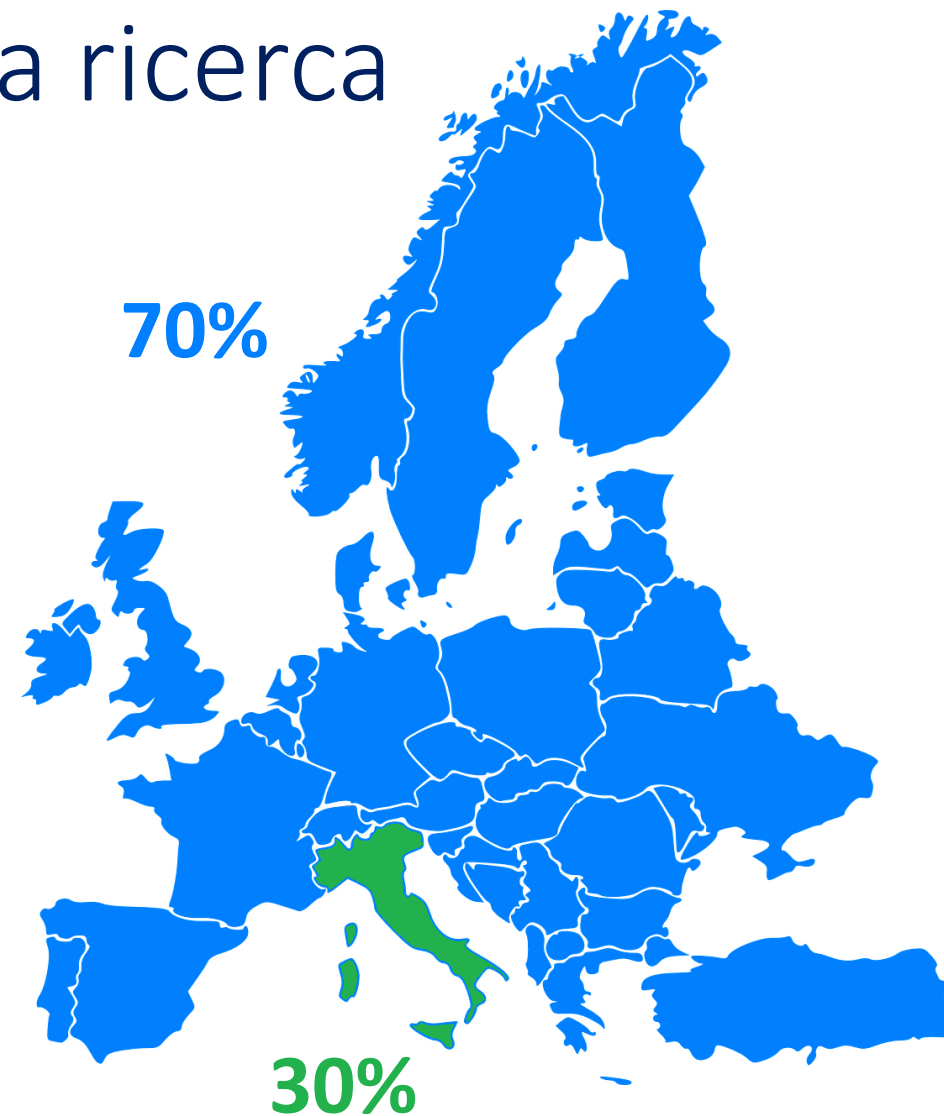
