

## Second MARS Admin Workshop

# MARS installation and configuration at IPMA

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## Server and MARS client instalation

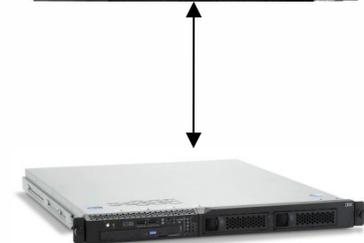
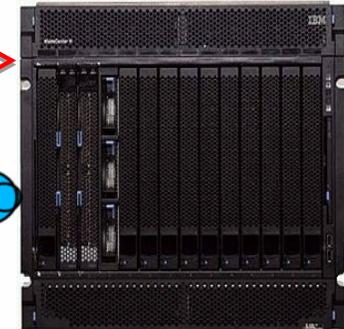
- Mars Server and Mars Client started in development mode at IPMA in October 2015.
- The Server and the client were setup in the same machine, but with different users. It was done during our visit at ECMWF.
- Our future work is to install step-by-step both the server and several other clients.

# Current Hardware / Software

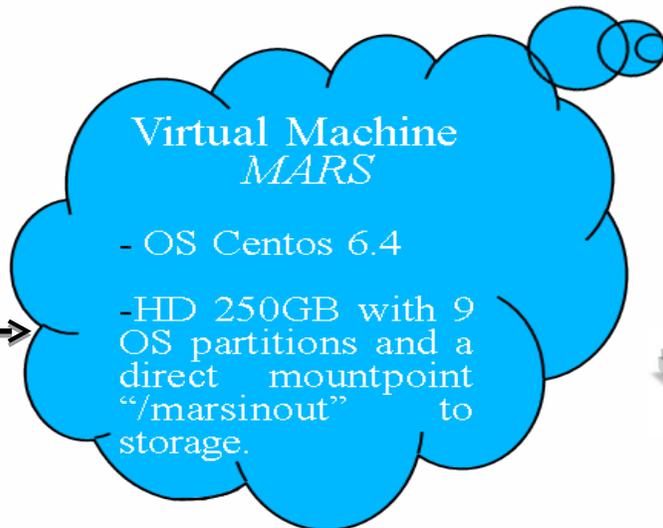
Storage Netapp



IBM Bladecenter



Hypervisor



RHEV-M

# Future hardware / Software

- Upgrade of the capacity of the actual Unified Storage (NAS/SAN) or acquisition of a cheaper SAN-Storage for the MARS project.
- New Hypervisor to allow online backups and other non-stop management operations at the MARS Virtual Machine.
- Web-MARS

## Meteorological Data Archived

Models – AROME, SWAN, IFS ECMWF, HRES SAW  
ECMWF, others

RUNS – 4 X AROME, 2 X OTHERS

Domains – 5 Domains

Daily volume – 20-30 GigaBytes

Users – 1 Testing Now

## Local data configuration to be use in MARS

- IPMA Models, do not have some “marskeys” that MARS needs, so it is needed to add some “marskey” to the grib.
- Creation of local definitions were made, with the help of ECMWF staff.

