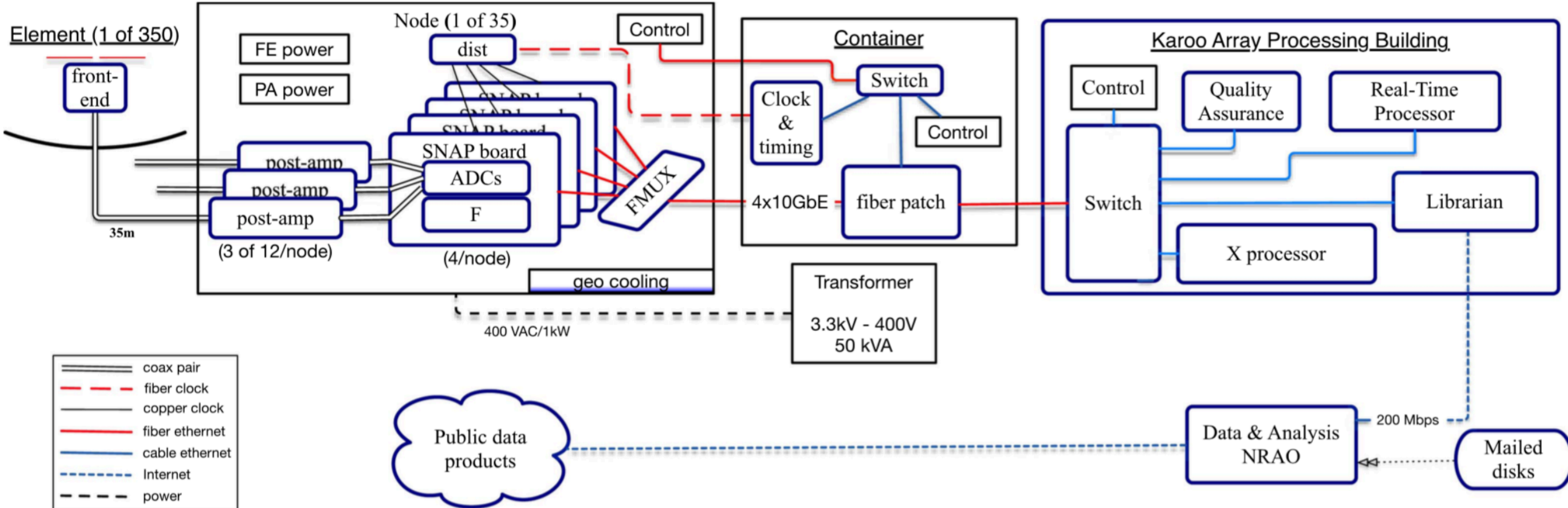
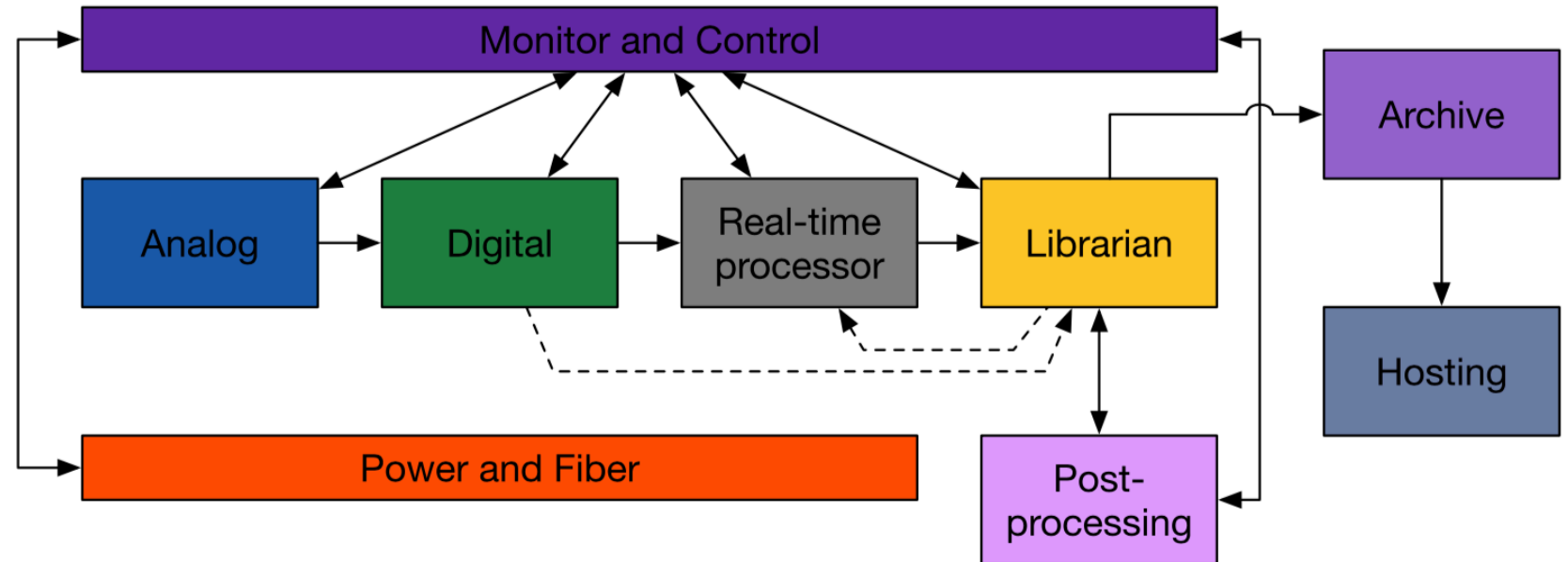


