



# Taking back control of your desktops and applications

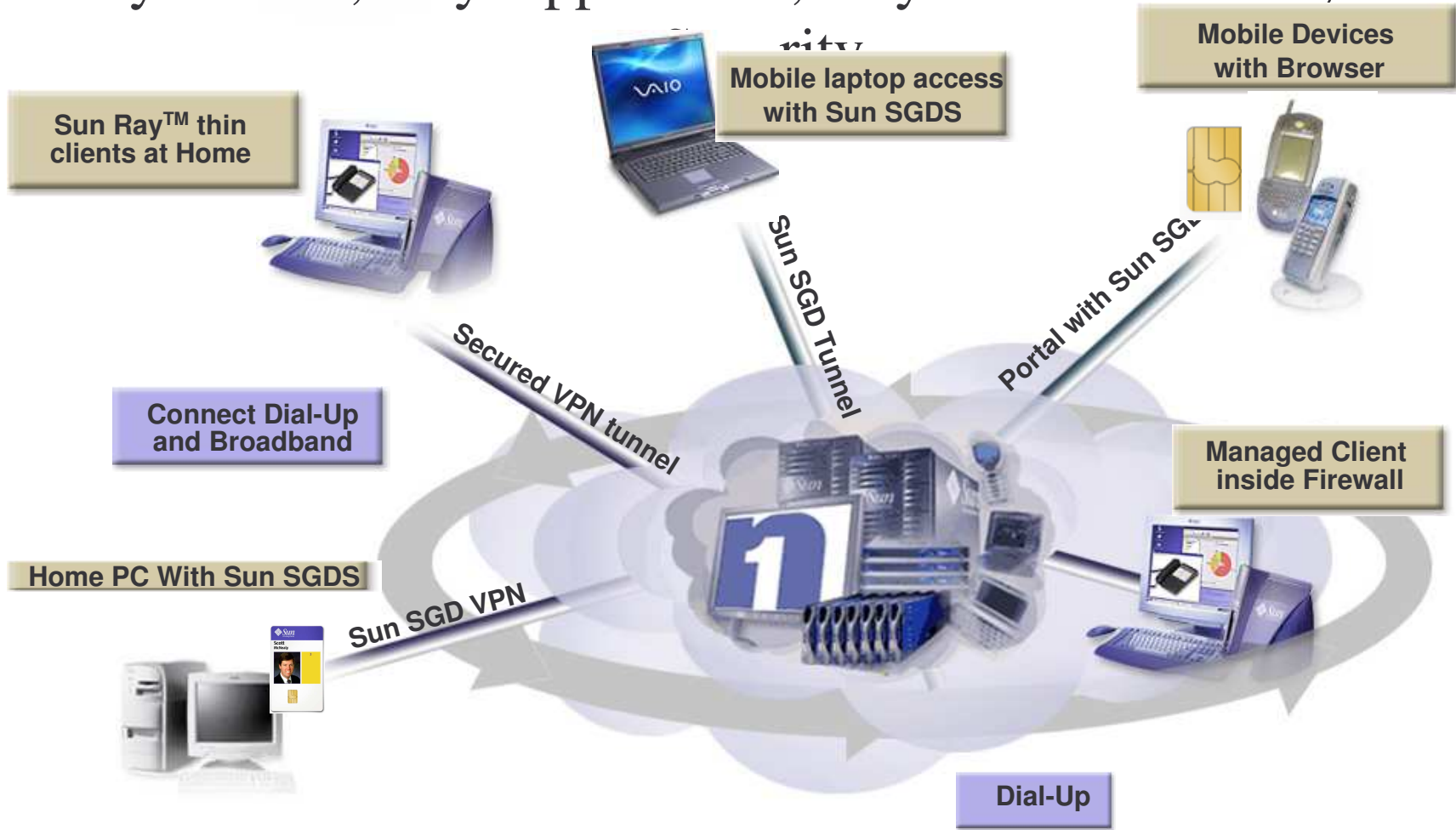
- Sam Van den Abeele
  - > Software Solutions Architect
  - > Sun Microsystems
  - > December 15<sup>th</sup>, 2005





# Sun's Desktop & Mobility Vision

## Any Device, Any Application, Anywhere Flexibility with





A Z St. - Elisabeth



# Sunray



# Sun Ray<sup>(TM)</sup> Ultra-Thin Clients

## Your computing dial tone



A Sun Ray desktop solution delivers your computing dial-tone.