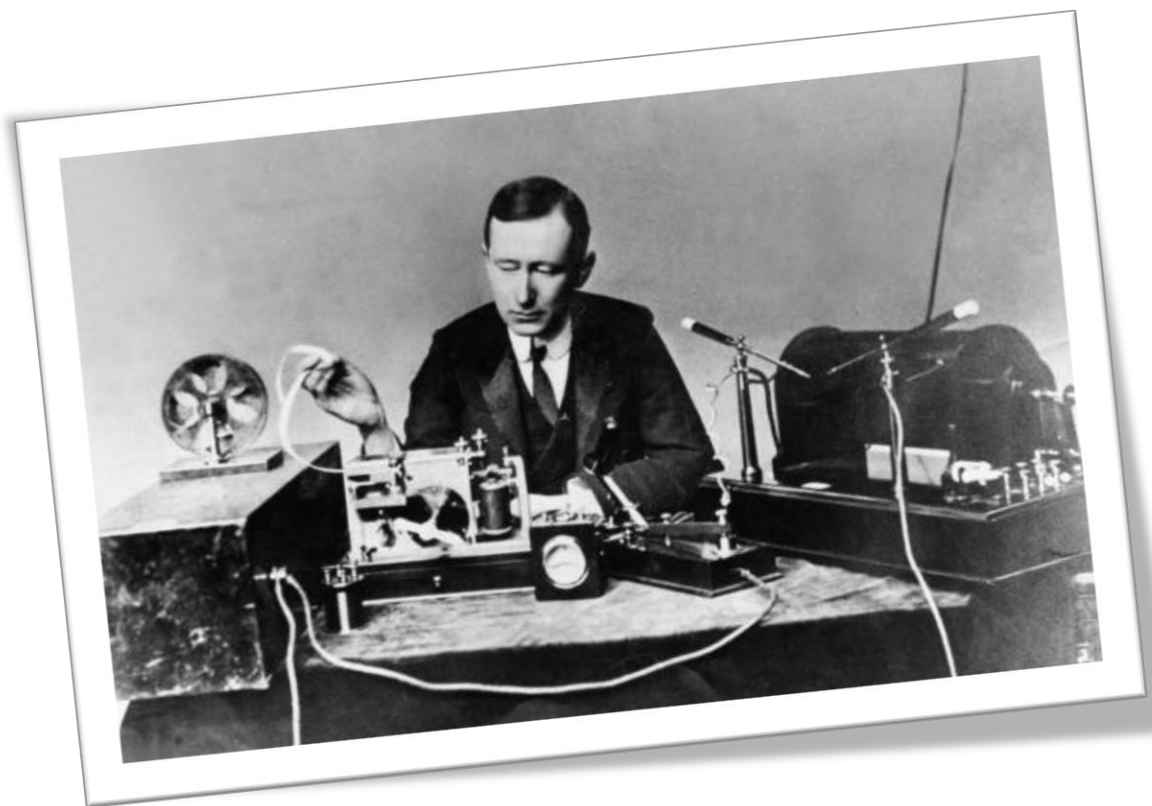