# Introduction to the Librarian

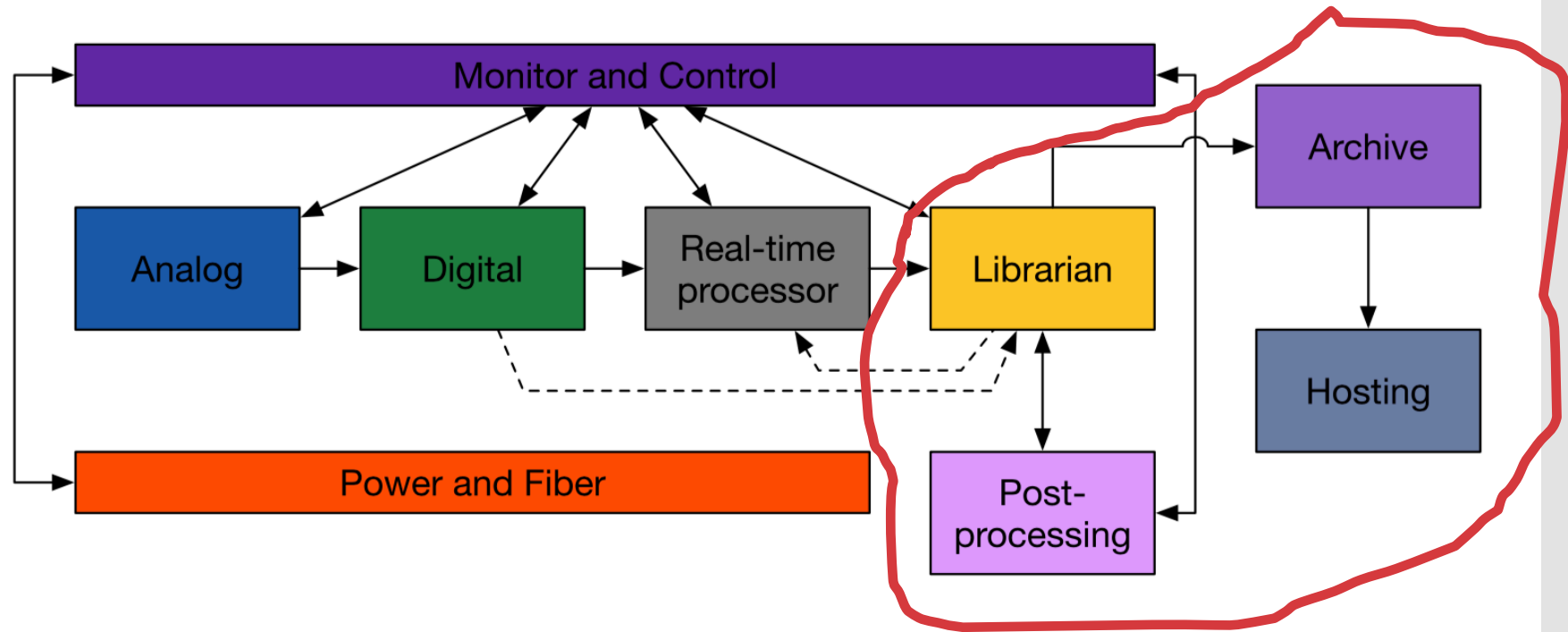
# How data have gone from telescope to Librarian



# Software subsystems



# Software subsystems



# What a MIRIAD file is

- Basic data storage file
- The file is really a directory (of files)
- It contains both the data (in binary form) and text files describing the data
- A typical file name might be  
`zen.2457458.41052.xx.HH.uvcR`
- Components of the file name

zen	zenith phased data
2457458.41052	Julian day 2457458, starting at 0.41052 days after midnight
xx	xx polarization
HH	“HERA Hex”
uvcR	Raw files are “.uv” Additional extensions specify additional processing steps