# Sun Ray™ is...

## THE stateless desktop

- No data
- No applications
- No OS



Display Virtually Anything!



# Sun Ray™ is...

## The Stateless Desktop with

- Millions of colors
- High resolution
- Standard networking
- No configuration
- No moving parts
- Complete flexibility of user environment



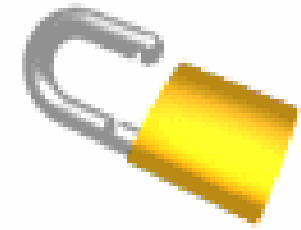
**Bank  
Branch  
Call Centers  
Hospitals  
Factory Floor  
Trading Floor  
Schools**

## Display Virtually Anything!



# Improve Security

- Centralize data and applications where they can be:
  - ✓ Efficiently backed up
  - ✓ Mirrored and accessible
  - ✓ Secured against theft and attack
- Eliminate data theft from insecure/remote PC storage
- Eliminates virus entry point to network







# Secure Computing

- Encryption
  - 128 bit ARCFOUR encryption of Sun Ray™ traffic
  - 3rd parties provide FIPS140 and EAL4+ level encryption
- Authentication
  - Solaris™ Pluggable Authentication Modules allow for:
    - PKI (PKCS#11) Java Card
    - Kerberos
    - Biometrics
    - Liberty Single Sign On
- Trusted Solaris
- Multi-Level Security

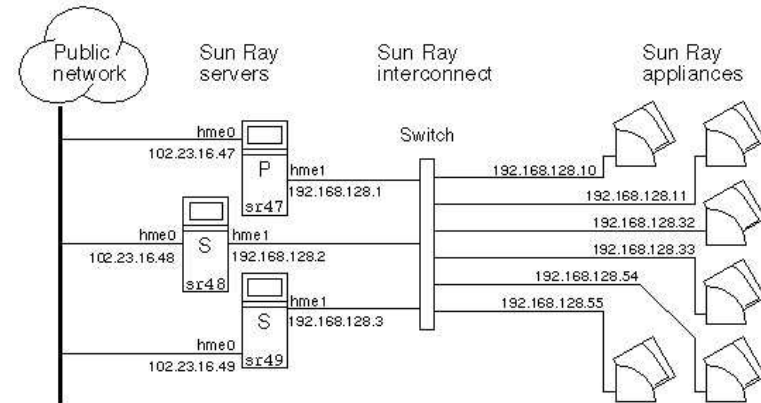




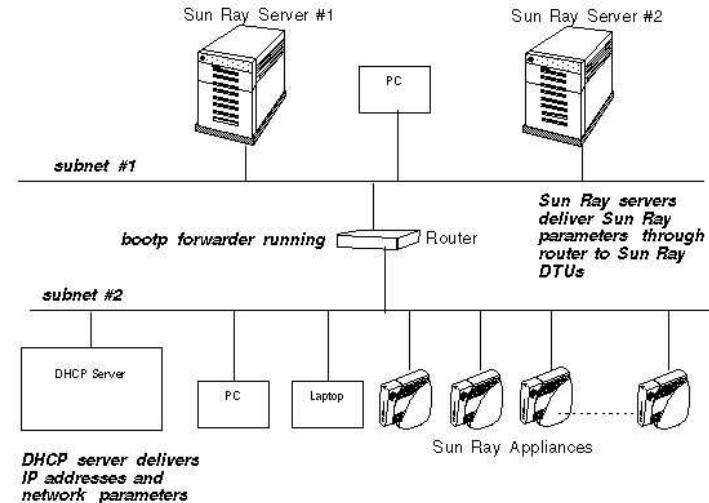


# High Availability

- Redundant Server Groups
- Uses local server to guard against external network outages
- May utilize high availability servers
- Centralized Files may be easily mirrored and restored



