Managing the cloud – The role of University‘s central IT

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Agenda

• Introduction

• IT requirements and cloud usage

• Solution: role of the central IT

• Current situation and summary
RWTH Aachen University

- 45,256 students in 2018
- > 500 professors
- 9 faculties
- With over 260 institutes
- > 8000 employees
IT organisation

• Decentralized university
  – geographically
  – IT

• central IT suppliers
  – IT Center
  – University’s library
  – unit for administrative systems
Requirements in IT

Reseachers / teachers
- Flexibility
- Scalability
- Fast delivery

Institutions / administrators
- Secure
- Reliable
- Manageable

University
- Accountable
- Cost efficient
- Using university processes
Cloud usage in German University

• Meeting the needs of researchers / teachers

• Is already used 😊

• Why not leave it this way?

• Disadvantages
  – No management through university processes
    • Requirements of institutes and university are not met
  – No (easy) accounting to University’s financial resources possible
  – What happens with the data if a user / admin leaves the university?
  – No security guidelines
  – Missing identity management
  – Cost efficient?
  – …
Which steps have to be taken?

• Consulting the data security officer
  – GDPR
  – which data can be stored in the cloud, according to confidentiality requirements?

• Consulting the personnel board
  – are the staff’s rights affected by using cloud services?

• Purchasing, accounting and billing:
  – own budget and third party funds
  – Coping with usage-dependent costs

• Identity and Access management:
  – RBAC
  – Central authentication and authorization

• Checking the contracts

• Why should this steps be taken by every single person/institution? Isn’t there a better solution?
Solution: role if the central IT

• Coordinate activities for the most common vendors
  – Bring together all persons in charge
  – Central IT as „broker“ between university, customer, vendor

• Establish blue prints

• Manage / Administrate
  – (automatically) install and configure new environments
  – Provide information for accounting and billing
  – Setting up the AAI

• Consulting
  – What demands are there?
  – Which solution (on-premise / cloud with varying vendors) is the best for this scenario?
  – Who needs to be involved?
  – What does it cost?
  – …
Cloud usage and consulting

1. Institutions/researchers/teachers
   - Want to use the cloud
   - Consultation needed?
     - No: Initiate cloud usage
     - Yes: Consultation: guidelines, budget use, purchasing & billing...

2. IT Center
   - Install + configure new environment (automatically)
   - Consultation: optimize budget use, support new use cases, etc.

3. Data security office/personnel board
   - Information/consultation

4. End of project/usage
   - End
How we started

• Pick a vendor to start with

• Build up organizational structure (cloud task force)
  – Who has to be involved?

• Which steps have to be taken once?
  – execution through cloud task force
  – coordination through central IT

• Which steps have to be taken regularly?
  – With every new vendor
  – With every new user / customer
  – Everytime when using the cloud

• Which steps are depending on the szenario?
  – Depending on the data
  – Depending on the services used
Parallel activities

Structure
- Identity management
- Security
- Accounting and billing
- Network

Use cases
- Academic staff
- Teaching staff
- Institutes
- Administrators

Communication
- Cloud vendors
- Awareness
- Knowledge building
- (Consulting)
Current situation

• Geant frame contract
  – Checking the conditions
  – Who can participate?
  – Which services are included?

• Accounting and billing
  – Communication with vendor and reseller
  – Responsibility for usage-depended costs

• Security guidelines

• Communication

• Technical infrastructure
  – Using Shibboleth for authentication
  – Evolve process and document necessary steps
Summary

• Offering cloud services through central IT

• Combining demands of researchers / teachers / institutions with administrative processes

• Lessons learned so far
  – investment in time and manpower
  – Establishing new processes takes a lot of time

• It's worth it
  – Positive feedback
Thank you for your attention