



VUB RESEARCH DATA PROJECT

HUAWEI OCEANSTOR PACIFIC



VRIJE  
UNIVERSITEIT  
BRUSSEL

WE  
ARE VUB

THINKING MUST NEVER  
SUBMIT ITSELF.

## URBAN ENGAGED UNIVERSITY

“Vrije Universiteit Brussel is an internationally oriented university in Brussels, the heart of Europe. By providing excellent research and education on a human scale, VUB wants to make an active and committed contribution to a better society.”

*Caroline Pauwels, Pro-Rector VUB*

VUB

## INTRODUCTION



Over 20.000 students, 23% international students



6 locations, in & around Brussels



Over 4000 staff, 2800 academic staff



Over 3000 research publications in 2019



Top 18% universities according QS Ranking



**Het denken  
onderwerpt zich niet.**



VUB ICT is the preferred partner for implementing and managing the University's ICT solutions & applications.

The ICT division is a key enabler in the development of both internal and external ICT solutions and supports actively the digital transformation and roadmap of the organisation.

VUB ICT is moving beyond its historical mission to support the administration and contributes actively to the organization's challenges for education, research and community service.

### ➤ Core ICT Services

- Provide ICT services for Business Applications
- VMWARE on Huawei OceanStor Dorado

### ➤ VUB Private Cloud

- Dedicated private cloud for academic purposes
- Based upon Huawei Cloud Stack

### ➤ Datacenter housing

- Safely harbor dedicated academic hardware solutions
- Based upon Huawei FusionModule

### ➤ Microsoft Azure connectivity hub

- Act as a broker for academic groups to the Microsoft public cloud

### ➤ Storage for Research Data & HPC

- On premise mass storage allowing researchers to safely store their data



# STORAGE FOR RESEARCH DATA

## DRIVERS



### ➤ The amount of data generated and used is growing fast

- Not limited to the exact sciences & engineering
- Big data and machine learning research

