

# What is PRISM Today?

## Current Status of the Standard Running Environment (SRE)

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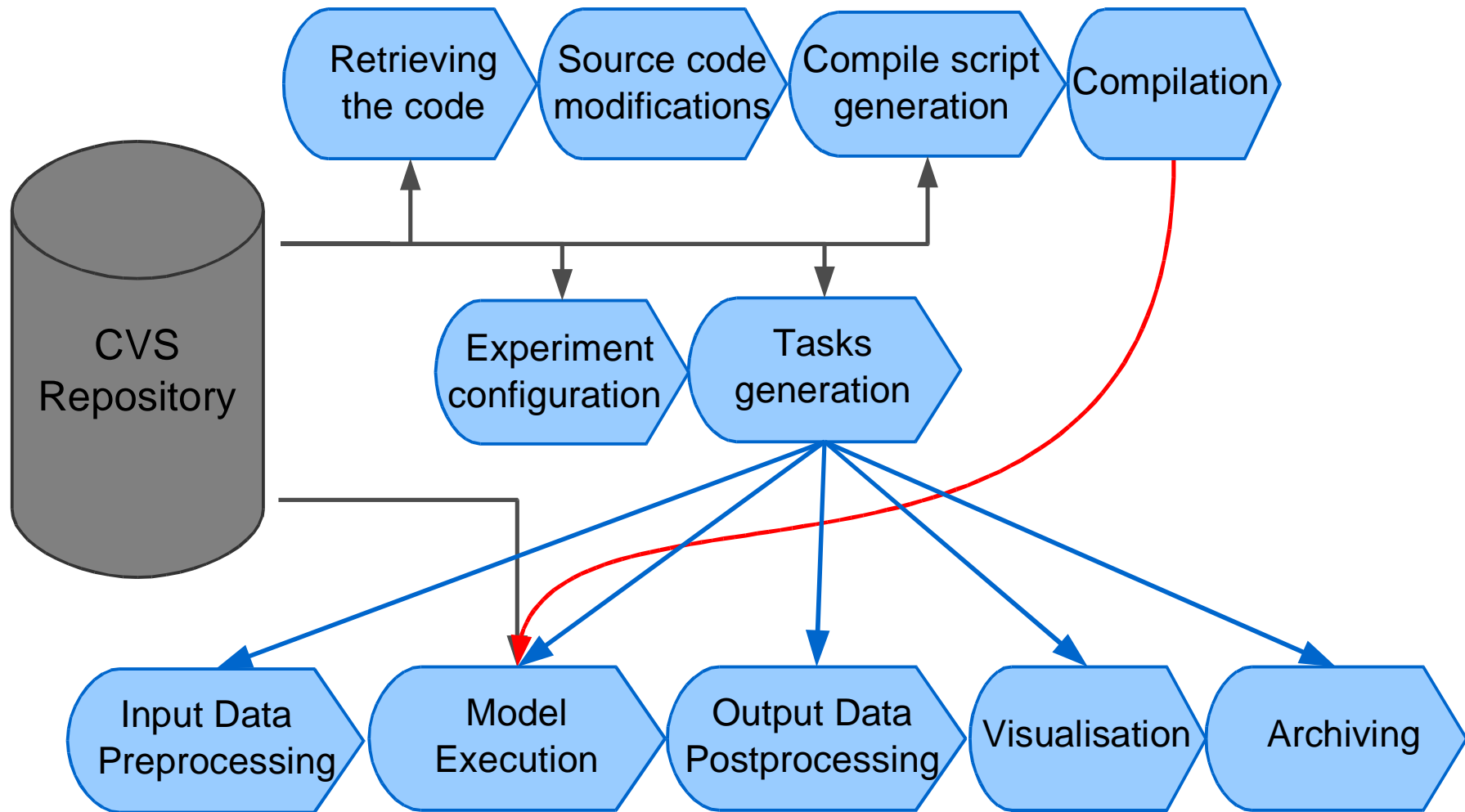


# Outline

- Introduction to the SRE
- Models and platforms of the SRE
- New features
- Plans

