Masaryk University Economic System and Public Websites

MUST Week

10. 4. 2014

Information Systems Division

Institute of Computer Science

Masaryk University

Agenda

About the Presenters 1/2

❑ **Masaryk University**

- **9 faculties**

- **2 institutes**

- **13 university-wide departments**

❑ **MU Institutes**

- **Institute of Computer Science**

- **Central European Institute of Technology**

❑ **Institute of Computer Science – mission**

- **ICT Research and Development**

- **ICT services provision**

About the Presenters 2/2

❑ **Institute of Computer Science – divisions**

- ▪ **Communication Infrastructure**
- ▪ **Computational and Storage Infrastructure**
- ▪ **Information Systems**
- ▪ **User Support**
- ▪ **Operational and Economic**

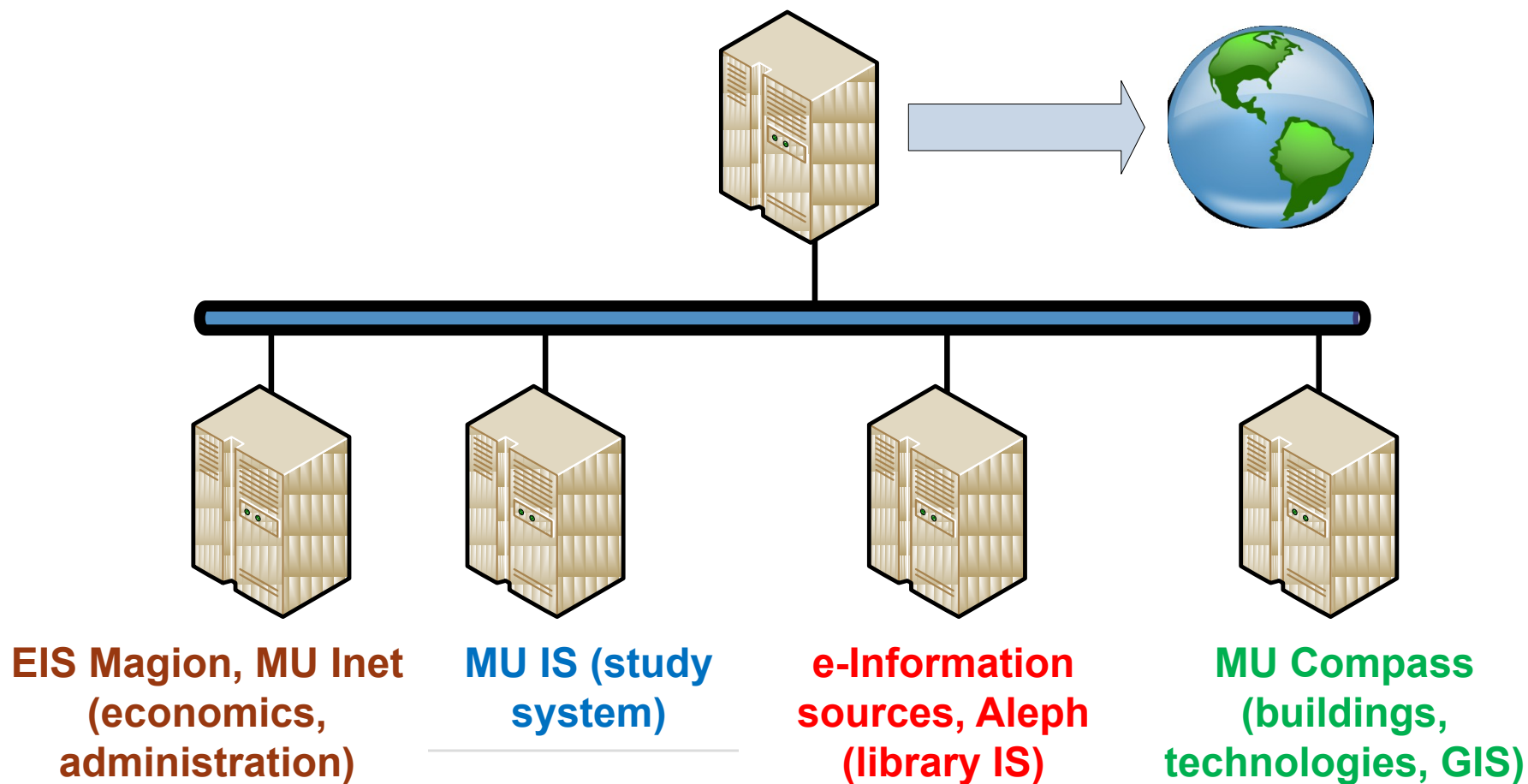❑ **MU-ICS Information Systems Division**

- ▪ **Library and Information Centre**
- ▪ **Information Systems Administration**
- ▪ **Information Systems Development**

