

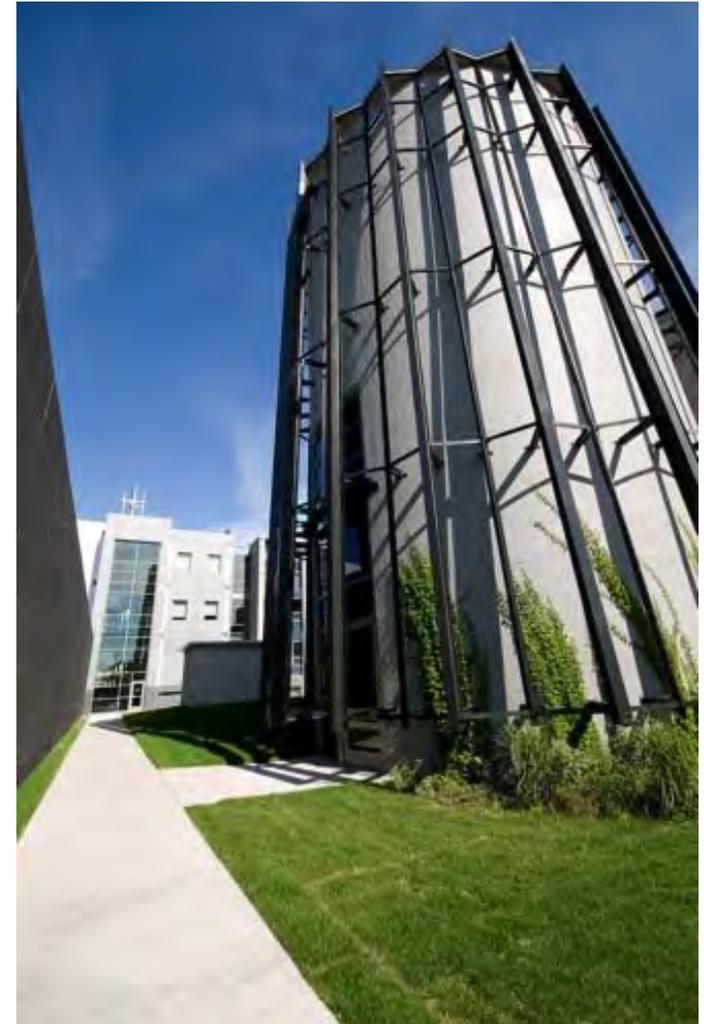
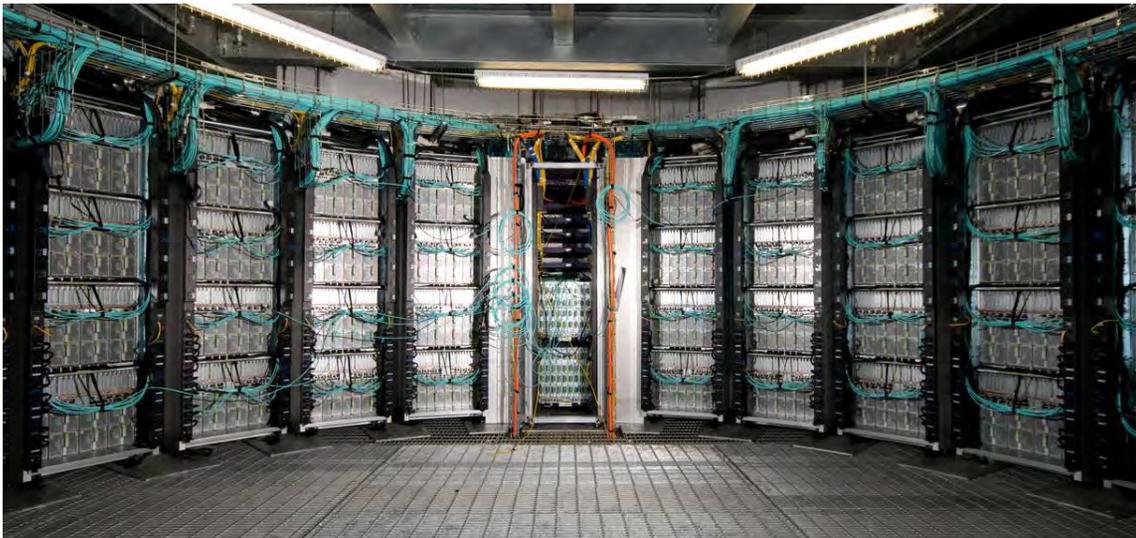
Colosse

Sun 6048 system

10 compute racks

960 nodes, 7680 cores

1 PB Lustre filesystem



Where are we measuring?