### ➤ Privacy and legal requirements

- GDPR
- Legal requirements (data retention)
- Cloud Act

### ➤ FAIR principle in research data

- Findable
- Accessible
- Interoperable
- Reusable

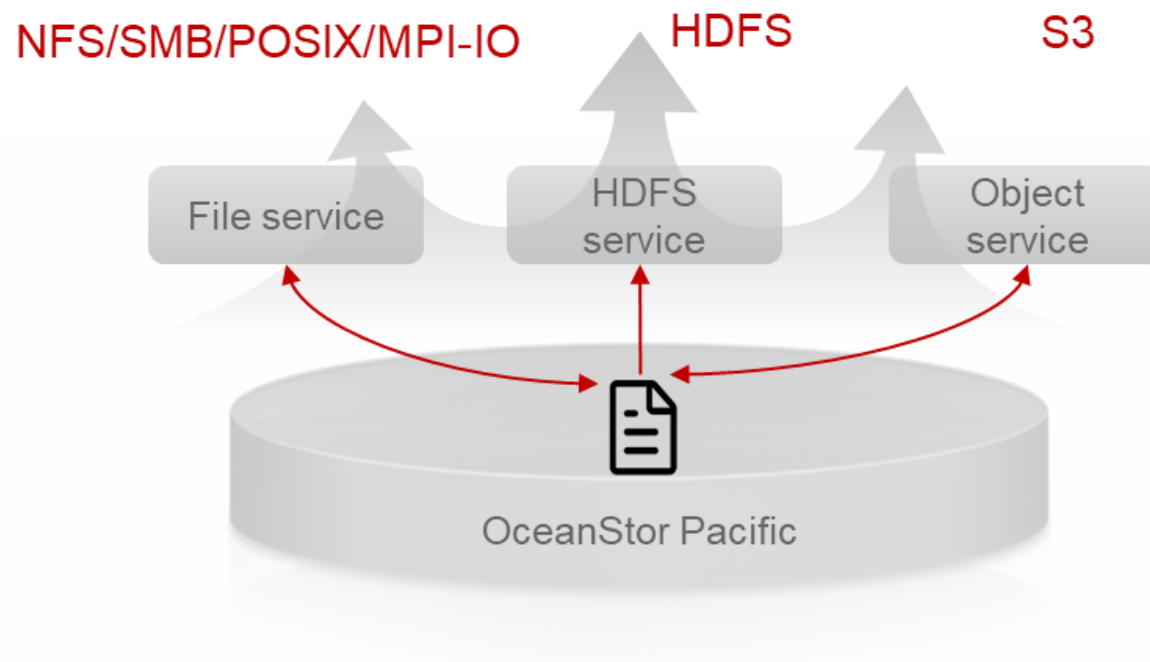
# VUB "RESEARCH DATA" PROJECT

## REQUIREMENTS

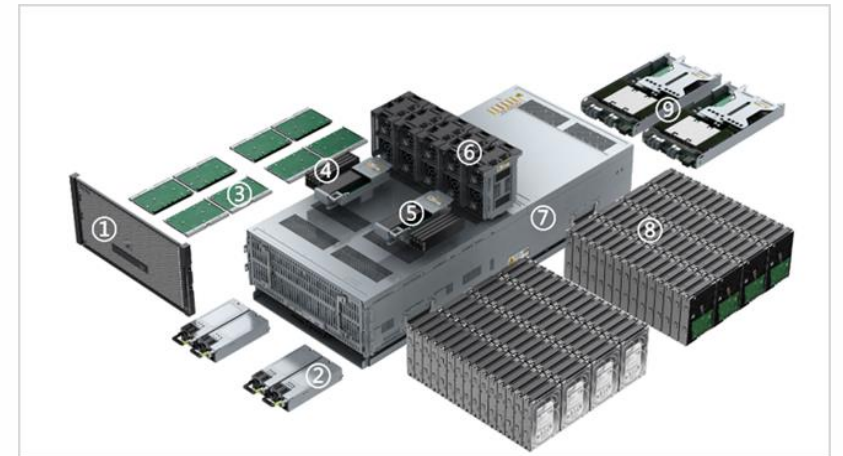
- Easy scalable both in capacity & performance
- Must consist of one namespace in which multiple tenants can be created
- Must be able to support NFS, SMB, S3
- Security: WORM functionality & File Level Encryption
- Must integration with MS AD, LDAP supporting RBAC
- Support for QOS, Quota Management
- Integration with public cloud providers: policy based data portability between On-Prem and the Cloud
- Replication between 2 or more DC needs to be possible
- Advanced monitoring capabilities

# VUB "RESEARCH DATA" PROJECT

## SOLUTION: HUAWEI OCEANSTOR PACIFIC



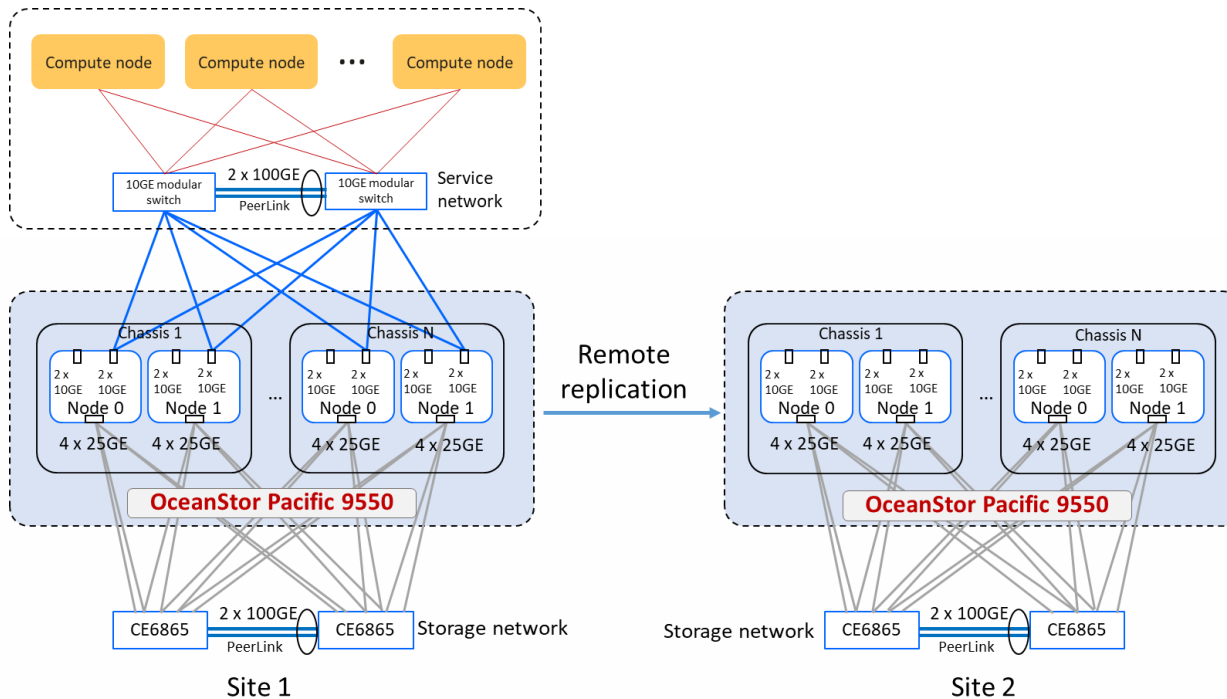
### OceanStor Pacific 9550 High-density capacity model





# VUB "RESEARCH DATA" PROJECT

## FINDINGS



### ✓ Positive

- ▶ Very scalable solution
- ▶ Compact Design
- ▶ Flexible Architecture – Multi Tenant, Multiple Name Space, ..
- ▶ Maximal Possible Bandwidth for sequential read/write

### □ Needs Enhancement

- ▶ Namespace Business Continuity
- ▶ Object policy replication
- ▶ Quota management

### ○ Future Deployment

- ▶ Summer 2022 – Activating NFS 4.1
- ▶ Autumn 2022 – Namespace Business Continuity Enhancement

THANK YOU



VRIJE  
UNIVERSITEIT  
BRUSSEL