

**Result name:** Accelerated Computing in Cloud

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**Project:** H2020 654142 Engaging the EGI Community towards an Open Science Commons

**Project coordinator:** STICHTING EUROPEAN GRID INITIATIVE (EGI.eu, Amsterdam)

**Local coordinator:** Ladislav Hluchý

**External financial sources:** 54'750 €

**Project duration:** 1.3.2015 / 31.8.2017

**Project consortium: 41 members** (Austria: 2, Belgium: 1, Bulgaria: 1, Czech Republic: 1, Germany: 3, Spain: 1, Finland: 1, France: 3, United Kingdom: 1, Greece: 2, Croatia: 1, Hungary: 1, Switzerland: 2, Indonesia: 1, Italy: 6, Malaysia: 1, The Netherlands: 2, Philippines: 1, Poland: 1, Portugal: 2, Slovakia: 1, Sweden: 2, Thailand: 1, Turkey: 1, Taiwan: 1, USA: 1)

### **The 2016 result annotation:**

In the scope of EGI-Engage project, IISAS provides a production cloud site (IISAS-GPUCloud) powered by accelerators (GPGPU), integrated into the EGI FedCloud infrastructure; it was upgraded to the actual OpenStack middleware version (Mitaka).

We solved problems with providing GPGPU-accelerators in cloud middleware OpenNebula; a new cloud site (IISAS-Nebula) was integrated into the EGI infrastructure, which is being certificated to become a production site.

We support several scientific virtual organisations (interest associations of users of several real organizations): fedcloud.egi.eu (testing), ops (monitoring), dteam (administration), moldyngrid (molecular dynamics), enmr.eu (magnetic resonance), vo.lifewatch.eu (biodiversity and ecosystems research).

### **Main scientometric outputs:**

1. BOBÁK, Martin - HLUCHÝ, Ladislav - TRAN, Viet. Application performance optimization in multicloud environment. In Computing and informatics, 2016, vol. 35, no. 6, p. (0.524 - IF2015). ISSN 1335-9150. Category: **ADDA**
2. HLUCHÝ, Ladislav - NGUYEN, Giang - ASTALOŠ, Ján - TRAN, Dinh Viet - ŠIPKOVÁ, Viera - NGUYEN, Binh Minh. Effective computation resilience in high performance and distributed environments. In Computing and informatics, 2016, vol. 35, no. 6, p. (0.524 - IF2015). ISSN 1335-9150. Category: **ADDA**
3. ŠIPKOVÁ, Viera - HLUCHÝ, Ladislav - DOBRUCKÝ, Miroslav - BARTOK, Juraj - NGUYEN, Binh Minh. Manufacturing of weather forecasting simulations on high performance infrastructures. In ECW 2016 Environmental Computing Workshop : 12th International IEEE Conference on eScience. - Baltimore, USA : IEEE, 2016, p. 432-439. ISBN 978-1-5090-4273-9. Category: **AFC**