Agenda

❑ **About the Presenters**

❑ **MU Information Infrastructure**

❑ **Information System for Economics and Administration**

❑ **ISEA System Base**

❑ **MU Public Websites**

MU Information Infrastructure 1/3
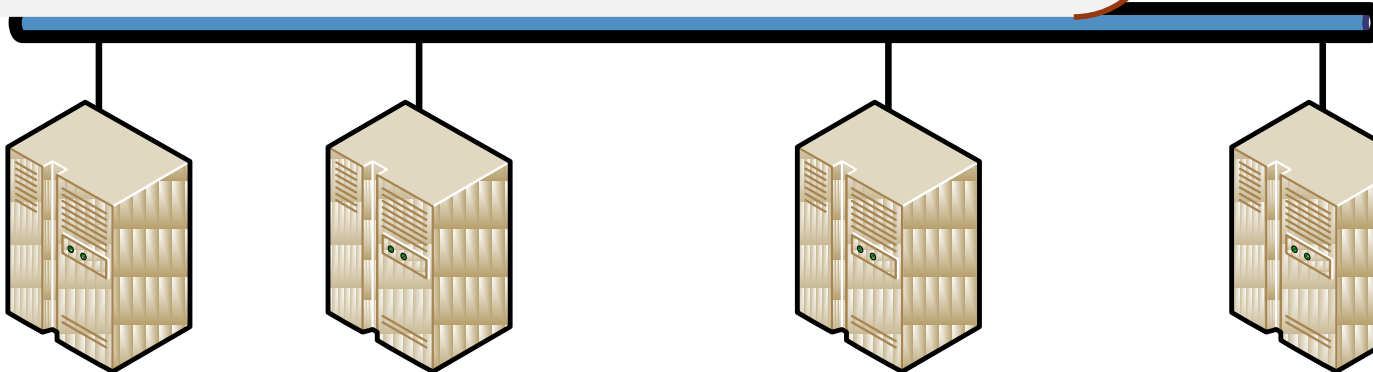
**www.muni.cz, WebCentrum
(public websites)**

**EIS Magion, MU Inet
(economics,
administration)**

**MU IS (study
system)**

**e-Information
sources, Aleph
(library IS)**

**MU Compass
(buildings,
technologies, GIS)**

EIS Magion
- externally provided
- human resources, economics, assets administration

MU Inet
- in-house developed
- university-wide intranet for economics and administration
- on top of EIS Magion plus other application areas

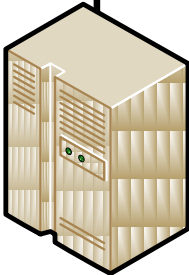**EIS Magion, MU Inet (economics, administration)**

MU IS (study system)

e-Information sources, Aleph (library IS)

MU Compass (buildings, technologies, GIS)

MU Information Infrastructure

MU IS

- in-house developed
- university-wide intranet for study administration
- publications, theses
- public level – MU Shopping Centre

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e-Information sources, Aleph (library IS)
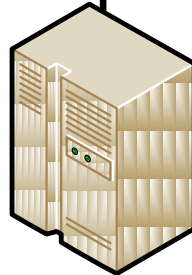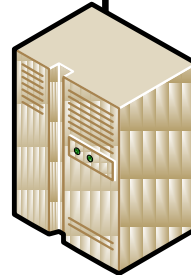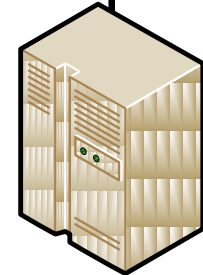
MU Compass (buildings, technologies, GIS)

e-Information Sources, Aleph
- externally provided
- access to world-wide databases
- library information system
- national network

EIS Magion, MU Inet (economics, administration)

MU IS (study system)

e-Information sources, Aleph (library IS)

MU Compass (buildings, technologies, GIS)

MU Compass
- in-house developed
- building and technology documentation (MU premises, grounds, estates, technologies, networks)
- attribute and graphical data
- map server
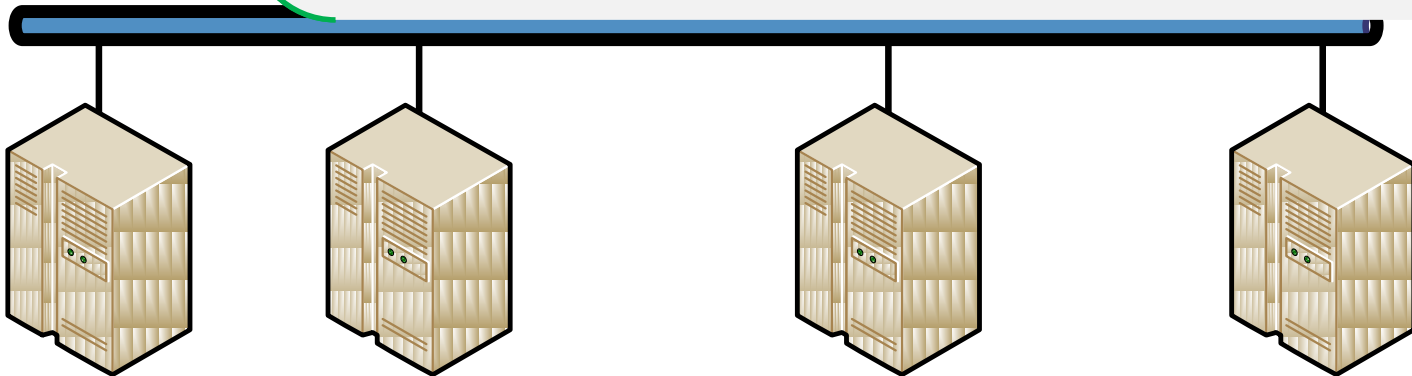
EIS Magion, MU Inet (economics, administration)

