

French Forecasters Workstation Synergie-Next: Synopsis Project

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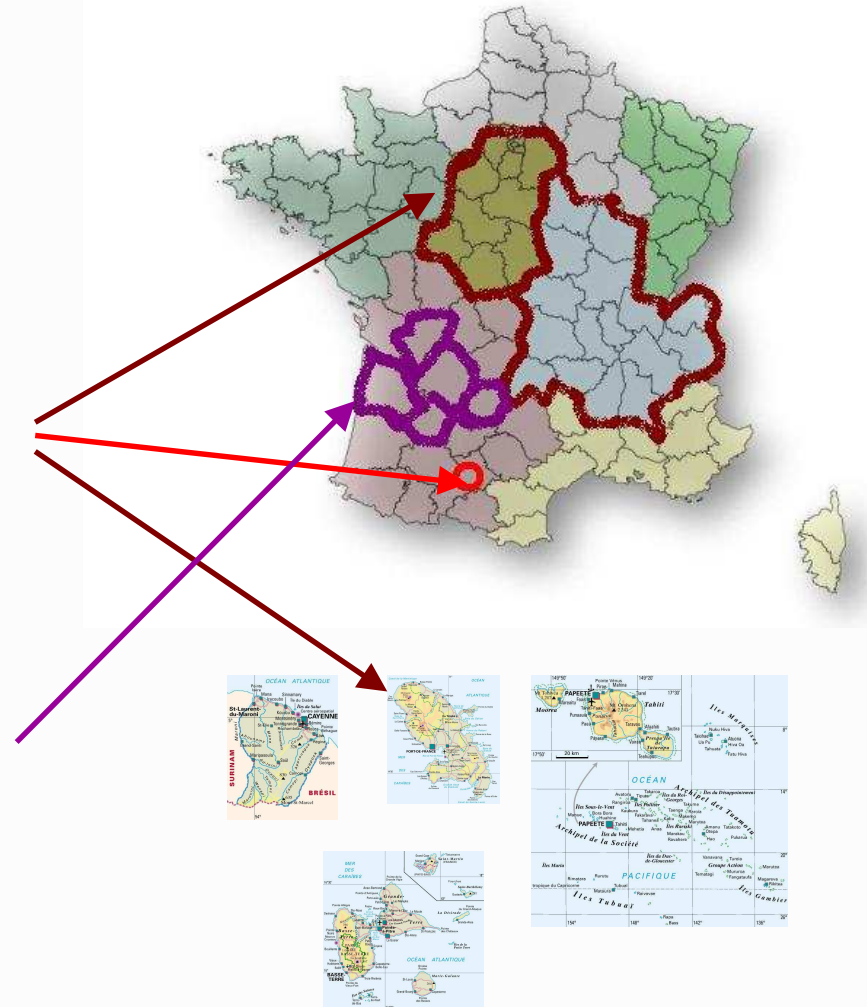


