

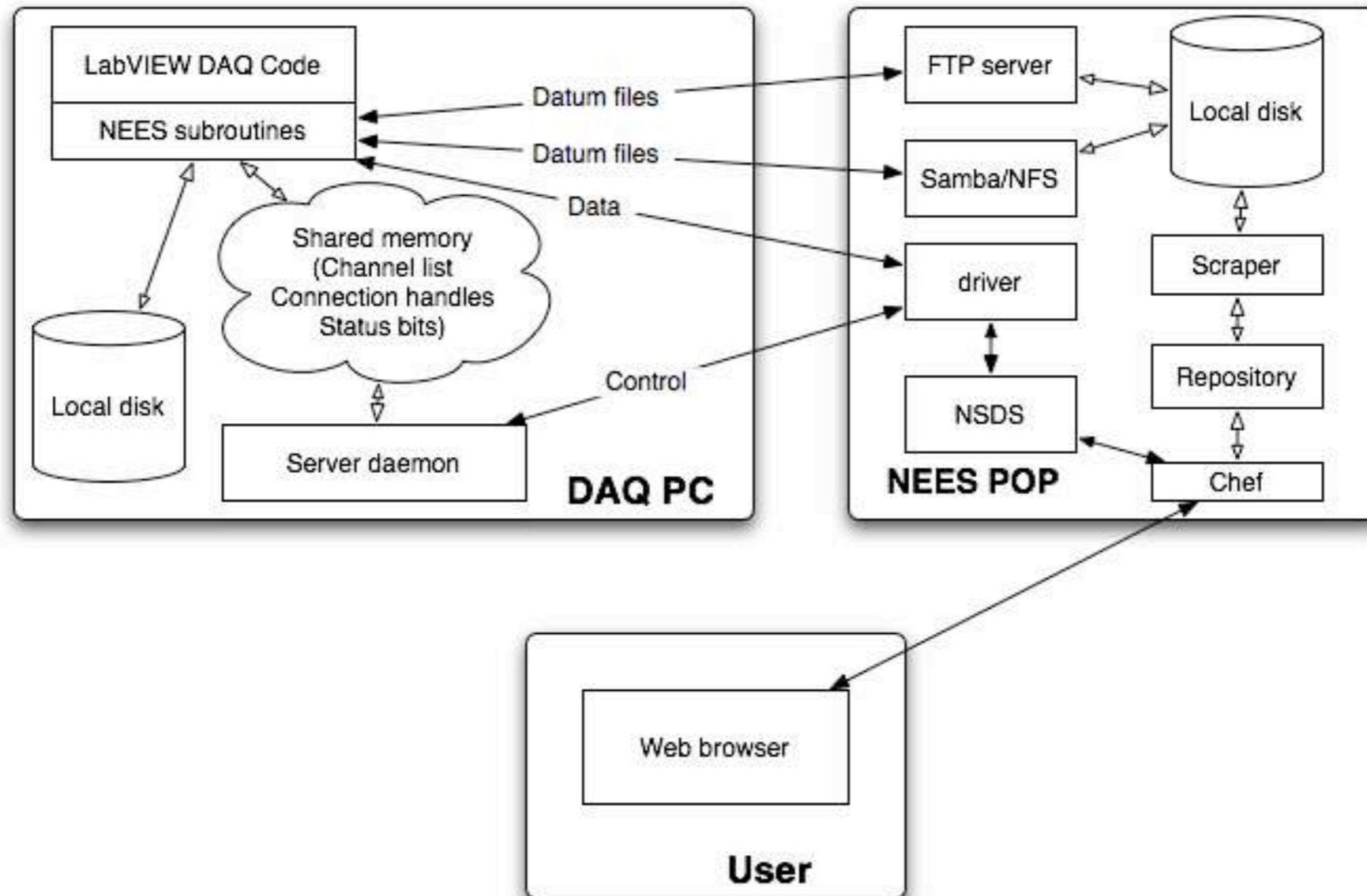
Data Turbine and DAQ

Paul Hubbard
April 15, 2004

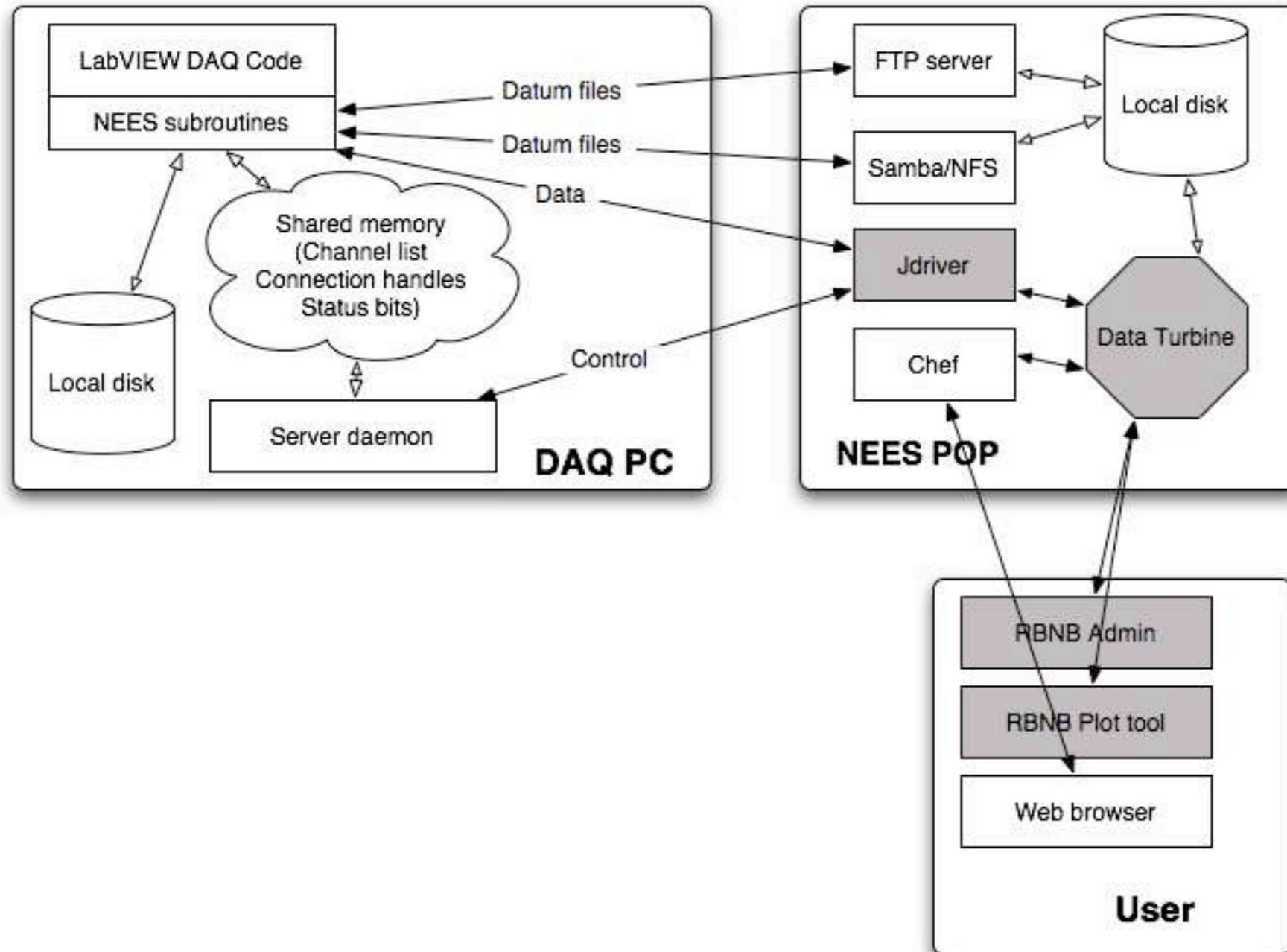
Overview

- The Data Turbine (<http://outlet.creare.com/>) is a new component in the NEESGrid, and will be used to handle streaming data. This is a commercial product, free for our use, for which we will have source code and an OEM distribution license.
- We are also evaluating its use for telepresence, still image capture, video as data and remote control.
 - Telepresence: Alternative, current methods too
- This means that the NSDS implementation will change soon.
- How does this affect you?

Current design



Turbine drops in... (preliminary design)



Do I Need to Worry?

- If your DAQ uses the current ASCII protocol, no.
- If you have your own driver, you have some work to do, but not a huge amount
- Details on subsequent slides...

Impact scenarios: LabVIEW

- If you are using the reference code library in LabVIEW, we have you covered.
- Near term, we have the Jdriver that speaks the current protocol, and feeds into the Turbine.
- Long term, we may change the LabVIEW code to speak directly to the turbine, but the API should not change.

Impact scenario: Custom DAQ, case 1

- If your DAQ uses the current protocol, simply replace driver with JDriver and you are done for now.
- Note that JDriver's implementation is still evolving, in particular the subscribe/unsubscribe interface.

Impact scenario: Custom DAQ, case 2

- If your DAQ uses a different driver, we have some work to do.
- Issue: Small protocol differences between DAQ and NSDS side of driver
 - ‘Welcome .*’ message
 - Initiate or listen on TCP
- Solution: Modify Jdriver or roll your own

Impact scenario: Custom DAQ, case 3

- If you have not yet hooked your DAQ into NEESGrid, you have these options:
 - Use Jdriver and existing protocol
 - Go directly into the turbine from your code
 - Java or MATLAB API

More information at...

- <http://www.mcs.anl.gov/neesgrid/turbine/>
- DV mailing list: neesgrid-dv@neesgrid.org
 - subscribe neesgrid-dv to majordom@neesgrid.org
- <http://outlet.creare.com/>