Marconi, il nuovo Tier0 del CINECA

eric.pascolo@ Cineca.it

HPC User Support Group - CINECA

Marconi, supercalcolo per la ricerca



Marconi, supercalcolo per la ricerca

LISA



EUROfusion

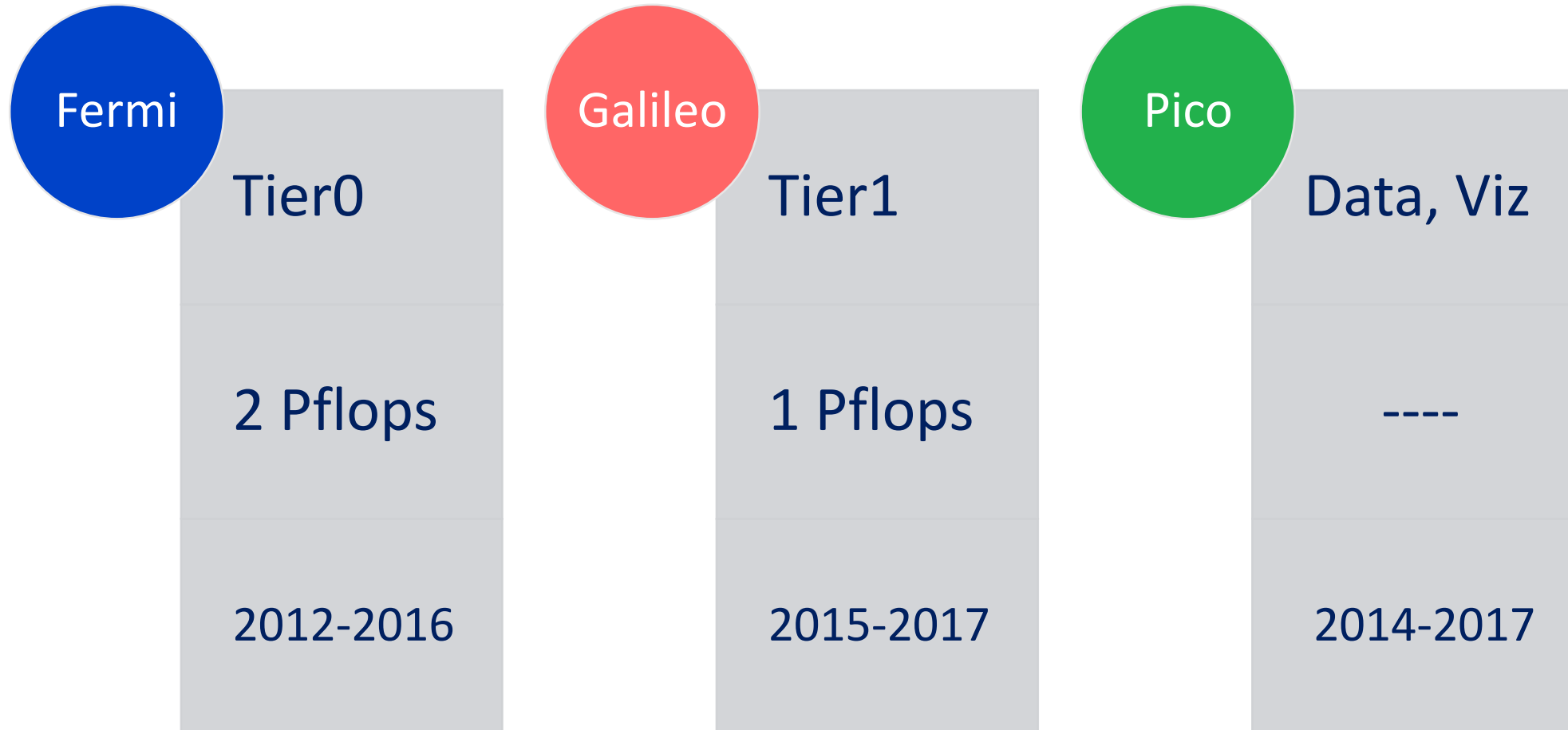


CONVENZIONI

ISCRA

EU PROJECT

Sistemi precedenti



Il primo passo di un lungo percorso



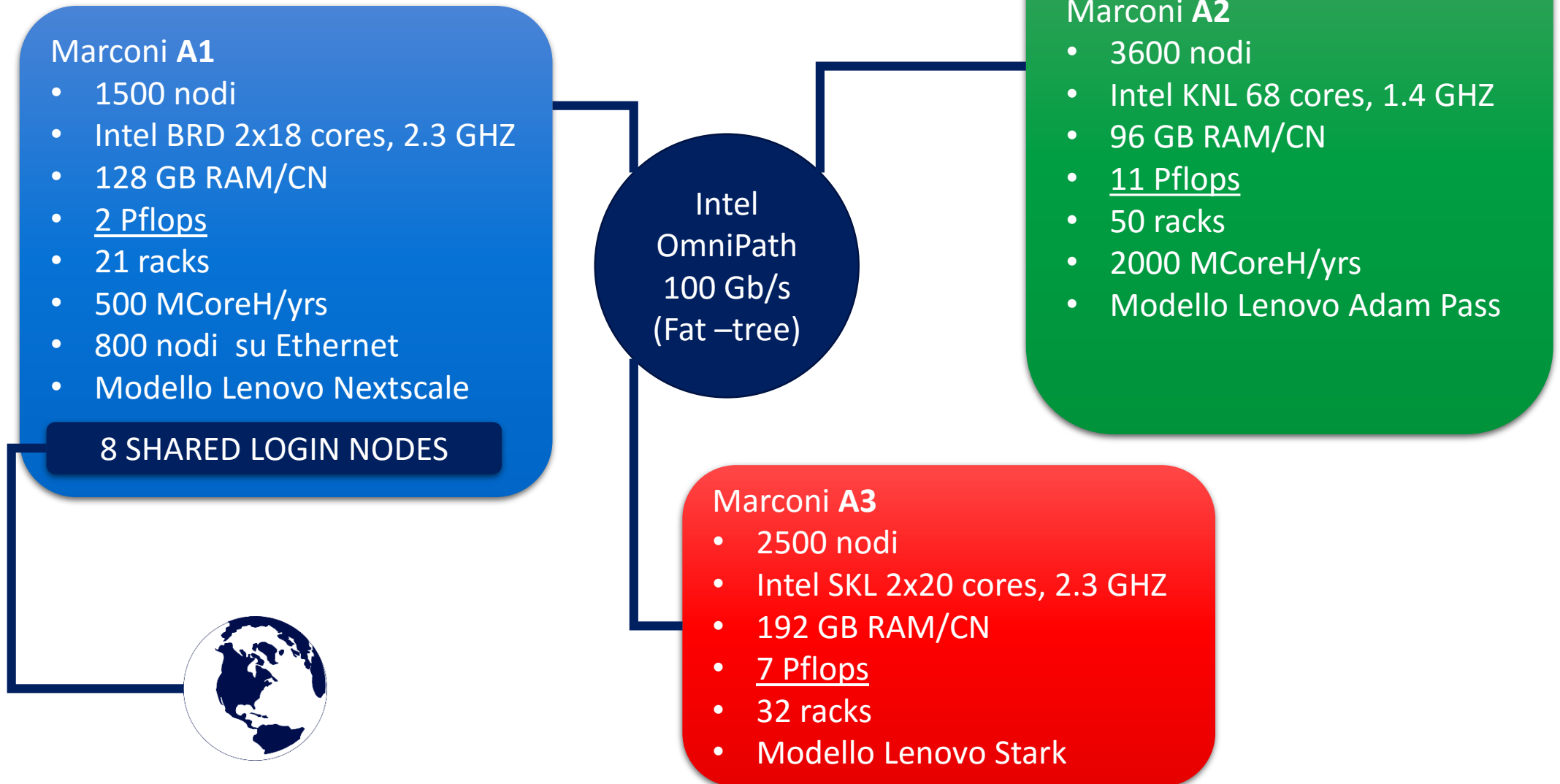
Il primo passo di un lungo percorso



Marconi a *Nov 2017*

20 Pflops 17PB 3MWatt

Marconi, dettagli tecnici



Top500 Nov16

11	United Kingdom Meteorological Office United Kingdom	Cray XC40, Xeon E5-2695v4 18C 2.1GHz, Aries interconnect Cray Inc.	241,920	6,765.2	8,128.5
12	CINECA Italy	Marconi Intel Xeon Phi - CINECA Cluster, Intel Xeon Phi 7250 68C 1.4GHz, Intel Omni-Path Lenovo	241,808	6,223.0	10,833.0
13	NASA/Ames Research Center/NAS United States	Pleiades - SGI ICE X, Intel Xeon E5-2670/E5-2680v2/E5- 2680v3/E5-2680v4 2.6/2.8/2.5/2.4 GHz, Infiniband FDR HPE/SGI	241,108	5,951.6	7,107.1 4,407

A2

55	Commissariat à l'Énergie Atomique (CEA) France	Iera-1000-1 - BullX DL270, Xeon E5-2698v3 16C 2.3GHz, Infiniband FDR Bull, Atos Group	70,272	1,871.0	2,386.0	1,042
56	CINECA Italy	Fermi - BlueGene/Q, Power BQC 16C 1.60GHz, Custom IBM	163,840	1,788.9	2,097.2	822
57	CINECA Italy	Marconi Intel Xeon - Lenovo NeXtScale nx360M5, Xeon E5- 2697v4 18C 2.3GHz, Omni-Path Lenovo	54,432	1,723.9	2,003.1	1,361
58	Government United States	SwiftLucy - Cluster Platform 3000 BL460c Gen9, Xeon E5-2680v3 12C 2.5GHz, Infiniband FDR HPE	57,600	1,703.3	2,304.0	2,880

