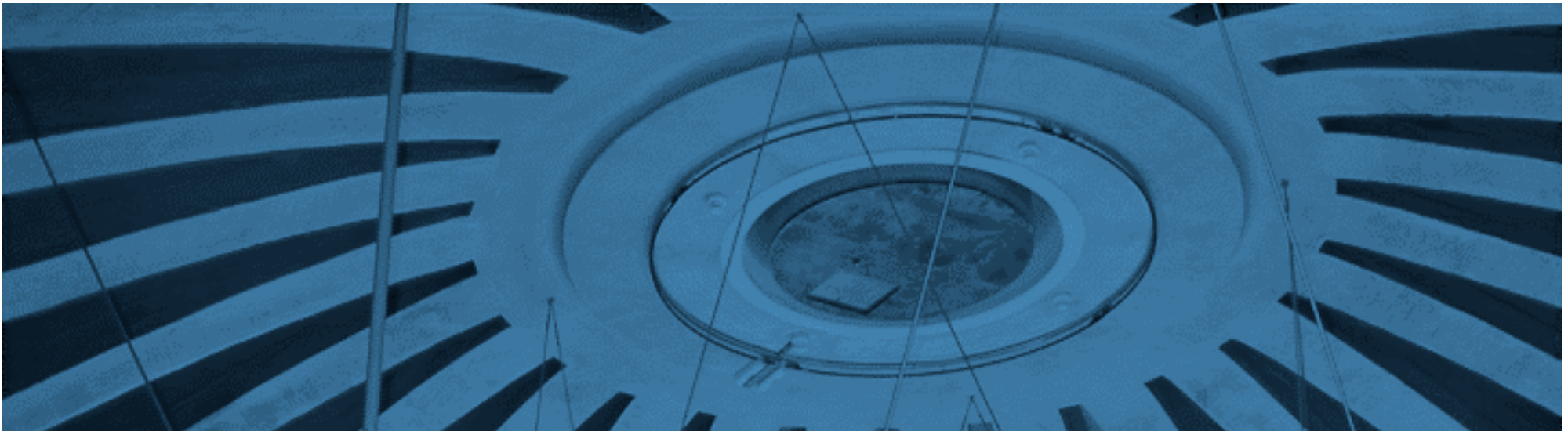




VPP: distributed printing and plotting

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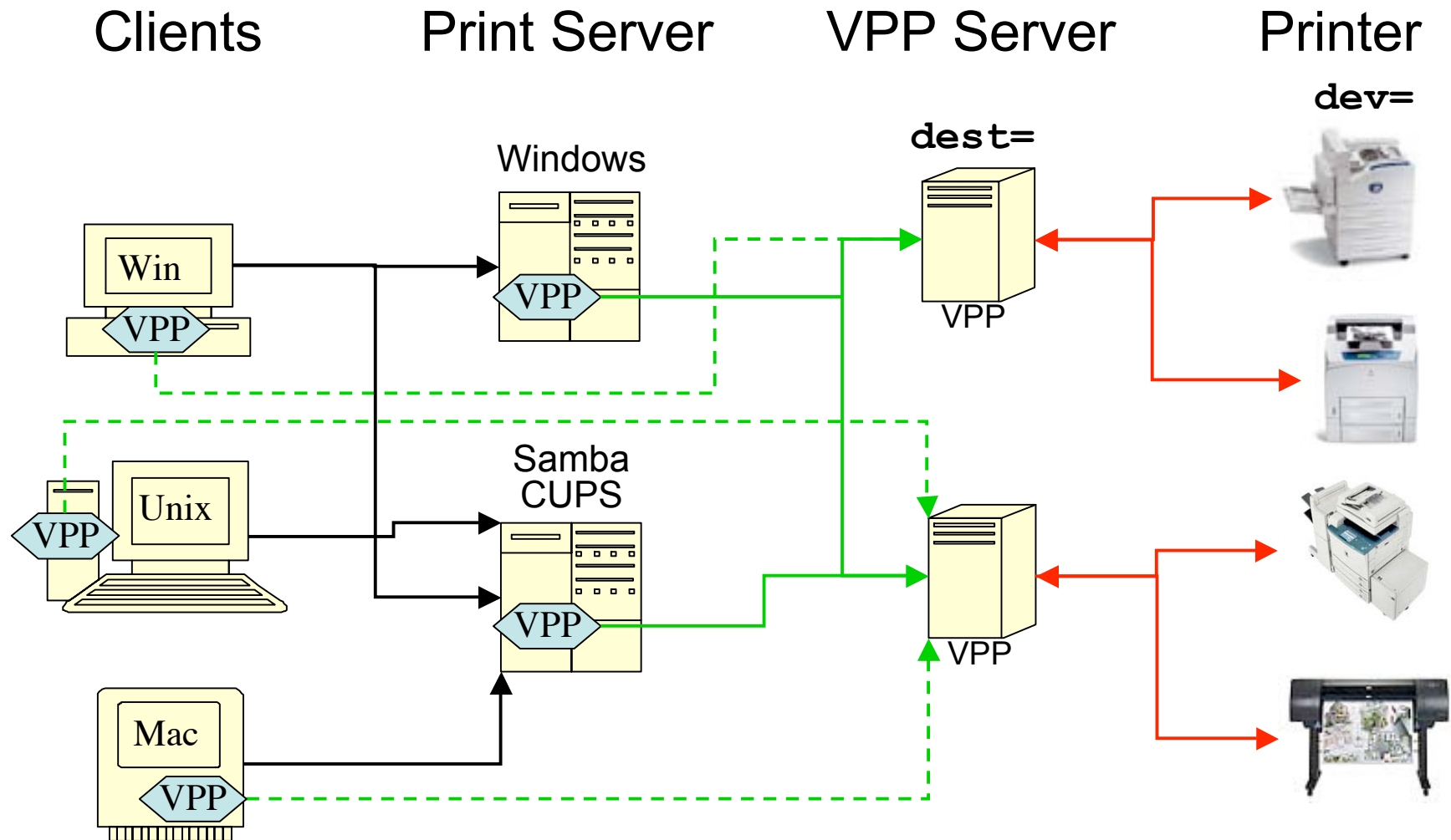
Introduction