# What's in a MIRIAD file

- What's in the directory?

```
James-MacBook-Pro-3:RFIdf6fchan_HH jaguirre$ ls zen.2457458.41052.xx.HH.uvcR
flags          header         history        variable       visdata
```

- `flags`, `header`, and `visdata` are the binary data
- `variable` describes the data layout
- Most interesting to look at directly (with the help of HERA software) is `history`, which explains what has happened to the file since its creation

# What's the history?

```
[Jamess-MacBook-Pro-3:RFIdf6fchan_HH jaguirre$ more zen.2457458.41052.xx.HH.uvcR/]
history
CORR-DACQ: created file.
/home/obs/src/RTP/scripts/hera/correct_hsa19.py zen.2457458.41052.xx.uv
PULL ANTPOLS:/home/obs/src/RTP/scripts/hera/pull_antpols_simple.py -p xx -a 9,10
,20,22,31,43,53,64,65,72,80,81,88,89,96,97,104,105,112 zen.2457458.41052.xx.uvc
/usr/global/paper/bin/xrfi_simple.py --df=6 --combine -t 80 -c 23_26,42_45,50_54
,60_66,378_387,510_512,767_770,831,849_852,931_934,1021_1023 zen.2457458.17389.x
x.HH.uvc zen.2457458.18781.xx.HH.uvc zen.2457458.19477.xx.HH.uvc zen.2457458.201
73.xx.HH.uvc zen.2457458.20869.xx.HH.uvc zen.2457458.21565.xx.HH.uvc zen.2457458
.22261.xx.HH.uvc zen.2457458.22957.xx.HH.uvc zen.2457458.23653.xx.HH.uvc zen.245
7458.24349.xx.HH.uvc zen.2457458.25045.xx.HH.uvc zen.2457458.25741.xx.HH.uvc zen
.2457458.26437.xx.HH.uvc zen.2457458.27133.xx.HH.uvc zen.2457458.27829.xx.HH.uvc
zen.2457458.28525.xx.HH.uvc zen.2457458.29221.xx.HH.uvc zen.2457458.29916.xx.HH
.uvc zen.2457458.30612.xx.HH.uvc zen.2457458.31308.xx.HH.uvc zen.2457458.32004.x
x.HH.uvc zen.2457458.32700.xx.HH.uvc zen.2457458.33396.xx.HH.uvc zen.2457458.340
92.xx.HH.uvc zen.2457458.34788.xx.HH.uvc zen.2457458.35484.xx.HH.uvc zen.2457458
.36180.xx.HH.uvc zen.2457458.36876.xx.HH.uvc zen.2457458.37572.xx.HH.uvc zen.245
7458.38268.xx.HH.uvc zen.2457458.38964.xx.HH.uvc zen.2457458.39660.xx.HH.uvc zen
.2457458.40356.xx.HH.uvc zen.2457458.41052.xx.HH.uvc zen.2457458.41748.xx.HH.uvc
zen.2457458.42443.xx.HH.uvc zen.2457458.43139.xx.HH.uvc zen.2457458.43835.xx.HH
.uvc zen.2457458.44531.xx.HH.uvc zen.2457458.45227.xx.HH.uvc zen.2457458.45923.x
x.HH.uvc zen.2457458.46619.xx.HH.uvc zen.2457458.47315.xx.HH.uvc zen.2457458.480
11.xx.HH.uvc zen.2457458.48707.xx.HH.uvc zen.2457458.49403.xx.HH.uvc zen.2457458
.50099.xx.HH.uvc zen.2457458.50795.xx.HH.uvc zen.2457458.51491.xx.HH.uvc zen.245
7458.52187.xx.HH.uvc zen.2457458.52883.xx.HH.uvc zen.2457458.53579.xx.HH.uvc zen
.2457458.54275.xx.HH.uvc zen.2457458.54970.xx.HH.uvc zen.2457458.55666.xx.HH.uvc
zen.2457458.56362.xx.HH.uvc zen.2457458.57058.xx.HH.uvc zen.2457458.57754.xx.HH
.uvc zen.2457458.58450.xx.HH.uvc zen.2457458.59146.xx.HH.uvc zen.2457458.59842.x
x.HH.uvc zen.2457458.60538.xx.HH.uvc zen.2457458.61234.xx.HH.uvc zen.2457458.619
30.xx.HH.uvc zen.2457458.62626.xx.HH.uvc zen.2457458.63322.xx.HH.uvc zen.2457458
.64018.xx.HH.uvc zen.2457458.64714.xx.HH.uvc zen.2457458.65410.xx.HH.uvc zen.245
7458.66106.xx.HH.uvc -a all
```



