UNIVERSITY INSTITUTIONAL REPOSITORY AND ITS PLACE IN THE UNIVERSITY INFORMATION INFRASTRUCTURE
Outline

• CTU and its repository
• Place of the repository within university information system
  – technical and process solution of the interconnection of the repository with subsystems of the university IS
  – design of the optimized data flow and data management between the components
• Assessing the solution's benefits
Our background

• Czech Technical University in Prague (CTU)
  – the biggest and oldest technical university in the Czech Republic (since 1707)
  – 8 faculties, 5 specialized institutes
  – 28,000 active users in university system (22,000 students / 2,200 academic staff / 3,800 other staff)

• University repository
  – DSpace platform (open source solution, most common in CZ – large user community)
  – current version: 1.7 with Manakin user interface
Phases of repository implementation

• 1st phase ("beginnings")
  – legislative change regarding ETDs → repository launch in 2008 (DSpace 1.4)
  – workflow for ETDs (SIS to DSpace)
  – re-use of data from SIS, automated loading of university organizational structure (OSSS)

• 2nd phase ("foreseeing future")
  – 2010 – workflow for research outputs (CRIS to DSpace)
  – current trends; connection to international infrastructures
  – 2014 – university demands the solution for research outputs (conditions of Horizon 2020) → we are ready

• 3rd phase ("adding value")
  – 2013 – Open Journal Systems for university research journals (pilot with Acta Polytechnica
  – assigning DOI to university publications (library as a coordinator)
Subsystems of the university information system involved

• Source systems
  – CRIS (Current Research IS): research outputs
  – SIS (Study Information System): Electronic Theses and Dissertations
  – OJS (Open Journal Systems): university journals / conference proceedings

• Supporting systems
  – AAI (Authentication and Authorization Infrastructure)
  – OSSS (Organizational Structure Source System)
  – DMS (Document Management System)

• Main target systems
  – Repository (DSpace; records and full texts from various subsystems)
  – Library System (Aleph; library entities’ records, incl. ETDs’ records, users’ records)
Overview of main subsystems

• **Source systems** — CRIS (Current Research IS): research outputs, SIS (Study Information System): Electronic Theses and Dissertations, OJS (Open Journal Systems): university journals / conference proceedings

• **Supporting systems** — AAI (Authentication and Authorization Infrastructure), OSSS (Organizational Structure Source System); DMS (Document Management System)

• **Main target systems** — Repository (DSpace; records and full texts from various subsystems), Library System (Aleph; library entities’ records, incl. ETDs’ records, users’ records)
Identity management & Authentication

- Support unified
  - Identity management
  - Identification and authentication

- User identifiers
  - Personal number
  - UID
Organizational structure synchronizing

- Source – OSSS
- Automatic transfer to
  - Repository
  - Library system
- Problems with mapping
  - Deleting department
  - Splitting and joining of department
Summary of the whole solution
Final assessment and benefits of the solution

• Data reuse
  – student / researcher works with a familiar environment
  – data is inserted only once
• Automation of processes
  – e.g. automatically managed repository structure
• On-line solution
  – supporting manual, scheduled, full event data entry
• Scalability
• Expandability
  – simple connection / inclusion of another system
Current state & perspectives

• New RESTfull API of DSpace
  – Based on DSpace system RESTfull (Jersey)
  – Full writing operation (community, collection, items, bitstreams)

• Incremental update of organizational structure through ESB

• OJS change export mechanism similar to SIS/CRIS
Practical example

• Organizational structure synchronization
  – Example of full synchronization from scratch
  – Remote execution on university servers

• Steps
  – Pure installation of DSpace 4.0 (community-list)
  – Example of full synchronization (remote cmd)
  – Check the results (community-list)
QUESTIONS?

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THANK YOU FOR YOUR ATTENTION!