Mathematical Modelling, Simulation and Optimization for Societal Challenges with Scientific Computing

Rendicontazione

Informazioni relative al progetto

MSO4SC

ID dell'accordo di sovvenzione: 731063

Sito web del progetto

DOI
10.3030/731063

Progetto chiuso

Data della firma CE
30 Settembre 2016

Data di avvio
1 Ottobre 2016

Data di completamento
30 Settembre 2018

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EXCELLENT SCIENCE - Research Infrastructures

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€ 2 435 064,50

Contributo UE
€ 2 435 064,50

Coordinato da
ATOS SPAIN SA
Spain

Questo progetto è apparso in...

Periodic Reporting for period 2 - MSO4SC (Mathematical Modelling, Simulation and Optimization for Societal Challenges with Scientific Computing)

Periodo di rendicontazione: 2017-12-01 al 2018-09-30

Sintesi del contesto e degli obiettivi generali del progetto

The mission of the MSO4SC project is to design, build, test and deliver an e-Infrastructure for hosting, developing and provisioning on demand, high performance math-supported software packages, based on HPC and Cloud computing.

In order to achieve this mission, MSO4SC pursuits the following objectives:
• Objective 1: Develop technology to allow Math Application Development Frameworks (MADF) run on clouds and across Cloud and HPC simultaneously.
• Objective 2: Provide simple access to on demand cloud and HPC for MADFs
• Objective 3: Accelerate the take up of MADFs through a product marketplace and dissemination
• Objective 4: Demonstrate the validity of the tools, approach and sustainability with real-life scenarios
• Objective 5: Bring together different scientific communities

Lavoro eseguito dall'inizio del progetto fino alla fine del periodo coperto dalla relazione e principali risultati finora ottenuti

So far, the MSO4SC infrastructure has been defined. Several MADFS have been adapted to the MSO4SC and both E-Cloud management and MSO portal have been specified and implemented. Pilots have been initially defined, as well as the qualification methods to be followed in order to test the MSO4SC solution. A first version of the pilots has been implemented. From a business perspective, the initial MSO4SC business model has been defined and the dissemination strategy to follow to communicate the MSO4SC results has been established.

Progressi oltre lo stato dell'arte e potenziale impatto previsto (incluso l'impatto socioeconomico e le implicazioni sociali più ampie del progetto fino ad ora)

The state-of-the-art use of high level mathematical software – developing frameworks and end-user applications – is their use from open repositories, e.g. github. Very recently Docker and Singularity images (for HPC) of the mathematical software are also used. The MSO4SC infrastructure is beyond state-of-the-art in that it is composed from singularity containers of math software with easy one-click deployment. Thus deployment of math software does not require any more an IT expert, and hybrid HPC and Cloud resources can be used transparently.

The MSO4SC infrastructure can be considered competitor of the well-know, US cloud Rescale, implying that Europe takes the steps with US in this modern technology resulting an excellent repository for many software that are worth for solving problems of the society. This is clearly demonstrated by the wide range of math end-user applications of the MSO4SC.

MSO4SC Logo

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