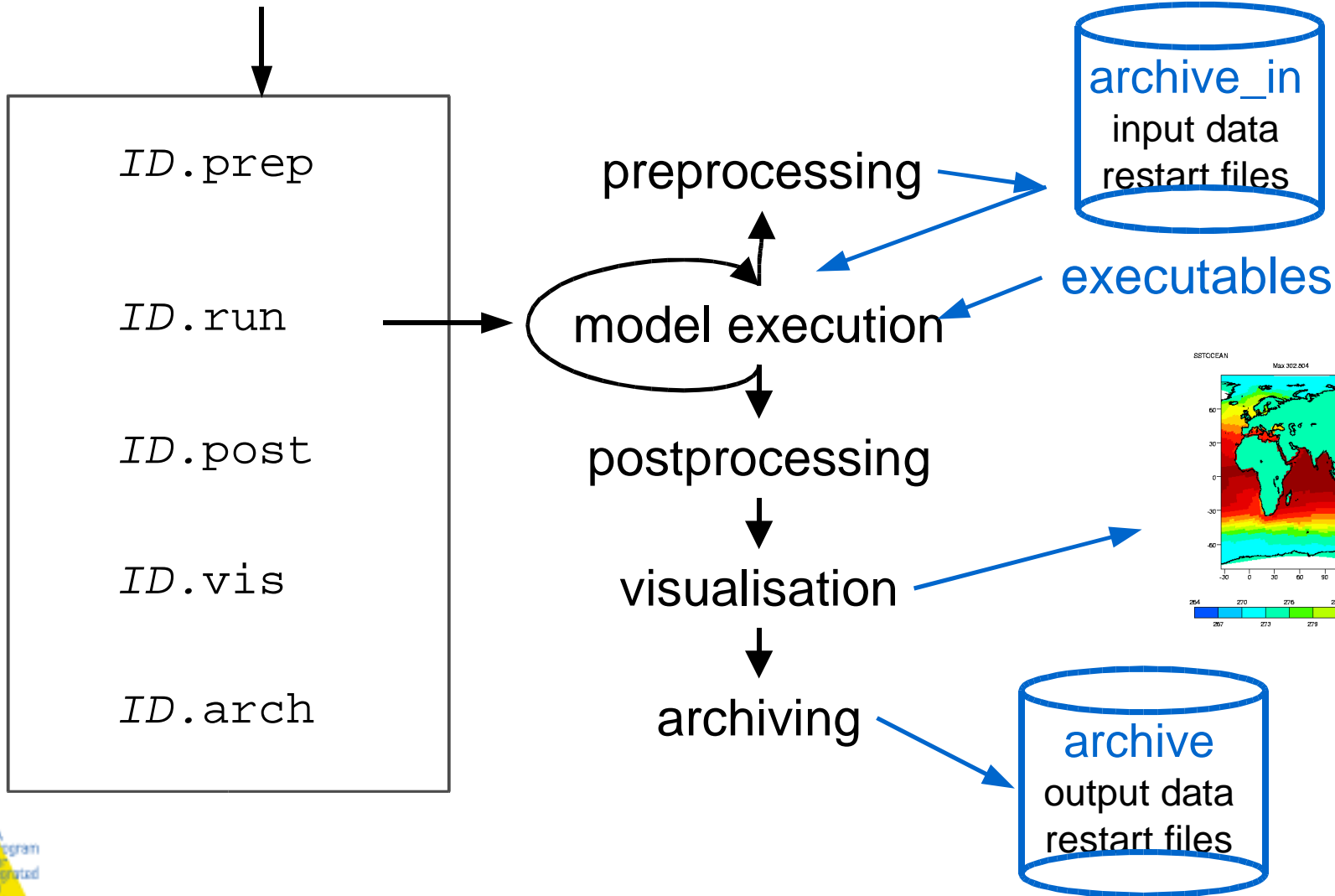


# Experiment Flow



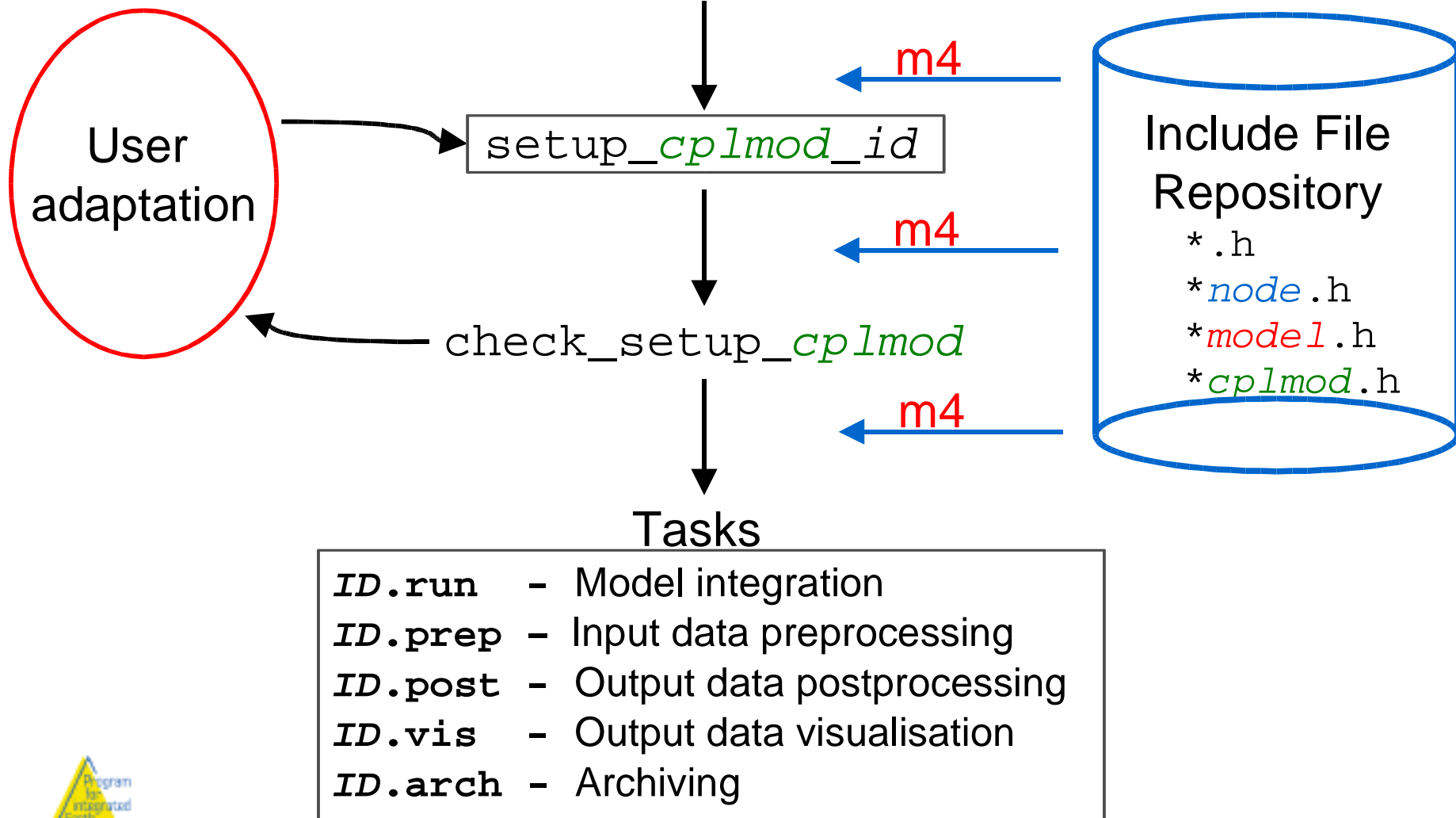
# The Running Environment

Create\_TASKS.frm



# Generation of the Tasks

Create\_TASKS.frm *cplmod* *id* [*node*]



# The Setup File

## setup\_*cplmod*\_ID

- Specification of all configurable variables of the experiment
- Non configurable variables in complete\_setup.h

*cplmod*: coupled model

*node*: node name

*model*: component model

```
config_experiment.h
config_cplmod.h
config_timecontrol.h
config_postprocessing.h
config_postprocessing_model.h
config_archive.h
config_visualisation.h
config_visualisation_model.h
config_mpi_node.h
config_filesystem.h
config_site_node.h
config_commands_node.h
complete_setup_cplmod.h
```