Overview

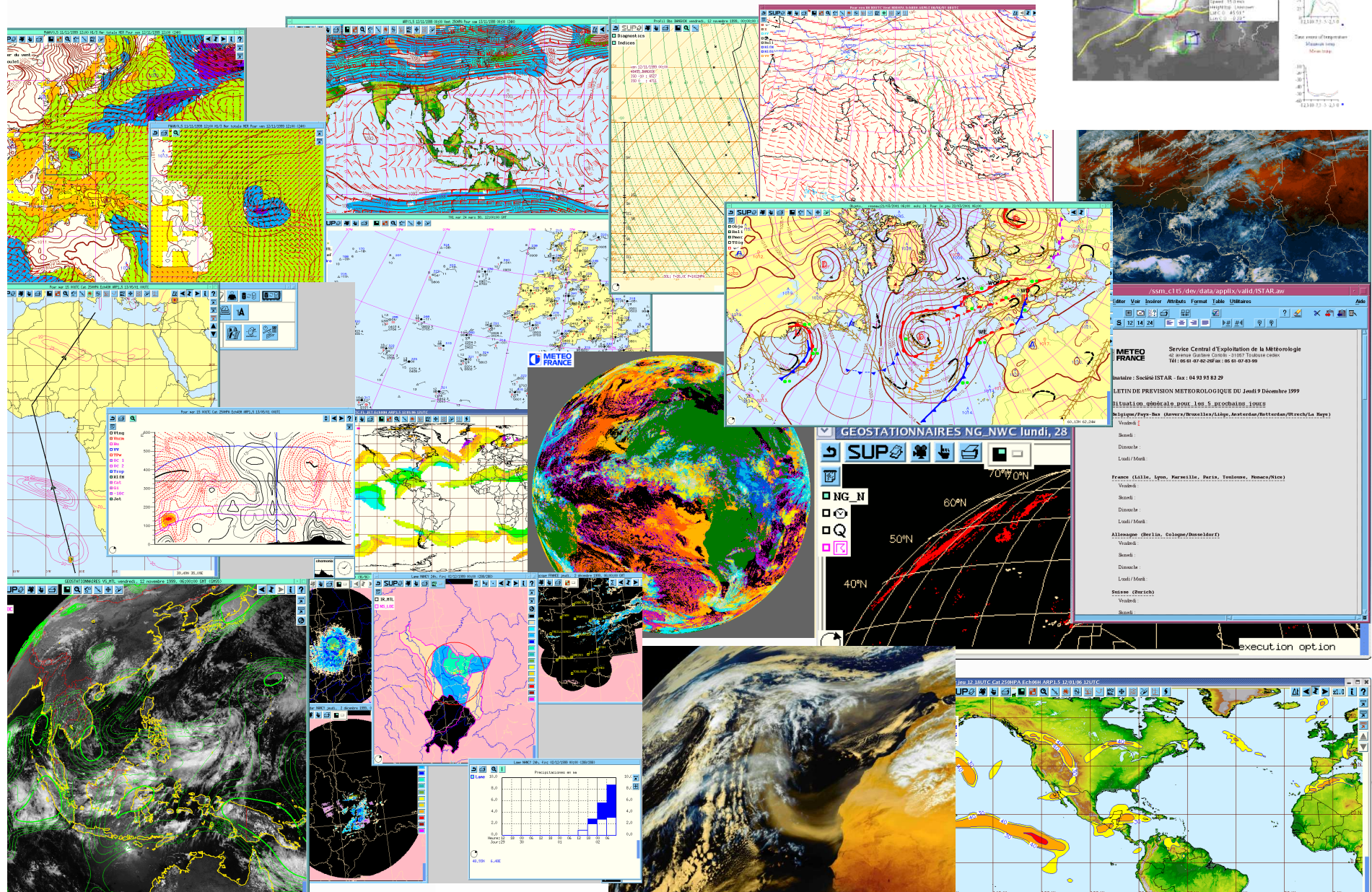
- Operational tools for “upstream” forecasting at Météo-France
- Synopsis project

Operational tools at Météo-France

- At the present time, two systems for three levels of forecast
- SYNERGIE**
 - National and regional** forecasting (metropolitan and overseas)
 - Worldwide usage outside of Météo France
- OPPIDUM**
 - Local departmental** forecasting (“Prévi-Surveillance” application)
 - Outside of Météo France. (“Météo+” application)



