

Computer Centre – fact sheet

Computing power	Electricity
<ul style="list-style-type: none"> • 10,000 servers • 90,000 processor cores • hosted in 3 CC rooms of 513 • To cover CERN's needs, since 2013 also CC extension in Wigner Research Centre for Physics in Hungary 	<ul style="list-style-type: none"> • 3.5 megawatt max computing power consumption • CC protected by UPS (Uninterruptable Power Supply) • Allows to start diesel generators for critical systems • Provide time to shut down non-critical systems
Storage	Cooling
<ul style="list-style-type: none"> • LHC experiments produce >25 PByte / year (1 PByte = 1,000,000 GByte) 25 Pbyte equivalent 5 million DVDs, stacked would be tower of 6 km • Total data stored at CERN: 100 petabytes (~ 700 years of HD quality movies) • More than 480 million experiment files stored in data centre 	<ul style="list-style-type: none"> • Main Machine room, chilled air via blue ducts, into false floor and then into closed server aisles • Cold air temperature 14-21 °C • Vault also water cooled racks (higher cooling capacity per rack)
WLCG – Worldwide LHC Computing Grid	Networking
<ul style="list-style-type: none"> • More than 160 data centres • CERN provides about 15% of resources • Allows more than 10,000 physicists to access LHC data • 250,000 jobs run concurrently on the Grid 	<ul style="list-style-type: none"> • 35,000 km of optical fibre needed to transfer large amount of LHC data to and from CC • Two 100 Gigabit per second circuits connect CC and Wigner data centre (first international 100 Gb/s circuits in production worldwide) • Each day equivalent of 210,000 DVDs of data processed