# config\_echam5.h

```
#-----  
# 1.1 COMPONENT MODELS  
#-----  
#-- ECHAM5  
#  
res_atm=t21      # horizontal grid resolution  
#      t21 / t31 / t42 / t63 / t85 / t106 / t159  
vres_atm=19     # number of vertical levels  
#      19 / 19 / 19 / 31 / 31 / 31 / 31  
atmvers=D10     # atmosphere model version (used in executable name)  
out_filetype=2  # output file format:  
#      1: GRIB  
#      2: NetCDF  
dt_write_atm=6  # time interval of output writing in hours  
forcing=climatology # sst and sic forcing:  
#      variable: AMIP variable sst and ice (1977-2000)  
#      climatology: climatological sst and ice  
nprocatm=1     # number of MPI processors for the atmosphere model
```



# The Runscript

## Definitions

```
comments_ cplmod.h  
queue_commands_ node.h  
setup_ cplmod_ expid  
complete_setup_ cplmod.h  
functions.h  
calendar.h
```

*cplmod*: coupled model  
*node*: node name  
*expid*: experiment ID  
*model*: component model

## Preprocessing

```
create_directories.h  
get_executables_ cplmod.h  
get_input_data_ model.h  
namelist_ model.h
```

for all component  
models and the  
coupler

## Execution

```
launching_ cplmod_ node.h
```

## Postprocessing

```
save_output_ model.h
```

## Job submission

```
submit_next_jobs.h
```



# Runtime Control

## *ID.log*

|         |   |          |     |      |   |                                  |
|---------|---|----------|-----|------|---|----------------------------------|
| Wed Feb | 2 | 10:46:36 | MET | 2005 | : | Beginning of Experiment D01b     |
| Wed Feb | 2 | 10:46:36 | MET | 2005 | : | 1 00010101 0:41880.siox3 - start |
| Wed Feb | 2 | 11:00:24 | MET | 2005 | : | 1 00010131 0:41880.siox3 - done  |
| Wed Feb | 2 | 11:02:14 | MET | 2005 | : | 2 00010201 0:41909.siox3 - start |
| Wed Feb | 2 | 11:14:01 | MET | 2005 | : | 2 00010228 0:41909.siox3 - done  |
| Wed Feb | 2 | 11:14:01 | MET | 2005 | : | Experiment over                  |

