Met Office HPC Update

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HPC1

Name: XCE
Cray XC40
2.8 Petaflops
1.5MW
109,376 Cores*
385TB RAM
4PB Sonnexion

HPC2

Name: XCF
Cray XC40
2.8 Petaflops
1.5MW
109,376 Cores*
385TB RAM
9PB Sonnexion

HPC4: XCK
HPC4: XCT
HPC4: GW4

Auxiliary Test Systems:
XCK: Knights Landing
XCT: Test XC40
GW4: ARM Testbed

IT Hall 1 | IT Hall 2

Total Multi-Site Capability:
12.6 Petaflops
5.2-5.5MW
460,672 Cores
1.6PB RAM
27PB Sonnexion

HPC3

Name: XCS
Cray XC40
7 Petaflops
2.2-2.5MW
241,920 Cores**
840TB RAM
14PB Sonnexion

IT Hall 3

**89,856 Broadwell, 19,520 Haswell*

***241,920 Broadwell*

insufficient
power to site

ageing
electrical infrastructure

limited
resilient churn space

procurement
conveyer-belt

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10-year investment of
£1.2bn
in advancing Weather & Climate Science & Services

fully managed service from
Microsoft
a completely new delivery & operating model

100% remains operational
within the UK
an important aspect of post-Brexit R&I investment

100% powered through
carbon neutral
sources including operational capabilities

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delivered as
two generations
with a complete mid-term technology refresh

up to 18x greater
Supercomputing
capacity over 10 years – 6x then 3x

next generation high performance
MASS
data storage & archiving platform

enhanced & extensible
SPICE / VDI
scientific compute platforms

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6x performance
generation 1
~3000 Milan & ~7000 Genoa nodes

delivered as
4 quadrants
across 2 geographically distinct hosting zones

file systems
lustre and gpfs
flash and disk tiers

high performance
slingshot interconnect
two-layer dragonfly topology

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HPE PFSS
home storage
1 PiB – all flash. Metadata optimised

HPE ClusterStor
critical storage
> 7PiB, 650 GiB/s r/w – flash/disk

HPE ClusterStor
research storage
> 32 PiB, 1 TiB/s rw – flash/disk

HPE ClusterStor
collaboration storage
> 7 PiB, 230 GiB/s – all disk

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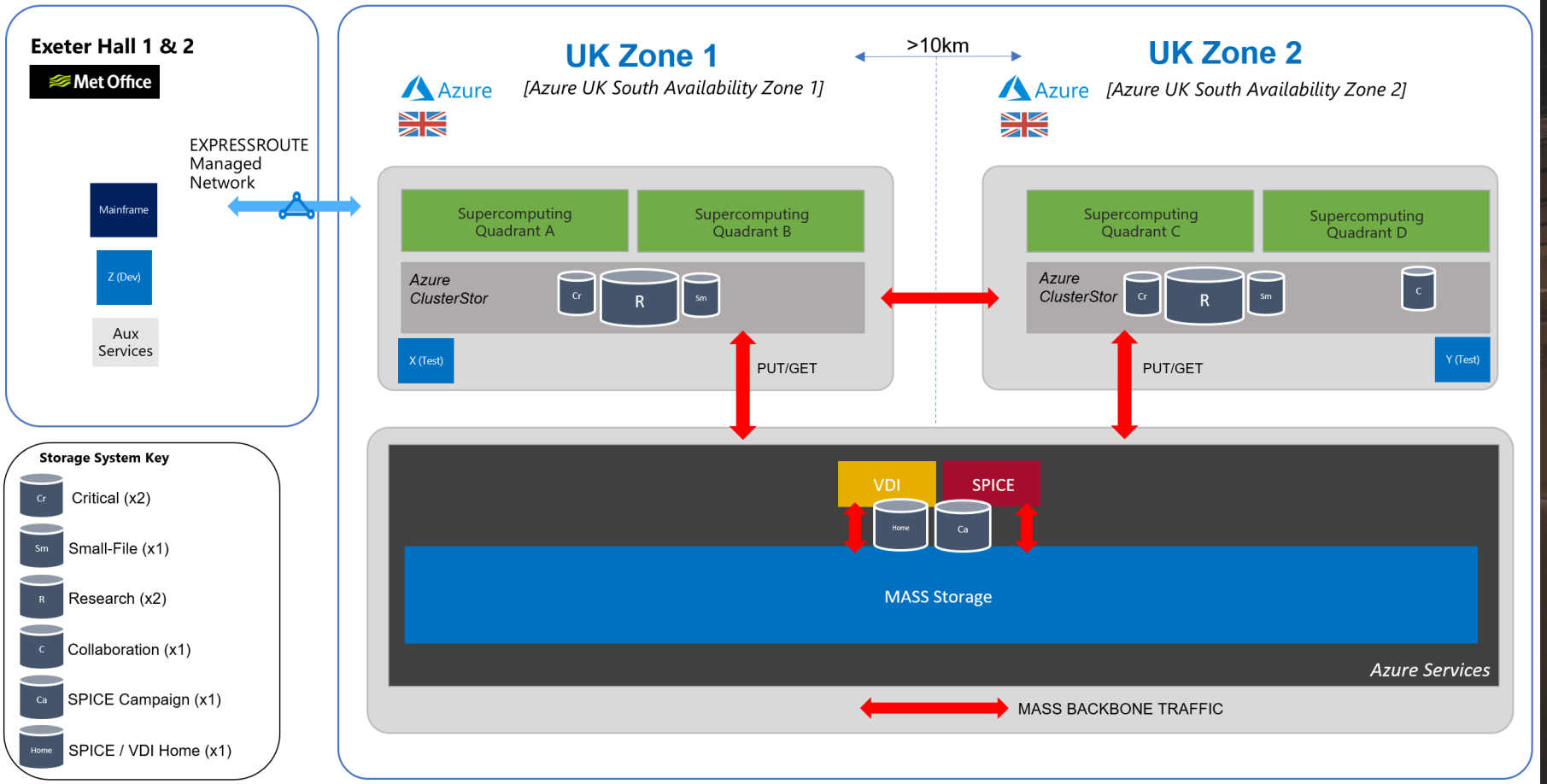

