Section 9
Data Set Creation — *Rocprep*

Rocprep

Rocstar input data preparation tool
Rocstar/utilities/*Rocprep*

- **Native Data Archives**
  - Output from Gridgen, Patran, etc.
  - Various grids (Grid1, Grid2, …)
  - Various module input/BC/control files (Data1, Data2, …)
  - README files
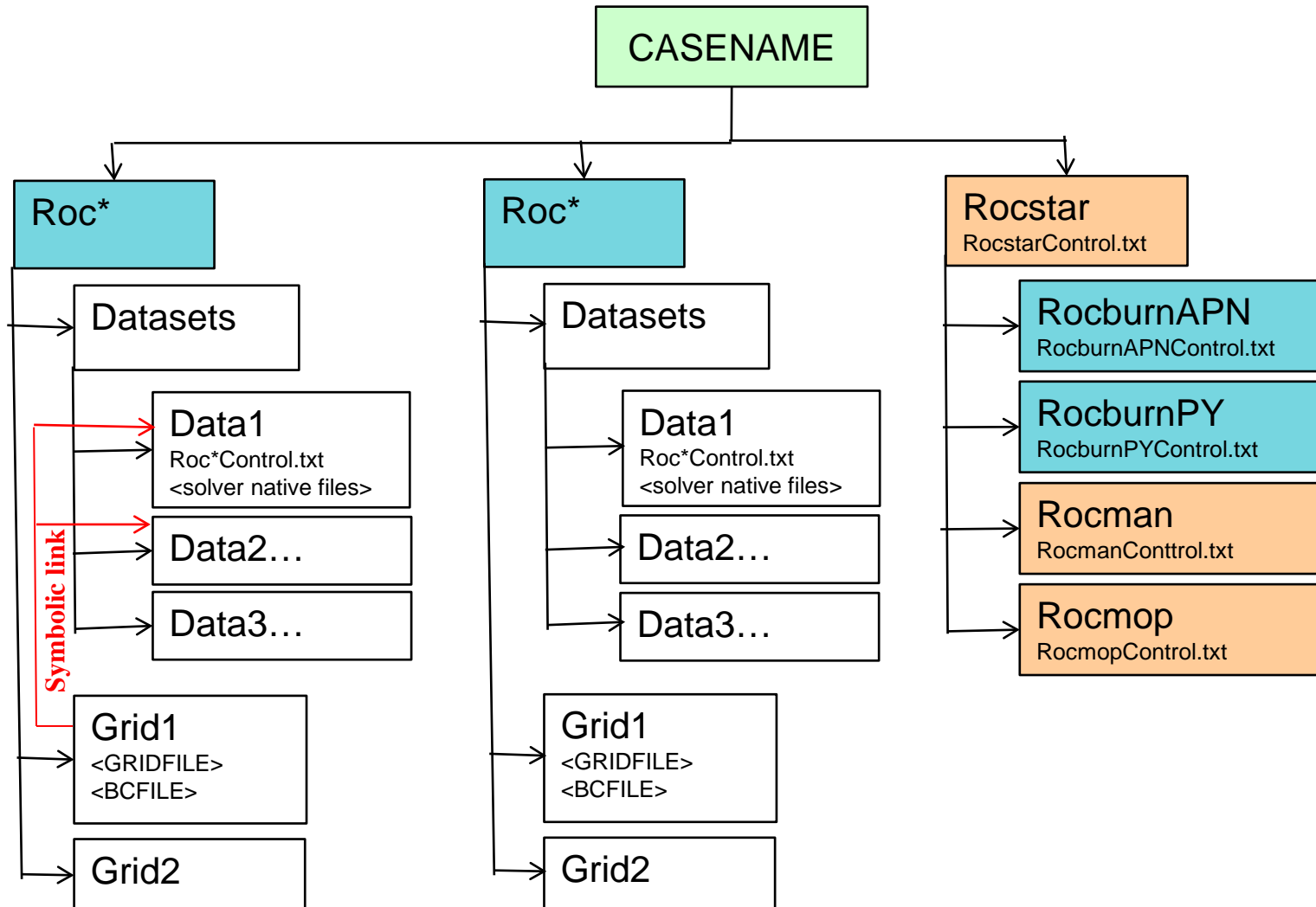- **Tasks performed with a single command:**
  - Extract relevant files from archive
  - Preprocess and partition for each module
  - Construct overlay mesh for *Rocface*
