

ARC3 is the third phase of the ARC service here at Leeds and provides a Linux-based HPC service, based on the CentOS 7 distribution.

Purpose	Item	Description
Compute		All compute are Broadwell E5-2650v4 CPUs: Clock rate for non-AVX instructions is 2.2GHz and for AVX instructions is 1.8GHz. memory bandwidth per core is 800MHz/core System will turbo where it can. Using fewer cores will mean active cores can turbo more. There are 3 types of node.
	Standard nodes	252 nodes with 24 cores and 128GB of memory each and an SSD within the node with 100GB of storage. This provides 6048 cores of standard compute . These are the default nodes for jobs and do not need to be requested explicitly.
	High memory nodes	4 nodes with 24 cores and 768GB of memory each and a hard disk drive within the node with 800GB of storage. This provides 96 cores of high memory compute . These can be requested by adding this line to submission scripts: #\$ -l node_type=24core-768G
	GPGPU nodes	2 nodes each with 24 cores, 128GB of system memory, a hard disk drive within the node with 800GB of storage and 2 x NVIDIA K80s . 6 nodes each with 24 cores, 256GB of system memory, a hard disk drive within the node with 800GB of storage and 4 x NVIDIA P100s
	Intel Xeon Phi nodes	2 nodes each with a single Intel Xeon Phi Knight's Landing processor, 96GB system memory, 16GB MCDRAM and a 800GB hard drive.
Storage	Lustre	Two fail-over pairs delivering 4GB/s via the InfiniBand network to 836TB usable storage on /nobackup
Network	InfiniBand	The compute nodes are connected with Infiniband FDR of 56Gbit/s (vs. a QDR of 40Gbit/s on ARC2) in a 2:1 blocking topology, built up from non-blocking islands of 24 nodes.

	Gigabit	Management and general networks facilitating system boot. All other traffic carried over the InfiniBand Network.
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