

**Slovenia**  
**Status of ALADIN operational activities**  
**(September 2008)**

Computer system SGI ALTIX ICE 8200

Technical characteristics:

- 35 compute nodes installed in a single rack, every compute node has a 8 GB of memory and 2 Quad core Intel Xeon 5355 processors
- 300 cores are currently installed
- two Infiniband DDR networks, one for IO and the other for MPI communication
- additional 7 service nodes are used for login, management, control and IO operations
- a dedicated NAS IO node is installed with 15 TB FC disk array
- additional 4 IO nodes will be installed for distributed cluster file system

Programs:

- OS: SGI ProPack on top of SLES 10
- MPI: Scali MPI Connect, SGI MPI
- queuing system: Altair PBS Pro 9.2
- Tempo 1.3 cluster management system
- Intel 10.1. Fortran compiler

OPERATIONAL SUITE

Domain and geometry:

- 258\*244 points, (with extension zone 270\*256), E134x127
- 9.5 km horizontal grid spacing
- 43 vertical model levels
- linear spectral elliptic truncation
- Lambert projection

Integration:

- four runs per day: 00 UTC (72h), 06 UTC (60h), 12 UTC (72h), 18 UTC (48h)
- initial and lateral boundary conditions from ARPEGE
- digital filter initialization
- coupling at every 3 hours
- 400 s time-step

Operational model version:

- AL32T3 using ALARO with 3MT physics

The model integration is using now 64 processors on 8 nodes, 72 hour forecast is finished in a half of an hour, optimal with the coupling files availability. Whole production suite is completed in an hour. Operational suite is running in Supervisor Monitor Scheduler, ECMWF product. The computer system and operational suite is controlled by NAGIOS supervision system.

LBC download:

- Production LBC from ARPEGE are downloaded 4 times per day.
- Primary channel is internet/BDPE, backup is done via ECMWF.

Archiving:

- production LBC files for runs 00 and 12 are stored on DVD

### OTHER OPERATIONAL ACTIVITIES

- parallel suite, differences to operational suite are:
  - 4.4 km
  - 439\*421 points, (with extension zone 450\*432), E224x215
  - domain is smaller
  - two runs per day: 00 UTC (30h), 12 UTC (12h),
  - 200s time step
  - The model integration is using now 128 processors on 16 nodes, 30 hour forecast is finished in 35 minutes,
- INCA analysis and nowcasting system is routinely running in pre-operational mode under SMS
  - temperature, humidity, wind and several convective indices are updated hourly
  - precipitation type, rain and snow rate products are updated every half an hour

### SHORT HISTORY OF CHANGES

Operational changes

19.9.2006

Operational ALADIN (cy29t2) is running since then without important modifications

9.02.2007

Parallel suite with ALARO-0 without 3MT physics (cy29t2)

16.06.2008

Switch to ALARO-0 3MT physics, small improvement in the soil scheme (LVGSN switch), from 37 to 43 vertical levels, from quadratic to linear truncation. Larger domain for DADA, all vertical levels are used.

22.07.2008

Parallel suite ALADIN 4.4km

Migration to the new computer system

- 30.11.2007: delivery
- December, January: installation
- 29.02.2008: ALADIN runs daily
- 23.04.2008: ALADIN in daily parallel run
- 16.06.2008: ALADIN runs operationally