Stateless Desktops Automatically Connect to Least Loaded Server



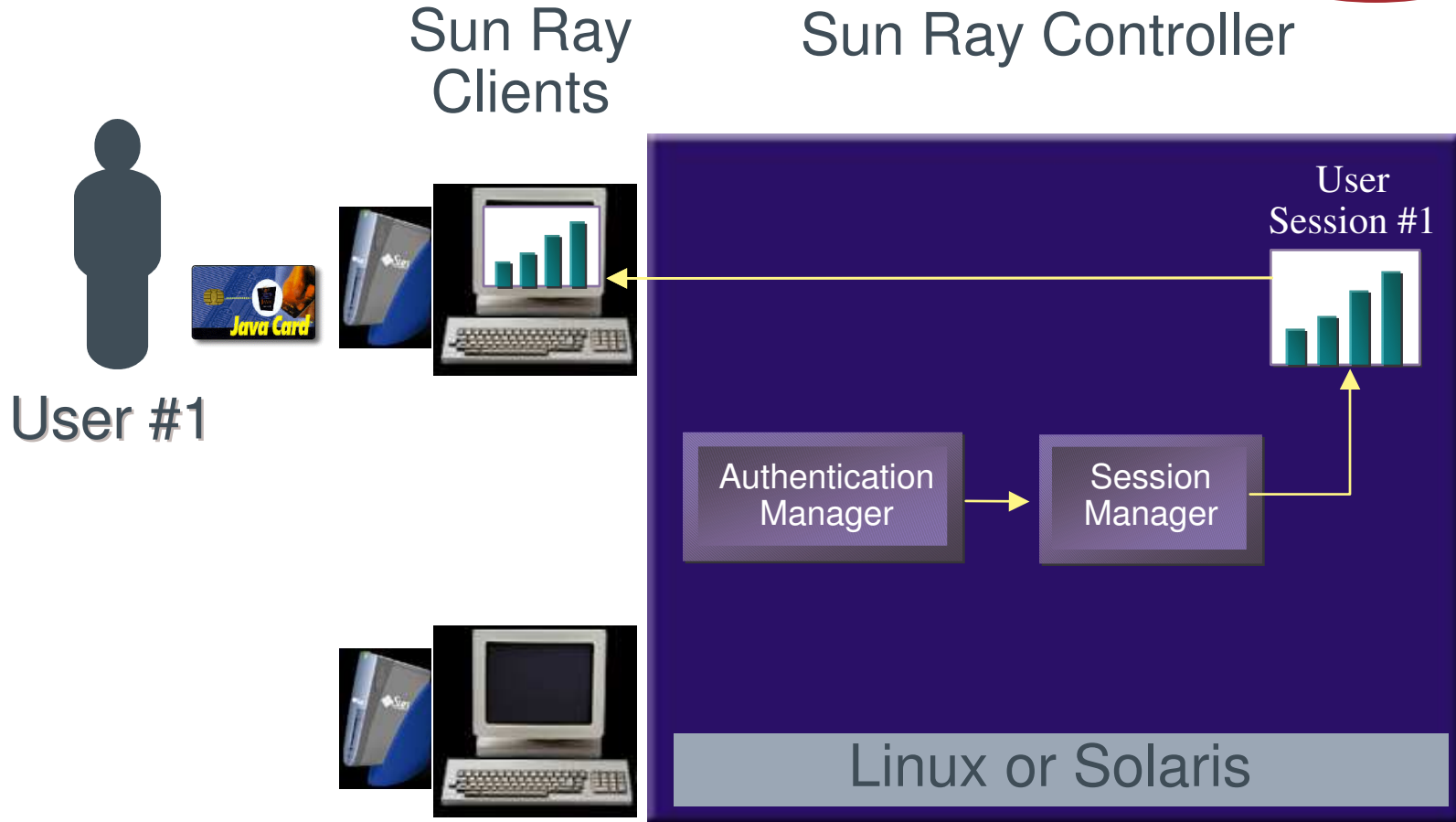
No Configuration Ever Required- Even on Public Networks



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# Sun Ray Mobility Hot Desk Technology