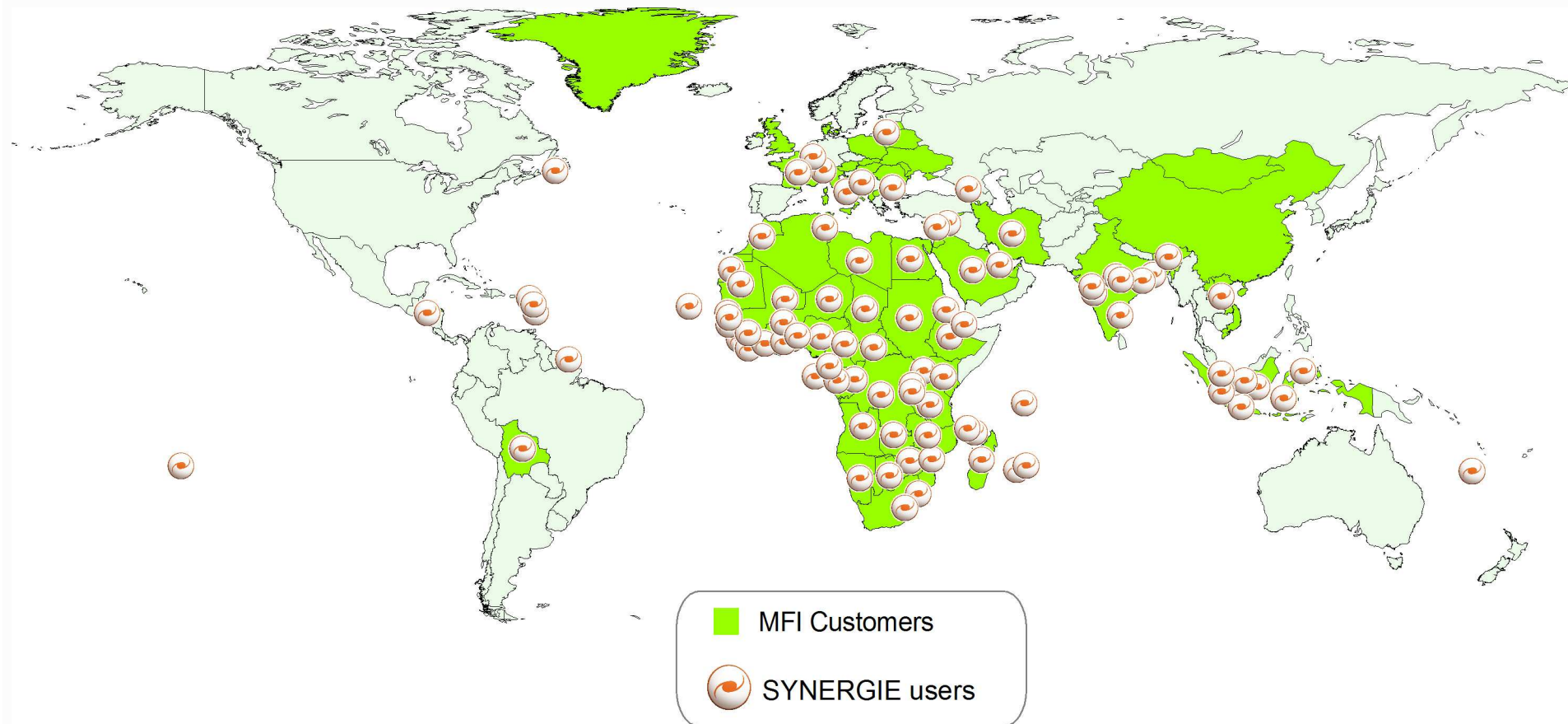
Synergie in one slide



Synergie : A little history

- First stages of Synergie development started in 1989
- First operational release in 1993
- More than 17 operational versions since 1993
- Several Operating System changes
- Today :
 - Linux only
 - More than 1,5 million lines of code
 - A sum of 180 man-year of development
 - A software patchwork of the best tools and libraries of Météo-France and ECMWF
 - More than 120 operational client workstations at Météo-France
 - More than 200 operational workstations in 60 other countries

Synergie implantation



Towards Synergie-Next

- More than one year Pilot project :
 - OGC (Open Geospatial Consortium)
 - SOA (Service Oriented architecture)



Météo-France direction has decided to go forward in partnership with Meteo France International

- A single workstation for “advanced forecasting” OS independent
- A “light” workstation (Web-Based) for other needs
- Sharing the same business server components ...

