

Example Scenarios for Mistral at DKRZ

	Mistral	Scale-down PFS, spent leftovers on compute		Switch to Object Storage, leftovers spent on compute	
Characteristics	Value	Factor	New value	Factor	New Value
Performance	3.1 PF/s	1.17	3.6 PF/s	1.19	3.7 PF/s
Nodes	2882	1.17	3370	1.19	3430
Node performance	1.0 TF/s				
System memory	200 TB	1.17	234 TB	1.19	238 TB
Network links	3100	1.12	3450	1.15	3565
Storage capacity	52 PB	0.5	26 PB	0.9	47 PB
Storage throughput	700 GB/s	0.5	350 GB/s	0.375	262 GB/s
Storage servers	130	0.5	65	0.75	98
Disk drives	10600	0.5	5300	0.74	7800
Archive capacity	500 PB				
Archive throughput	18 GB/s				
Compute costs	15.75 M EUR	1.17	19.53 M EUR	1.24	19.53 M EUR
Network costs	5.25 M EUR	1.10	6.04 M EUR	0.98	5.15 M EUR
Storage costs	7.5 M EUR	0.5	3.75 M EUR	0.5	3.75 M EUR
Archive costs	5 M EUR				
Building costs	5 M EUR				
Investment	38.5 M EUR		38.41 EUR		38.43 M EUR
Compute power	1100 kW	1.19	1290 kW	1.10	1309 kW
Network power	50 kW				
Storage power	250 kW	0.5	125 kW	0.75	188 kW
Archive power	25 kW				
Power consumption	1.20 MW		1.49 MW		1.57 MW

Case-study comparing Mistral as installed to a deployment with a reduced disk system and a deployment using object storage instead of a file system.