

Welcome to evolve Project

Evolve
Newsletter

Issue 1
November 2019

Leading
the Big Data
Revolution

Jean-Thomas Acquaviva

DDN (coordinator)

“

Evolve is a European project bringing together HPC, AI and Big Data experts. HPC, AI and Big Data share a common point: the need for performance at scale. However, they differentiate by many other aspects: nature of the data processed, workflow, software stack. This challenges the idea that a generic purpose processor or storage architecture will meet their requirements. Therefore, Evolve is building an heterogeneous supercomputing platform jointly with the software components to leverage transparently this heterogeneity at the advantage of the applications. Evolve platform supports traditional CPU, with GPU and state-of-the-art FPGA. Storage-wise, the platform is accelerated by 8 DDN's IME units and a Lustre parallel file system. More importantly, Evolve is a customer-focused project, where partners provide 9 pilots applications to validate the approach. This crucial applications effort allows Evolve to optimize and adjust in an agile way during project's lifetime. With carefully designed middleware, API and connectors, Evolve is already able to accelerate Spark applications in a fully transparent manner, to containerize parallel file system in Docker and allow Zeppelin notebooks to access the supercomputer. Already one of the Pilot application with complex workflow including MPI parallel code and AI can be orchestrated on the platform taking advantage of the diversity of the computing resources. Much is still ongoing: resource management and monitoring, data protecting, articulation between Kubernetes and Slurm or even deeper storage hierarchies. Several external partners have already been engaged to test and validate the Evolve system and help us to mature the solution. The future will be diverse!

”

Read our newsletter and get
to know more about our use cases
and infrastructure:



Storage access for data processing

Authors - Efstratios Politis, Giorgos Kalaentzis, Giorgos Saloustros, Christos Kozanitis, and Angelos Bilas
(ICS-FORTH & CSD-University of Crete)

Read article

TReM: Improving QoS in Multi-GPU Servers with Task Revocation

Authors - Manos Pavlidakis, Stelios Mavridis, Yiannis Sfakianakis, Christl Symeonidou, Nikos Chrysos, Angelos Bilas
(ICS-FORTH & CSD-University of Crete)

Read article

Deterministic Application Execution for Workloads with Varying User Input on Highly Utilized Clusters

Authors - Yannis Sfakianakis, Yiorgos Zervas, Christos Kozanitis and Angelos Bilas
(ICS-FORTH & CSD-University of Crete)

Read article

A short and simplified guide to vehicle data analytics

Authors - Andreas Festl, Christian Kaiser, Alexander Stocker
(Virtual Vehicle Research Center)

Read article

FPGA accelerated computing

Author - Huy-Nam Nguyen
(ATOS/Bull)

Read article

We have already disseminated the
project at several events...



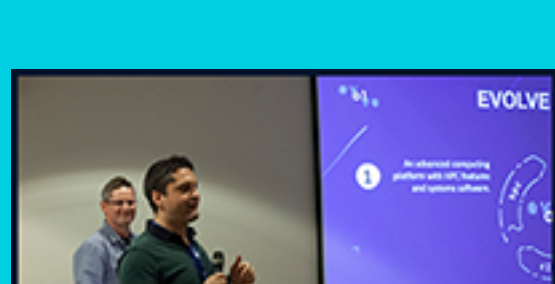
Evolve with Exascale projects at SC19

When - 18-19, November, 2019
Where - Denver, USA



Evolve at HIPEAC CSW Autumn 2019

When - 28-30, October, 2019
Where - Bilbao, Spain



Evolve at EBDP 2019

When - 14, October, 2019
Where - Helsinki, Finland



Evolve at IEEE ICCVE 2019

When - 28, June, 2019
Where - Graz, Austria



Evolve with HiPEAC at ISC 2019

When - 17, June, 2019
Where - Frankfurt, Germany

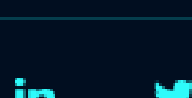
Check our
website

to get to know
where we will
be next!

Follow the project

www.evolve-h2020.eu

Visit us on Social Media



The Consortium



This project has received funding from the European Union Horizon 2020 Research & Innovation Programme under Grant Agreement no. 825061

You received this email because you are registered with EVOLVE.