Jesus Carretero, NESUS Cost Action Chair, Spain

" COST Action IC1305. Network for Sustainability in Ultrascale Computing Systems (NESUS)"

The NESUS COST Action has been created to establish an open research network targeting sustainable solutions for ultrascale computing systems. Ultrascale systems are envisioned as large-scale complex systems joining parallel and distributed computing systems that will be two to three orders of magnitude larger that today´s systems.

In an effort to cope with this systems, the NESUS Action aims at collaboratively rethinking the current basis of development of system software for scalable computing systems in order to pave the way towards a sustainable future scale growth by improving the coordination of efforts between complementary communities.

Cross fertilization among High Performance Computing (HPC), large scale distributed systems, and big data management is pursued to provide common activities in research topics such as sustainable software solutions (applications and system software stack), data management, energy efficiency, and resilience. Those efforts will be translated to applications amenable to ultra scale provided by institutions (academy and industry) members of the network. In this speech, NESUS COST action will be presented, together with some examples of the effort being made in the MPI area to enhance sustainability of ultrascale applications.

Jesus Carretero is a Full Professor of Computer Architecture and Technology at Universidad Carlos III de Madrid (Spain), where he is responsible for that knowledge area since 2000. He is also Director of the Master in Administration and Management of Computer Systems, which he founded in 2004.

His research activity is centered on high-performance computing systems, large-scale distributed systems and real-time systems. He is Action Chair of the IC1305 COST Action "Network for Sustainable Ultrascale Computing Systems (NESUS)", and he is also currently involved in the FP7 program REPARA "Reengineering and Enabling Performance And poweR of Applications". He has participated and leaded several national and international research projects in these areas, founded by Madrid Regional Government, Spanish Education Ministry and the European union.

Prof. Carretero is Associated Editor of the journal Computer and Electrical Engineering and International Journal of Distributed Sensor Networks. He has published more than 180 papers in journals and international conferences, editor of several books of proceedings, and guest editor for special issues of journals as International Journal of Parallel Processing, Cluster Computing, Computers and Electrical Engineering, and New Generation Computing, and he is coauthor of several text books related to Operating Systems and Computer Architecture. He has participated in many conference organization committees, and he has been General chair of CSE 2015, CCGrid Life 2015, HPCC 2011 and MUE 2012, and Program Chair of ISPA 2012, EuroMPI 2013, C4Bio 2014, and ESAA 2014.

Prof. Carretero is a senior member of the IEEE Computer Society and member of the ACM. He also serves and has served as a Technology Advisor and in applied projects with several companies such as RENFE, EADS, INDRA, SIEMENS or ISOLUX, developing research and innovation projects. He is a project reviewer for Spanish research ministry and also European Union.

He was teaching in Facultad de Informatica of the Universidad Politecnica de Madrid (Spain) since 1989 until 1997. In 1997 and 1998 he was a visiting scholar at the NorthWestern University of Chicago (Ill, USA). He works currently at Universidad Carlos III de Madrid, where he has been teaching since 2000.