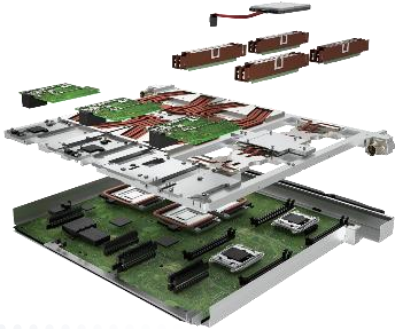
eXtreme Computing

Let’s speak about…
Efficiency

Be Efficient

HPC Objectives @ Atos



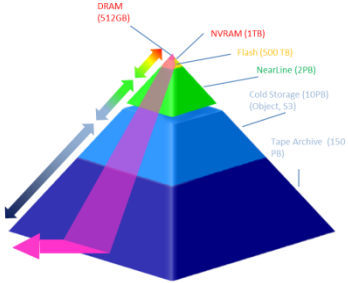
mobull plug & boot
Bull mobile solutions by Atos

xf

Match customers' needs
Design adapted solutions

Maximise customers' production
Optimize applications & workflow

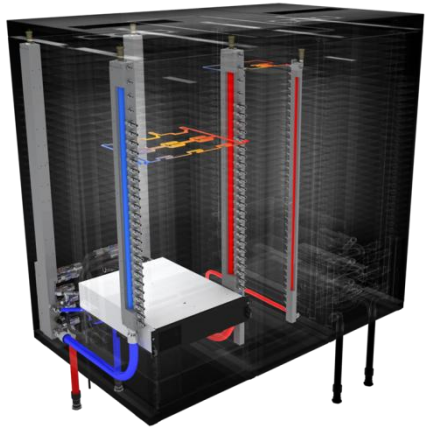
Centre pour l'Excellence
en Programmation Parallèle



Manage data
Leverage new data flows (memory & IO tiering)

Be Efficient

HPC Objectives @ Atos



Reduce TCO
Reach Best CAPEX/OPEX with innovative solutions

Provide excellence on site
Rely on recognised expertise

Integrate new usage models

extreme factory

Explore new technologies

Center for Exploration & Innovation

Bull Sequana X1000

Already deployed in the field

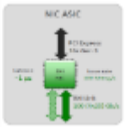
cea BXI	1x	Intel Xeon KNL Bull BXI
GENCI INES	1x	Intel Xeon KNL InfiniBand EDR
SURF SARA	1x	Intel Xeon E5 v4 InfiniBand EDR
Hartree Centre Science & Technology Facilities Council	6x	Intel Xeon Next Gen Intel Xeon KNL InfiniBand EDR
AWE	12x	Intel Xeon E5 v4 InfiniBand EDR
GENCI	9x	Intel Xeon Next Gen Intel Xeon KNL

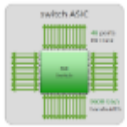
Towards Exascale

Innovate to make the difference: Next Gen Compute platforms

2016	2017	2018	2019	2020	2021	2022

ARM



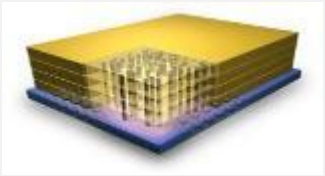


New Exascale BXI Interconnect

Sequana New flexible packaging

SCS

New integrated computing architecture



Compute + Memory + Network + Storage integration

Extreme scale packaging

SCS

10^{18}

exascale

Successor to Curie French National Supercomputer

- Bull Sequana X1000 system
- 9 Pflop/s peak performance for the first phase
- Mix of Intel® Xeon® Processor Scalable Family and Intel® Xeon Phi™ - based compute nodes
- Close to 400 TB of distributed memory
- Next generation interconnect
- Up to 500 Go/s multi-level Lustre

Available Spring 2018

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STFC Hartree Centre

Public HPCaaS offering to UK academics and Industry

Hartree Centre
Science & Technology Facilities Council

Hartree's Challenge

- Provide an **effective** HPC service to industry
- Enable easy, secure access through a portal interface
- Provide a simple charging mechanism, Enable a shared risk-reward revenue stream for Hartree Centre

Hosting Univ of Oxford

- Hosting Deep Learning & AI National Service
- DLaaS with XF

UNIVERSITY OF OXFORD

extreme factory

Centre pour l'Excellence en Programmation Parallèle

Center for Exploration & Innovation

Atos Solution

- First Bull **Sequana** Supercomputer in the UK
  - Intel Xeon x86, Xeon Phi and Nvidia GPUS
  - one Mellanox Infiniband Interconnect
- **Extreme Factory** (XCS and XRV) with Professional services to tailor to interface
- **Business Development** resources
- Atos commitments to help develop the **HPCaaS** offering

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Bull Sequana opens to ARM processors

With Cavium® ThunderX2™ processors

Port, explore and optimize your applications with our experts

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MERCI !

Bull sequana:
Live innovation to the fullest

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