.uv

## What's the history?

```
[Jamess-MacBook-Pro-3:RFIdf6fchan_HH jaguirre$ more zen.2457458.41052.xx.HH.uvcR/]
history
CORR-DACQ: created file.
/home/obs/src/RTP/scripts/hera/correct_hsa19.py zen.2457458.41052.xx.uv
PULL ANTPOLS:/home/obs/src/RTP/scripts/hera/pull_antpols_simple.py -p xx -a 9,10
,20,22,31,43,53,64,65,72,80,81,88,89,96,97,104,105,112 zen.2457458.41052.xx.uvc
/usr/global/paper/bin/xrfi_simple.py --df=6 --combine -t 80 -c 23_26,42_45,50_54
,60_66,378_387,510_512,767_770,831,849_852,931_934,1021_1023 zen.2457458.17389.x
x.HH.uvc zen.2457458.18781.xx.HH.uvc zen.2457458.19477.xx.HH.uvc zen.2457458.201
73.xx.HH.uvc zen.2457458.20869.xx.HH.uvc zen.2457458.21565.xx.HH.uvc zen.2457458
.22261.xx.HH.uvc zen.2457458.22957.xx.HH.uvc zen.2457458.23653.xx.HH.uvc zen.245
7458.24349.xx.HH.uvc zen.2457458.25045.xx.HH.uvc zen.2457458.25741.xx.HH.uvc zen
.2457458.26437.xx.HH.uvc zen.2457458.27133.xx.HH.uvc zen.2457458.27829.xx.HH.uvc
zen.2457458.28525.xx.HH.uvc zen.2457458.29221.xx.HH.uvc zen.2457458.29916.xx.HH
.uvc zen.2457458.30612.xx.HH.uvc zen.2457458.31308.xx.HH.uvc zen.2457458.32004.x
x.HH.uvc zen.2457458.32700.xx.HH.uvc zen.2457458.33396.xx.HH.uvc zen.2457458.340
92.xx.HH.uvc zen.2457458.34788.xx.HH.uvc zen.2457458.35484.xx.HH.uvc zen.2457458
.36180.xx.HH.uvc zen.2457458.36876.xx.HH.uvc zen.2457458.37572.xx.HH.uvc zen.245
7458.38268.xx.HH.uvc zen.2457458.38964.xx.HH.uvc zen.2457458.39660.xx.HH.uvc zen
.2457458.40356.xx.HH.uvc zen.2457458.41052.xx.HH.uvc zen.2457458.41748.xx.HH.uvc
zen.2457458.42443.xx.HH.uvc zen.2457458.43139.xx.HH.uvc zen.2457458.43835.xx.HH
.uvc zen.2457458.44531.xx.HH.uvc zen.2457458.45227.xx.HH.uvc zen.2457458.45923.x
x.HH.uvc zen.2457458.46619.xx.HH.uvc zen.2457458.47315.xx.HH.uvc zen.2457458.480
11.xx.HH.uvc zen.2457458.48707.xx.HH.uvc zen.2457458.49403.xx.HH.uvc zen.2457458
.50099.xx.HH.uvc zen.2457458.50795.xx.HH.uvc zen.2457458.51491.xx.HH.uvc zen.245
7458.52187.xx.HH.uvc zen.2457458.52883.xx.HH.uvc zen.2457458.53579.xx.HH.uvc zen
.2457458.54275.xx.HH.uvc zen.2457458.54970.xx.HH.uvc zen.2457458.55666.xx.HH.uvc
zen.2457458.56362.xx.HH.uvc zen.2457458.57058.xx.HH.uvc zen.2457458.57754.xx.HH
.uvc zen.2457458.58450.xx.HH.uvc zen.2457458.59146.xx.HH.uvc zen.2457458.59842.x
x.HH.uvc zen.2457458.60538.xx.HH.uvc zen.2457458.61234.xx.HH.uvc zen.2457458.619
30.xx.HH.uvc zen.2457458.62626.xx.HH.uvc zen.2457458.63322.xx.HH.uvc zen.2457458
.64018.xx.HH.uvc zen.2457458.64714.xx.HH.uvc zen.2457458.65410.xx.HH.uvc zen.245
7458.66106.xx.HH.uvc -a all
```



