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S4 Online Inspiral Search

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Goals for Online Running in S4

- Produce online “level 0” triggers for detector characterization and astrophysical follow up
- Use same codes as for offline analysis
- Test the Condor based online analysis system (onasys)
- Make resulting triggers easily available for follow up

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Analysis being run online

- Running on DARM_ERR with $\alpha = \beta = 1$
- 50 Hz low frequency cutoff
- 2PN stationary phase templates
- Template bank from 0.9 to 5.0 M_{sun} at 97% match
- No χ^2 veto applied online (will be applied after coincidence)

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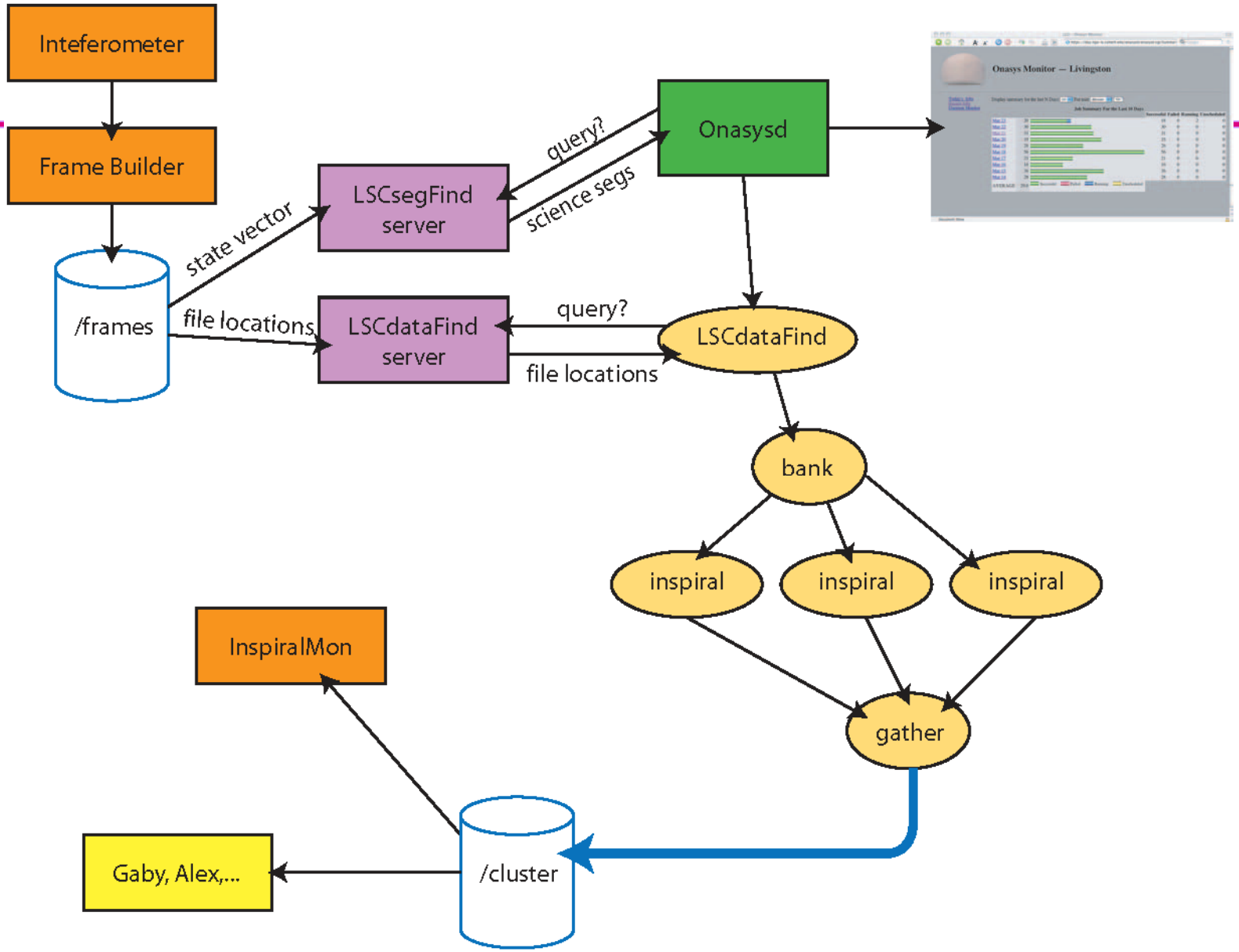
Inteferometer
Frame Builder
/frames
state vector
file locations
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query?
science segs
query?
file locations
Onasysd
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bank
inspiral
inspiral
inspiral
gather
InspiralMon
/cluster
Gaby, Alex,...
Onasys Monitor — Livingston

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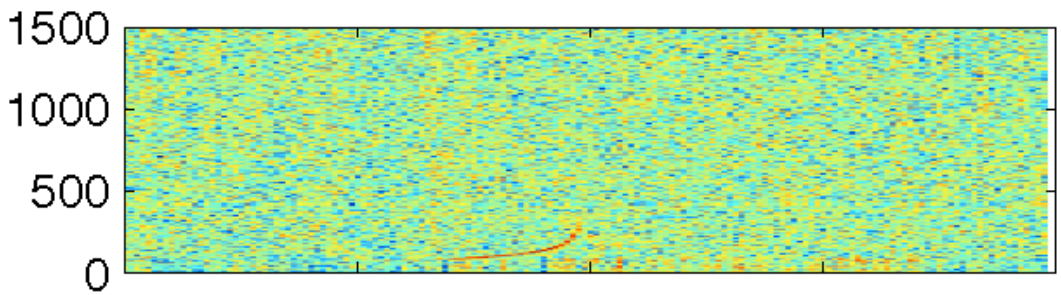
Results

- Gaby and Alex have been following up top 10 loudest
  - » http://www.phys.lsu.edu/faculty/gonzalez/S4BNStriggers/H1/
  - » http://www.lsc-group.phys.uwm.edu/cgi-bin/enote.pl?nb=iags4detchar&action=view&page=3
- InspiralMon displaying results in control room
- Several hardware injections have been followed up
  - » The rest will follow shortly
- Triggers are ready for coincidence analysis
  - » Although re-run will re-run with correctly calibrated data



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What's Next?

- Publish trigger files into LDR for replication to CIT and other tier 2 centers (UWM, LSC, etc.)
- Onasysd at non-observatory site running coincidence and veto follow up (S3/4/… pipeline)
- Onasysd running in European tier 2 center for GEO
- More automation of detector characterization
- Keep things running between now and S5