- VPP since 1986: VPP-station for CDC and VAX
 - large laser printer (Xerox) with QMS postscript controller
 - 3 large lineprinters
- Vision:
 - printing on all attached printers from everywhere
 - generic (device independent) print parameters
 - no printer drivers → generic postscript driver
→ change of printers without end user interaction!
 - supporting all computer platforms (Client-SW)
- Unix Command Line
 - `vpp -dest=rzspez -dev=c1c3220 -form=A4.quer`
- Postscript files and ASCII text
- LPD supported

Postscript

- We **only** use print devices supporting Adobe Postscript
- A postscript setup file is prepended to the output file according to the print parameters
→ tray, banner page, scale factor, etc.
- A VPP job may contain more than one file. The output will be concatenated.
- VPP Postscript Printer Description PPD

Architecture



Current state (2007)

- about 300 printers attached to VPP
- two print shops:
 - high quality output
 - transparencies and slides
 - large format output
- 3.3 million printouts
- Self service for (architecture) students
 - 90'000 printouts on color laser (A4/A3)
 - 32'000 plots on large format printers
- expenses for consumables (paper and toner): 825 kFr

Appletalk

- Appletalk (since 1984!)
 - Bidirectional protocol: the printer returns status information
→ reliable accounting data!
 - „all“ postscript printers speak appletalk
 - but: appletalk is not routed over subnet borders
→ a server for each subnet ☹
- Planned: replacement of Appletalk by IPP (internet printing protocol)
 - but: accounting data is not yet reliable enough, i.e. printed area in m² of large format printers

More Features

- Operator Interface
- Print Release Stations
- Accounting
- Prepay/Self Service (including color and large format!)
- [Webinterface](#) for printing (PS, PDF)
- Special use: Laser-Cutter/3D-Plotter