.UVC

## What's the history?

```
[Jamess-MacBook-Pro-3:RFIdf6fchan_HH jaguirre$ more zen.2457458.41052.xx.HH.uvcR/]
history
CORR-DACQ: created file.
/home/obs/src/RTP/scripts/hera/correct_hsa19.py zen.2457458.41052.xx.uv
PULL ANTPOLS:/home/obs/src/RTP/scripts/hera/pull_antpols_simple.py -p xx -a 9,10
,20,22,31,43,53,64,65,72,80,81,88,89,96,97,104,105,112 zen.2457458.41052.xx.uvc
/usr/global/paper/bin/xrfi_simple.py --df=6 --combine -t 80 -c 23_26,42_45,50_54
,60_66,378_387,510_512,767_770,831,849_852,931_934,1021_1023 zen.2457458.17389.x
x.HH.uvc zen.2457458.18781.xx.HH.uvc zen.2457458.19477.xx.HH.uvc zen.2457458.201
73.xx.HH.uvc zen.2457458.20869.xx.HH.uvc zen.2457458.21565.xx.HH.uvc zen.2457458
.22261.xx.HH.uvc zen.2457458.22957.xx.HH.uvc zen.2457458.23653.xx.HH.uvc zen.245
7458.24349.xx.HH.uvc zen.2457458.25045.xx.HH.uvc zen.2457458.25741.xx.HH.uvc zen
.2457458.26437.xx.HH.uvc zen.2457458.27133.xx.HH.uvc zen.2457458.27829.xx.HH.uvc
zen.2457458.28525.xx.HH.uvc zen.2457458.29221.xx.HH.uvc zen.2457458.29916.xx.HH
.uvc zen.2457458.30612.xx.HH.uvc zen.2457458.31308.xx.HH.uvc zen.2457458.32004.x
x.HH.uvc zen.2457458.32700.xx.HH.uvc zen.2457458.33396.xx.HH.uvc zen.2457458.340
92.xx.HH.uvc zen.2457458.34788.xx.HH.uvc zen.2457458.35484.xx.HH.uvc zen.2457458
.36180.xx.HH.uvc zen.2457458.36876.xx.HH.uvc zen.2457458.37572.xx.HH.uvc zen.245
7458.38268.xx.HH.uvc zen.2457458.38964.xx.HH.uvc zen.2457458.39660.xx.HH.uvc zen
.2457458.40356.xx.HH.uvc zen.2457458.41052.xx.HH.uvc zen.2457458.41748.xx.HH.uvc
zen.2457458.42443.xx.HH.uvc zen.2457458.43139.xx.HH.uvc zen.2457458.43835.xx.HH
.uvc zen.2457458.44531.xx.HH.uvc zen.2457458.45227.xx.HH.uvc zen.2457458.45923.x
x.HH.uvc zen.2457458.46619.xx.HH.uvc zen.2457458.47315.xx.HH.uvc zen.2457458.480
11.xx.HH.uvc zen.2457458.48707.xx.HH.uvc zen.2457458.49403.xx.HH.uvc zen.2457458
.50099.xx.HH.uvc zen.2457458.50795.xx.HH.uvc zen.2457458.51491.xx.HH.uvc zen.245
7458.52187.xx.HH.uvc zen.2457458.52883.xx.HH.uvc zen.2457458.53579.xx.HH.uvc zen
.2457458.54275.xx.HH.uvc zen.2457458.54970.xx.HH.uvc zen.2457458.55666.xx.HH.uvc
zen.2457458.56362.xx.HH.uvc zen.2457458.57058.xx.HH.uvc zen.2457458.57754.xx.HH
.uvc zen.2457458.58450.xx.HH.uvc zen.2457458.59146.xx.HH.uvc zen.2457458.59842.x
x.HH.uvc zen.2457458.60538.xx.HH.uvc zen.2457458.61234.xx.HH.uvc zen.2457458.619
30.xx.HH.uvc zen.2457458.62626.xx.HH.uvc zen.2457458.63322.xx.HH.uvc zen.2457458
.64018.xx.HH.uvc zen.2457458.64714.xx.HH.uvc zen.2457458.65410.xx.HH.uvc zen.245
7458.66106.xx.HH.uvc -a all
```