No or slight changes for end-users

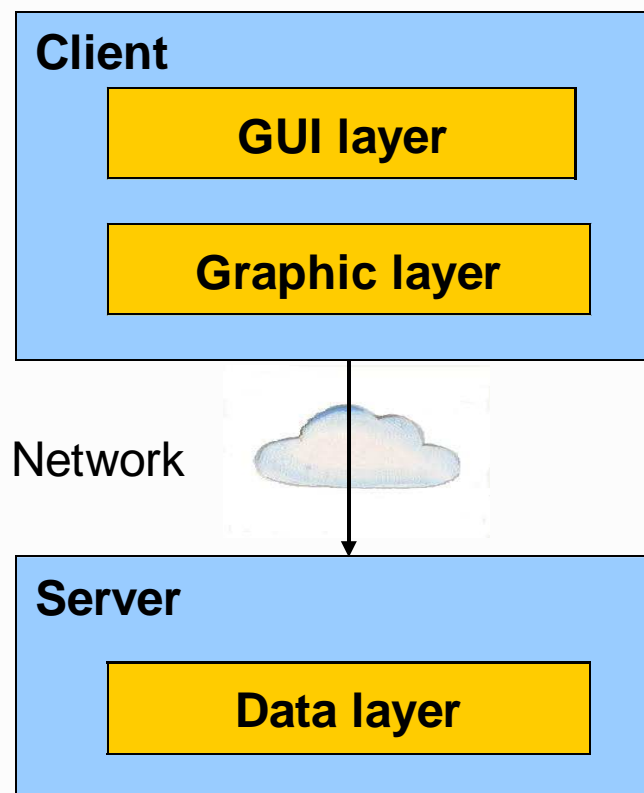


New needs of forecasters

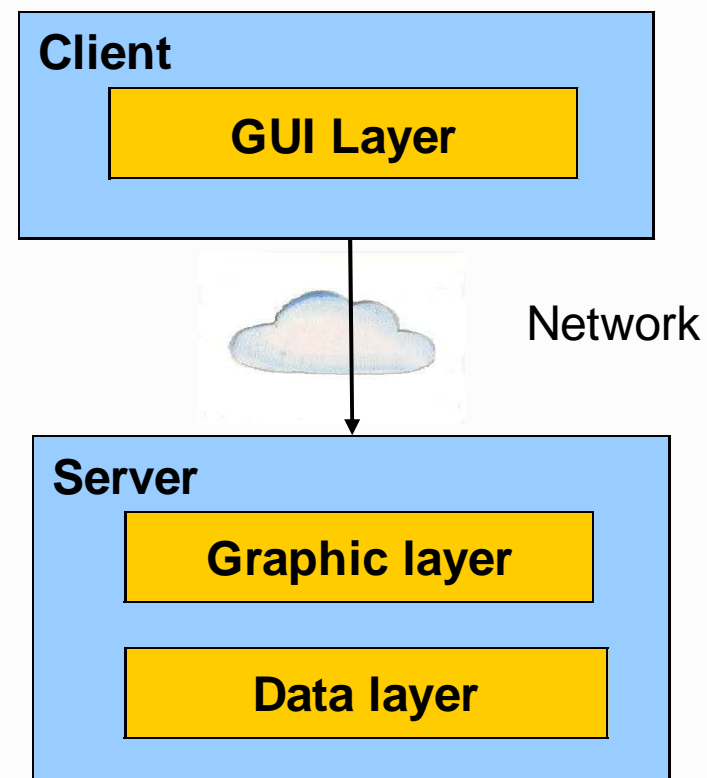
- Zooming and panning in any area as seen in any common web tools, with GIS functionalities
- Reduce delay between end of development and availability on forecaster's desk
- New data available on forecaster's desk, in less than one month after their arrival in central data bases
- Adjust automatically GUI to data available on server and useful for a specific forecaster.
- Easier User customisation
- Open to interoperability with other meteorological layers

Synergie Technologies not fitted to take these new requirements into account.

Synergie



Synergie Next



Specific team in Météo-France IT and forecast divisions,
and MFI (Meteo France International)



- Review of actual specification
- At present, first services available on server for:
 - lightning visualization;
 - Radar and satellite images;
 - Basemap with road and so on as in a GIS
- Roadmap :
 - In progress: review ergonomic of actual tools and continue smart client developments;
 - June 2011: First operational servers with radar and satellite;
 - Mid 2013: all observations data, images (radar, satellite), numerical models available on smart client and used by all forecaster in Météo-France;
 - Mid 2015: principal production tools ready.

Synergie-Next specifications

- Client OS independent and auto installation (eg. java-web-start);
- Server on Linux to:
 - Benefit of ECMWF developments on: Magics++, GRIB API, ..
 - Use software development of **Synergie**
 - Use Open source library



■ Use of many Open Source components



django



python™

- **Language:** Python, C, Java;
- **Basic Tools:** Apache and Gnome projects
- **Data base:** PostgreSQL, PostGIS
- **Bus, caching:** Redis
- **Web:** Django, Nginx
- **Specific tools:** Mapserver, Proj4, GDAL, Magics++, GRIB API