MU IS (study system)

e-Information sources, Aleph (library IS)

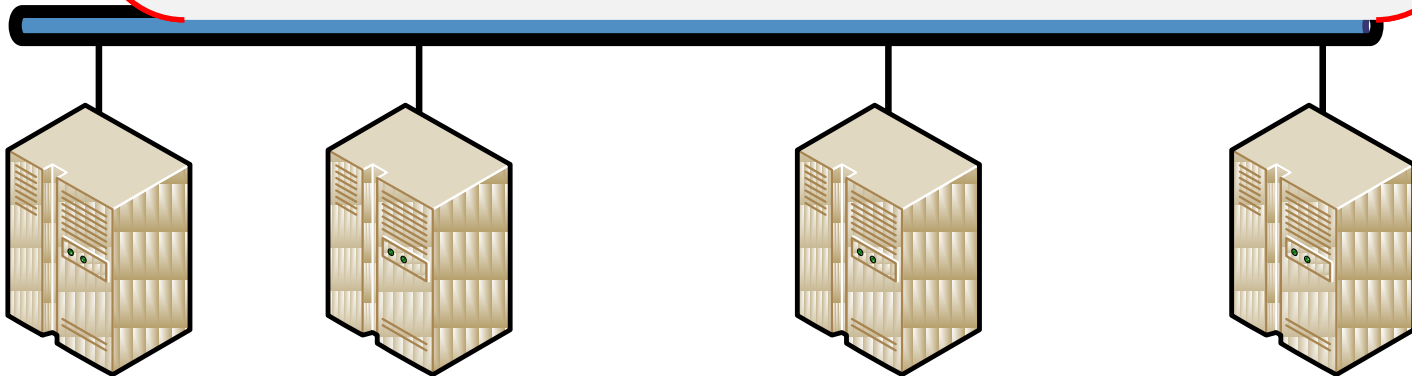**MU Compass (buildings, technologies, GIS)**

MU Information Infrastructure

www.muni.cz, WebCentrum
(public websites)

www.muni.cz
- MU institutional website, in-house developed
- unified bi-lingual presentation of profile information across the whole of MU

WebCentrum
- platform for running individual presentations of selected MU departments, projects, activities

EIS Ma
(ec
administration)

ass

gs,
technologies, GIS)

(library IS)

MU Information Infrastructure 3/3

www.muni.cz, WebCentrum (public websites)

EIS Magion, MU Inet (economics, administration)
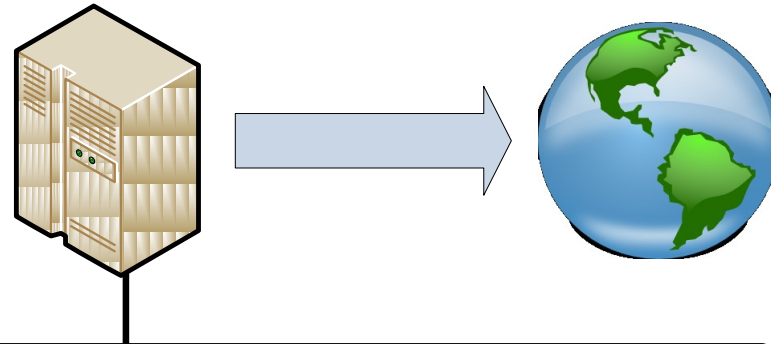
MU IS (study system)

e-Information sources, Aleph (library IS)

MU Compass (buildings, technologies, GIS)

MU Information Infrastructure 3/3

www.muni.cz, WebCentrum (public websites)

not now

EIS Magion, MU Inet (economics, administration)

e-Information sources, Aleph (library IS)

MU Compass (buildings, technologies, GIS)

