

Reconfiguration of Multiple Start Dumps

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The starting point is a normal reconfiguration job. Using, for a 6.1 job, this builds an executable and then runs it on the start dump. For this task, we separate this into a build job, which creates the executable, and a run job which runs it. This note deals with the run job.

The following procedure modifies the single file script `umuisubmit_rcf` to one that deals with multiple files in a single directory. The batch queue wall time needs to be the number of files required multiplied by the time required per file. After modification we simply

```
qsub umuisubmit_rcf
```

The input files are processed sequentially on the initial set of nodes. The `INITHIS` file contains two lines, one which identifies the start dump (`AINITIAL`) and the other the output directory (`ASTART`)¹. Files called `x.grib` are converted to files called `x`.

The Details

Normally the UM setup deletes the job setup directory in `umui_runs` after a normal completion. For our purposes we need the contents of that directory, so we do a dummy run, and while it is running save the contents of the directory:

```
cp -r xkfwc-247115549 saved_xkfwc-247115549
```

Within the saved directory there is a script `umuisubmit_rcf` that needs to be modified as follows. Modify the script wall time as above. The export `JOBDIR` line should be modified to point to the location of the saved directory e.g.

```
export JOBDIR=/home/n02/n02/wmcginty/umui_runs/xkfwc-247115549
```

is replaced by

```
export JOBDIR=/home/n02/n02/wmcginty/umui_runs/saved_xkfwc-247115549
```

Later in the file the lines

¹For reconfiguration, `AINITIAL` is the input start dump and `ASTART` is the reconfigured output; for run jobs, `ASTART` is the input start dump and `AINITIAL` is not used.

```

# Finally call the revised top level script for the UM
. UMScr_TopLevel
RC=$?

    are replaced by

export i

echo "pwd = " $(pwd)
# Do one month - see the note on the date_list script
for i in $(~/bin/date_list 20110501_00 20110601_00)
do
    i=${DATADIR}/Fennec_2011/$i.grib

    j=${i##*/}      # remove path
    export k=${j%%.*} # remove all after first dot

    echo "Doing " $i
    ed $JOBDIR/INITHIS<<EOF
/ASTART=/
.,.+1d
i
ASTART='ASTART : \${DATAW}/$k'
AINITIAL='AINITIAL: $i'
.
wq
EOF

# Finally call the revised top level script for the UM
. UMScr_TopLevel
RC=$?

done

```

This completes the modifications required.

Comment

Another way is the following, suggested by the ARCHER help desk. I havent tried this. Convert umuisubmit_rcf for use in a job array, for example

```
qsub -J 1-1000 umuisubmit_rcf
```

The subjob index \$PBS_ARRAY_INDEX is available to umuisubmit_rcf: you would have to translate this to the next \$DATADIR/AMMA_May06/*.grib file in the converted umuisubmit_rcf. In the example above, \$PBS_ARRAY_INDEX will run from 1 to 1000. For this method, request the wall-time required to process one file.