Right- where-you-  
left-off- mobility





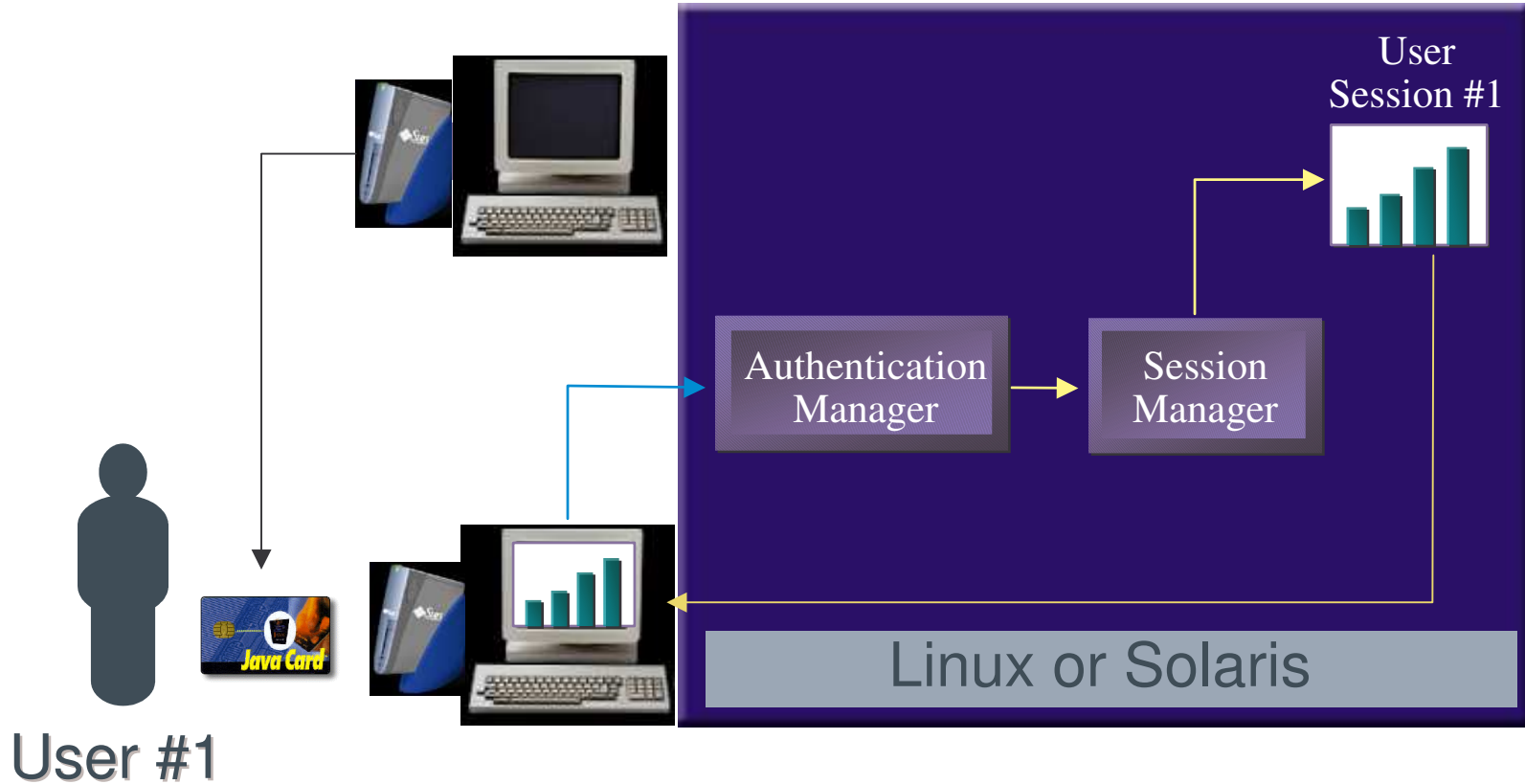
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# Sun Ray Mobility Hot Desk Technology