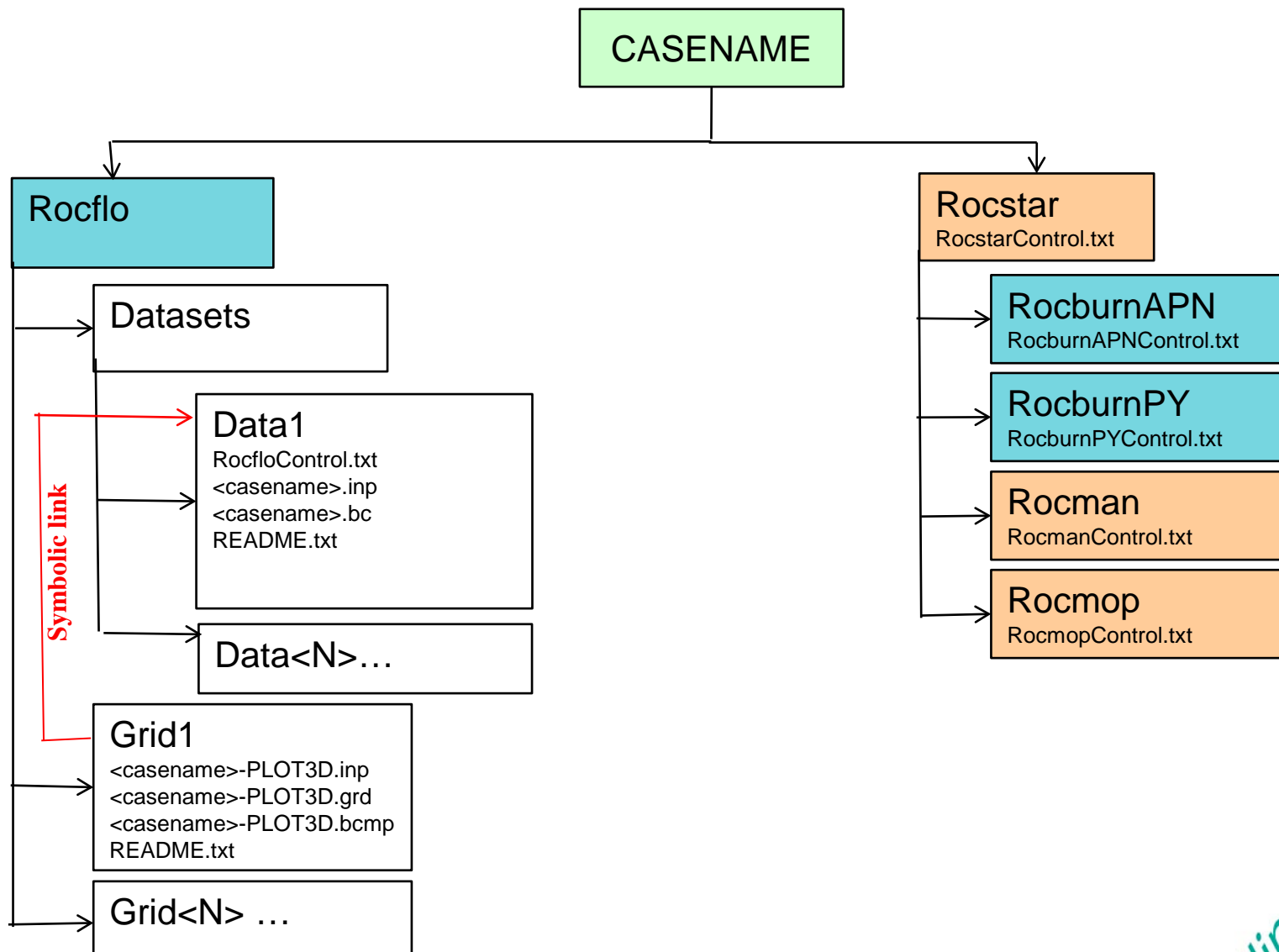- **Example: *Rocflo*/*Rocfrac* Lab Scale Rocket**

```
% Rocprep –A –o 1 2 –f 1 3 –d /csar/NDAs/labscale –n 16
```
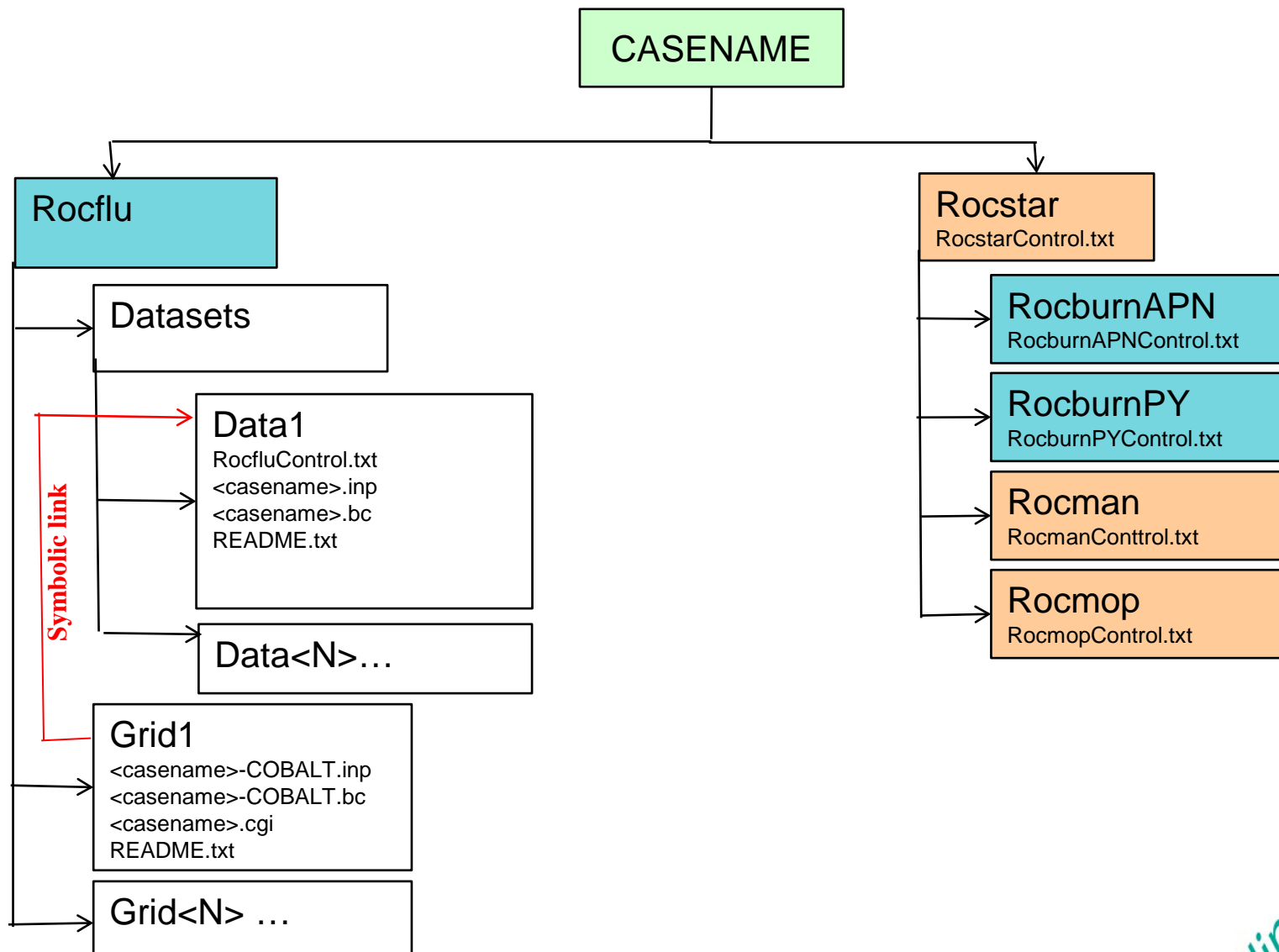
Anatomy of the Native Data Archive (NDA)