■ **MU Information Infrastructure** 3/3

**www.muni.cz, WebCentrum
(public websites)**

not now   **not now**

**EIS Magion, MU Inet
(economics,
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**MU Compass
(buildings,
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MU Information Infrastructure 3/3

www.muni.cz, WebCentrum
(public websites)

not now **not now** **not now**
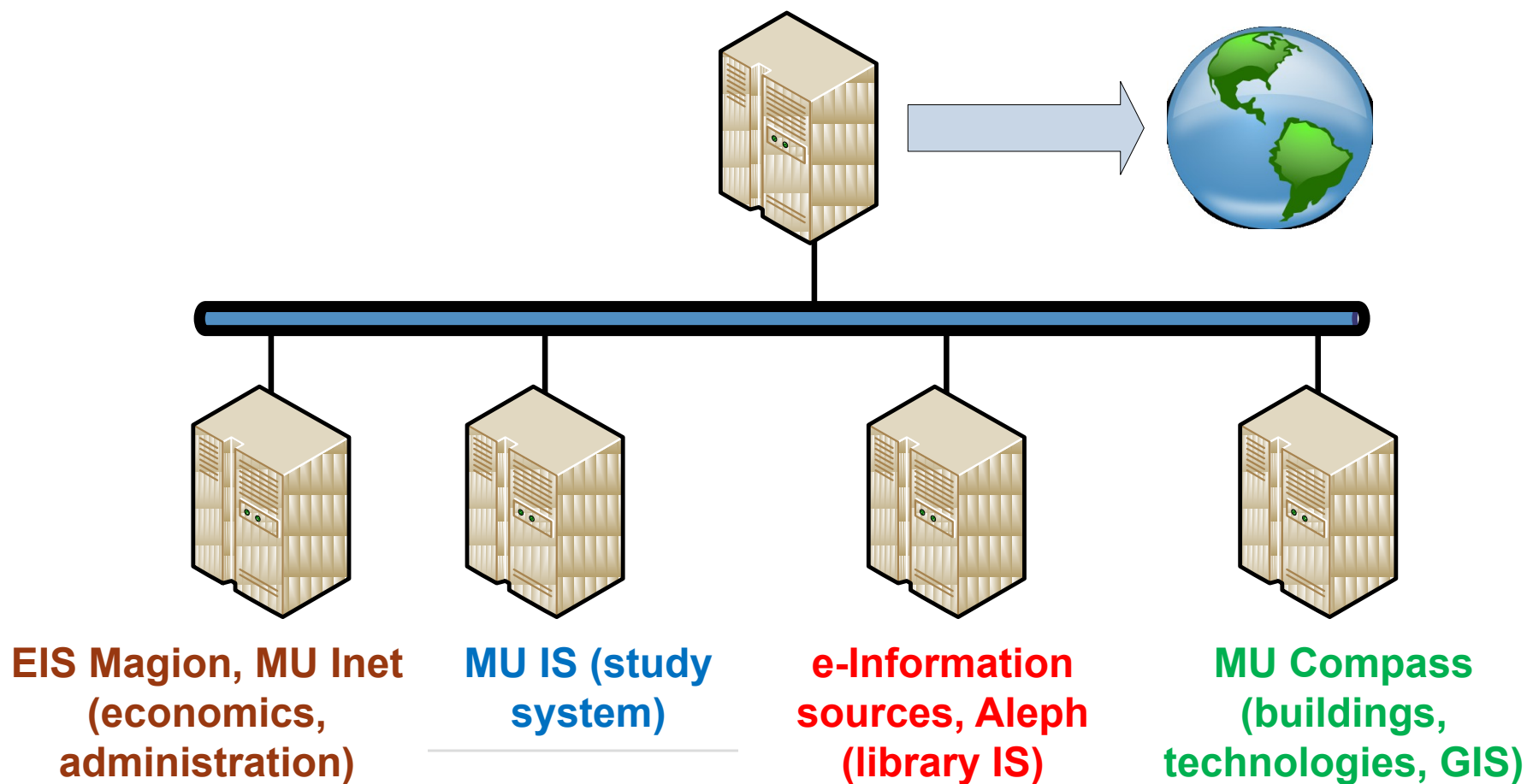