real time date      job-number      simulated date      job-id

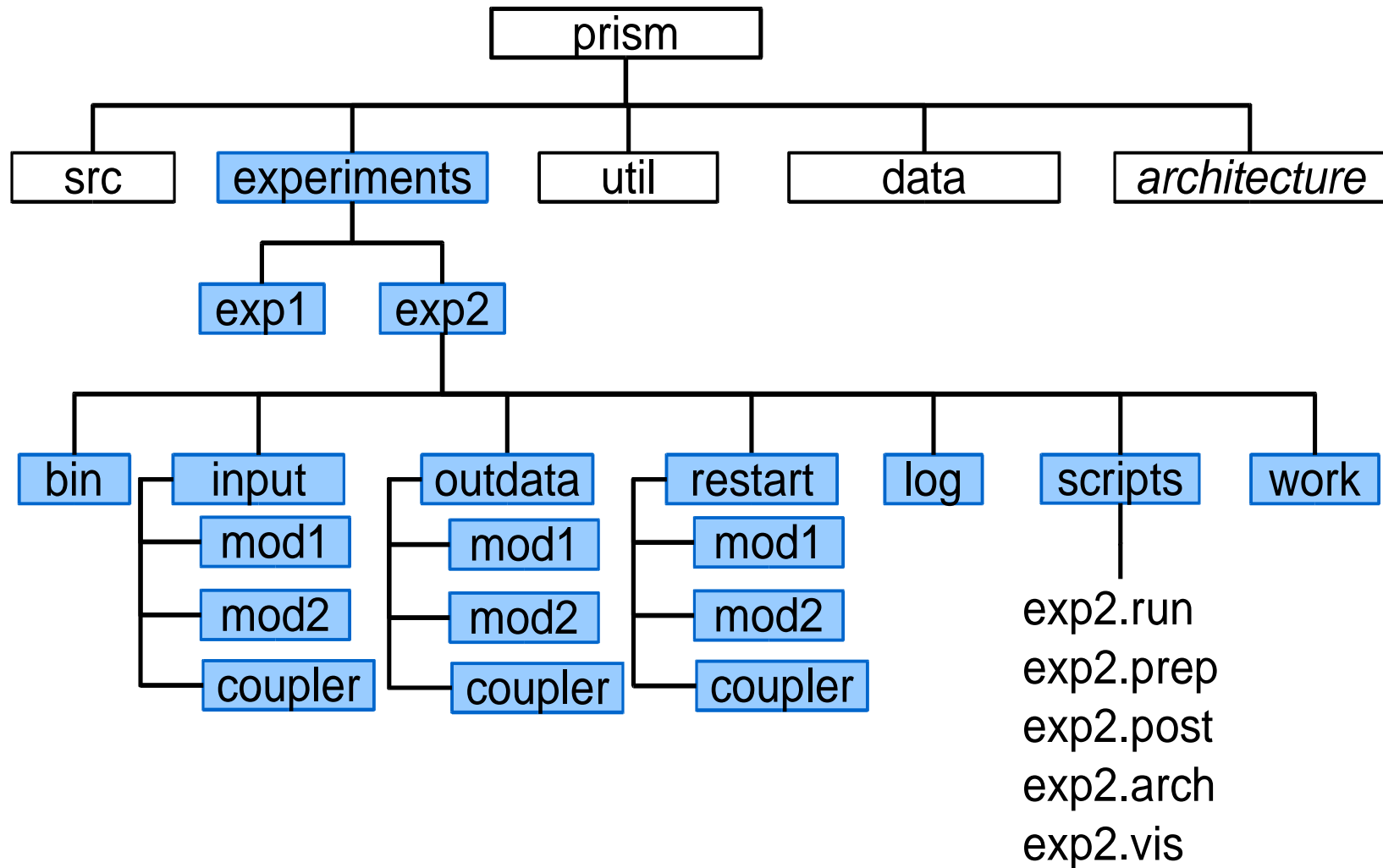
## *ID.date*

|              |
|--------------|
| 0001 03 01 3 |
|--------------|

next year      next month      next day      next job



# Directories: experiments



# Model configurations adapted to the SRE

## (Coupled) Model

ECHAM5

ECHO (=MPI-AO)

MPI-AOB

MPI-AO-PISCES

MPI-OM

MPI-OB

MPI-O-PISCES

IPSL\_CM4

OPATOY

TOYCLIM

CLM

## Component models

ECHAM5

ECHAM5 + MPI-OM

ECHAM5 + MPI-OM+HAMOCC

ECHAM5 + MPI-OM+PISCES

MPI-OM

MPI-OM+HAMOCC

MPI-OM+PISCES

OPA+LIM + LMDZ+ORCHIDEE

OPA+LIM + TOY4OPA

TOYATM + TOYOCE + TOYCHE

CLM



# PRISM Platforms

- Linux i686 divers
- Cray X1 Cray, France
- IBM Power4 ECMWF, Reading
- Fujitsu Opteron Cluster F.S.E. Toulouse
- Fujitsu VPP5000 Meteo France, Toulouse
- NEC SX-5 IPSL, Paris
- NEC SX-6 e.g. DKRZ, Hamburg
- SGI Altix 3000 e.g. CERFACS, Toulouse
- SGI IRIX64 SGI, Munich
- SGI Origin 3800 KNMI, De Bilt



# PSI Activities in 2005

## Model adaptations to the SRE

- ECHAM5/MPI-OM/PISCES
- ECHAM5 as stand-alone atmosphere model
- CLM: regional model, (BTU Cottbus, GKSS)

## Upgrade of the SRE

- preprocessing task, e.g. to provide input data for a regional model
- postprocessing task for CLM, based on CDOs and NCOs



# Plans for the near future

Allow for runs of less than one day

- Introduce hours, minutes and seconds to the calendar program

Get the tasks more clear

- Extract the calendar and the functions from the scripts
- Define site-dependant functions
- Only include the relevant parts of the setup into the respective scripts



# Further Plans

Monitoring of running experiments (WG7)

- timeseries of key variables
- automatic 2d plots of selected variables

Support OASIS4 as second coupler

OASIS3 as interpolator

Find a better solution for shared input data



# Thank You



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November 16-17, 2005

PRISM Community Meeting, Toulouse

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