

Zenith - a National Compute Resource in the East of England

RSEEE & WHPC Meeting Norwich

Chris Edsall - @hpcchris@scholar.social

University of Cambridge

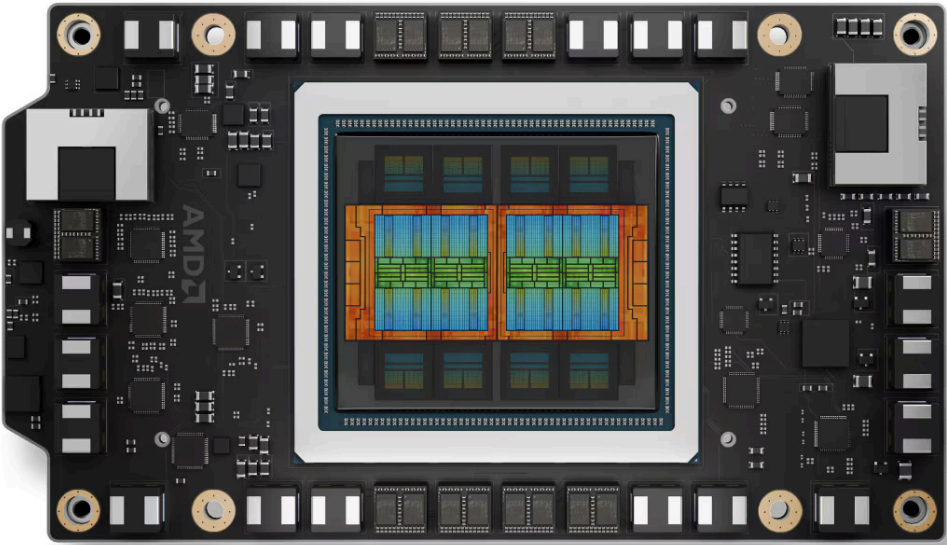
2026-04-22

Kit

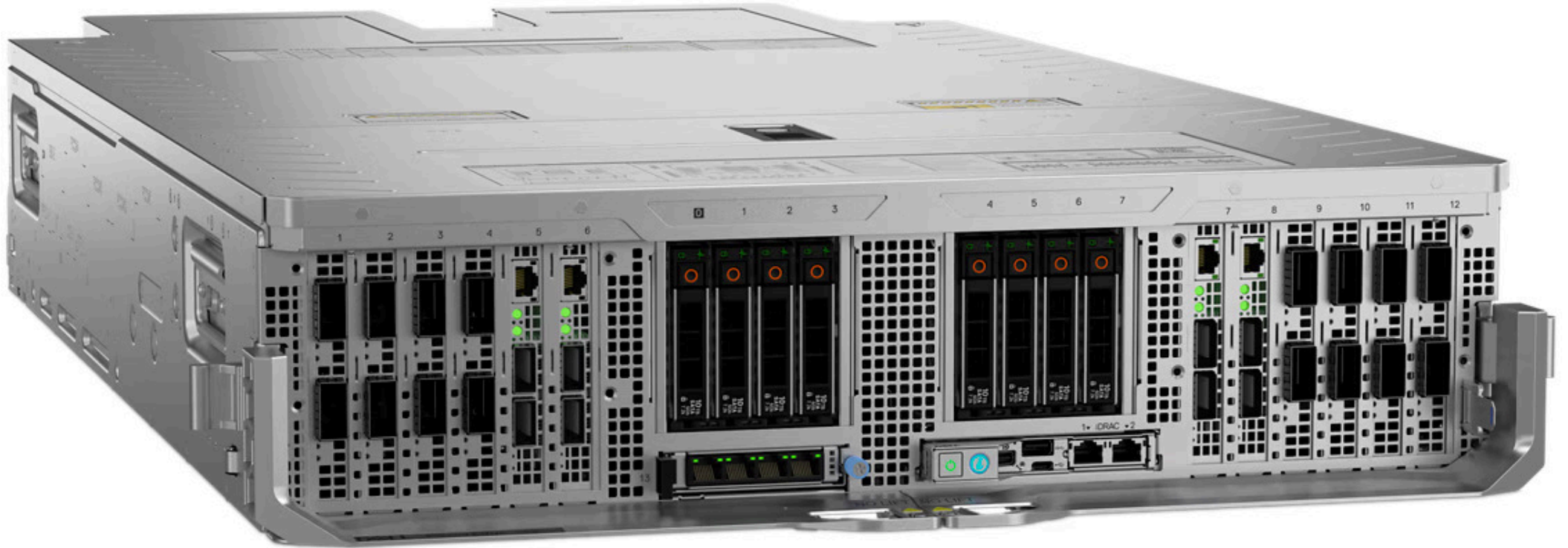
Introducing...