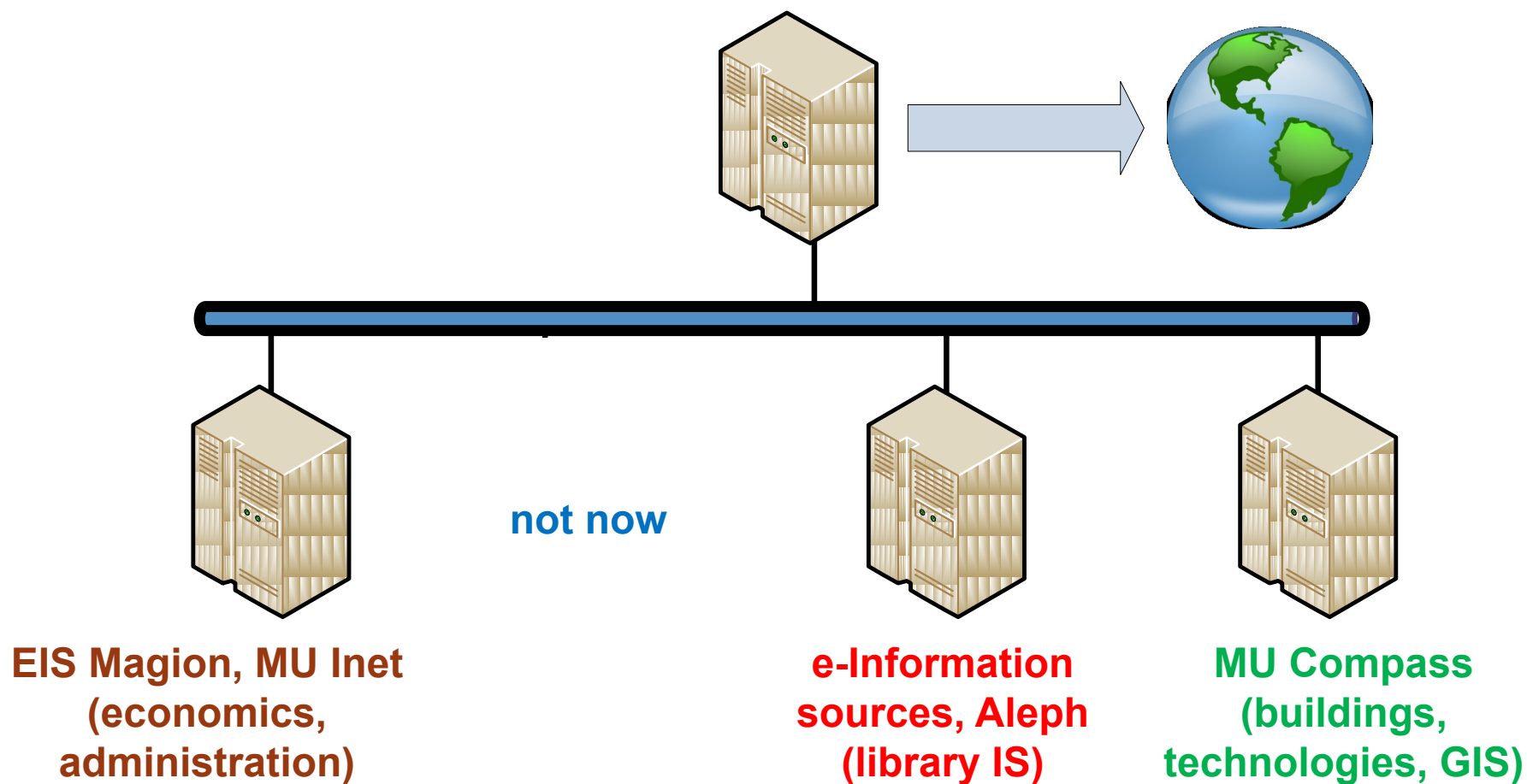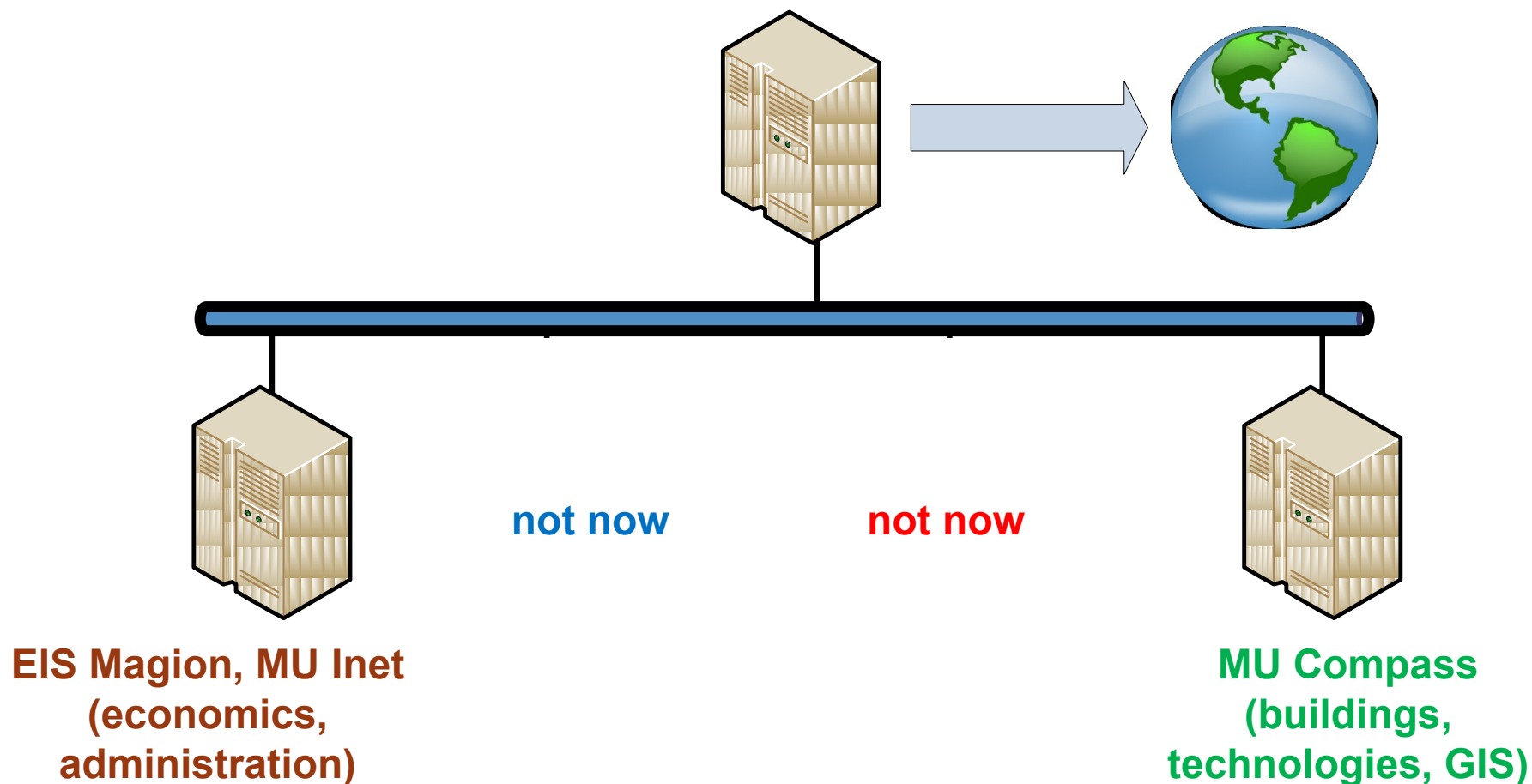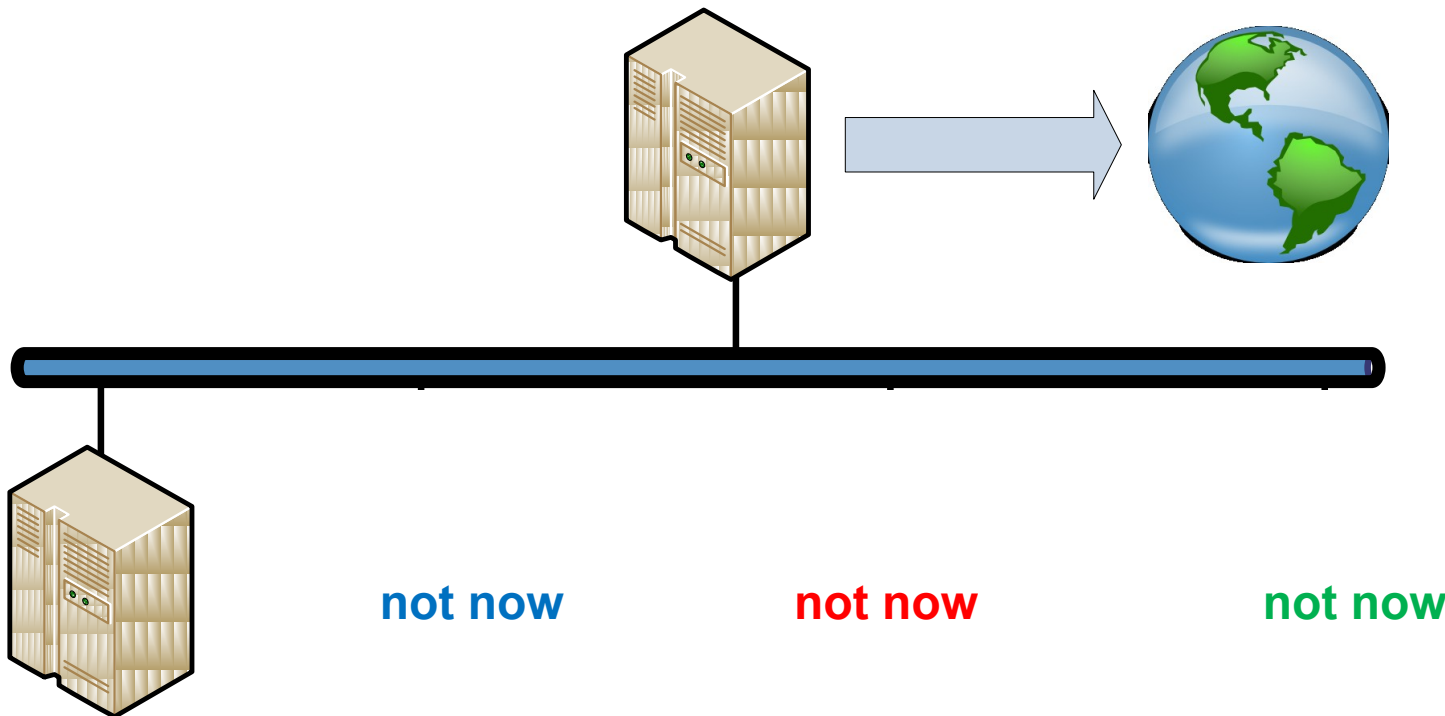
EIS Magion, MU Inet
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MU Information Infrastructure 3/3

