



# CENTRAL DATA ARCHIVE (CDA)

# THE ERDF FRAMEWORK

- European Regional Development Program
- Operational Program Informatization of Society (3.2011)
- Priority Axis 2 →
- Improvement of systems for creating, processing, utilization and preservation of digital content and building of memory institutions infrastructure

## PA2 - Indicative project list

DIGITAL LIBRARY	Slovak Nat. Libr.	49 667 500,00 EUR
DIGITAL GALLERY.	National Gallery	16 009 000,00 EUR
DIGITAL MUSEUM	Museum Martin	27 612 000,00 EUR
DIGITAL MONUM.	Memory Inst.	10 600 000,00 EUR
DIGITAL AUDIOVIS.	Nat. Film Institute	24 200 000,00 EUR
CENTRAL PORTAL	Nat. Enl. Institute	23 797 000,00 EUR
INTEROPERABILITY	Nat. Enl. Institute	8 868 256,00 EUR
CDA	Univ Library	33 184 470,48 EUR
ROMA CULTURE	Sci. Lib. Prešov	1 924 000,00 EUR

# PROJECT CDA


- **The LTP solution for Cultural Heritage in Slovakia.**
- In 2011 The University Library in Bratislava was charged with setting up a powerful Infrastructure for the Long Term Preservation of digitized Cultural Heritage across „the National Memory“ Institutions.



# PROJECT GOAL

The goal of the CDA project, officially launched in Mai 2012, is to build up an international standard based LTP archive, consisting of two active ICT configurations and one passive magnetic tape storage in geographically separated localities. The LTP system design follows strictly the OAIIS prerequisites

# CDA Time Schedule

31 mes.  2012 2013 2014

13.03.2012 ERDF Contract

31.05.2012 Realisation Contract

09.07.2012 Technology Locality B

26.09.2012 1. ingested object

03.07.2013 Reconstruction Contract Bratislava

30.06.2014 Technology Locality A

27.11.2014 Certification SMIB ISO/IEC 27001:2013

31.12. 2014 Project Finished

01.01.2015 ~ 31.12.2019 Sustainability Phase

# TERMS AND STANDARDS

- Based on International Standards
  - OAIS ISO 14721
  - LTP ISO 16363
  - ISO/IEC 27001
- Methodical Manuals by Ministry of Culture Slovak Republic
- Long Term Preservation of digitized Slovak Cultural Heritage
- 25 PetaByte Capacity
- 3 Locations
- 3 Data Copies

# LOCATIONS

- CDA-A  
Data Center  
University Library in Bratislava
- CDA-B  
Data Center  
Slovak National Library in Martin
- CDA-C  
Safe Depozit  
University Library in Bratislava





