Cloud Control Workshop 2013
The workshop is an open kick-off for the Cloud Control project, funded by a VR framework grant during 2013 – 2016. The workshop is open to project participants and people in the participants' near vicinity, with whom we see potential for collaborations or other synergies.

The aim of the workshop is three-fold. First and foremost, it aims at making people know each other, professionally and privately, to enhance the potential for future collaborations between project members in Lund and Umeå and between project members and other researchers. Secondly, it aims at knowledge transfer across people's fields of expertize by crash courses in cloud computing and control theory. Thirdly, it aims at providing the fuel for new multi-disciplinary collaborations through a series of presentations and discussions on on-going research on cloud datacenter management and control theory for computing systems.

We strongly encourage participants to join all sessions, coffee breaks, lunches, and the workshop dinner, since they will all provide good opportunities for discussions across groups and research fields.

Wednesday February 13

9.30 Coffee

10.00 Opening, introduction
Presentation of participants
- Who are you? (Please, provide one slide per person!)
- What do you see (or what are your interests) in Cloud + Control?

Introduction cloud computing and cloud datacenter management
Erik Elmroth, Johan Tordsson, Lars Larsson

11.45 Lunch at Affärsvärlden, Universum

13.00 Introduction cloud computing and cloud datacenter management (continued)
Erik Elmroth, Johan Tordsson, Lars Larsson

Introduction to the Cloud Control project
Erik Elmroth

15.00 Coffee

15.30 Introduction to control theory and control of computing systems
Bo Bernhardsson, Karl-Erik Årzen, Anders Robertsson

17.30 End of day 1

19.00 Dinner at Tapas

Thursday February 14

8.30 On-going research – identify collaboration topics, part 1
      (*Session chair: Karl-Erik Årzén*)

      Presentation of the plan for the day

      Overview of cloud computing research at Umeå University (15)
      Erik Elmroth, UmU

      Overview of server research activities at Lund University (15)
      Maria Kihl, LU

      Scheduling within and across data centers (10)
      Johan Tordsson, UMU

      Event-Based response-time analysis (10)
      Anders Robertsson, LU

      Plenary discussions (10)

9.30 Coffee

10.00 On-going research – identify collaboration topics, part 2
      (*Session chair: Francisco Hernández*)

      Capacity auto-scaling (10)
      Ahmed Ali Eldin, UmU

      Stochastic elasticity control for queues (10)
      Jonas Dürango, LU

      Datacenter resource overbooking (10)
      Luis Tomás, UmU

      Resource management for embedded multicores (20)
      Martina Maggio/Enrico Bini/Karl-Erik Årzen, LU

      Plenary discussions (15 min)

      Distributed resource management (15)
      Francisco Hernández, UmU

      Positive Systems – a new analysis tool (15)
      Anders Rantzer, LU

      Cooperative resource management (10)
      Cristian Klein, UmU

      Plenary discussions (15 min)

12.00 Lunch at Hotel Björken

13.00 On-going research – identify collaboration topics, part 3
     (*Session chair: Maria Kihl*)

    Decentralized fairshare scheduling (10)
     Per-Olov Östberg, UmU

    TrueTime and related simulation tools (10)
     Karl-Erik Årzén, LU

    Energy-efficient capacity management (5)
     Johan Tordsson, UmU

    Holistic management (5)
     Erik Elmroth, UmU

    Live migration of virtual machines (5)
     Petter Svärd, UmU

    High Performance Computing Center North (10)
     Bo Kågström, UmU

        Group discussions (30 min)

        Presentations from group discussions (30 min)

14.45 Coffee

15.15 Summarizing discussions
     Test and verification
     - Available testbeds, simulators & workloads
     - Discussion: what experimental evaluations are required
     Maria Kihl, LU

    Summary and discussion on collaborations, meetings, etc
     Erik Elmroth, UmU

16.15 End of workshop

16.20 Taxis for Malmö Aviation flight 17.10