A- Electrical distribution meter

Siemens 9330 power meter

PRO: measures kWh, qualifies for L3 measurement

CON: cannot isolate compute nodes

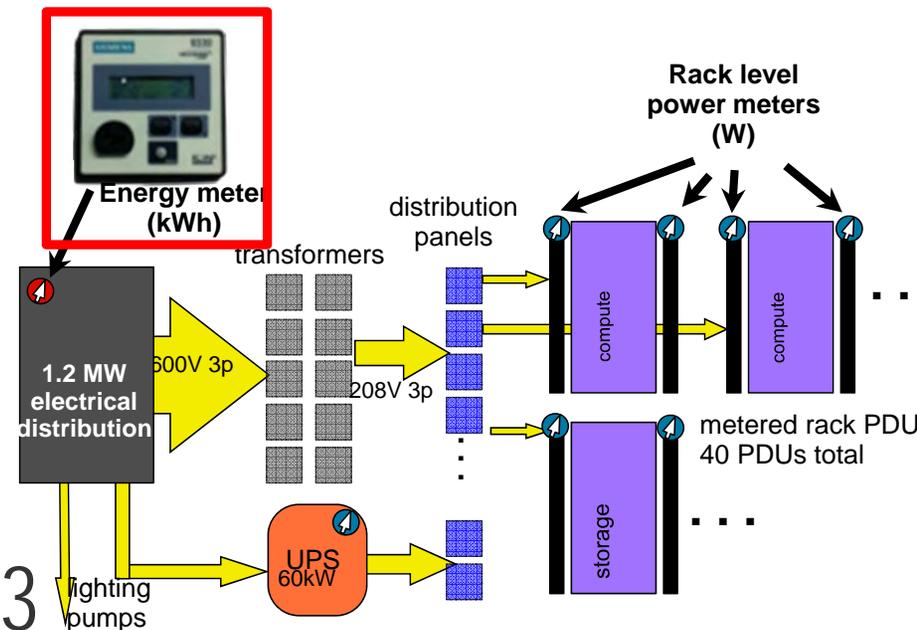
B- Rack PDU

APC 7866 metered PDU

PRO: measures (almost) compute only

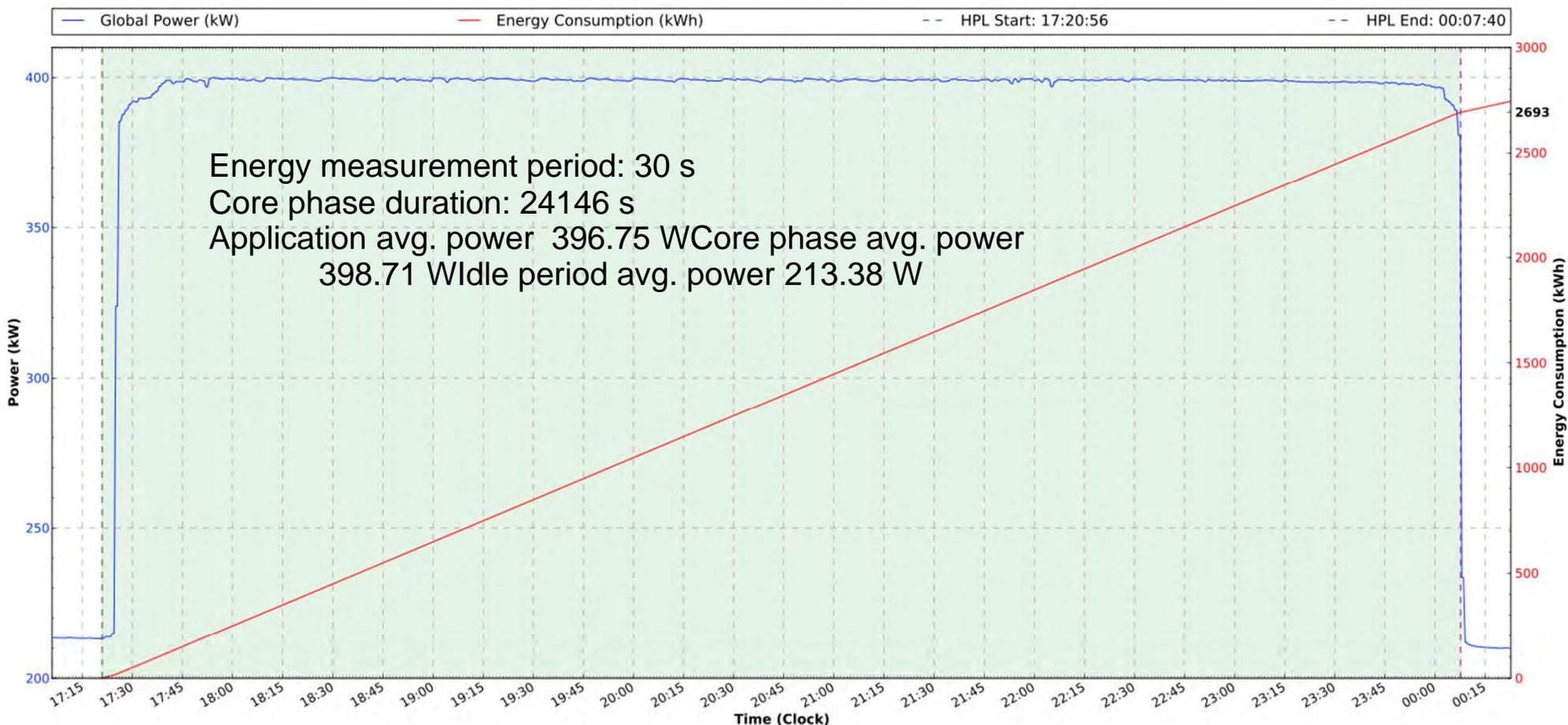
CON: instantaneous kW only

Selected A in order to achieve a L3 measurement



HPL run on May 23

Colosse HPL Run May 2012



Comments (1)

