

Interoperability between the European NWP modelling systems

a proposal for a Eumetnet/SRNWP program

Motivation: to exchange meteorological data more efficiently between European NWP services, for better operational and scientific cooperation.

Redaction committee (designated by SRNWP): Ulrich Schättler (DWD – COSMO; chairman), François Bouttier (MeteoFrance – ALADIN), Xiaohua Yang (DMI – HIRLAM), Radmila Brozkova (CHMI – LACE), Alan Radford (Met Office)

Presented by Jeanette Onvlee (KNMI - HIRLAM) at last Eumetnet Council meeting (12-13 April 2007, Aberdeen), together with other NWP-related programs (SRNWP, EurEPS)

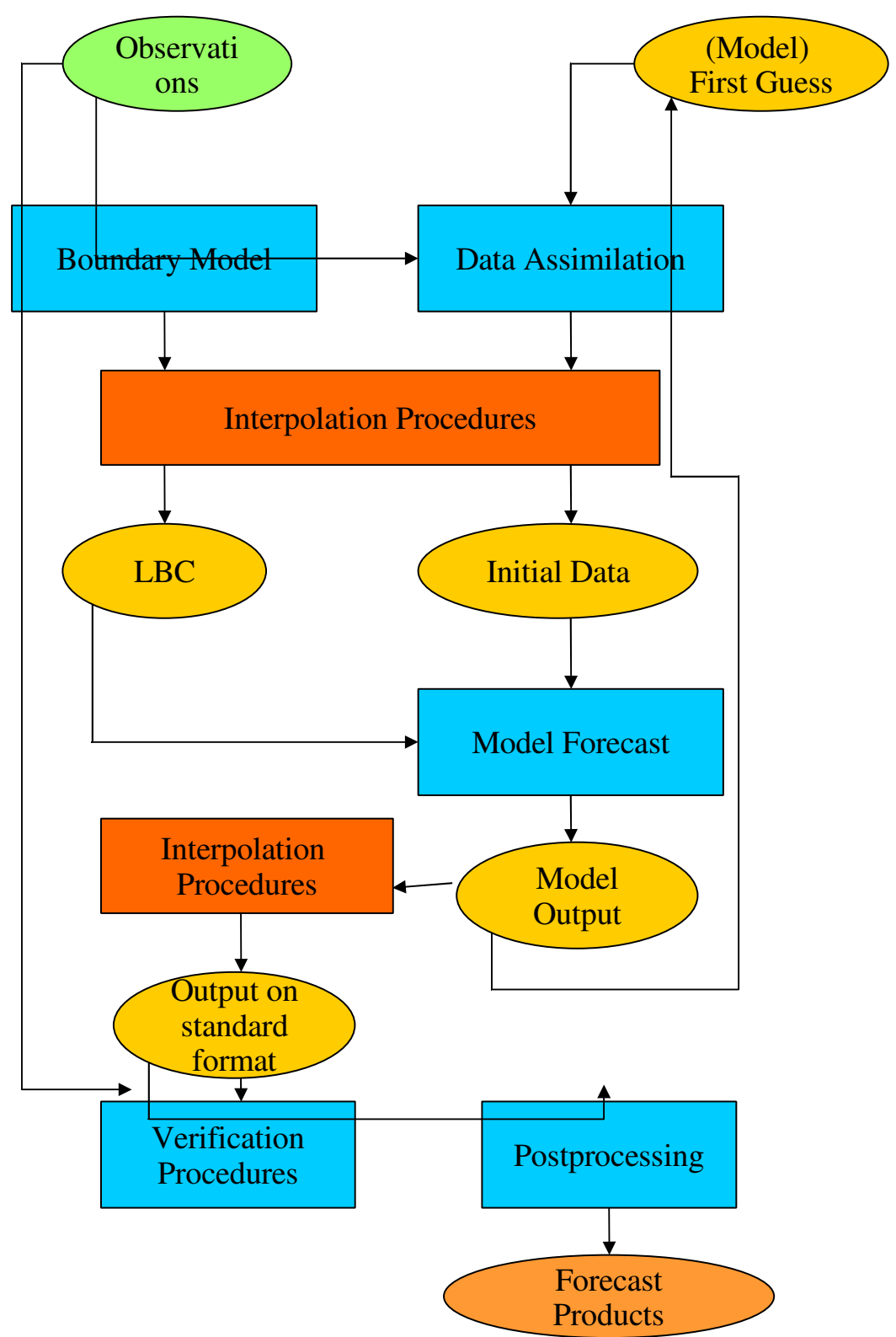
Interoperability is estimated at 123Keuros with a full-time scientist job.

Background of the "Interoperability" proposal

- recognized as a possible **"Quick Win"** in the **'New Vision for NWP in Europe'** (suggested by WMO and discussed by some European managers)
- necessary as **input to other suggested SRNWP programmes**: EurEPS and Verification
- designed as a **technical, low-cost programme** with clear deliverables
- proposal written by all major European NWP consortia

The interoperability concept

(diagram by Ulrich Schättler)



The 'interoperability' concept

Develop new 'adaptor' software to plug together key components of several national NWP production systems:

- large scale model A boundaries of regional forecast model B
- regional analysis A initial conditions of regional model B
- direct model output A product elaboration in NWP centre B

Examples of applications:

- seamlessly use other NWP centres as ***operational backup*** in case one component fails
- easily build & maintain ***multi-model ensembles*** for probabilistic regional forecasts (cf. EurEPS programme proposal)
- ***compare the performance*** of European NWP system components (cf. Verification programme proposal)
- **facilitate European cooperation** on NWP science & software

Proposal for implementing 'interoperability'

(more details are in the written proposal)

- *we start with the simplest aspects*, leaving more ambitious ones (e.g. exchange of observations, or software components) for later
- the plan is to ***develop converters to and from a common exchange format*** for gridded NWP model fields
- some converters already exist, which indicates the plan is feasible. Completing them would provide a *cost-effective and quick return on investment*.
- using the converters will remain *optional* for each NWP centre.
- the proposal addresses the scope, the scientific aspects, the deliverables, the timetable (completion estimated in 2 years if one full-time staff can be funded)
- the first step is a ***precise specification*** of the intended software development (technical and scientific issues)

Practical implications for us

- nothing new for software cooperation
- probably good news for R&D on multimodel ensembles, and model intercomparison
- fresh money: to hire someone to implement converters between all consortia
- next steps:
 - some of us should **apply to host the work** (with proper management)
 - need to **identify good candidates**
 - we shall participate in a **review of scientific questions** & propose solutions for the converters