Thursday 7 July 2016
16h00 – 17h00
UT3 Paul Sabatier, IRIT, Auditorium J. Herbrand

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A Brief History of Checkpointing and Its Applications

Abstract: Checkpointing is the ability to save the state of a running process to disk or other stable storage. While this software technology originated in High Performance Computing, it is now used in widely varying applications. An overview of DMTCP (Distributed MultiThreaded CheckPointing) is presented as an example of such software. A brief history of checkpointing is then reviewed, followed by motivating examples of how checkpointing is used today.

Short bio: Professor Cooperman works in high-performance computing and scalable applications for computational algebra. He received his B.S. from U. of Michigan in 1974, and his Ph.D. from Brown University in 1978. He then spent six years in basic research at GTE Laboratories. He came to Northeastern University in 1986, and has been a full professor since 1992. In 2014, he was awarded a five-year IDEX Chair of Attractivity at from the Université Fédérale Toulouse Midi-Pyrénées. Since 2004, he has led the DMTCP project (Distributed MultiThreaded CheckPointing). Prof. Cooperman also has a 15-year relationship with CERN, where his work on semi-automatic thread parallelization of task-oriented software is included in the million-line Geant4 high-energy physics simulator. His current research interests especially include studying the limits of transparent checkpoint-restart. Some current domains of interest are: supercomputing, cloud computing, engineering desktops (license servers, etc.), GPU-accelerated graphics, GPGPU computing, and Internet of Things.