Right- where-you-  
left-off- mobility

## Sun Ray Clients

## Sun Ray Controller

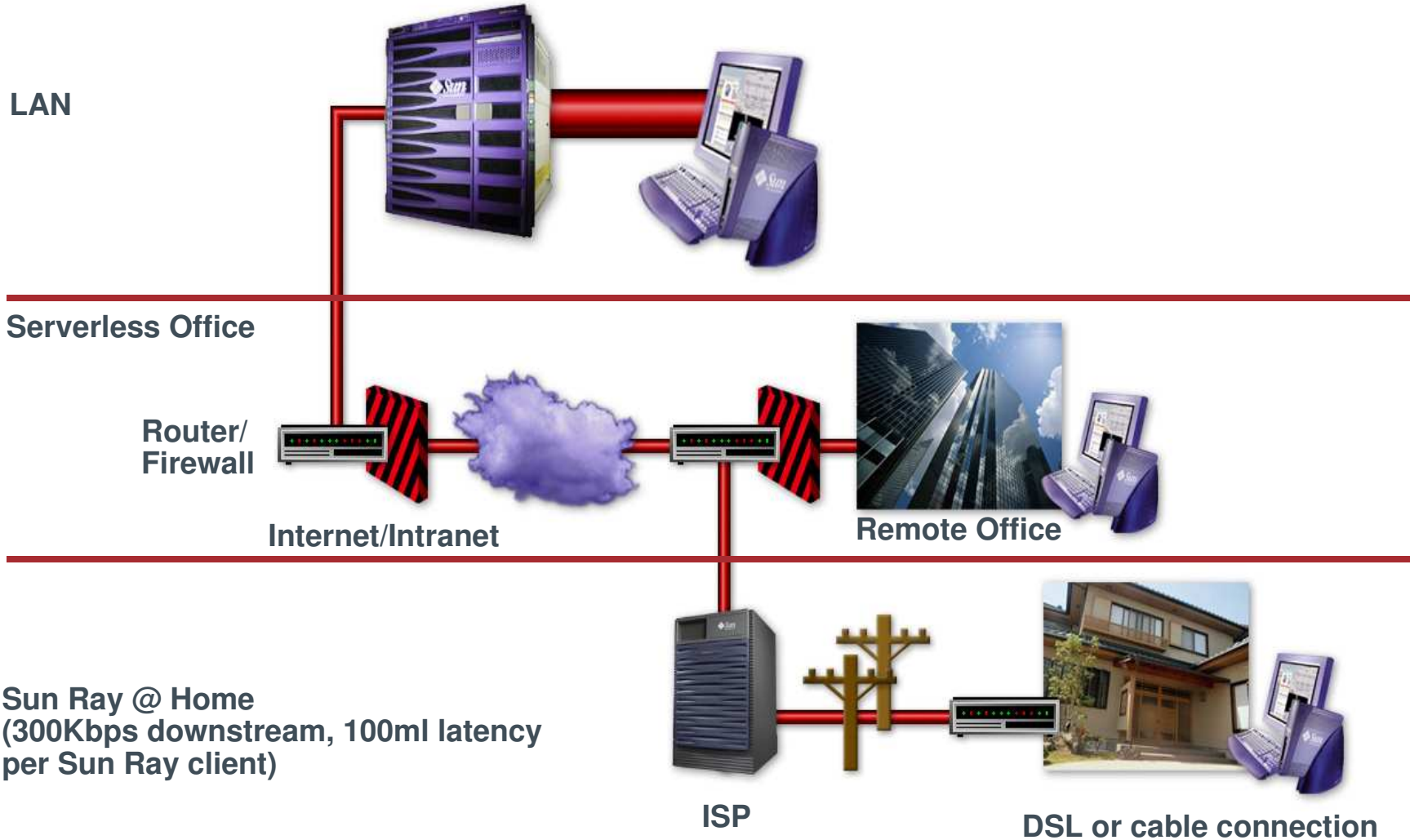




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# Bandwidth Enhancements

## Sun Ray Controller



Sun Ray @ Home  
(300Kbps downstream, 100ml latency  
per Sun Ray client)

DSL or cable connection



# Extended Peripheral Connectivity

## Mass Storage, Scanners, Digital Cameras on Solaris

### USB HID CLASS

- Keyboards
- Mice
- BarCode Scanners
- Magnetic Stripe Readers already available



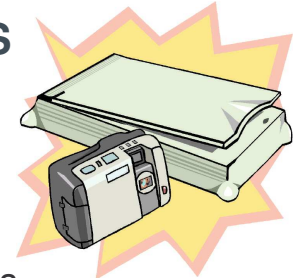
### USB PRINTER CLASS

- USB Printers (Post Script)
- Other Printers through Ghostscript/ Vividata SW already available



### VENDOR SPECIFIC DRIVERS

- USB Flatbed Scanners (SANE)
- USB Digital Cameras (gPhoto)
- Serial Specialty Printers
- USB Biometric Scanners
- USB/Serial Bank Teller Peripherals



