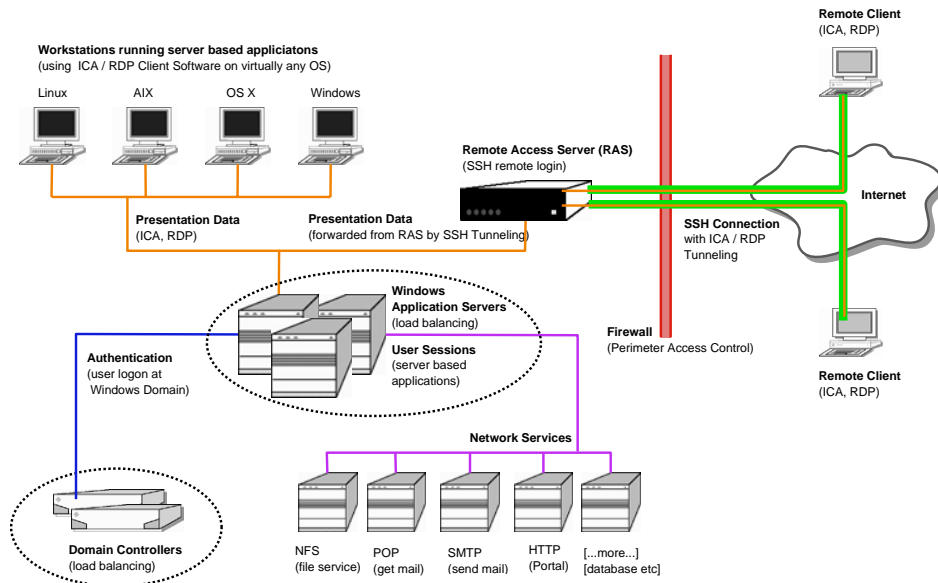


WINDOWS APPLICATION SERVICE

As several software programs are restricted in terms of supported system environments, the DC-IT Service Group aims at extending the range of applications across the various workstation platforms at PIK, with only a minimum of constraints regarding a workstation's hardware and operating system. This application service is built on the concept of server based computing, which separates the entire application logic from the presentation on the user's desktop. Through remote access to the application server cluster, mobile and remote users have access to applications and services at PIK.

WINDOWS APPLICATION SERVICE

WinCenter is the name of PIK's Windows application server cluster. WinCenter runs on Windows Server systems and Citrix MetaFrame. User sessions are distributed among the servers by load balancing. The entire application logic is hosted on the server side. The integration of client side resources - such as file system access and audio support - generates only a minimum load at the client side. The network link between the workstations (clients) and the application servers is used for presentation data only, which is very efficient in terms of network bandwidth usage.



WinCenter – PIK's Windows application server farm – is a versatile cluster, which provides access to server based applications for users on the local network (LAN) and for remote users (WAN).

By logging on to a WinCenter session, remote users virtually are inside the PIK LAN, and thus able to use the full set of PIK network services.

Remote sessions are protected by SSH tunnelling between the client computer and PIK's remote access server. This ensures both a strong encryption and a reliable user authentication.

THE CLIENT SIDE OF WINCENTER

In order to connect to WinCenter and use server based applications, a client computer only needs to fulfill some minimum requirements, besides TCP/IP networking:

- Linux, Mac OS X, Windows or Unix (AIX) operating system
- ICA client software (available for free from Citrix), or RDP client software (shipped with most operating systems, or available for free from Microsoft)
- SSH client for remote access (shipped with most systems, Windows users can download Putty for free)

THE WINCENTER SERVERS

Server Hardware

Until 2006, WinCenter was running on dual-processor Compaq ProLiant servers, which have proved to be very reliable. In 2007, we have introduced a virtual WinCenter server, hosted by an VMWare ESX Server system, which runs on an IBM Blade Center.

Operating System

- Win2000/Advanced Server SP4 with Windows Terminal Services
- Citrix MetaFrame 1.8 (legacy), Citrix Presentation Server PS4.5 (migration scheduled for April 2007)

Presentation Data Protocols

- RDP and ICA session support with load balancing
- These protocols are optimised for using only a minimum of network bandwidth, thus they even work on slow network links, such as modems or ISDN.

WINCENTER APPLICATIONS

Some of the applications which are hosted on WinCenter

- *Desktop publishing:* FrameMaker, Adobe Acrobat
- *Office:* Microsoft Office, OpenOffice
- *Scientific applications:* ArcGis, R
- *Viewers and converters:* GSView, XnView
- *Internet applications and tools:* Mozilla Firefox and Thunderbird, HTML editors and link trackers
- *Database connections:* Oracle client, Hora
- *Specialised applications* are installed on demand by the systems manager, after a compatibility check

Remote Access

WinCenter is separated from the Internet by means of network access control (Firewall). Remote users can connect to WinCenter by tunnelling the presentation data through an SSH session to the remote access server.