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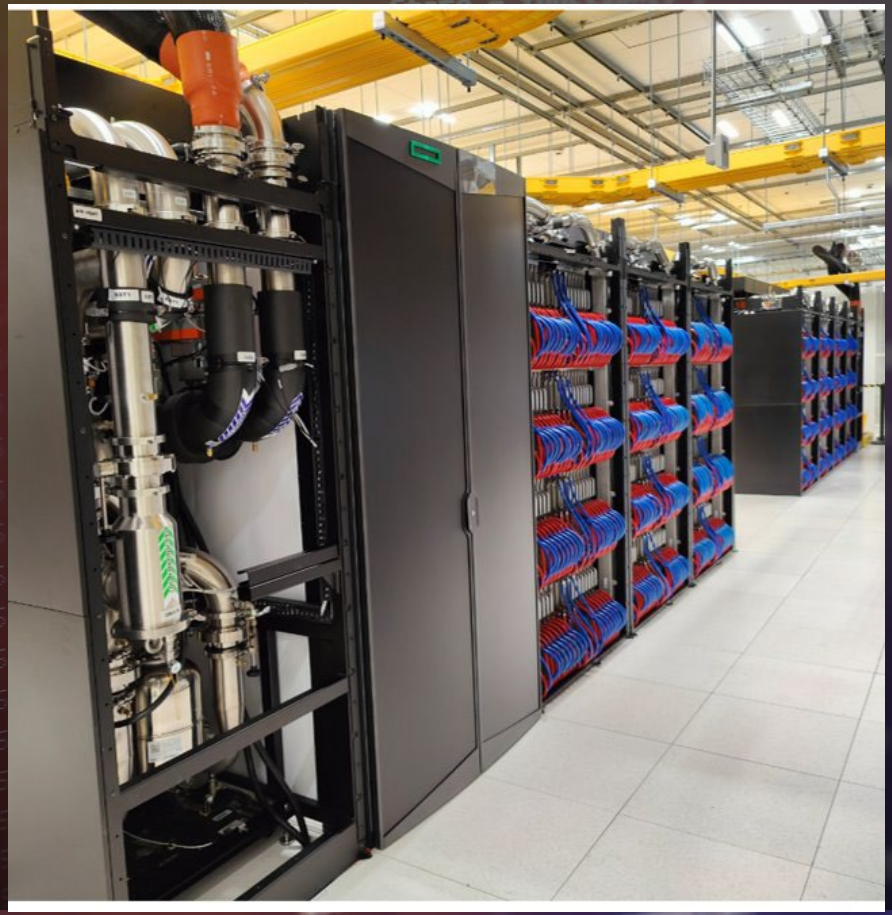

completed
data centres and networks

installed
generation 1 quadrants

porting
on development system

preparing for
acceptance testing

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early assurance
factory acceptance
complete

functionality
system integration acceptance
in preparation

service
user acceptance
in preparation

operational service commencement

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Thank You!

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