Open Source Drivers Through LIBUSB  
API / Javax.comm (serial)  
SRSS 3



### USB MASS STORAGE CLASS

- Hard Drive
  - Zip Drive
  - Flash Disk
- SRSS 3





# Sun Ray Ultra-thin Clients



## Sun Ray 1G

1920 x 1200  
supports 24" display



## Sun Ray 170

17" LCD Integrated

### OEM's



Cryptek



Gen Dynamics



Tadpole





# Sun Ray Ultra-thin Clients

## Sun Ray 1G



- Low cost
- Smart Card
- Supports 24" display (1920 x 1200)
- 5-year warranty





# Sun Ray Ultra-thin Clients

## Sun Ray 170



- All-in-one
- Ultra-small footprint
- 17-inch display
- Extended peripheral support



# Sun Ray Ultra-thin Clients

## Comet 15"



- WiFi enabled laptop (802.11a/b/g)
- 15-inch display
- Smart card security & identity
- Long battery life (6-8 hours)
- Fast charge: 1 hour in use



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# Return on Investment - ROI

## Get real ROI with Sun Ray ultra-thin clients



Sun Ray customers have seen a Return on Investment (ROI) of between 25-76%<sup>(1)</sup> versus other desktop solutions.

(1) Based on Forrester Research, Inc TEI study of Deploying Sun Ray Thin Clients (March 2004)  
[http://www.sun.com/sunray/whitepapers/SunRay\\_Final\\_040504.pdf](http://www.sun.com/sunray/whitepapers/SunRay_Final_040504.pdf)

**OAC ROI Study for Belgian Companies in conclusion**



Security

# Secure Global Desktop



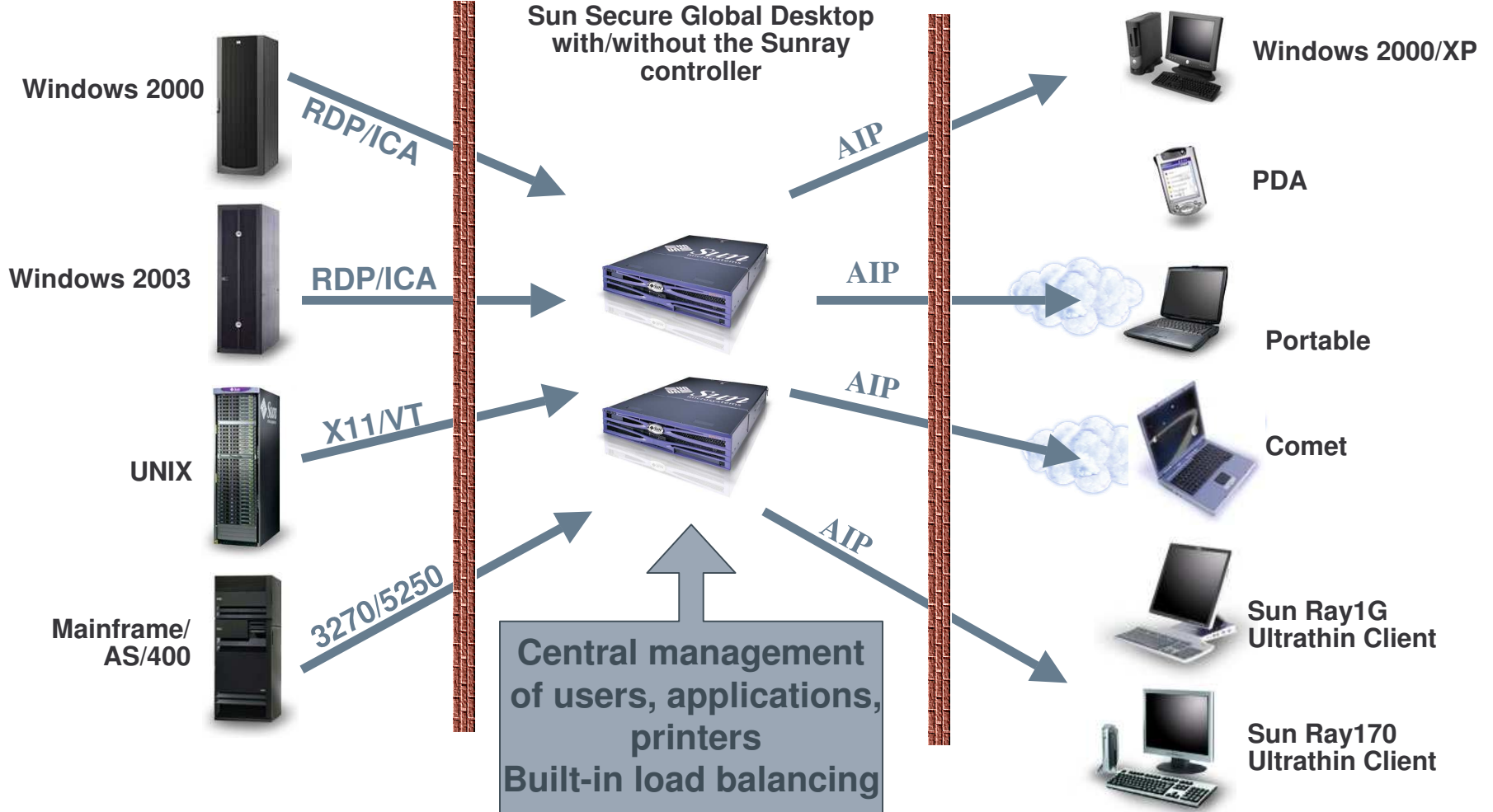
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# Move Applications from client to server