PROJ.4

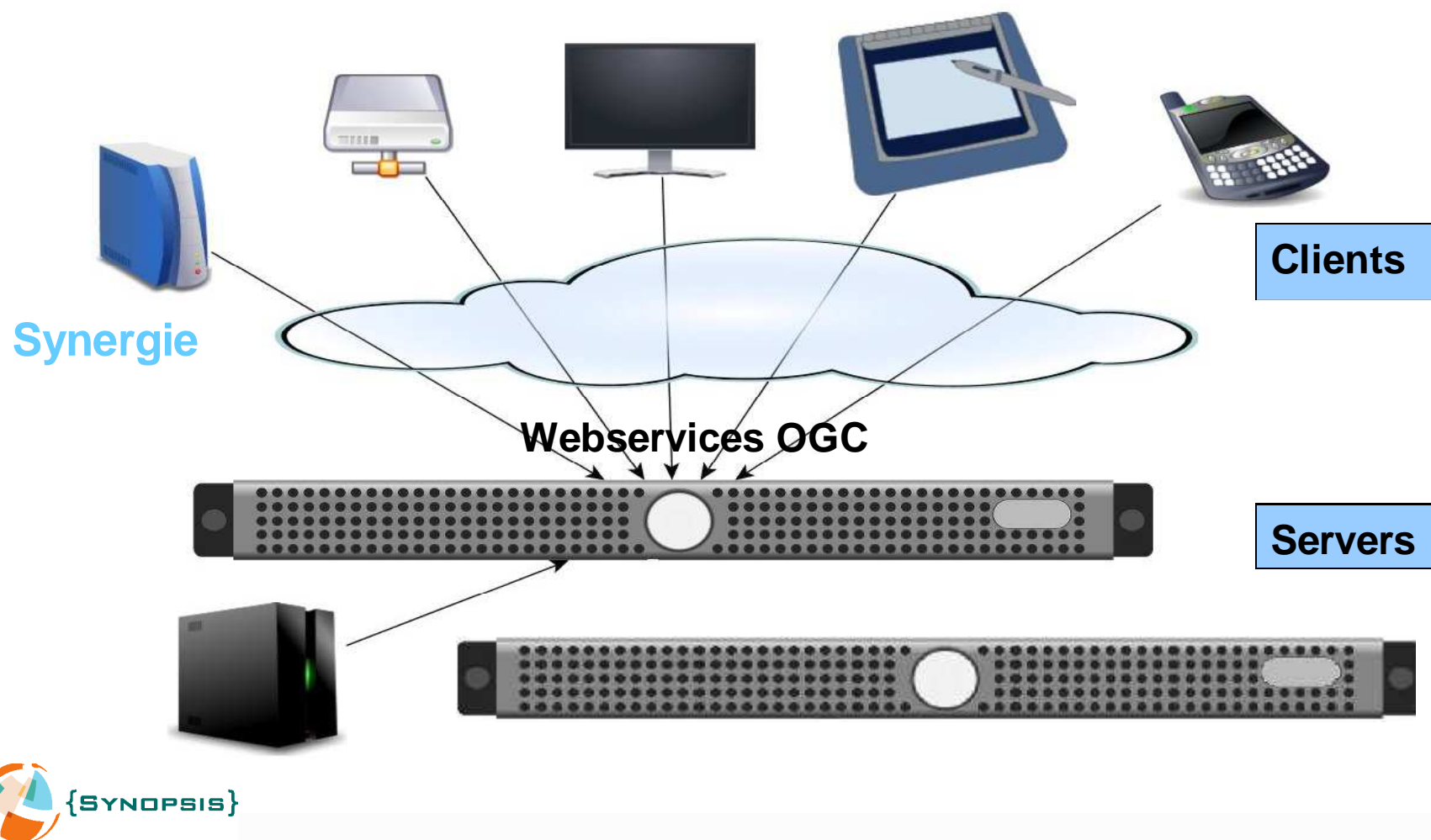


Synergie-Next specifications

- Client OS independent and auto installation (eg. java-web-start);
- Server on Linux to:
 - Benefit of ECMWF developments on: Magics++, GRIB API, ..
 - Use software development of **Synergie**
 - Use Open source library
- Cluster or standalone system;
- Easy installation on client and server;
- OGC standards and SOA (Service oriented architecture) for interoperability of forecasters tools.