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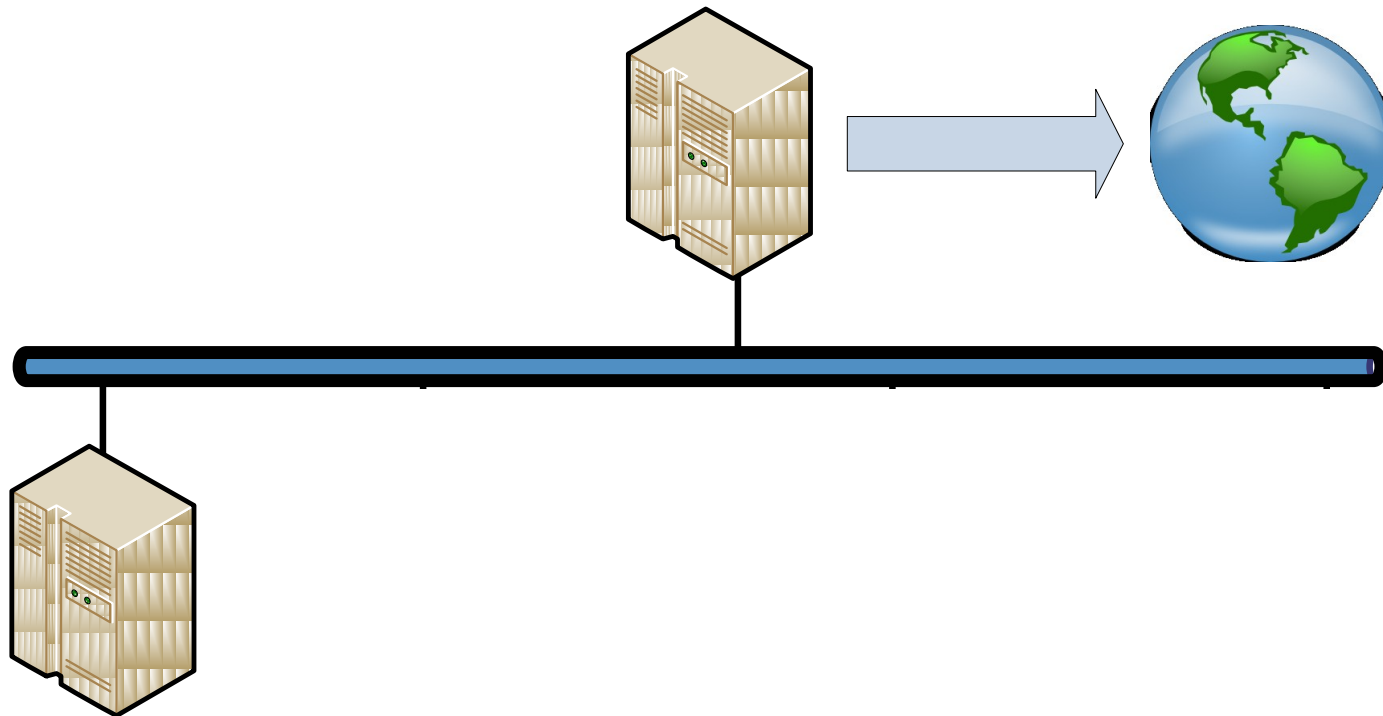
**EIS Magion, MU Inet
(economics,
administration)**