Apps ↔ Access ↔ Clients

## Virtualized Display

Sun Secure Global Desktop  
with/without the Sunray  
controller





# Sun Secure Global Desktop Software

- **Network delivered applications, data or desktops from any platform, to virtually any device**

- Without touching the infrastructure
- Without changing the architecture
- Without rewriting the code

- **Benefits**

- Significantly reduced IT costs
- Iron-clad security
- Centrally manage users, devices
- Quicky and easily web-enable Legacy applications and Web-based applications side by side





## Integration with existing infrastructure. Choice of login authorities:

- LDAP/Active Directory
- SecureID
- Unix
- Anonymous
- NT Domain
- Web Server / 3<sup>rd</sup>-party



The image shows a login window titled "Sun Secure Global Desktop". It features a blue header bar with the title. Below the header, there are two input fields: "Username" with the text "jonk" and "Password" with masked characters. At the bottom left is the Sun Microsystems logo, and at the bottom right is a "LOGIN" button.





# Sun Secure Global Desktop

- HELP
- INFO
- LOGOUT

jonks@ebtop

APPLICATIONS EDIT GROUPS

Suspend All | Resume All | Cancel All

- IE (swim)
- OpenOffice
- Password Change
- Windows Desktop
- Windows Desktop(kiosk)
- xterm (K2)
- xterm(glue)(1)

Session 1

## Welcome to your Webtop

Hello, **jonk**. You are currently using a **secure** connection.

PRINTING LIST ALL JOBS

Pause | Resume | Cancel All

No Documents Queued



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# Solution – Application Publishing