# DESIGN

- Redundant Technology
- Twins Site
- Components

## Servers

IBM Power 770 / 48 proc.  
 HP DL 320, 360, 380

## Storage

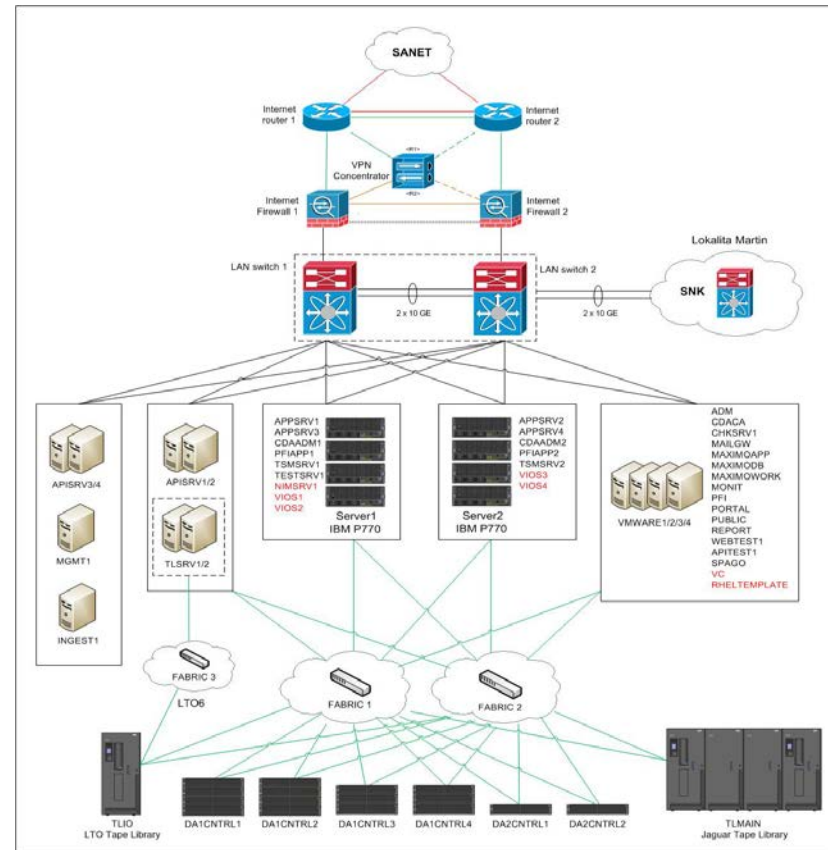
IBM Storwize V 7000

## Tape libraries

IBM 3584 25 PB  
 IBM 3500 LTO5, LTO6

## IBM SAN Switch

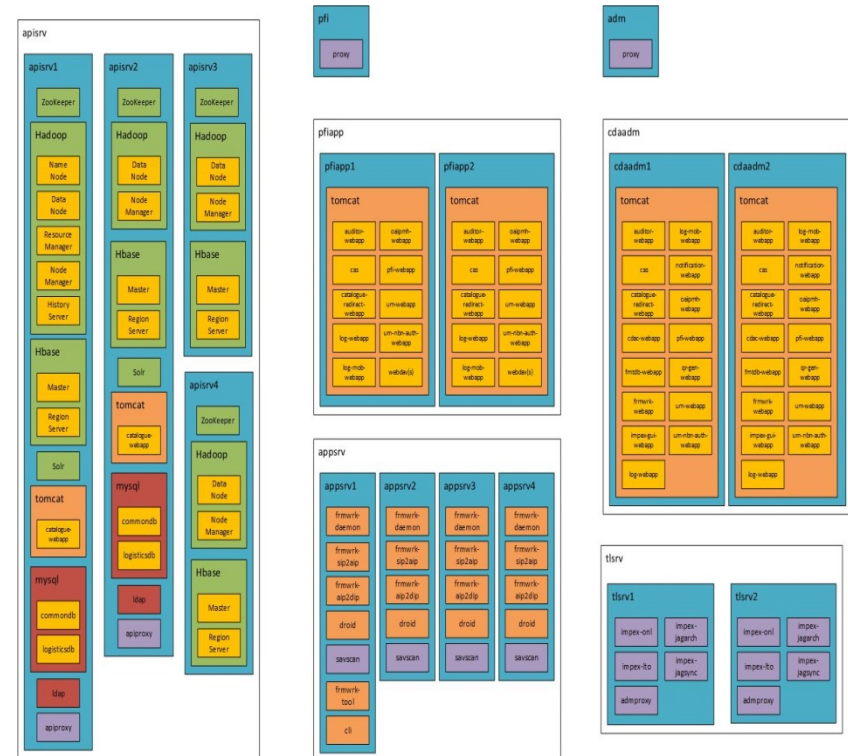
## HP Network components



# SOFTWARE

- **Operational SW**  
AIX, RedHat, Windows
- **System SW (IBM)**  
LTFS, GPFS, HSM, TSM
- **Application SW (Tempest)**  
CDA Application Server  
CDA Database Server  
CDA System Directory  
CDA Impex (JAVA)  
CDA Framework