ZENITH

GPUs - AMD MI355x



Nodes - Dell PowerEdge XE9785L



Racks - Dell IR7000

Dell Integrated Rack 7000



19" Dell Z9864 Ethernet switches

Power Shelves

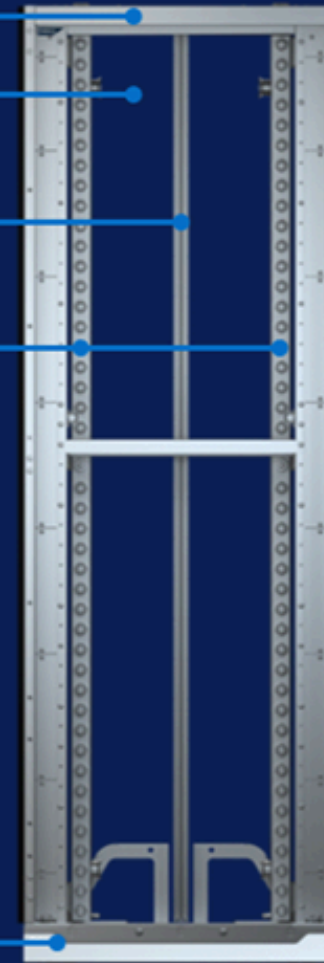
440U & 500U

21" wide mounting position

Blind-mate Busbar

Blind-mate manifolds

750mm x 1200mm



DELLTechnologies

Design



Zenith Installation Underway



Timeline

- 2025
 - Q4 Award and procurement
- 2026
 - Q1 Manufacturing and delivery
 - Q2 Installation and testing
 - Q3 Early access users
 - Q4 Production

Access

Allocations



UK Research
and Innovation



Department for
Science, Innovation
& Technology

Allocates via
NCR




Allocates via
AIRR



Zenith

Access portal



UNIVERSITY OF CAMBRIDGE

+ Add resource

- Organizations
- Projects**
- Resources
- Marketplace

Organizations / University of Cambridge / Projects / RCS-RSE Dawn GPU Pool

CE Hello Christopher

View Edit

R **RCS-RSE Dawn GPU Pool**
University of Cambridge
End date: Dec 31, 2026

Project dashboard Resources Team Audit logs Requests

Description [Edit](#)

Internal-P1. Dedicated GPU pool on Dawn for RSE team (short jobs, benchmarking, notebooks).

Active limit-based resources [Refresh](#)


Resources with a fixed allocation limit

Name	Offering	Used/total units	Renewal	Expiration	Usage	Actions
rcs-rse-dawn-gpu	Dawn-Slurm resources	429/10000 GPU-hour	N/A	N/A	<div style="width: 40%;"></div>	Edit
rcs-rse-dawn-storage	AIRR-Project-Storage-3150 TB	0/5 TB	N/A	Dec 31, 2026	<div style="width: 10%;"></div>	Edit

Team

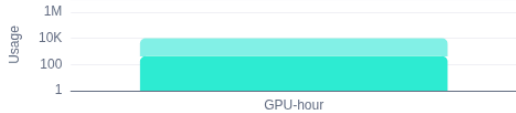
8 members

CE MI IA SF RC +3



Current month's usage

Usage Limit



Metric	Value
Usage	~100,000 GPU-hour
Limit	100,000 GPU-hour

Invitations

Invite by email ✕

We'll email them instructions and a link to accept the invitation.

Bulk import contacts 📄 Import
Import your mailing list from a .csv file. You can download an [example_file.csv](#)

Email	Role
<input type="text" value="Enter email address"/>	<input type="text" value="Select..."/> ⬆ 🗑
+ Add another user	<ul style="list-style-type: none">Co-investigator (can invite people) >Principal Investigator (can invite people) >Project administrator >Project manager >Project member >Researcher (project member) >

Cancel Continue

NCR - National Compute Resource

Site	System	Main Compute
Cambridge	Zenith	AMD MI355x
Birmingham	Baskerville NCR	Nvidia B200
UCL	Charger	Intel Xeon 6980P
EPCC	Cirrus	AMD EPYC 9825
STFC	Mary Coombs	Nvidia H100
Bristol	Isambard-3	Nvidia Grace-Grace

Programming Models

ROCm HPC Programming Models

- HIP
- OpenCL
- OpenMP Offload

ROCm Supported AI Frameworks

- PyTorch
- TensorFlow
- JAX

Unofficial Programming Models

- SYCL
 - AdaptiveCPP
- Kokkos
- Raja

Questions?

- cje57@cam.ac.uk
- <https://hpc.cam.ac.uk/>

Backup Slides

MI355x GPU Specs

Arch	CDNA4
CUs	256
Stream Procs	16,384
Matrix Cores	1024
FP64 (peak)	78.6 TFLOPs
Data types	FP64, FP32, FP16, bf16, OCP- FP8, INT8, MXFP8, MXFP6, MXFP4

Zenith Software

- Stack managed with spack
- Licenced software
 - Linaro Forge, DDT
 - X-Scale MVAPICH-GPU

Sunrise

- Sister system to Zenith
- For the fusion energy community
- 84 nodes, 672 GPUs