



Use of High Performance Computing in Meteorology

30 October - 3 November 2006

Programme (updated 1 November 2006)

Monday 30 October 2006

<i>From 08.30</i>	<i>REGISTRATION AND COFFEE</i>
09.15	WELCOME AND OPENING Dominique Marbouty, Director and I. Weger, Head, Computer Division
SESSION 1	Chair: Isabella Weger
09.30	Adrian Simmons, ECMWF Development of the ECMWF forecasting system
10.00	Deborah Salmond, ECMWF Computational efficiency of the ECMWF forecasting system
<i>10.30</i>	<i>COFFEE</i>
SESSION 2	Chair: George Mozdzyński
11.00	Tom Bettge, National Centre for Atmospheric Research NCAR developments in production computing
11.45	William Kramer, NERSC/LBNL NERSC experience: Implementation of a facility wide global file system
<i>12.30</i>	<i>LUNCH</i>
SESSION 3	Chair: Ulrich Schaettler
14.00	Henry Juang, NOAA National Weather Service Recent developments of NCEP GFS for high performance computing
14.30	Keiko Takahashi, The Earth Simulator Center/JAMSTEC Multi-scale coupled atmosphere-ocean GCM and simulations
15.00	Mark Govett, NOAA Earth System Research Laboratory High performance computing activities in the Earth System Research Laboratory
<i>15.30</i>	<i>COFFEE</i>
SESSION 4	Chair: Umberto Modigliani
16.00	Jairo Panetta, INPE/CPTEC High performance computing activities at CPTEC
16.30	Nam-Ouk Kim, Korea Meteorological Administration The status of high performance computing infrastructure and NWP operation in KMA
17.00	CLOSE
<i>17.10</i>	<i>COCKTAILS</i>

Programme (continued)

Tuesday 31 October 2006

SESSION 5	Chair: Neil Storer
09.00	Douglass Post, DoD High Performance Computing Modernization Program The opportunities and challenges for PetaFlop computational science and engineering
10.00	Per Nyberg, Cray Inc. Update on Cray activities in the earth sciences segment
10.30	<i>COFFEE</i>
SESSION 6	Chair: Adrian Simmons
11.00	Motoi Okuda, Fujitsu Limited Fujitsu's vision for high performance computing
11.30	Don Grice, IBM IBM high performance computing technology roadmap
12.00	Toshiyuki Furui, NEC NEC high performance computing strategy and products
12.30	<i>LUNCH</i>
SESSION 7	Chair: Deborah Salmond
14.00	Eric Pitcher, Linux Networx Linux Networx high performance computing strategy and roadmap
14.30	Ilene Carpenter, SGI SGI High Performance Computing for Earth Sciences
15.00	Hans Joraandstad, Sun Microsystems High performance computing strategy and direction for meteorological modelling
15.30	<i>COFFEE</i>
SESSION 8	Chair: Lars Isaksen
16.00	Tony Hollingsworth, ECMWF GEMS: Global environmental monitoring and forecasting: Extending weather forecast and assimilation systems to encompass greenhouse gases, reactive gases and aerosols.
16.30	Tuomo Kauranne, Lappeenranta University of Technology Variational kalman filtering of nonlinear dynamic systems on parallel computers
17.00	Richard Bosworth, EUMETSAT Reprocessing facilities for NWP reanalysis
17.30	CLOSE

Programme (continued)

Wednesday 1 November 2006 (RAPS WORKSHOP)

SESSION 9	Chair: George Mozdzyński
09.00	George Mozdzyński, RAPS Chairman Progress report
09.15	Ulrich Schättler, Deutscher Wetterdienst (DWD) Preparing "Lokal Modell" for next generation regional weather forecasting and computing - algorithms, software architecture, parallel performance
09.50	Mark Cheeseman, Swiss National Supercomputing Center Optimizing IO performance in ECHAM5-HAM
10.25	<i>COFFEE</i>
SESSION 10	Chair: Paul Dando
11.00	Marie Alice Foujols, IPSL ORAP: a French initiative to promote high performance computing
11.30	Paul Selwood, Met Office An overview of high performance computing at the Met Office
12.00	George Mozdzyński, ECMWF A new partitioning approach for ECMWF's Integrated Forecasting System (IFS)
12.30	<i>LUNCH</i>
SESSION 11	Chair: Paul Selwood
14.00	Jean-François Estrade, Météo-France Just on time to face new challenges with NEC super-computing at Météo-France
14.30	John Hague, IBM What SMT (Simultaneous Multi Threading) can do for you
15.00	Rupert Ford, University of Manchester Flexible coupling for performance
15.30	<i>COFFEE</i>
SESSION 12	Chair: Paul Burton
16.00	Dirk Merten, Fraunhofer Institut für Techno- und Wirtschaftsmathematik (ITWM) Performance measurements of ECMWF RAPS benchmarks on x86_64 architectures
16.30	Mike O'Neill, NEC Running the ECMWF RAPS9 IFS T799 L91 benchmark code on the NEC SX-8 Supercomputer
17.00	Luis Kornblüeh, Max-Planck-Institute for Meteorology The performance of the COSMOS coupled model at DKRZ and ECMWF
17.30	MEETING OF RAPS CONSORTIUM (INTERNAL)
18.00	<i>RECEPTION, FOLLOWED BY WORKSHOP DINNER</i>

Programme (continued)

Thursday 2 November 2006

SESSION 13	Chair: Luis Kornblueh
09.15	Alexander MacDonald, NOAA Earth System Research Laboratory A new computational design for a Global Icosahedral Model
09.45	Thomas Clune, NASA/Goddard Space Flight Center Tools, trends and techniques for developing scientific software
10.15	Tarmo Kaldma, Estonian Meteorological and Hydrological Insitute Structural programming in parallel
10.30	<i>COFFEE</i>
SESSION 14	Chair: Sami Saarinen
11.00	George Vandenberghe, NOAA/National Center for Environmental Prediction Analytic MPI scalability modeling on a flat interconnect
11.30	Mike Ashworth, CCLRC Daresbury Laboratory Performance comparison of capability application benchmarks on the IBM p5-575 and the Cray XT3
12.00	Nikita Panov, INTEL Tuning ECMWF's RAPS9 benchmark for Intel(r) platforms
12.20	<i>LUNCH</i>
SESSION 15	Chair: George Mozdzyński
14.00	Tirupathur Venkatesh, National Aerospace Laboratories The role of precision in meteorological computing: A study using the NMITLI Varsha GCM
14.30	Toine Beckers, DataDirect Networks Inc. High performance storage solutions from DataDirect Networks
15.00	Henry Strauss, HP Advanced cluster software for meteorology
15.30	<i>COFFEE</i>
SESSION 16	Chair: Isabella Weger
16.00	PANEL ON EXPERIENCE OF USING HIGH PERFORMANCE COMPUTING IN METEOROLOGY
17.30	CLOSE OF WORKSHOP