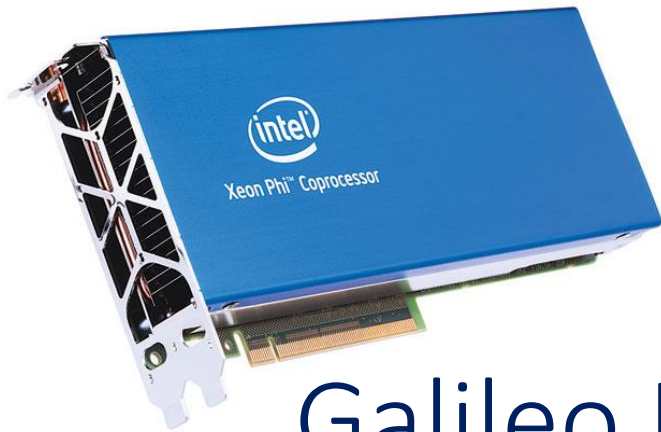
A1



Timeline

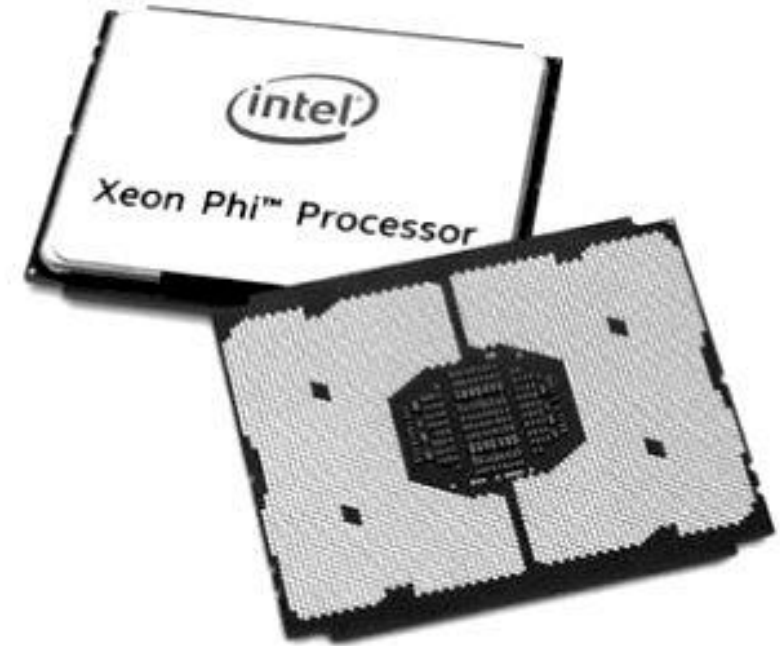


Marconi A2 nel dettaglio



Galileo KNC

Xeon PHI coprocessor

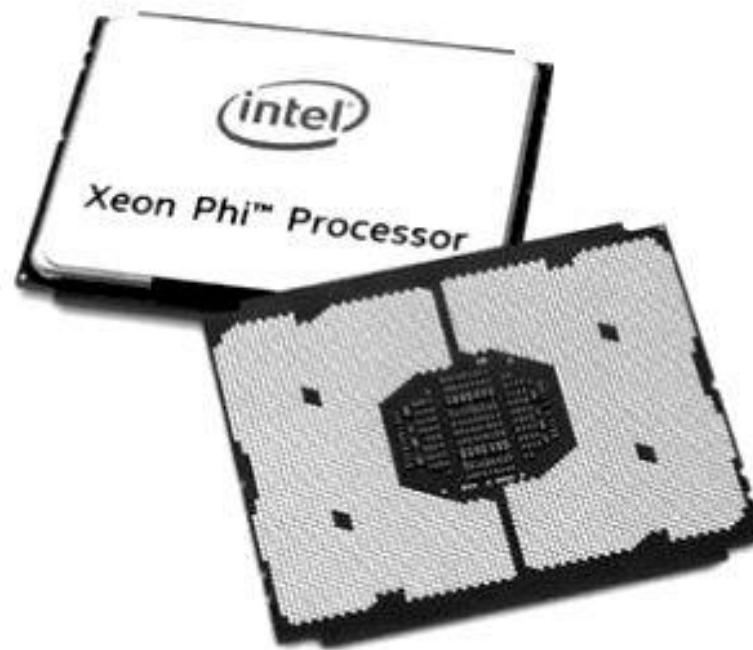


Marconi KNL
Xeon PHI processor

Intel Xeon Phi 7250

cores
68

Hyperthreading
272 threads