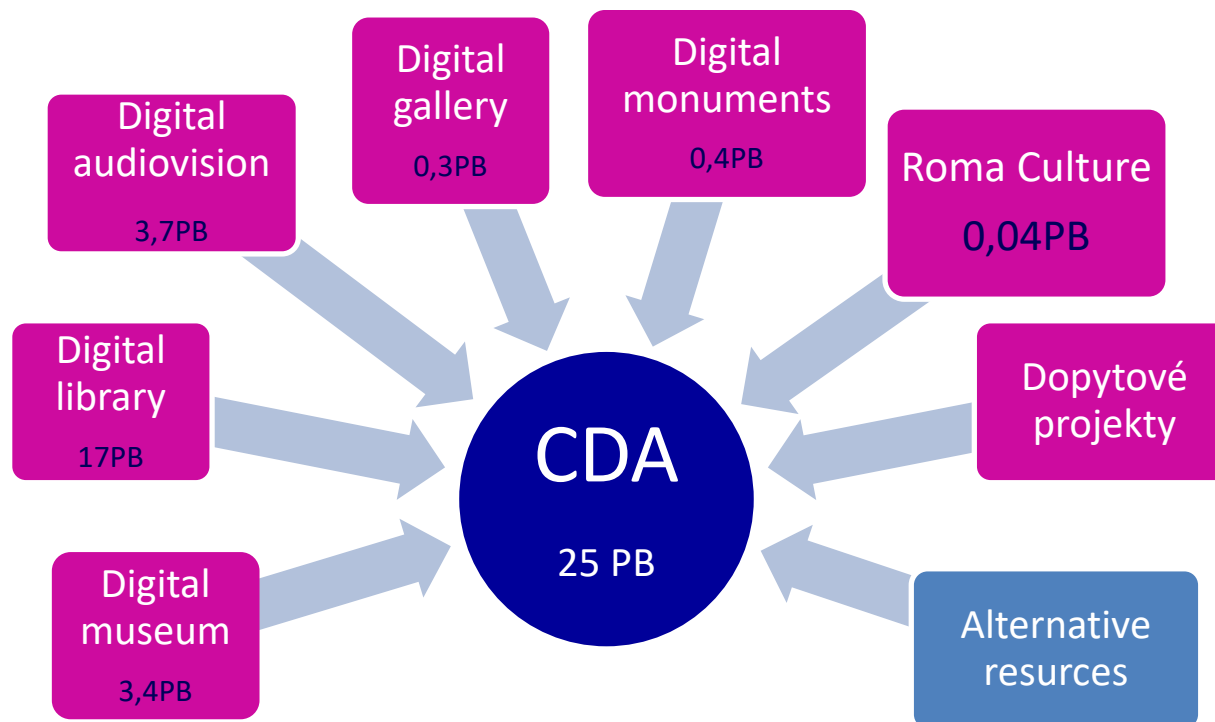
- **Deployment Diagram**



# DATA ORIGINS

- **Digitized Slovak Cultural Heritage**
- **Slovak National Memory Institutions united in Designated Community**
- **Designated Community**
  - ❖ Museum of the Slovak National Uprising
  - ❖ The Monuments Board of the Slovak Republic
  - ❖ Slovak National Library
  - ❖ Slovak National Archive
  - ❖ Slovak Film Institute
  - ❖ Slovak National Gallery
  - ❖ National Education and Culture Centre
  - ❖ The State Science Library in Prešov
  - ❖ University Library in Bratislava

# CDA Designated Community





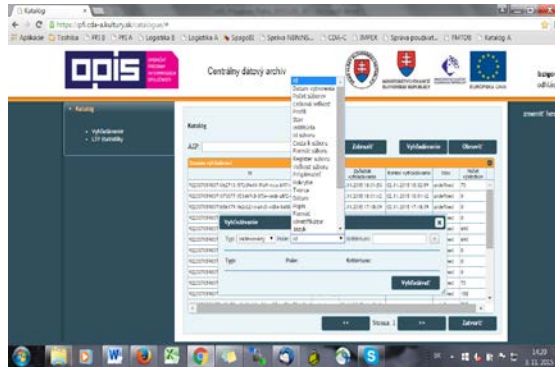
# LOGISTICS

- **INGEST**
  - Online
  - Offline on LTO5, LTO6 Magnetic Tapes transported in special Cases
  - Offline on HDD
- **SYNCHRONISATION**
  - Offline on Jaguar Magnetic Tapes transported in special Cases between 2 CDA Sites
- **DISSEMINATION**
  - Online
  - Offline on LTO5 Magnetic Tapes transported in special Cases
- **SAFE DEPOSIT** Jaguar Magnetic Tapes



