I FEEL SLOVENIA

GREEN.
CREATIVE.
SMART

CERN

XENYA D.O.O.

SLOVENIA@CERN

9. - 10. October 2019

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COMPANY PRESENTATION

CERN 9TH OCTOBER 2019

MAIN FIELDS OF ACTIVITY

Company activities

- **System integrator, and VAR for several established equipment manufacturers**
  - Data-Center equipment
  - Communications equipment
- **Test and Measurement equipment and services**
- **Maintenance center**
- **Consulting and Expert services**
- **Hosting services**
- **20 employees**
- **Turnover in 2018: 3.500.000,00 EUR**

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SYSTEM INTEGRATION AND VAR - DATACENTER EQUIPMENT

Data-center equipment

- **Server equipment** *(Supermicro, QTC)*
  - Enterprise and HPC computing
  - Virtualization platforms
- **Storage equipment**
  - Storage appliances (Supermicro, *Infortrend, Dell EMC*)
  - Automated Tape based storage systems for long term archiving *(Qualstar, HPE)*
  - Open source based solutions (*Ceph, ZFS …*)
- **Data-Center Networking** *(QTC, Supermicro, Cumulus Networks)*
  - Spine-Leaf networks,
    - 10Gb, 40Gb 100Gb
  - Storage networks *(Brocade)*
  - Unified networks
- **Enterprise Networking**
  - Wired networking *(QTC, Huawei, Dell EMC)*
  - Wireless networking *(Huawei)*

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SYSTEM INTEGRATION AND VAR –
HPC PROTOTYPE – UNIVERSITY OF MARIBOR

- **HPC prototype for the University of Maribor**

- Delivery and setup of 102 compute nodes (Supermicro) with 192 AMD EPYC Naples CPUs and 24 Nvidia V100 GPUs and HDR100 Infiniband and 100 Gb Ethernet on most of compute nodes.

- Delivery and setup included hybrid (Infiniband and Ethernet) 100G networking equipment (Mellanox switches) and Quanta switches for management (all with Cumulus Linux).

- **HPC prototype for Faculty of Information Studies in Novo Mesto**

- Additional compute, GPU and storage nodes with 100G network integration

- the contract has just been signed

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SYSTEM INTEGRATION AND VAR – STORAGE SYSTEMS FOR LONG TERM ARCHIVING

- **Large storage system for real time archiving of all RTV SLO original production content and on demand playback (2015 -)**
  - Real time playback of all contents with two tiered storage
    - Disk array for real time access of frequently used contents
    - Robotized tape libraries for 20s access of archived contents
  - Long term storage on tape with recording life of 30+ years
  - Storage capacity 15 Peta bytes, expandable
- **Storage system for RTV Slovenia archive digitization project (2017 -)**
- Audio-video archive included conversion of all analog audio recordings and all film and videotape archives to digital
- Qualstar XLS robotic LTO library, managed by XenData.
- The total storage requirement for the project is estimated at around 25PB
- The XenData software presents all the archive files in a single file system, i.e. in a single file-folder structure
- **Third large storage system for production side of RTV Slovenia is currently in progress (should be finished within 2 weeks)**

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- **ARNES (The Academic and Research Network of Slovenia)**
  - Two ARNES data centers have been upgraded with 100Gb Spine/Leaf fabric data center network
  - BGP used for underlay and overlay routing
  - VXLAN overlay data plane and EVPN control plane
  - Data centers have been interconnected with our 200Gb (expandable to 4Tb) DCI
  - Configuration is done from common fabric configuration description using Ansible based orchestration
    - Dynamic creation of L2 and L3 tunnels (user domains) spanning within each data center or between the data centers
    - Supporting multiple tenants using overlapping address spaces.

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SERVICES

In house Maintenance center

- **For maintenance of all HW and SW supplied**
  - Component level repair center
  - Stock of spare parts for equipment on maintenance contracts

Consulting and professional services

- **Expert advice for all our systems integration projects during planning and exploitation**
  - Cost effective and high performance solutions that address customer needs
  - Long term usability, simple maintenance
- **Testing and optimization services**
  - Performance and load testing with optimization consulting
    - Communications systems
    - Server, Storage system and Applications performance and load testing

Hosting services

- **Hands on experience and testing of our equipment**
  - Real life Proof of concept testing and development
  - In our datacenters not in customers environment
- **Hosting for external customers**
  - 2 Data-centers, redundant network and power

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REFERENCES

References

- **Jozef Stefan Institute, Arnes, RTV Slovenia, University of Maribor, Telemach, Telekom Slovenije and many more...**

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