Exporting local definitions

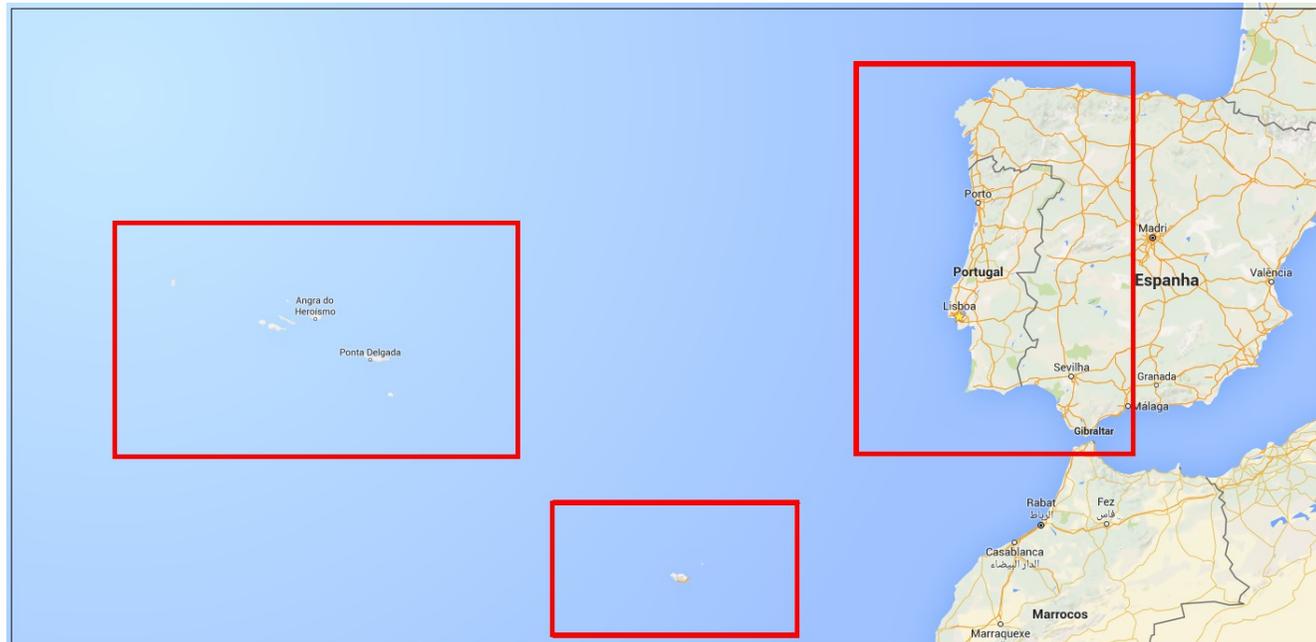
```
GRIB_DEFINITION_PATH=/home/marsuser/def/lpmd:/home/mars/client/versions/share/grib_api/definitions
```

*Giving local definitions to the grib*

```
grib_set -ssetLocalDefinition=1,localDefinitionNumber=51 $filename tmp/$filename.51
```

## Local data configuration to be use in MARS

- ECMWF data is compatible with MARS, but at IPMA, we sometimes use diferent domains for the same model. (exemplo: Madeira, Azores, Continental Portugal), so a “marskey” to represent this local domains, have to be created.



# Our settings

## Domain.table

number	domain			Region
0	g			Unknown
1	g			Global
2	m			Mediterranean
3	P			Continental Portugal
4	A			Azores Islands
5	M			Madeira Islands

## Our settings

### Models.table

number	Model	Center	Runs	Grid
0	ECMWF	ECMWF	2	0.10°
1	AROME	LPMD	4	0.02°
2	CANARI	LPMD	2	0.02°
3	SWAN	LPMD	2	0.05°
4	HIRLAM	LEMD	4	0.08°

# Archive request example

ARCHIVE,

LEVTYPE = PL,

LEVELIST = 300/400/500/600/700/800/850/900/925/950/975/1000,

DATE = 20160217,

TIME = 00,

STEP = 02,

PARAM = 33.1/34.1/11.1/51.1/37.159/6.1/52.1/39.1,

CLASS = OP,

TYPE = FC,

STREAM = OPER,

EXPVER = 0001,

MODEL = AROME,

DOMAIN = P,

source = 'data/PT2\_101\_2016021700\_02.pl.p.44790.34010',

database = marstest

# Problems

- Interpolation does not work for local models (area and grid resolution, has to be retrived with as the same as archived).
- Can not archive “heightAboveGround” type of level, it is archived like surface.

edition	centre	typeOfLevel	level	dataDate	stepRange	dataType	shortName	packingType	gridType
1	212	surface	0	20160217	1	fc t	grid_simple	regular_ll	
1	212	heightAboveGround	80	20160217	1	fc t	grid_simple	regular_ll	

