# Data Infrastructure Innovations in Healthcare

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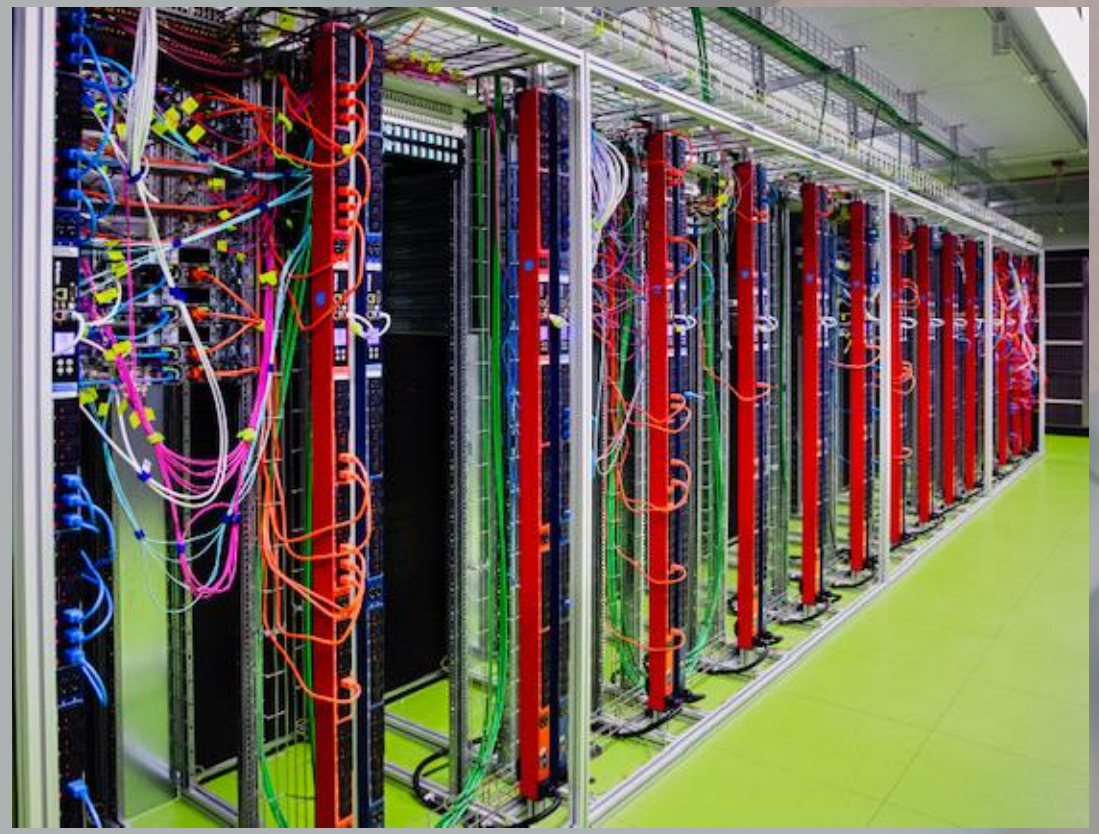
University Medicine Essen

# Central IT



Medical Director

Technical Director

# University Medicine Essen

# University Medicine Essen

Beds in the group

1.770

Top Healthcare provider in the Ruhr Metropolis (largest industrial metropolitan area in Europe)

subcompanies

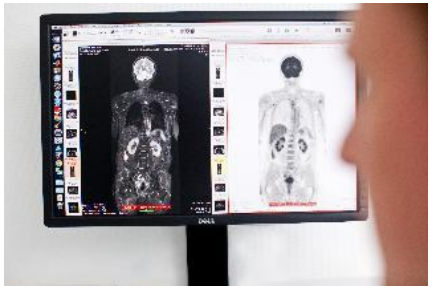
14

> 10.000

employees

>75.000 Inpatients

>300.000 Outpatients



# Foci

- Oncology
- Transplantation Medicine
- Cardiology
- Immunology & Infectious Diseases
- …
- Rare Diseases

# SMART HOSPITAL

- Improving healthcare by use of digitalisation
- Process optimization → Innovation
- Improving efficiency, relief of stress/strain for staff
- Usage of artificial intelligence
- Intelligent control, overstepping the medical sectors no limitation through walls,
  but from the overall history of the patient
  - Digitalised and optimized equivalent of a hospital

  → Focussing on people!!