Prepay/Self Service

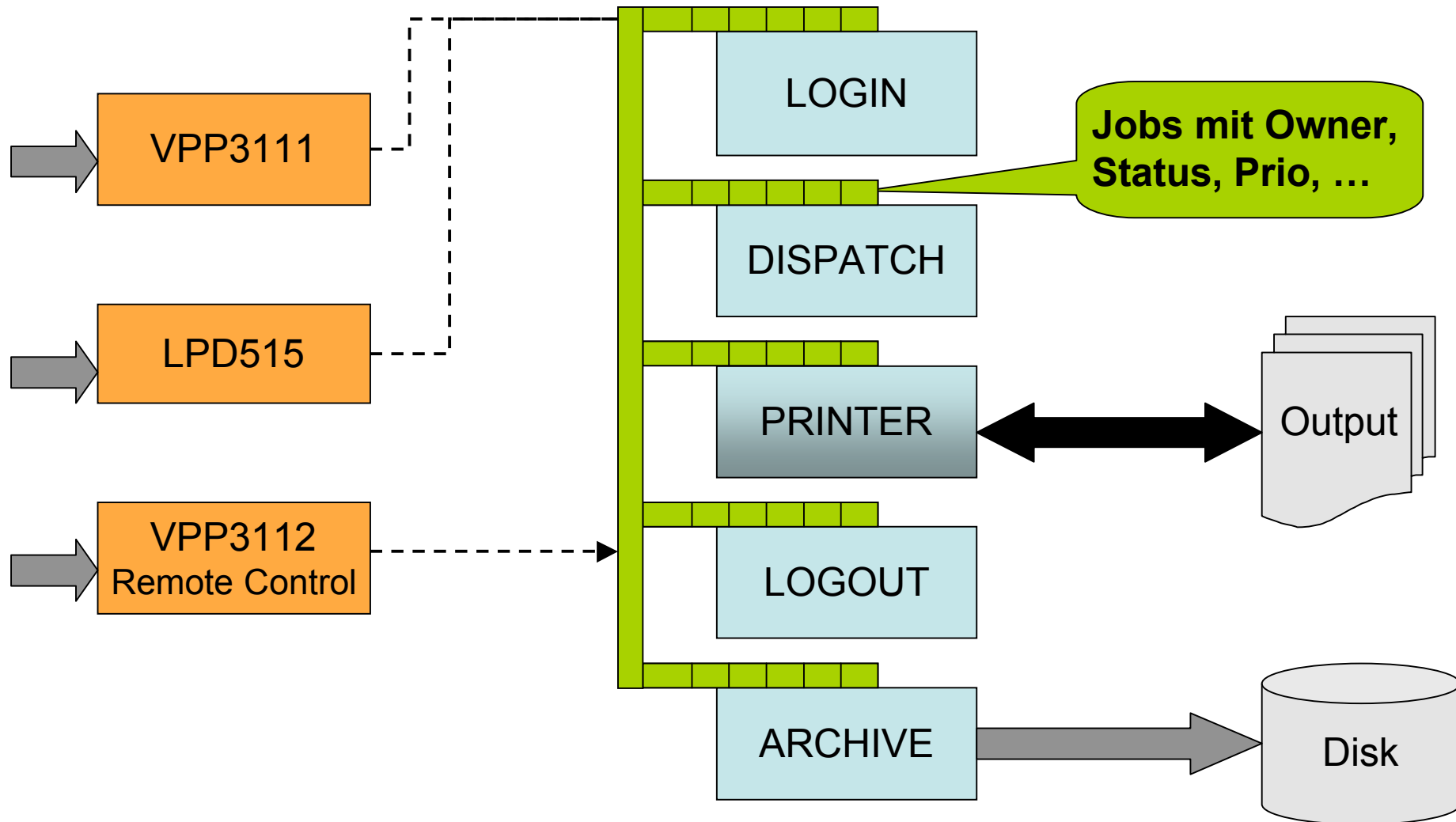
Authentication at a [Print Release Station](#)
connected to LDAP

[AdminTool](#):

- payment at print shops (Admin)
- view of transactions (payment, charge)
- cancel transactions (Admin)
- automatic locking in case of negative balance
→ LDAP attribute
- Statistics (Admin)

VPP Software

- written in Java
- Multi-threaded
- description of print devices in XML
 - mapping of VPP parameters (white → tray 2)
 - restrictions on IP ranges
 - restrictions for PRS
- Archive, Accounting



Demo

- Mac OSX with CUPS:
http://www.id.ethz.ch/services/list/vpp/software/VPP_MacOS
- List of printers and print queues:
<http://www.vppspy.ethz.ch/tools>
- Operator Interface:
<http://www.vppspy.ethz.ch/spy/>
- Print Servers with VPPDriver/PPD:
<\\id-s01>, <\\smb2vpp.ee.ethz.ch>