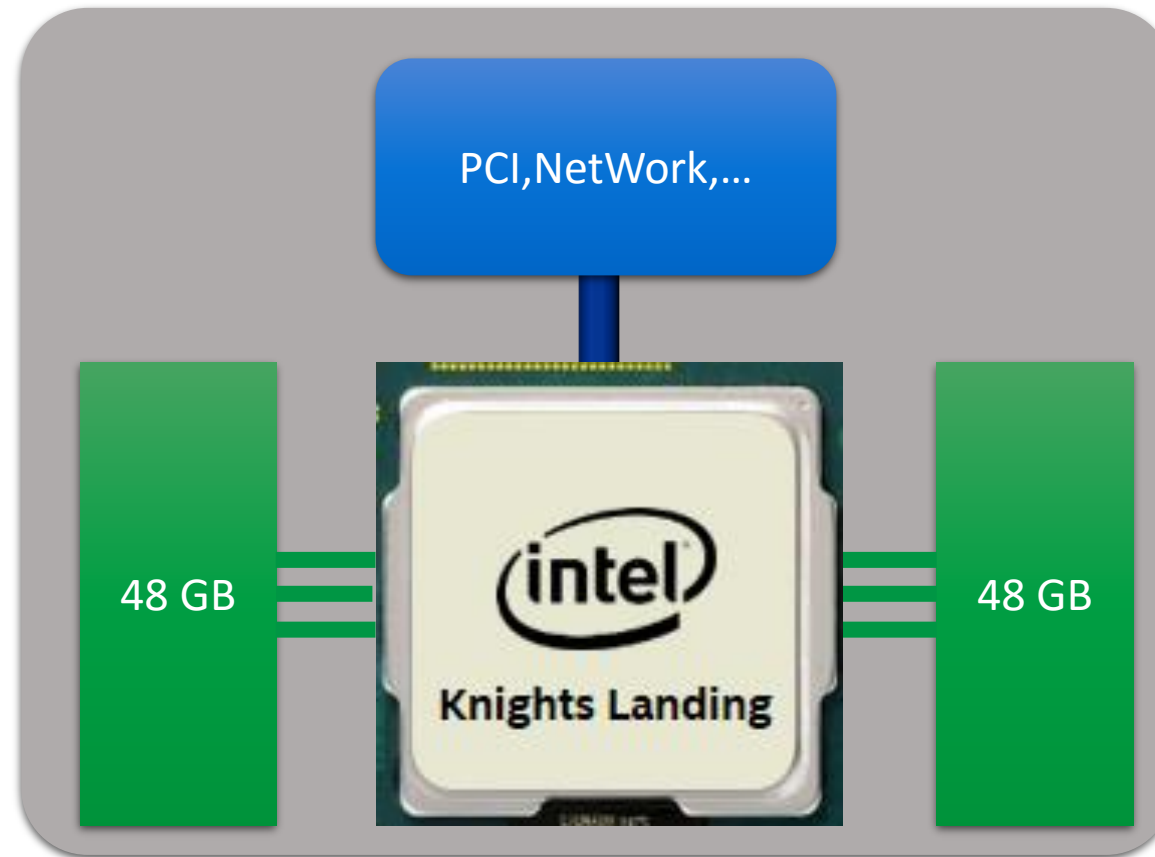
Clock
1,4 GHz

Turbo Clock
1,6 GHz
(disable)

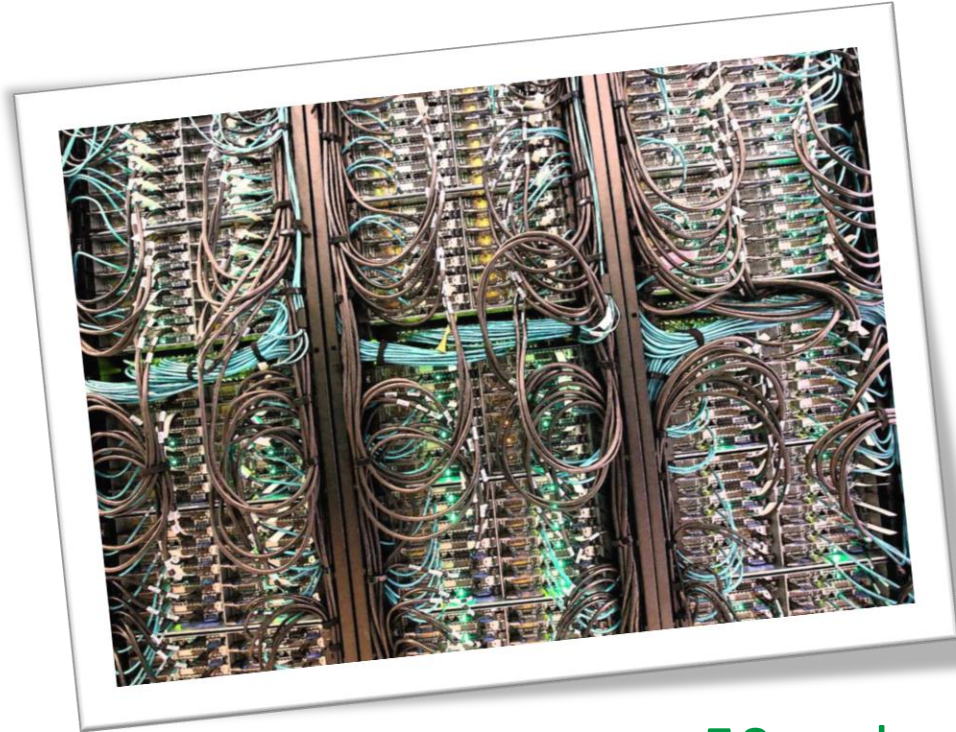
Instructions set
AVX512

Internal Memory
16 GB

Marconi A2, nodo



A2 Rack e Sala Macchine



50 racks

72 nodes/rack

Water based free cooling system



Grazie dell'attenzione

eric.pascolo@ Cineca.it