ADM L1b Lab in the DLR‘s Virtual Laboratory
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Scientific Software Just A Mouse Click Away (1)

A 1968 vision:

... Back to our hypothetical user. He seats himself at his console [...]. He dials his local computer and 'logs in' by presenting his name, problem number, and password to the monitor program. He calls for either a public program, one of his own programs, or a colleague's program that he has permission to use. The monitor links him to it, and he then communicates with that program...

J.C.R. Licklider et al., "The Computer as a Communication Device" in Science and Technology, April 1968
Scientific Software Just A Mouse Click Away (2)

2006: Are we there?

- Internet & WWW are ubiquitous and have revolutionized the exchange of scientific information
- But progress w.r.t. scientific software lacks behind the access to scientific documents today
- „Reuse by download“: requires installation or even porting to the users hardware – limiting factor for broad exchange
- Distributed computing technologies exist (remote shells, CORBA, Java-RMI, Web Services) but there is no reliable, ubiquitous infrastructure to which Licklider’s request could be addressed.

Answer: No.
DLR’s Virtual Lab: Web based scientific software repository

- Low barrier:
  - For authors to implement applications
  - For users to get access to the application
- „Black-box“ integration: no internal modifications necessary
- Online help and background information available
- Public domain: Zope/Python, OpenPBS, mySQL, OpenLDAP
Processor development ADM-Aeolus (1)

DLR: L1b prototype processor
MDA: L1b operational processor

processing chain:

RAW-L0 → L0-L1a → L1a-L1b

Prototype processor in the Virtual Lab:
- Compare with the operational processor
- Compare different scientific versions of the same module

Easy update of the prototype processor modules:
- Only update in VL necessary
- All participants have the same version
- they can use the processor online
### Processor development ADM-Aeolus (2)

![Processor development ADM-Aeolus (2)](image)

- **Run the job**
- **Online help**
- **Upload files**

#### Input data set for: ADM_L1bP-1.3 [ALL]

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**Address:** http://vl.nz.dlr.de/VL/users/wauer/my_exps/EXPS/ADM_L1bP-1.3_2/
**Processor development ADM-Aeolus (3)**

Download all results as .tar file here: **ADM_L1bP-1.3_2.tar**

Abort task and go back to InputDialog
Virtual Lab – outlook beyond the ADM prototype processor

- Possible next step: DE2S simulator

- The Virtual lab contains higher level applications from remote sensing:
  - Scattering Lab
  - Radiative Transfer Lab
  - ...

- Used in education (e.g. aerosol course at the Leipzig Univ)

Online demonstration possible

Web:  http://vl.nz.dlr.de