

THE TECHNOLOGY NEEDED TO POWER AN F1 TEAM

A supercomputer with 100 Terabytes of storage, 48GB workstations and a host of virtual machines: welcome to the computing inventory of Caterham F1

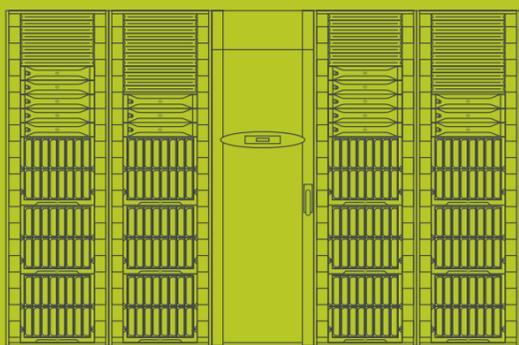
COMPUTING RESOURCE NEEDED AT THE FACTORY

HPC AT THE FACTORY CONSISTING OF:

186 DELL POWEREDGE SERVERS

1,488 INTEL XEON CORES

400x
Faster than the average home PC – can perform in 12 hours what a normal home computer would take five months to do



Capable of
17,000,000,000,000
operations per second

ADDITIONAL COMPUTING RESOURCE AT THE FACTORY:

65 DELL POWEREDGE SERVERS

80 VIRTUAL MACHINES

20 PHYSICAL SERVERS

20 DELL POWERCONNECT SWITCHES + FORCE10 40G CORE ON S4810

100TB of storage using Dell EqualLogic

THE F1 CAR IS INVENTED AND MODIFIED IN THE DESIGN OFFICE, HOME TO THE DESIGN, CFD, AERODYNAMICS, VEHICLE DYNAMICS AND MODELLING DEPARTMENTS. BETWEEN THEM, THEY NEED SOME SERIOUS COMPUTING RESOURCES:

127 DELL SCREENS

9 DELL PRECISION T5500 WITH 48GB OF MEMORY

71 Dell Precision T3500 or T3600 with 12GB of memory

17 Dell Precision M4700 mobile workstations with 8GB of memory

16 Dell Precision M6400 mobile workstations with 16GB of memory

10 Dell Latitude E6500 laptops with 4GB of memory

Amount of computer power in this one office:

1,716 GB

COMPUTING RESOURCE NEEDED AT THE CIRCUIT

DELL 'ACTIVE SYSTEM', A CONVERGED 'HALF-RACK' WITH ALL SERVERS, STORAGE AND CONNECTIVITY:

30 Virtual Machines on Dell PowerEdge R620 & R720

10 Dell Force10 PowerConnect switches

25TB of Trackside storage using EqualLogic and server platforms utilising SSD

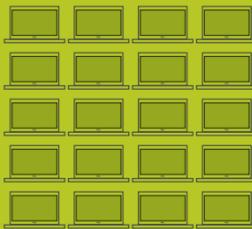
A race weekend generates 30GB of data, all of which goes through this 'half-rack'

All this makes Caterham one of the leading teams for consolidated and virtualised trackside computing

ADDITIONAL TRACKSIDE COMPUTING EQUIPMENT:

100 Dell Latitude laptops, including Dell XPS and Latitude 10 tablets

20 High-powered Dell Precision mobile workstations



'DISASTER RECOVERY SYSTEM' TO ALLOW THE TEAM TO RUN THEIR CARS SHOULD THE 'HALF-RACK' FAIL, CONTAINING:

Dell PowerEdge R720xd server for 'snap-shooting' virtual machines

Dell PowerEdge R210

SonicWall firewall

Artist node to run intercom system

CATERHAM F1 TEAM STATISTICS:

250: Number of Caterham F1 Team employees, which includes ten IT staff

1: Number of trucks need to house all the team's IT kit for a grand prix

1km: the length of baling that Caterham lays to connect its IT equipment at races

70-100: number of IT 'man-hours' required per grand prix