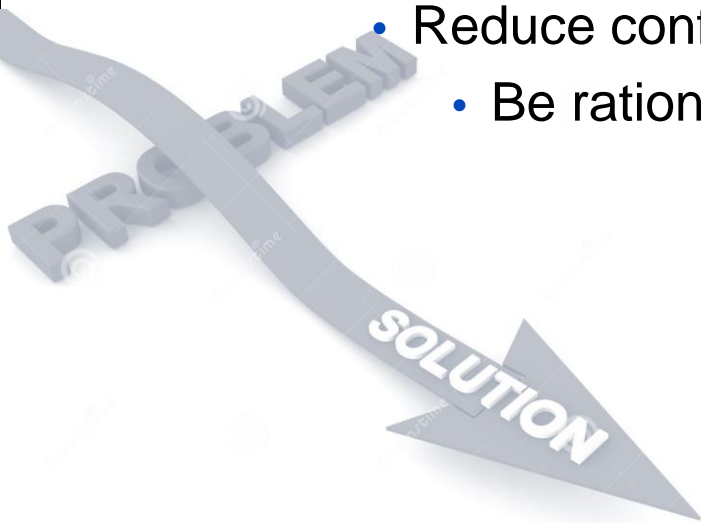
## Summary – Do you need to do something?

- Workflows are frayed, vague, or rudimentary?
- Your tools are throwing you some curve balls?
- Still reasonable to scale the status quo?
- BTW: Not your business?
  - Are you part of these workflows?
  - Able to focus 100% on your research?



## Proposed solution

- There's no silver bullet, but...
- Integrated software infrastructure
  - Only need to know one tool but do it well
  - Well documented solutions > most powerful solutions
- Reduce configuration and maintaining
  - Be rational



Thank you for  
your attention!



**dkfz.**

DEUTSCHES  
KREBSFORSCHUNGSZENTRUM  
IN DER HELMHOLTZ-GEMEINSCHAFT



50 Jahre – Forschen für  
ein Leben ohne Krebs