Agenda

❑ **About the Presenters**

❑ **MU Information Infrastructure**

❑ **Information System for Economics and Administration**

   ▪ **EIS Magion**

   ▪ **MU Inet**

   ▪ **Inet Live Demonstration**

❑ **ISEA System Base**

❑ **MU Public Websites**

EIS Magion 1/2

- ❑ **EISes at CZ Universities**
  - ▪ IFIS
  - ▪ SAP
  - ▪ **EIS Magion**

- ❑ **EIS Magion**
  - ▪ **7 universities**
  - ▪ **MagNet network**
  - ▪ **Masaryk University**

EIS Magion 2/2

❑ **Masaryk University**

- **Human Resources, Economics and Accounting, Assets Administration**

- **800 users**

- **university- and faculty-level administration and management**

- **administered at MU-ICS**

- **development and support coordinated by MU-ICS (central budget)**

MU Inet

❑ **Web-based IS for economics and administration**

  ▪ **Developed and administered by MU-ICS**

❑ **On top of EIS Magion**

  ▪ **Delivery of Magion-administered data to the whole of MU**

  ▪ **Provision of workflow**

❑ **In parallel with EIS Magion**

  ▪ **Application areas not covered by EIS Magion**

Inet over Magion 1/2

❑ **Human Resources – individual employees**

  ▪ **personal and wage data** on themselves (pay advice, income graphs), **meal vouchers, e-leaves** (planning, applying), **time sheets**

❑ **Human Resources – department/project heads**

  ▪ department/project **overviews, e-leave** and **time sheet** approving

❑ **Human Resources – MU/faculty administration**

  ▪ **attendance** records pre-processing, **meal voucher** records pre-processing, **pay advice** post-processing (less than 3% printed)

Inet over Magion

❑ **Economics and Assets – individual employees**

  ▪ **travel forms**, **assets/SW** in personal care

❑ **Economics and Assets – department/project heads**

  ▪ **accounting** and **budget** statements, **financial control**, **assets** overviews

❑ **Economics and Assets – MU/faculty administration**

  ▪ **assets** inventory, **SW** records and inventory

Inet along Magion 1/5

❑ **Human resources – ID cards**

- ▪ **photographing of people**

- ▪ **ID cards production**

❑ **Human resources – Certificates**

- ▪ **personal certificates and remote signing**

❑ **Human resources – e-Application**

- ▪ **electronic selection procedures for new employees**

Inet along Magion

❑ **Economics – SUPO (System of Settlement of Individuals' Claims)**

  ▪ **personal financial accounts**

  ▪ **non-addressed deposits**

  ▪ **payments for services (accommodation, catering, printing/copying, vending machines, private telephony etc.)**

❑ **Economics – Public tenders**

  ▪ **dynamic purchasing systems**

Inet along Magion

❑ **R&D – ISEP (projects database)**

- **proposals submitting and evaluation**
- **running projects records (incl. accounting / budget / bank statements, project results)**
- **intellectual property records**

❑ **R&D – Academic qualifications**

- **records, life cycle, diplomas**

❑ **R&D – Awards and honours**

- **records**

Inet along Magion 4/5

❑ **Operation – Telephony**

- **fixed/mobile lines records**
- **working/private phone calls records and payments (SUPO, wages)**

❑ **Operation – Real Estate Administration**

- **MU premises, grounds, estates (buildings, rooms, keys)**

❑ **Operation – Issue Trackers**

- **RT-systems in various areas**

Inet along Magion 5/5

❑ **Operation – Inspection system**

  ▪ **internal/external inspection records (data, workflow)**

❑ **Operation – www.muni.cz administration**

  ▪ **texts, phrases, images**

  ▪ **document repository**

Inet live demonstration

❑ https://inet.muni.cz

Agenda

❑ **About the Presenters**

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❑ **Information System for Economics and Administration**

❑ **ISEA System Base**

❑ **MU Public Websites**

Main components

- ❑ **Oracle Database**

- ❑ **Inet application servers**

- ❑ **Magion servers**

Database server

❑ **Fully redundant engineered system**

❑ **Oracle Database Appliance (aka ODA), original version**

❑ **20 HDDs + 4 SSD, triple mirror**

❑ **Two computing nodes/blades, each node 96 GB RAM, 12 cores**

ODA technology

- ❑ **Simplified deployment, maintenance, and support**

- ❑ **An engineered system of software, server, storage, and networking**

- ❑ **Simple one-button installation, full-stack integrated patching and diagnostics**

- ❑ **CONS: patching downtime**

DB Software

❑ **Oracle database Enterprise Edition 11.2**

❑ **Real Application Clusters (active-active)**

❑ **Dataguard**

Inet Application Servers

- ❑ **Cluster of two Oracle weblogic enterprise 12c servers**

- ❑ **Commercial implementation of java EE**

- ❑ **Load balancing by cluster of apache http servers, corosync, heart beat**

Magion

- **Several dedicated terminal servers running thick clients**

- **Magion web services connector, two virtual load balanced servers**

Virtualization

- ❏ **VMWare**

- ❏ **Oracle VM**

Development

- ❏ **NetBeans**

- ❏ **Git**

- ❏ **Build environment based on ant**

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❑ **About the Presenters**

❑ **MU Information Infrastructure**

❑ **Information System For Economics And Administration**

❑ **ISEA System Base**

❑ **MU Public Websites** (separate presentation and live demonstrations)

Thank you for your attention

is@ics.muni.cz

Information Systems Division

Institute of Computer Science

Masaryk University