# USER INTERFACE

## Catalogue



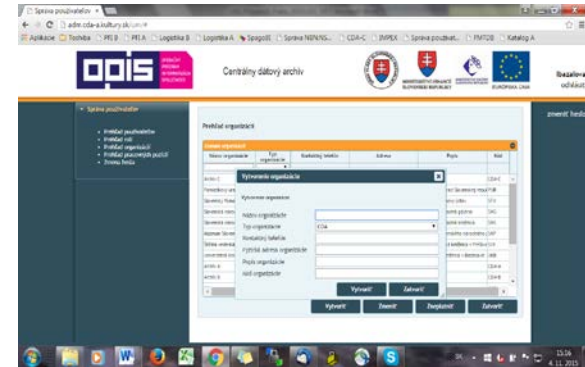
## Ingest



## Dissemination

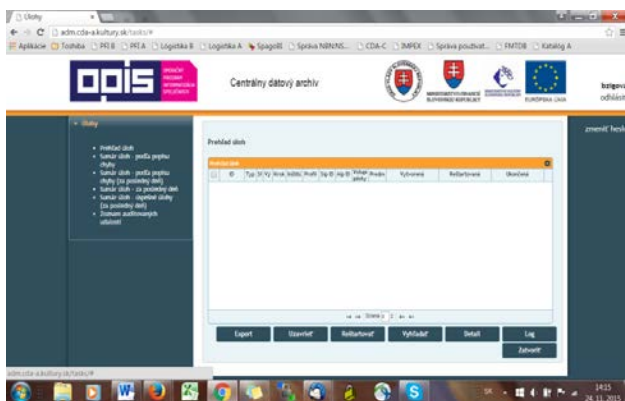


## User Management

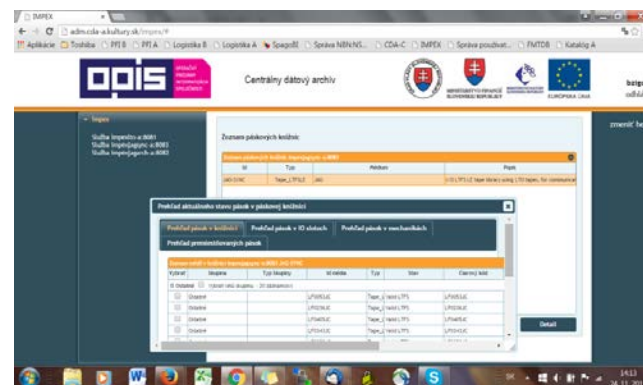


# ADMIN INTERFACE

## Task Management



## Media Management



```

[1] ~$ bash /home/jstrnisk/bin/ingest.sh
HostName: flyvito get date: Tue Nov 24 12:10:15 CET 2015
1/2 report od 2015-11-09
Warning: Using a password on the command line interface can be insecure.
+-----+-----+-----+-----+-----+-----+-----+-----+
| state | step | sips | TiB | pfi | profile | LastExecDate |
+-----+-----+-----+-----+-----+-----+-----+
| FAILED | STORE_AIP_TO_HSM_CHECK | 6 | 0.000 | urn | SYNC_1 | 2015-11-24 11:46:57 |
| FAILED | IMPORT_SIP_CHECK | 0 | 0.000 | urn | Profile01 | 2015-11-24 12:17:46 |
| IN_PROG | SIP_2_AIP_METS_TRANSFORM_CHECK | 1 | 0.000 | urn | SYNC_1 | 2015-11-24 12:18:09 |
| IN_PROG | SIP_2_AIP_METS_TRANSFORM_CHECK | 24 | 0.000 | SFU | SFU_01 | 2015-11-24 12:18:09 |
| IN_PROG | SET_SIP_ARCHIVED_CHECK | 69 | 1.959 | urn | SYNC_1 | 2015-11-24 12:18:10 |
| IN_PROG | SET_SIP_ARCHIVED_ASYNC | 1 | 0.031 | urn | SYNC_1 | 2015-11-24 12:18:04 |
| IN_PROG | IMPORT_SIP_CHECK | 2231 | 0.000 | urn | Profile01 | 2015-11-24 12:18:10 |
| IN_PROG | IMPORT_SIP_CHECK | 28 | 0.000 | SFU | Profile01 | 2015-11-24 12:17:44 |