.HH.uvc

What's the  
history?

```
[Jamess-MacBook-Pro-3:RFIdf6fchan_HH jaguirre$ more zen.2457458.41052.xx.HH.uvcR/]
history
CORR-DACQ: created file.
/home/obs/src/RTP/scripts/hera/correct hsa19.py zen.2457458.41052.xx.uv
PULL ANTPOLS: /home/obs/src/RTP/scripts/hera/pull_antpols_simple.py -p xx -a 9,10
,20,22,31,43,53,64,65,72,80,81,88,89,96,97,104,105,112 zen.2457458.41052.xx.uvc
/usr/global/paper/bin/xrfi_simple.py --df=6 --combine -t 80 -c 23_26,42_45,50_54
,60_66,378_387,510_512,767_770,831,849_852,931_934,1021_1023 zen.2457458.17389.x
x.HH.uvc zen.2457458.18781.xx.HH.uvc zen.2457458.19477.xx.HH.uvc zen.2457458.201
73.xx.HH.uvc zen.2457458.20869.xx.HH.uvc zen.2457458.21565.xx.HH.uvc zen.2457458
.22261.xx.HH.uvc zen.2457458.22957.xx.HH.uvc zen.2457458.23653.xx.HH.uvc zen.245
7458.24349.xx.HH.uvc zen.2457458.25045.xx.HH.uvc zen.2457458.25741.xx.HH.uvc zen
.2457458.26437.xx.HH.uvc zen.2457458.27133.xx.HH.uvc zen.2457458.27829.xx.HH.uvc
zen.2457458.28525.xx.HH.uvc zen.2457458.29221.xx.HH.uvc zen.2457458.29916.xx.HH
.uvc zen.2457458.30612.xx.HH.uvc zen.2457458.31308.xx.HH.uvc zen.2457458.32004.x
x.HH.uvc zen.2457458.32700.xx.HH.uvc zen.2457458.33396.xx.HH.uvc zen.2457458.340
92.xx.HH.uvc zen.2457458.34788.xx.HH.uvc zen.2457458.35484.xx.HH.uvc zen.2457458
.36180.xx.HH.uvc zen.2457458.36876.xx.HH.uvc zen.2457458.37572.xx.HH.uvc zen.245
7458.38268.xx.HH.uvc zen.2457458.38964.xx.HH.uvc zen.2457458.39660.xx.HH.uvc zen
.2457458.40356.xx.HH.uvc zen.2457458.41052.xx.HH.uvc zen.2457458.41748.xx.HH.uvc
zen.2457458.42443.xx.HH.uvc zen.2457458.43139.xx.HH.uvc zen.2457458.43835.xx.HH
.uvc zen.2457458.44531.xx.HH.uvc zen.2457458.45227.xx.HH.uvc zen.2457458.45923.x
x.HH.uvc zen.2457458.46619.xx.HH.uvc zen.2457458.47315.xx.HH.uvc zen.2457458.480
11.xx.HH.uvc zen.2457458.48707.xx.HH.uvc zen.2457458.49403.xx.HH.uvc zen.2457458
.50099.xx.HH.uvc zen.2457458.50795.xx.HH.uvc zen.2457458.51491.xx.HH.uvc zen.245
7458.52187.xx.HH.uvc zen.2457458.52883.xx.HH.uvc zen.2457458.53579.xx.HH.uvc zen
.2457458.54275.xx.HH.uvc zen.2457458.54970.xx.HH.uvc zen.2457458.55666.xx.HH.uvc
zen.2457458.56362.xx.HH.uvc zen.2457458.57058.xx.HH.uvc zen.2457458.57754.xx.HH
.uvc zen.2457458.58450.xx.HH.uvc zen.2457458.59146.xx.HH.uvc zen.2457458.59842.x
x.HH.uvc zen.2457458.60538.xx.HH.uvc zen.2457458.61234.xx.HH.uvc zen.2457458.619
30.xx.HH.uvc zen.2457458.62626.xx.HH.uvc zen.2457458.63322.xx.HH.uvc zen.2457458
.64018.xx.HH.uvc zen.2457458.64714.xx.HH.uvc zen.2457458.65410.xx.HH.uvc zen.245
7458.66106.xx.HH.uvc -a all
```