# • IKIM- INSTITUTE FOR ARTIFICAL INTELLIGENCE IN MEDICINE

KI-REVOLUTION

## Essen erhält Institut für Medizin und Künstliche Intelligenz WAZ+

Thomas Mader 19.05.2019 - 17:10 Uhr

Ref: WAZ.de

Felix Nensa

Translational AI, Radiology

Jens Kleesiek

Translational Image-guided Oncology (TIO)

Christin Seifert

AI for Oncology

Folker Meyer

Medical Data Science und Services

# Our challenges about data storage…

- Ever-increasing user data coming from RIS, HIS, EMR and PACS demanding storage performance for higher processing speeds at a low latency.
- Complex network
- difficulty to management
- high maintenance costs.

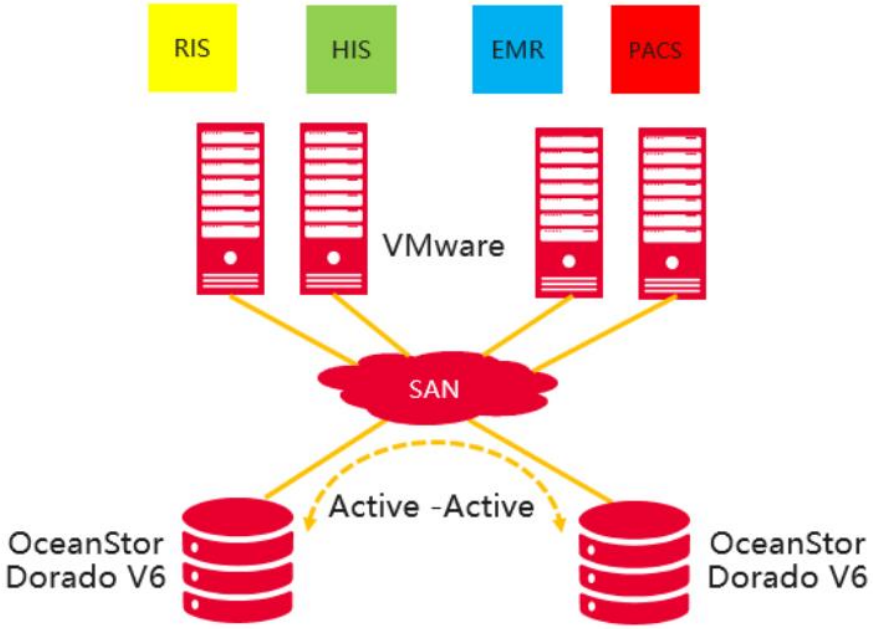
→ Need partner with comprehensive portfolios in order to continuously modernize our IT infrastructure.

# Our Huawei Solution

- State-of-the-art technologies: Powered by advanced technologies including NVMe over Fabric, active-active mirroring, and self-made intelligent network chipsets, the Huawei solution delivers an IOPS of over 300,000 IOPS at a mere 0.3 ms latency.

- Resource consolidation: Huawei's OceanStor Dorado NVMe All-Flash Storage systems consolidate the storage resources for both the virtualized and physical hosts, with ease of management on a single pane.

- Integrated virtualization feature: The OceanStor Dorado is able to virtualize and take over legacy storage systems, making it effortless to migrate critical workloads from low-performing infrastructure to the lighting-fast OceanStor Dorado V6 All-Flash Storage.



# Instead of marketing slides... ☺

1. We had to migrate our Exchange Storage
   → We bought our 1st Oceanstor Dorado 5000 V6

2. We installed a continuously growing CEPH Object Store (~5 PB in 2021) e.g. for OR Videos
   → We added 16 Tai Shan 200 Server

3. We wanted to migrate VMware Storage
   → We bought a 2nd Oceanstor Dorado

4. Our Smart Hospital Information Platform (SHIP) needed a professional infrastructure
   → 3rd & even 4th Oceanstor Dorado

5. We had some nasty network performance issues
   → Huawei's Spine & Leaf Switches decouple DC- and Edge-Traffic

6. We needed a spacious & performant central storage platform
   → We currently migrate to Oceanstor 6800 V5

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# Working with Huawei …

## The pro's…

- Very strong customer orientation
- High velocity in R&D
- End-to-end engineering and manufacturing.
- Mature products and solutions
- Strong and efficient support
- More concerned than you about the protection of your data

## Benefits…

- Get 30% lower CAPEX
- TCO savings of up to 50%
- Mature products and solutions
- Innovation partnership

Instead of marketing slides... ☺

1. We need an extraordinarily fast scientific data storage

→ We ~~will~~ want to buy OceanStor 9950

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To be continued...