| IN_PROG | EXPORT_TO_CDA_C_CHECK | 2 | 0.000 | SFU | SFU_01 | 2015-11-24 12:11:03 |
| IN_PROG | DUMP_FINAL | 1 | 0.000 | SFU | Alpa01Pat | 2015-11-24 12:10:09 |
+-----+-----+-----+-----+-----+-----+-----+
2/2 report od 2015-11-14
Warning: Using a password on the command line interface can be insecure.
+-----+-----+-----+-----+-----+-----+-----+
| day | profile | state | step | sips | TiB | LastExecDate |
+-----+-----+-----+-----+-----+-----+-----+
| 2015-11-20 | SYNC_1 | CLOSED | FINISHED | 2480 | 9.992 | 2015-11-20 23:47:06 |
| 2015-11-21 | SYNC_1 | CLOSED | FINISHED | 1545 | 24.877 | 2015-11-21 21:35:17 |
| 2015-11-22 | SYNC_1 | CLOSED | FINISHED | 13434 | 16.264 | 2015-11-22 22:33:08 |
| 2015-11-23 | SYNC_1 | CLOSED | FINISHED | 22104 | 17.209 | 2015-11-23 20:30:57 |
+-----+-----+-----+-----+-----+-----+-----+
[3]+ Stopped bash /home/jstrnisk/bin/ingest.sh
  
```

```

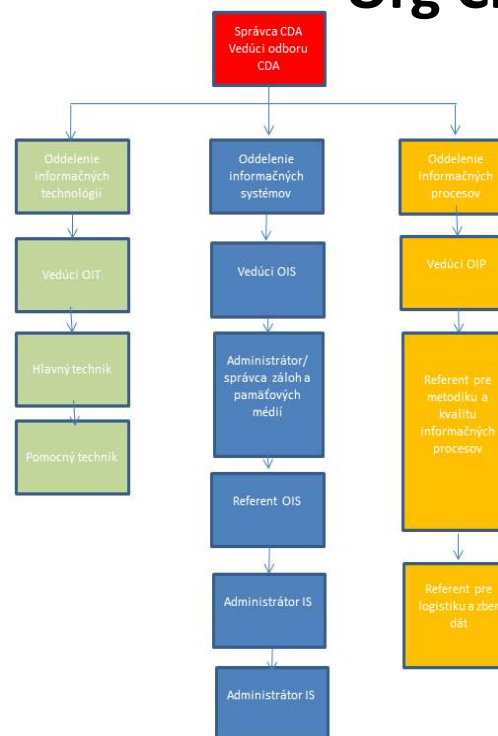
[1] ~$ mysql -hcommondb-a -ureadonly -preadonly -Dcommon_db < A-SFU-LT06-20151124-0820_count.sql
Warning: Using a password on the command line interface can be insecure.
count(id) state step TiB
1 FAILED FINISHED ON BUSSINES ERROR 0.000
13 IN_PROGRESS EXPORT_TO_CDA_C_CHECK 0.000
21 IN_PROGRESS IMPORT_SIP_CHECK 0.000
1 IN_PROGRESS SET_SIP_ARCHIVED_ON BUSSINES_ERROR_CHECK 0.000
19 IN_PROGRESS SIP_2_AIP_METS_TRANSFORM_CHECK 0.000
[1] ~$
  