.HH.uvcR

What's the  
history?

```
[Jamess-MacBook-Pro-3:RFIdf6fchan_HH jaguirre$ more zen.2457458.41052.xx.HH.uvcR/]
history
CORR-DACQ: created file.
/home/obs/src/RTP/scripts/hera/correct_hsa19.py zen.2457458.41052.xx.uv
PULL ANTPOLS:/home/obs/src/RTP/scripts/hera/pull_antpols_simple.py -p xx -a 9,10
,20,22,31,43,53,64,65,72,80,81,88,89,96,97,104,105,112 zen.2457458.41052.xx.uvc
/usr/global/paper/bin/xrfi_simple.py --df=6 --combine -t 80 -c 23_26,42_45,50_54
,60_66,378_387,510_512,767_770,831,849_852,931_934,1021_1023 zen.2457458.17389.x
x.HH.uvc zen.2457458.18781.xx.HH.uvc zen.2457458.19477.xx.HH.uvc zen.2457458.201
73.xx.HH.uvc zen.2457458.20869.xx.HH.uvc zen.2457458.21565.xx.HH.uvc zen.2457458
.22261.xx.HH.uvc zen.2457458.22957.xx.HH.uvc zen.2457458.23653.xx.HH.uvc zen.245
7458.24349.xx.HH.uvc zen.2457458.25045.xx.HH.uvc zen.2457458.25741.xx.HH.uvc zen
.2457458.26437.xx.HH.uvc zen.2457458.27133.xx.HH.uvc zen.2457458.27829.xx.HH.uvc
zen.2457458.28525.xx.HH.uvc zen.2457458.29221.xx.HH.uvc zen.2457458.29916.xx.HH
.uvc zen.2457458.30612.xx.HH.uvc zen.2457458.31308.xx.HH.uvc zen.2457458.32004.x
x.HH.uvc zen.2457458.32700.xx.HH.uvc zen.2457458.33396.xx.HH.uvc zen.2457458.340
92.xx.HH.uvc zen.2457458.34788.xx.HH.uvc zen.2457458.35484.xx.HH.uvc zen.2457458
.36180.xx.HH.uvc zen.2457458.36876.xx.HH.uvc zen.2457458.37572.xx.HH.uvc zen.245
7458.38268.xx.HH.uvc zen.2457458.38964.xx.HH.uvc zen.2457458.39660.xx.HH.uvc zen
.2457458.40356.xx.HH.uvc zen.2457458.41052.xx.HH.uvc zen.2457458.41748.xx.HH.uvc
zen.2457458.42443.xx.HH.uvc zen.2457458.43139.xx.HH.uvc zen.2457458.43835.xx.HH
.uvc zen.2457458.44531.xx.HH.uvc zen.2457458.45227.xx.HH.uvc zen.2457458.45923.x
x.HH.uvc zen.2457458.46619.xx.HH.uvc zen.2457458.47315.xx.HH.uvc zen.2457458.480
11.xx.HH.uvc zen.2457458.48707.xx.HH.uvc zen.2457458.49403.xx.HH.uvc zen.2457458
.50099.xx.HH.uvc zen.2457458.50795.xx.HH.uvc zen.2457458.51491.xx.HH.uvc zen.245
7458.52187.xx.HH.uvc zen.2457458.52883.xx.HH.uvc zen.2457458.53579.xx.HH.uvc zen
.2457458.54275.xx.HH.uvc zen.2457458.54970.xx.HH.uvc zen.2457458.55666.xx.HH.uvc
zen.2457458.56362.xx.HH.uvc zen.2457458.57058.xx.HH.uvc zen.2457458.57754.xx.HH
.uvc zen.2457458.58450.xx.HH.uvc zen.2457458.59146.xx.HH.uvc zen.2457458.59842.x
x.HH.uvc zen.2457458.60538.xx.HH.uvc zen.2457458.61234.xx.HH.uvc zen.2457458.619
30.xx.HH.uvc zen.2457458.62626.xx.HH.uvc zen.2457458.63322.xx.HH.uvc zen.2457458
.64018.xx.HH.uvc zen.2457458.64714.xx.HH.uvc zen.2457458.65410.xx.HH.uvc zen.245
7458.66106.xx.HH.uvc -a all
```

# What the Librarian is

- The Librarian is the HERA archive system.
- Its job is to track files deemed essential to the HERA project, to manage where they are stored, move them between archive sites, and to provide a searchable interface for human and computer users.
- It is implemented as a database-backed web server
- The database is located on machines at Penn and NRAO, but you can run the webserver locally
- Information is here:  
<http://hera.pbworks.com/w/page/117934572/Librarian>
- (If you do not have access the the HERA wiki, request it here:  
[hera.pbworks.com](http://hera.pbworks.com))

You can help  
improve the  
Librarian!

The Librarian, and particularly the interface, is being actively developed, so if you have troubles or are finding you need a new feature: <https://github.com/HERA-Team/librarian/issues/>

HERA-Team / librarian

Unwatch 22Star 1Fork 0

<> CodeIssues 10Pull requests 0Projects 0WikiSettingsInsights

Filters is:issue is:openLabelsMilestonesNew issue

<input type="checkbox"/>	10 Open ✓ 19 Closed	Author	Labels	Projects	Milestones	Assignee	Sort
<input type="checkbox"/>	<b>another common search</b> #29 opened 17 hours ago by jaguirre						
<input type="checkbox"/>	<b>perhaps: database access is slow</b> #28 opened 17 hours ago by jaguirre						
<input type="checkbox"/>	<b>need calendar dates for observations and sessions</b> #27 opened 17 hours ago by jaguirre						
<input type="checkbox"/>	<b>other librarian searches</b> #26 opened 17 hours ago by jaguirre						
<input type="checkbox"/>	<b>Librarian search help</b> #25 opened 17 hours ago by jaguirre						
<input type="checkbox"/>	<b>No error details reported if standing order JSON malformed</b> <b>bug</b> #22 opened on Oct 1, 2016 by pkgw						
<input type="checkbox"/>	<b>Add search output format that yields a "download these files" script</b> <b>enhancement</b> #18 opened on Jun 10, 2016 by dannyjacobs						7
<input type="checkbox"/>	<b>Avoid time-consuming blocking operations in Librarian server</b> <b>big project</b> #17 opened on Jun 8, 2016 by pkgw						1

