Remote access facility

Bo Guldager Clausen

Agenda – Remote access facility

- History
- Applications/Servers
- Technical description - overview
- Security
- Division of functions between the different operational units
- Hosted solution
- The future

History

- BBS - Early nineties
  - Mainframe
  - Less than 5 users
- Onside facility – 1996
  - Unix
  - Copenhagen and Århus
  - Less than 100 users
- Remote access facility – 2001-2016
  - Unix phased out 2009
  - Clean Windows environment 2010
  - More than 1500 active users in 2015
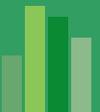
Applications/Servers

- 2 Sas servers
- 2 Stata servers
- 2 SPSS server
- 1 GAUSS server
- 2 RDP frontend servers
- 1 WPS server
- 1 server for other applications like R
- NAS for data 180 TB

Technical description - overview
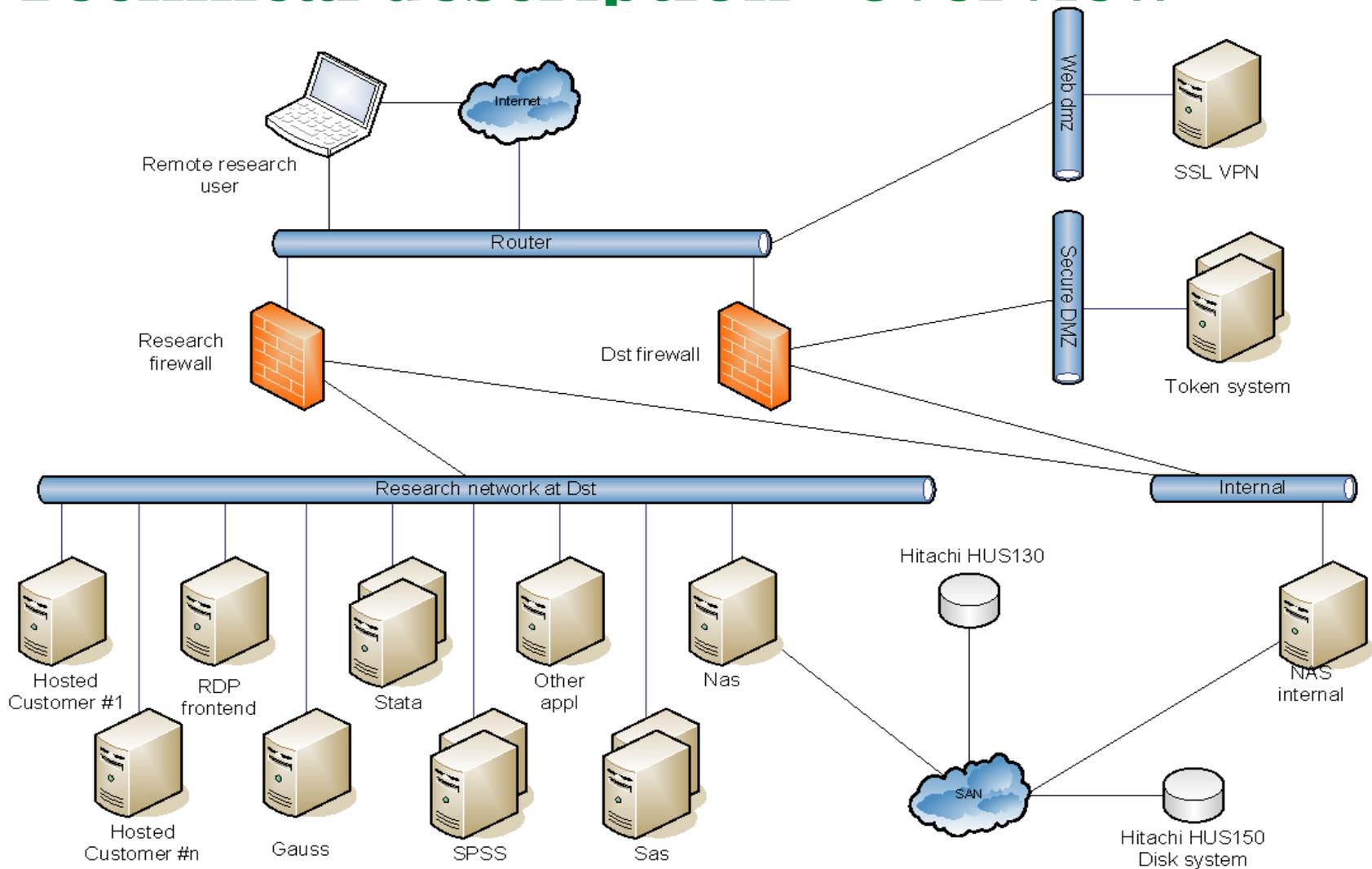
Security

- Tokens
  - Entrust. Physical token or SMS
- Cisco ASA5545X firewall
- SSL/VPN to encrypt traffic over the Internet
  - Clients requirements
    - HTTPS access to the SSL/VPN box.
    - ActiveX or Java
  - New solution with less client requirements being implemented
    - Remote desktop client is the only requirement
- Network segmentation
  - Separated form internal production network
  - Separated with dedicated firewall
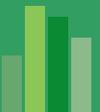
Security - cont

- Remote desktop
  - Restrict desktop functionality
  - Many features in the gui are disabled
  - Only RDP traffic on the internet. Hackers can only hack screen updates and keyboard/mouse.
- Data management
  - Keys for identification are "encrypted" with a individual key for each project.
  - Directory structure and projects
    - rawdata/workdata
    - Projects are seperated
  - User accounts
    - Users have one account for each project
  - Data always physical in Statistis Denmarks security zone
  - Mailbox solution for output results, less than 5 MB.

Division of tasks between internal departments

- Statistical departments
  - Internal data supplier of statistical registers
- Devision of research services
  - Prepare data for researchers
  - Data and applications support for researchers
  - Management of contracts
- IT department
  - Responsible for IT infrastructure and application development
  - Security management
    - Users, Data, Tokens, firewall etc.
  - IT infrastructure resource management
  - Technical support of researchers
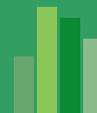
Hosted solutions

- Researchers with special requirements for applications and/or hardware
- Researchers who don't want to share resources from the common IT infrastructure
- The research institution provides hardware and software after signing at hosting contract with the IT-department.
- IT department is responsible installation, administration, backup, monitoring etc.
- Statistics Denmark is like a hosting center for the research institution
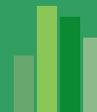
The future

- Automatic control of output data
- Automatic upload of external data
- "Hosting" in a virtual hosting center
- Windows Server 2012/2016