SORS: Building Cumulonimbus Cloud Systems

Objectives

Abstract

Steadily growing amounts of sensor data is being generated and is typically processed by Cloud based servers leading to highly unbalanced systems with most of the computations being performed at the back-end. Such large-scale systems are characterized by rocketing energy budgets of the back-end, bandwidth hungry interconnect infrastructures and many end-users exposed to disturbing application response delays. We will discuss how data-movement centric, massive-scale smart systems can be integrally developed, built and orchestrated. We show that adding customizable compute capabilities at the edge will enable truly application aware systems able to perform all of the required data processing and movements within affordable energy budgets at all levels.

Short bio

Georgi Gaydadjiev is
the Director of Maxeler IoT-Labs BV in the Netherlands and Honorary Visiting Professor at Imperial College in London, UK. His research and development experience includes more than 30 years of hardware and software design in Bulgaria, Netherlands, Sweden and UK. Georgi created various commercial products, from tiny embedded systems to large high-performance computers. In 1999 his team won the Design & Engineering Showcase Award at the Consumer Electronics Show. Georgi's research contributions include hardware/ software co-design, computer architecture and micro-architecture, reconfigurable computing, and computer systems testing. His academic work funded by EC, Google and various governments received best paper awards from USENIX in 2006 and the International Conference on Supercomputing in 2010.

Speakers

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