```



# HR

- **12 Employees in CDA**  
7 CDA-A, CDA,C Bratislava  
5 CDA-B Martin
- **3 Departments**  
Information Processes  
Information Systems  
Information Technologies

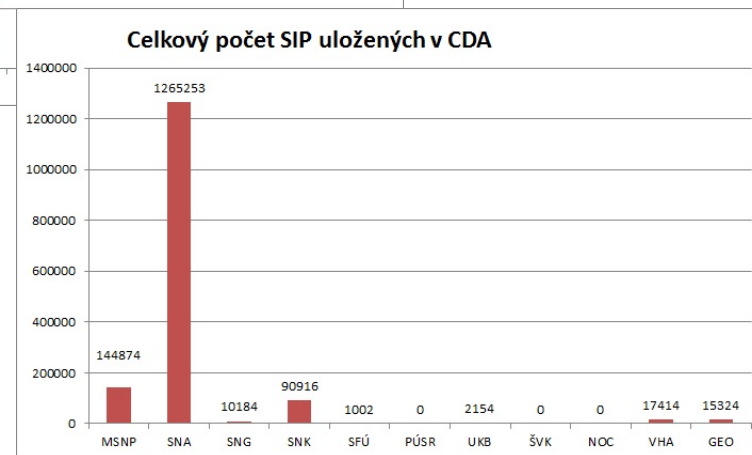
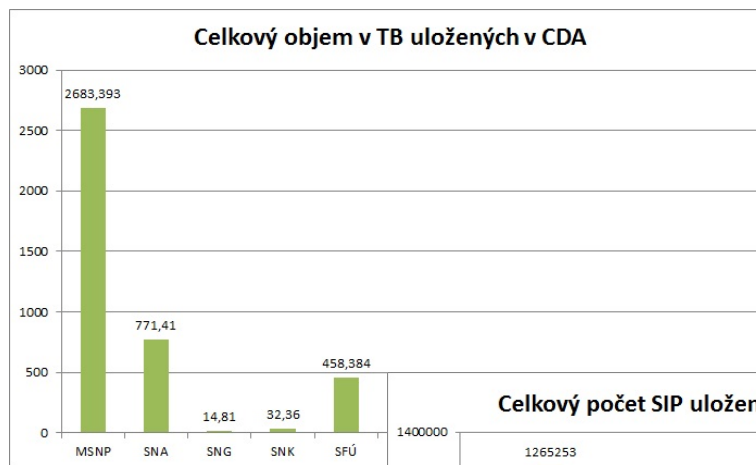
## • Org Chart





# REPORTING

- **Daily**  
Ingest  
Dissemination  
Synchronisation
- **Monthly**  
SIP/DIP quantity  
TB/PB amount
- **Cumulative**  
SIP Total Volume **1 546 847 SIP**  
TB/PB Total Volume **4010,65 TB**



# SUSTAINABILITY

BUDGET 2018	EUR
Salaries + insurance (12)	350 000
Energy and communication	150 000
ICT and NON ICT SLA sevis	1 800 000
Other	500 000
ICT Renewal	1 000 000
Total	3 800 000

# CDA WWW

## cda.kultury.sk

- News
- Photos
- Project
- Operations
- Reporting
- Documents
- Presentations



### Project of the Central Data Archive

View Edit Translate



The LTP solution for cultural heritage in Slovakia. In 2011 The University Library in Bratislava (ULB) was charged with setting up a powerful infrastructure for the long-time preservation of digitized cultural heritage across „the national memory“ institutions. The Central Data Archive (CDA) is realised in the framework of the Operational Programme Informatisation of the Society (OPIS), prevaillingly financed by the EC regional development fund (33 184 470,48 €).

- ▼ Project of the Central Data Archive
  - Project Team
  - Implementation Team
  - Collaborating Institutions
  - Prolonged of implementation...
  - Contact
  - Processing

Kto je online?

There are currently 2 users online.

# CDA Conference

## CDA´2016

LTP Format Challenges

## CDA´2017

Experience Exchange from  
Operation and Building of  
LTP Archives

## CDA´2018

LTP Archives sustainability  
and development