## Windows, UNIX, and Legacy Applications Published

**Mozilla Firefox  
on Solaris OS**



**SAP on  
Mainframe**



**MS Excel on  
Windows 2003**

**MS Word on  
Windows 2000**

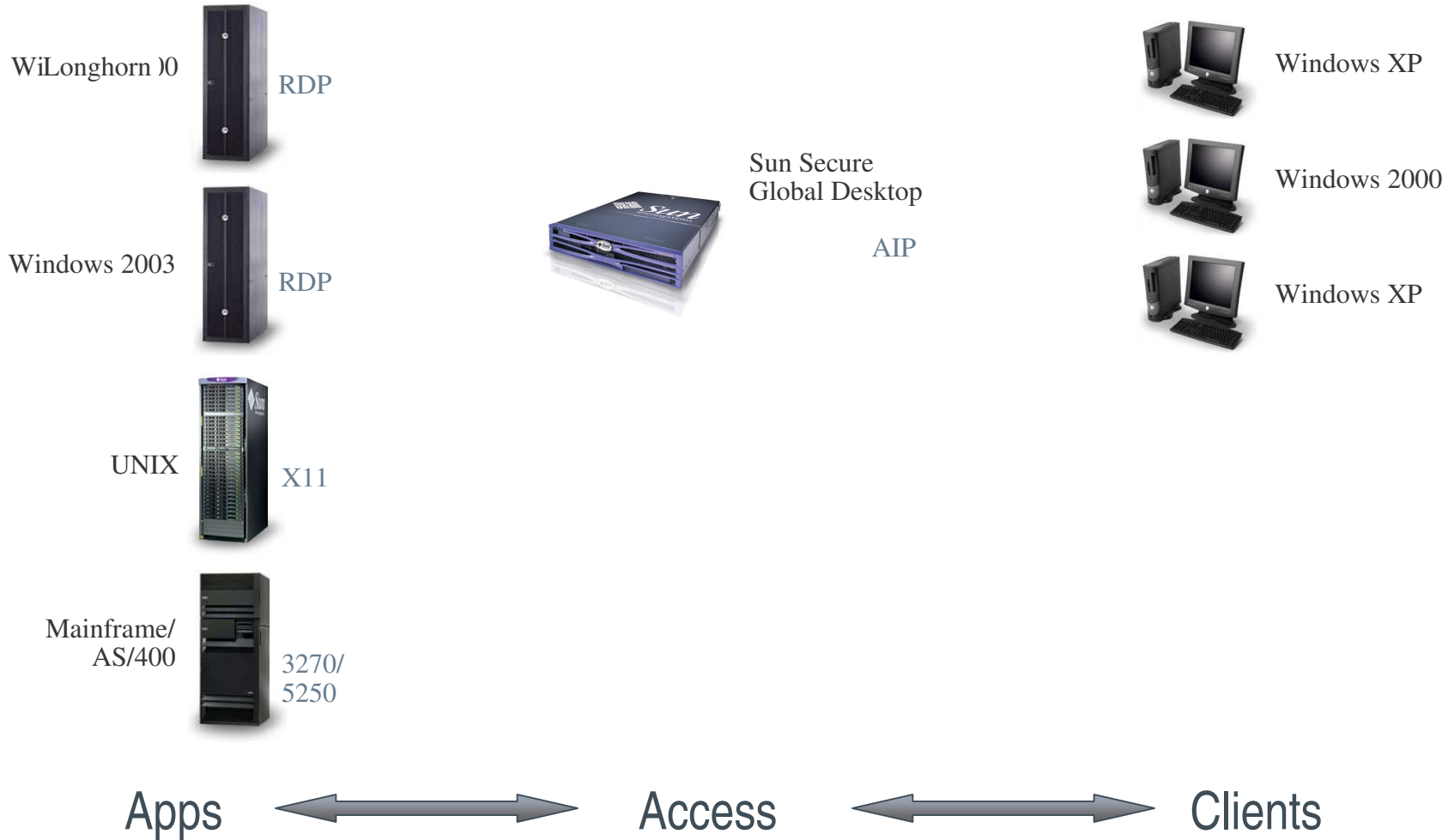
**3270 application**



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# Solution – OS Migration

## Replacing an Application Server with Longhorn (Windows)





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# Solution – OS Migration

## Replacing an Application Server with Longhorn (Windows)

Mozilla Firefox on Solaris OS



Explorer on Longhorn

SAP on Mainframe



MS Excel on Windows 2003

MS Word on Windows 2000

3270 application



# Security

## *Provides secure access from any client*

- Encryption using SSL/TLS/AES
- X.509 Certificates
- Non-intrusive firewall traversal
- Client access through secure proxy server
- Full control of application access rights
- Administrator controls application access & device access by username, client IP-address, server, etc





# Security

- Choice of cipher suite:
  - SSL
  - RC4-MD5
  - DES-CBC3-SHA
  - TLS
  - AES
  
- Available to
  - Peer Server connections
  - Secure Global Desktop Native Clients
  - Secure Global Desktop Clients





# Remote Access

- Session resume (User Mobility)
- Session Monitoring
- Session Shadowing
- Client/Network resilience
- Seamless “follow-me” printing
- Scalable windows for PDAs
- Client drive mapping
- Cut ‘n’ Paste between applications
- Audio
- Customisable Web-Interface





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# Satisfied Customers in Belgium: Sun Ray ultra-thin client solutions



Université membre de l'Académie universitaire 'Louvain'

Hundreds of Satisfied Customers  
and Growing Daily