Program
3rd Cloud Control Workshop
Hemavan
February 10 – 13, 2014

Monday February 10
16.00 – 17.00 Workshop opening
Chair: Erik Elmroth
Presentation of program, practicalities, and participants (60 minutes)

17.00 – 17.30 Presentations 1
Cloud resource management research – The Umeå University perspective (30)
Erik Elmroth, Umeå University

17.30 – 19.00 Discussions 1
What are the key research challenges in the area of cloud resource management?

Introduction (10)

Small-group discussions in parallel (20)

Discussions and structuring of research topics in joint session (60)
Tuesday, February 11

8.00 – 9.30 Presentations 2
Chair: Karl-Erik Årzén
Efficient and robust architecture for the Big Data cloud (30)
Tor Skeie, Ernst Gunnar Gran, Simula, Oslo

Multi scale mobile clouds (15)
Björn Landfeldt, Lund University

Ericsson cloud update (15)
Johan Eker, Ericsson Research, Lund

Hecatonchire: Enabling Multi-Host VMs by Resource Aggregation and Pooling (15)
Petter Svärd, Umeå University

9.30 – 10.00 Coffee

10.00 – 12.00 Discussions 2
Chair: Johan Tordsson
Parallel sessions for 1.5 hours followed by 30 minutes joint summary
Topics for parallel sessions:
• Design of Infinite (telco, mobile) clouds
  (Johan Eker, Björn Landfeldt)

• New ways of managing highly (geographically) distributed data?
  (Tor Skeie, Ernst Gunnar Gran, Luis Tomás)

• What are the effects of VM resource pooling: New or disappearing problems?
  (Petter Svärd, Daniel Espling)

12.00 – 13.00 Lunch

13.00 – 15.30 Ad hoc meetings, individual preparation, or free activities

15.30 – 16.00 Coffee

16.00 – 17.00 Presentations 3
Chair: Per-Olov Östberg
Energy Efficiency and Energy Models (30)
Olaf Landseidel, Chalmers, Gothenburg

Modeling aspects of computing systems (15)
Alessandro Vittorio Papadopoulos, Politecnico di Milano, Italy

Cloud Control with the Smith predictor (15)
Manfred Dellkrantz, Lund University
17.00 – 19.00 Discussions 3
Chair: Martina Maggio
Parallel sessions for 1.5 hours followed by 30 minutes joint summary
Topics for parallel sessions:
• Energy-aspects for resource management
  (Olaf Landseidel, Enrico Bini)
• Scaling down and out
  (Geir Horn)
• Experiment design (Maria Kihl)
• Simulations for the infinite/telco/mobile/carrier cloud (Johan Eker)
Wednesday, February 12

8.00 – 9.30 Presentations 4
Chair: Anders Robertsson
Statistical methods for workload modeling and prediction (40)
Sara Sjöstedt de Luna, Oleg Seleznjev, Umeå University

How will your workload look like in 6 years? Analyzing Wikimedia's workload (10)
Amardeep Mehta, Umeå University

Workload Classification for Efficient Cloud Infrastructure Elasticity Control (15)
Ahmed Ali-ELDin, Umeå University

The straw that broke the camel's back: Safe cluster overbooking with application brownout (15)
Luis Tomás, Umeå University

9.30 – 10.00 Coffee

10.00 – 12.00 Discussions 4
Chair: Luis Tomás
Parallel sessions for 1.5 hours followed by 30 minutes joint summary
Topics for parallel sessions:
• Control of positive systems for VM relocation in Infinite clouds
  (Anders Robertsson)

• Overbooking and load-mix management for improving server utilization
  (Johan Tordsson)

• Controlling Memory
  (Martina Maggio)

12.00 – 13.00 Lunch

13.00 – 15.30 Ad hoc meetings, individual preparation, or free activities

15.30 – 16.00 Coffee

16.00 – 17.00 Presentations 5
Chair: Björn Landfeldt
Capturing the user's goals and preferences (30)
Geir Horn, University of Oslo

Network traffic measurements for virtualized systems (15)
Anders Blomdell, Lund University
17.00 – 19.00 Discussions 5
Chair: Cristian Klein
Parallel sessions for 1.5 hours followed by 30 minutes joint summary
Topics for parallel sessions:
• Workload analysis for cloud resource management
  (Ahmed Ali-ElDin)

• Stability and convergence of large scale mapping under uncertainty
  (Geir Horn)

• After the Infinite Cloud, what would be the next research step? (If discussions get stuck - what are the killer applications for the Infinite cloud)
  (Luis Tomás)

• Getting started for youngsters - Creating collaborations and attracting grants
  (Per-Olov Östberg)
Thursday, February 13

8.00 – 9.00 Presentations 6
Chair: Johan Eker
The Meta Data Center-project (20)
Olov Schelén, Luleå University of Technology

Application-driven resource optimization for cloud datacenters (15)
Per-Olov Östberg, Umeå University

Load-balancing self-adaptive cloud applications (15)
Martina Maggio, Lund University

9.00 – 10.00 Discussions 6
Chair: Maria Kihl
Parallel sessions for 1.5 hours followed by 30 minutes joint summary
Topics for parallel sessions:
• Modeling/Profiling of applications/services
  (Luis Tomás)

• Performance SLAs and differentiated QoS in the cloud - what is the right question?
  (Cristian Klein, P-O Östberg)

• Workload generation
  (Ahmed Ali-ElDin)

9.30 – 10.00 Coffee

10.00 – 11.00 Discussions (continued)
(See description above)

11.00 – 12.00 Workshop closing
Chair: Erik Elmroth
Summary and opportunity for last minutes decisions regarding any follow-up activities.
Short discussion about the next workshop.

12.00 – 13.00 Lunch