Rocflo NDA

Rocflu NDA

CASENAME

Rocflu

Datasets

Data1
RocfluControl.txt
<casename>.inp
<casename>.bc
README.txt

Data<N>…

Grid1
<casename>-COBALT.inp
<casename>-COBALT.bc
<casename>.cgi
README.txt

Grid<N> …

Symbolic link

Rocstar
RocstarControl.txt

RocburnAPN
RocburnAPNControl.txt

RocburnPY
RocburnPYControl.txt

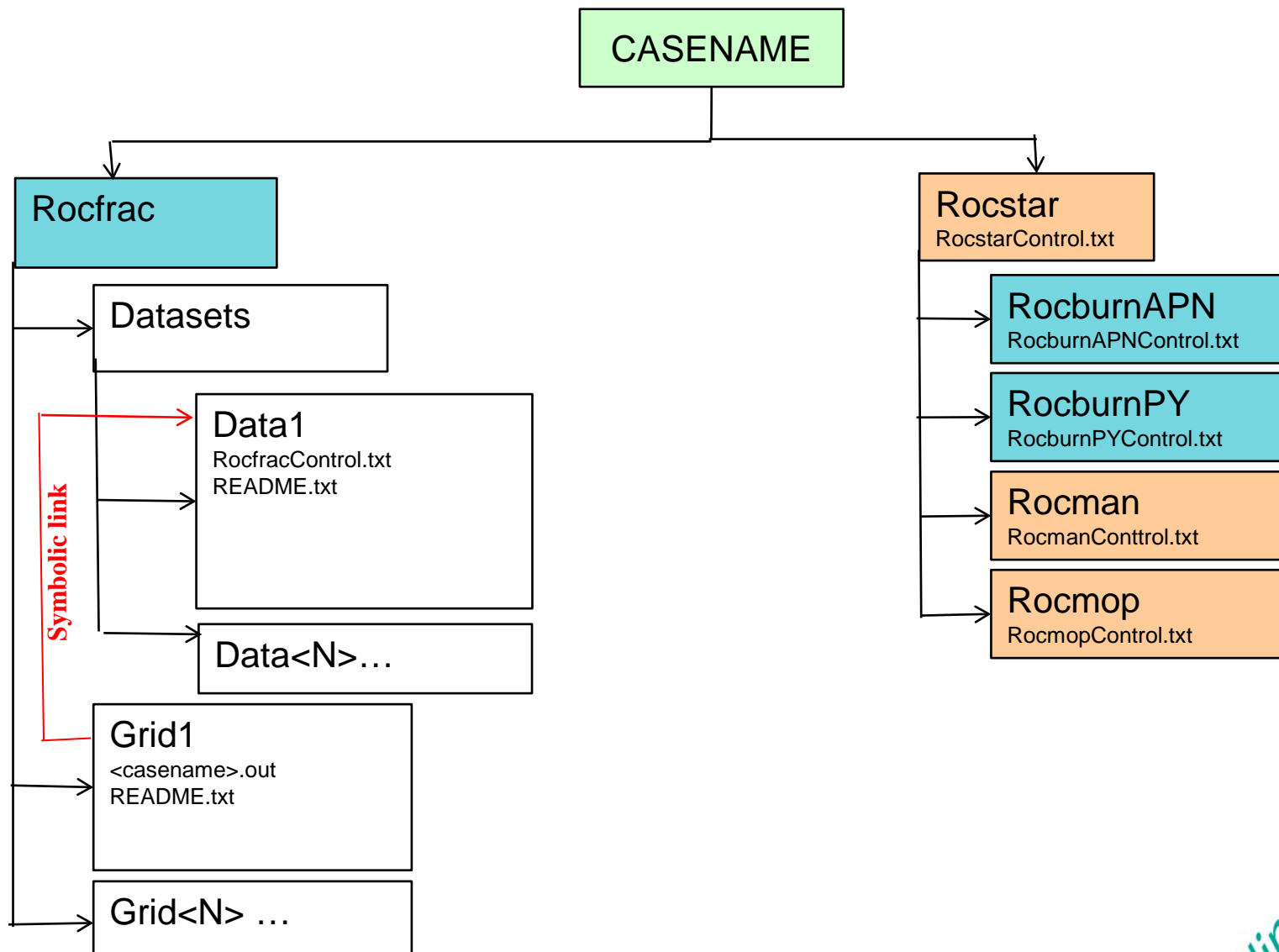Rocman
RocmanConttrol.txt

Rocmop
RocmopControl.txt

Rocfrac NDA

Rocprep Usage

```
Usage: rocprep -A|C|E|P [OPTION]...

Major modes of operation:
  -A, --all          extract and preprocess
  -C, --check        check an existing dataset at -d <path>
  -E, --extract      copy NDA files to target at -t <path>
  -P, --preprocess   run module preptools on data at -d <path>

Physics module selection:
  -o [m] [n]      Rocflo preprocessing, optional NDA Data<m> & Grid<n> dirs
  -u [m] [n]      Rocflu preprocessing, optional NDA Data<m> & Grid<n> dirs
  -f [m] [n]      Rocfrac preprocessing, optional NDA Data<m> & Grid<n> dirs
  -s [m] [n]      Rocsolid preprocessing, optional NDA Data<m> & Grid<n> dirs
  -b              Rocburn preprocessing

Module-specific flags:
  -r <m>          specify <m> regions (rocflu only), default is -n value
  -splitaxis <n>  force split along n=0,1, or 2 axis (rocflo only)
  -un <units>     convert model units to meters (rocfrac only)

General options:
  -i <o|u|f|s>    surfdive interface meshes, default infers from physics options
  -d <path>       path to source data, default is current working directory
  -h, --help      print this help message and terminate
  -n <m>          specify <m> processors/partitions
  -t <path>       target path for new rocstar dataset
  -p <path>       path to preptool binaries, default will use shell path
  -x, --ignore    ignore RocprepControl.txt control file
```

Example: `rocprep -A -o 1 1 -f 2 4 -b -d archiveDir/ -t newDataset/ -n 8`