Running HPL is expensive:

- One run lasts for several hours;

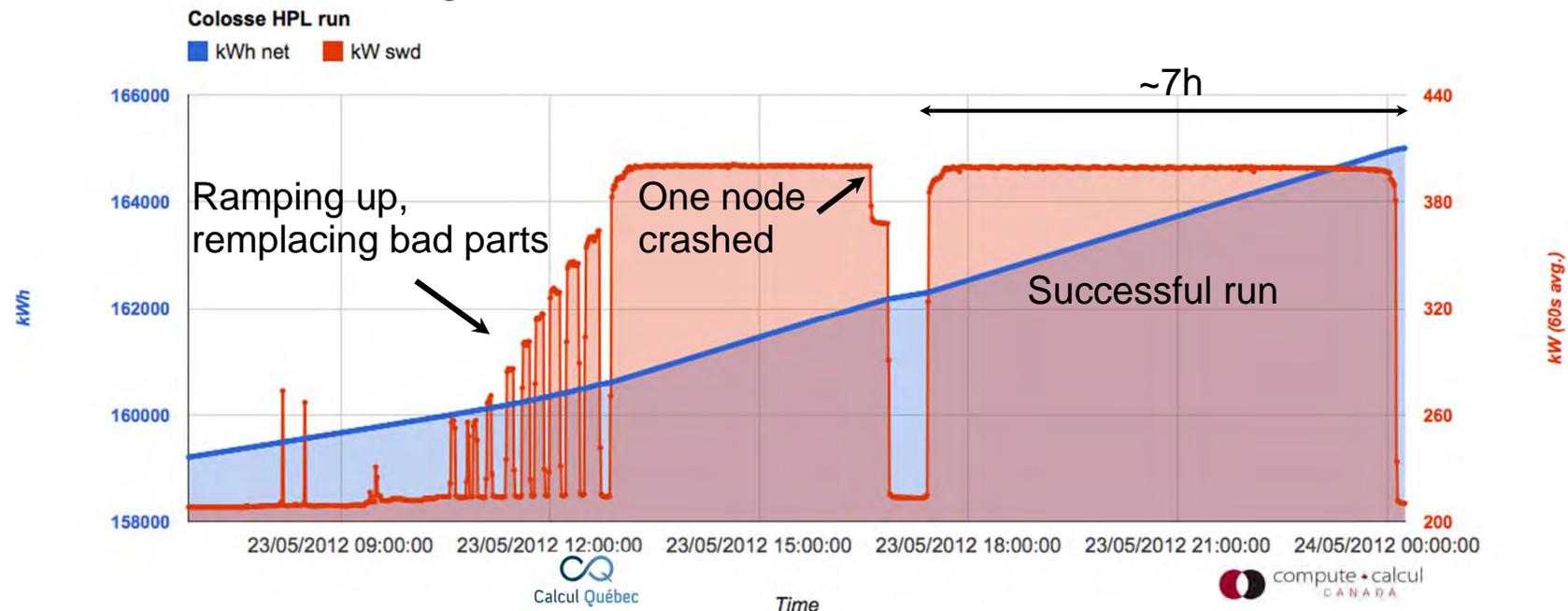
- Increases maintenance window significantly;

- Consumes a lot of energy to measure energy efficiency... :-/

For power measurement, a shorter benchmark would be beneficial

- Make it easier for a site in production to apply the new measurement methodology;

- Lower impact on downtime during a maintenance.



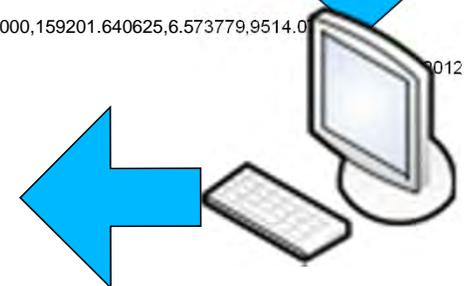
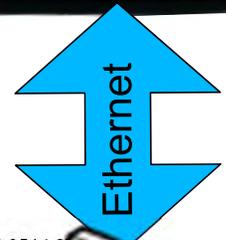
Comments (2)

Direct access to the power/energy meter

Turned out to be a very important point for us to achieve a L3 measurement

Even better would be to have energy metering at the rack level

Should be a HPC site design recommendation?



Date/Time,kWh imp,kWh exp,kWh net,kVARh imp,kVARh exp,kVARh net,kVAh imp,kW swd,kVAR swd,kVA swd,l avg swd,PF sign mean23/05/2012 06:49:00.000,159201.640625,0.000000,159201.640625,6.573779,9514.0