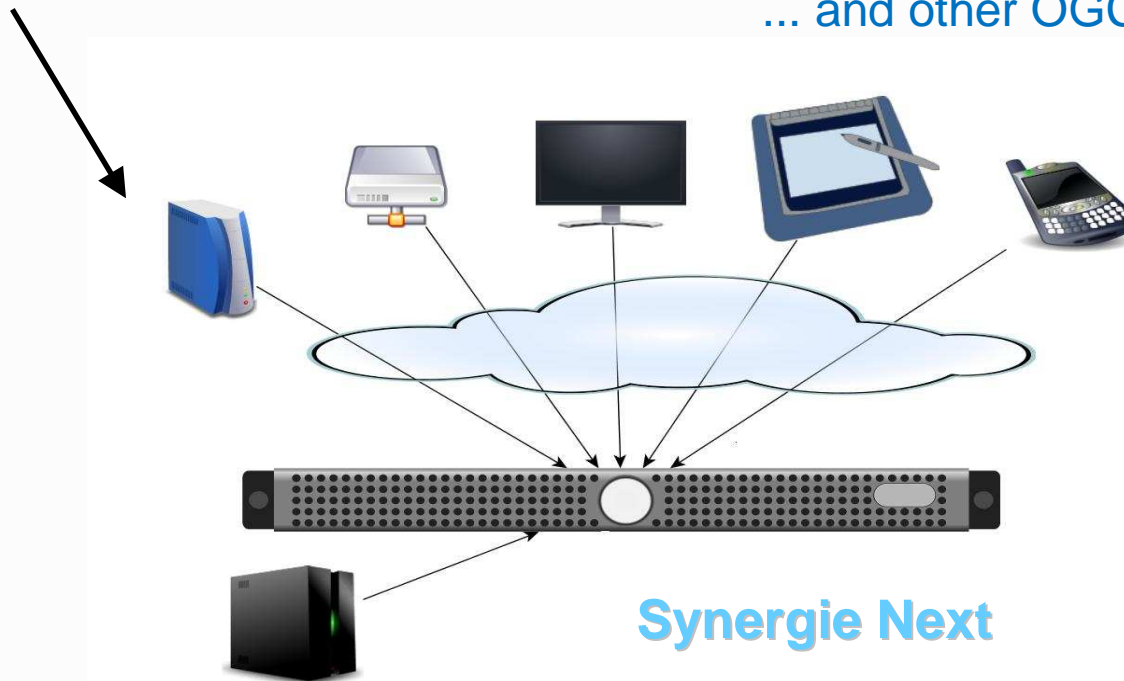
SOA and OGC



From Synergie to Synergie-Next

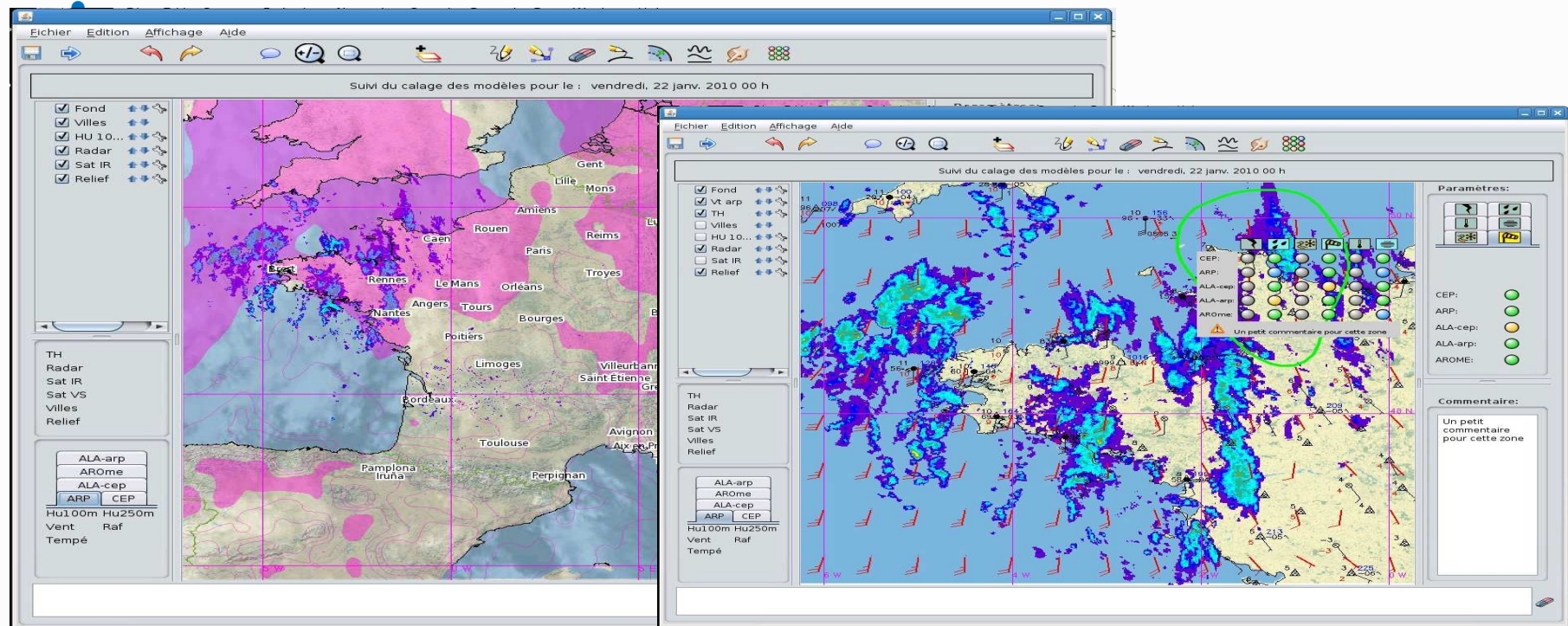
- SynSyn strategy
- All services **Synergie Next** will be available for **Synergie**

... and other OGC clients



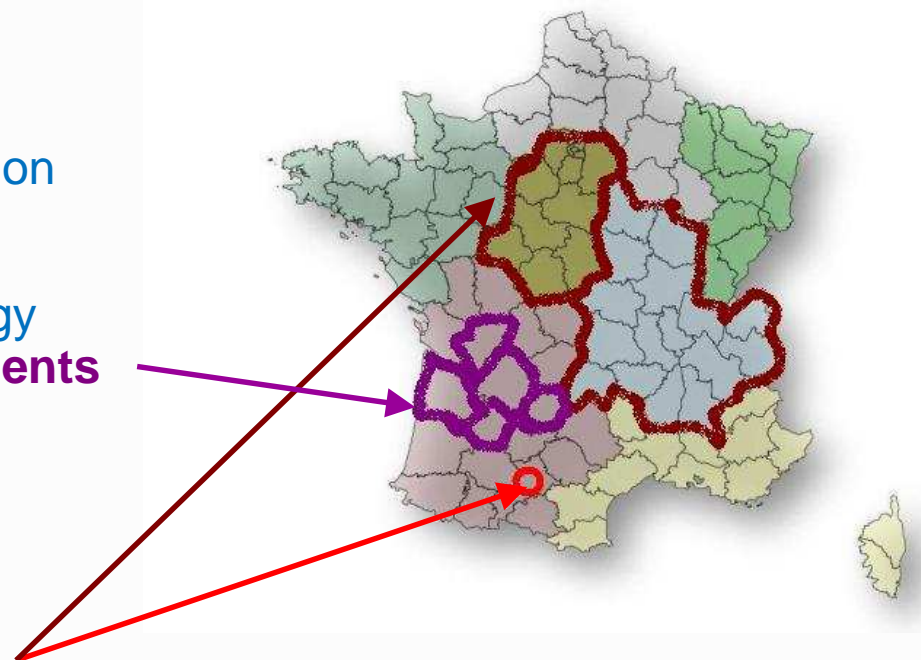
From Synergie to Synergie-Next

- **SynSyn strategy**
- All functionalities of **Synergie** will be available for **Synergie Next** clients (if they run on the same computer)



Synergie-Next in Météo-France

- Météo-France forecast reorganization
- First deployment of **SynSyn** strategy (**Synergie-Next**) in **Local departments Centers** between fall 2011 and end of 2012
- **SYNERGIE** is in **National and regional** forecasting centers



Thank you

Any Question?