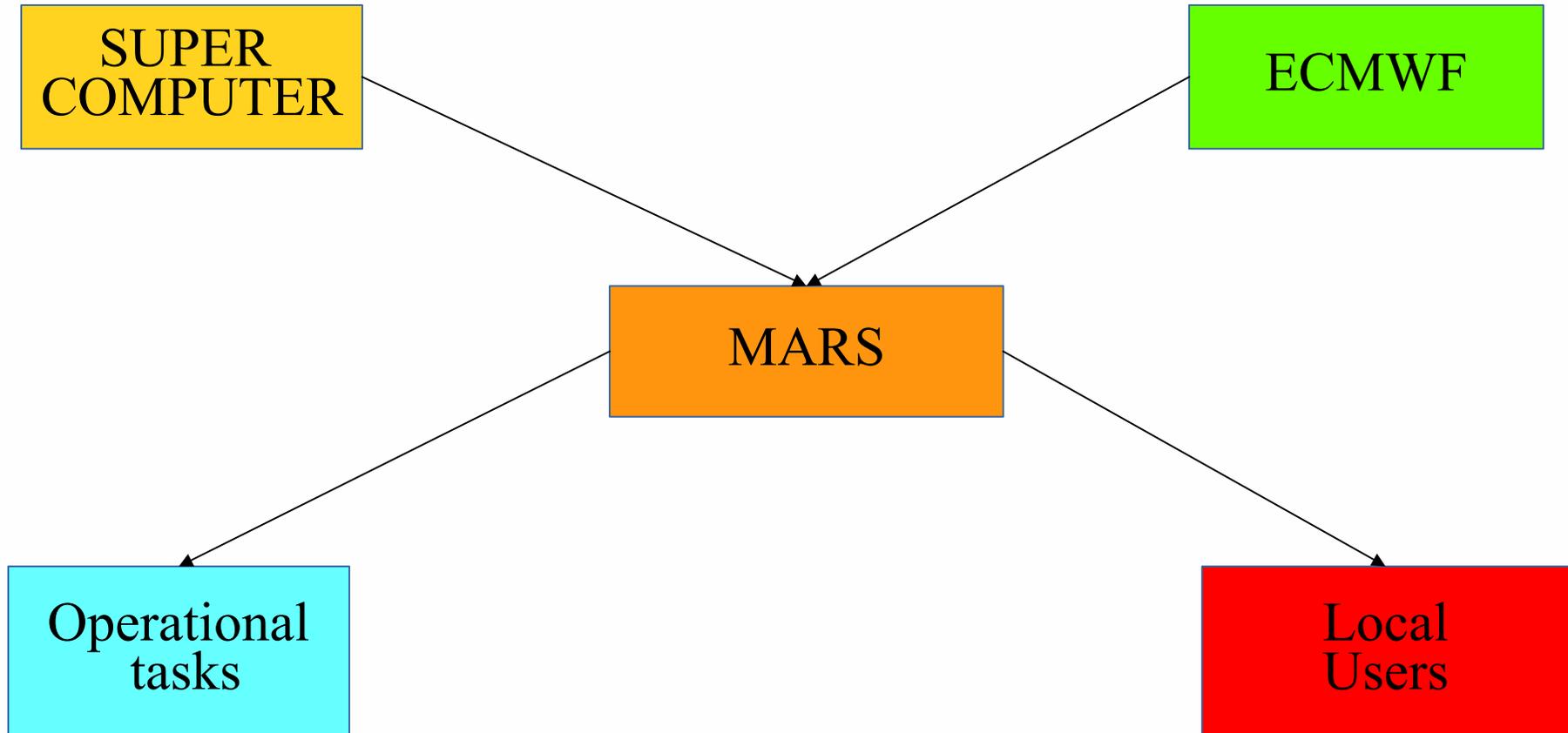
2 of 2 grib messages in t.grib

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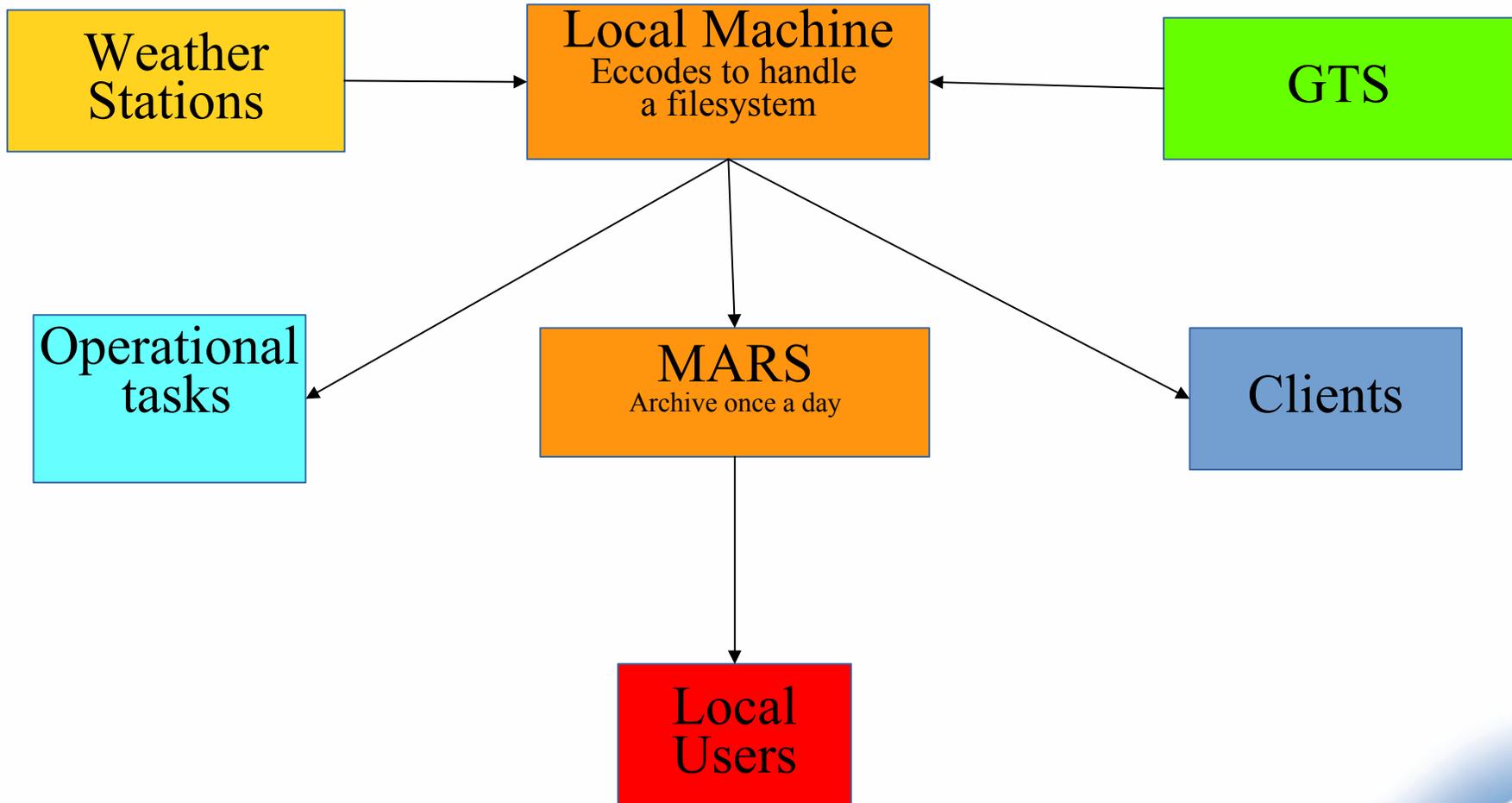
## What we have been doing

- Manually testing and configuring our data
- Creating scripts that automatic configure our data
- Creating scripts to automatic archive daily model data
- Creating scripts to automatic retrieve daily model data
- Plan to use ecFLOW with the scripts

# Our Future System Gribs



# Our Future System Bufrs



Thank you

END