# How to get a file from the Librarian (demo)

You will need to log in with an account on the Penn machine (folio2.sas.upenn.edu) or the NRAO machine (ssh.aoc.nrao.edu)

The process tells the your machine where to look for the web connection to the remote machine.

```
ssh jaguirre@ssh.aoc.nrao.edu -L 21134:146.88.1.90:21106
```

and then point your browser to

<http://localhost:21134>

or

```
ssh jaguirre@folio2.sas.upenn.edu -L 21135:folio2.sas.upenn.edu:51110
```

and point your browser to

<http://localhost:21135>

# Observing Sessions

Session ID	Start JD	Stop JD	Duration (days)	Num. Observations	Num. Files (with instances)	Total size
<a href="#">1170950441</a>	2457797.16695	2457797.66803	0.5010799999842	1	1 (1)	139.8 kB
<a href="#">1170259241</a>	2457789.16695	2457789.66803	0.5010799999842	1	1 (1)	107.1 MB
<a href="#">1167753640</a>	2457760.16694	2457760.66802	0.5010800000307	57	79 (71)	6.1 GB
<a href="#">1167667241</a>	2457759.16695	2457759.66803	0.5010799999842	72	144 (144)	7.7 GB
<a href="#">1167580841</a>	2457758.16695	2457758.66803	0.5010799999842	72	144 (144)	7.7 GB
<a href="#">1167494440</a>	2457757.16694	2457757.66802	0.5010800000307	72	144 (144)	7.7 GB
<a href="#">1167408040</a>	2457756.16694	2457756.66802	0.5010800000307	72	144 (144)	7.7 GB
<a href="#">1167321641</a>	2457755.16695	2457755.66803	0.5010799999842	72	144 (144)	7.7 GB
<a href="#">1167235239</a>	2457754.16693	2457754.66801	0.5010800000307	72	144 (144)	7.7 GB
<a href="#">1167148839</a>	2457753.16693	2457753.66801	0.5010800000307	72	144 (144)	7.7 GB
<a href="#">1167062439</a>	2457752.16693	2457752.66801	0.5010800000307	72	144 (144)	7.7 GB
<a href="#">1166976039</a>	2457751.16693	2457751.66801	0.5010800000307	72	144 (144)	7.7 GB
<a href="#">1166889639</a>	2457750.16693	2457750.66801	0.5010800000307	72	144 (144)	7.7 GB
<a href="#">1166803240</a>	2457749.16694	2457749.66802	0.5010800000307	72	144 (144)	7.7 GB



# Most Recent Sessions

Session ID	Start JD	Stop JD	Duration (days)	Num. Observations	Num. Files (with instances)	Total size
<a href="#">1171209640</a>	2457800.16694	2457800.66802	0.501080000307	72	295 (295)	1.3 GB
<a href="#">1171123241</a>	2457799.16695	2457799.56364	0.396689999849	57	365 (365)	15.4 GB
<a href="#">1171036841</a>	2457798.16695	2457798.66803	0.501079999842	72	576 (576)	30.8 GB
<a href="#">1170950441</a>	2457797.16695	2457797.66803	0.501079999842	72	576 (576)	30.8 GB
<a href="#">1170864041</a>	2457796.16695	2457796.43837	0.271420000121	39	312 (312)	16.7 GB
<a href="#">1170777640</a>	2457795.16694	2457795.66802	0.501080000307	64	506 (506)	27.1 GB
<a href="#">1170691240</a>	2457794.16694	2457794.66802	0.501080000307	72	576 (576)	30.8 GB

# Most Recent Files

Name	Created	Observation	Type	Source	Size
<a href="#">zen.2457799.30614.yx.HH.uvc</a> <a href="#">details</a>	2017-02-16 14:43:53	<a href="#">1171135267</a>	uvc	karoo	107.1 MB
<a href="#">zen.2457799.36877.yx.HH.uvc</a> <a href="#">details</a>	2017-02-16 14:11:20	<a href="#">1171140678</a>	uvc	karoo	107.1 MB
<a href="#">zen.2457799.34790.xx.HH.uvc</a> <a href="#">details</a>	2017-02-16 14:08:19	<a href="#">1171138875</a>	uvc	karoo	107.2 MB
<a href="#">zen.2457800.16694.xy.HH.uvc</a> <a href="#">details</a>	2017-02-16 14:03:37	<a href="#">1171209640</a>	uvc	karoo	107.1 MB
<a href="#">zen.2457800.19478.yy.HH.uvc</a> <a href="#">details</a>	2017-02-16 13:58:32	<a href="#">1171212045</a>	uvc	karoo	107.2 MB