Citrix and VMware
How These Technologies Work Together

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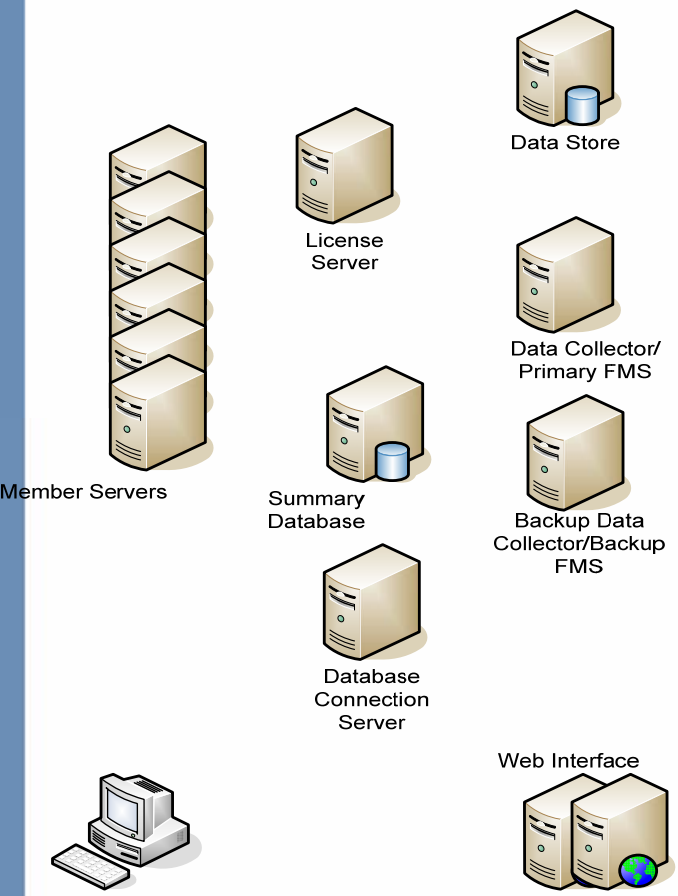
Agenda

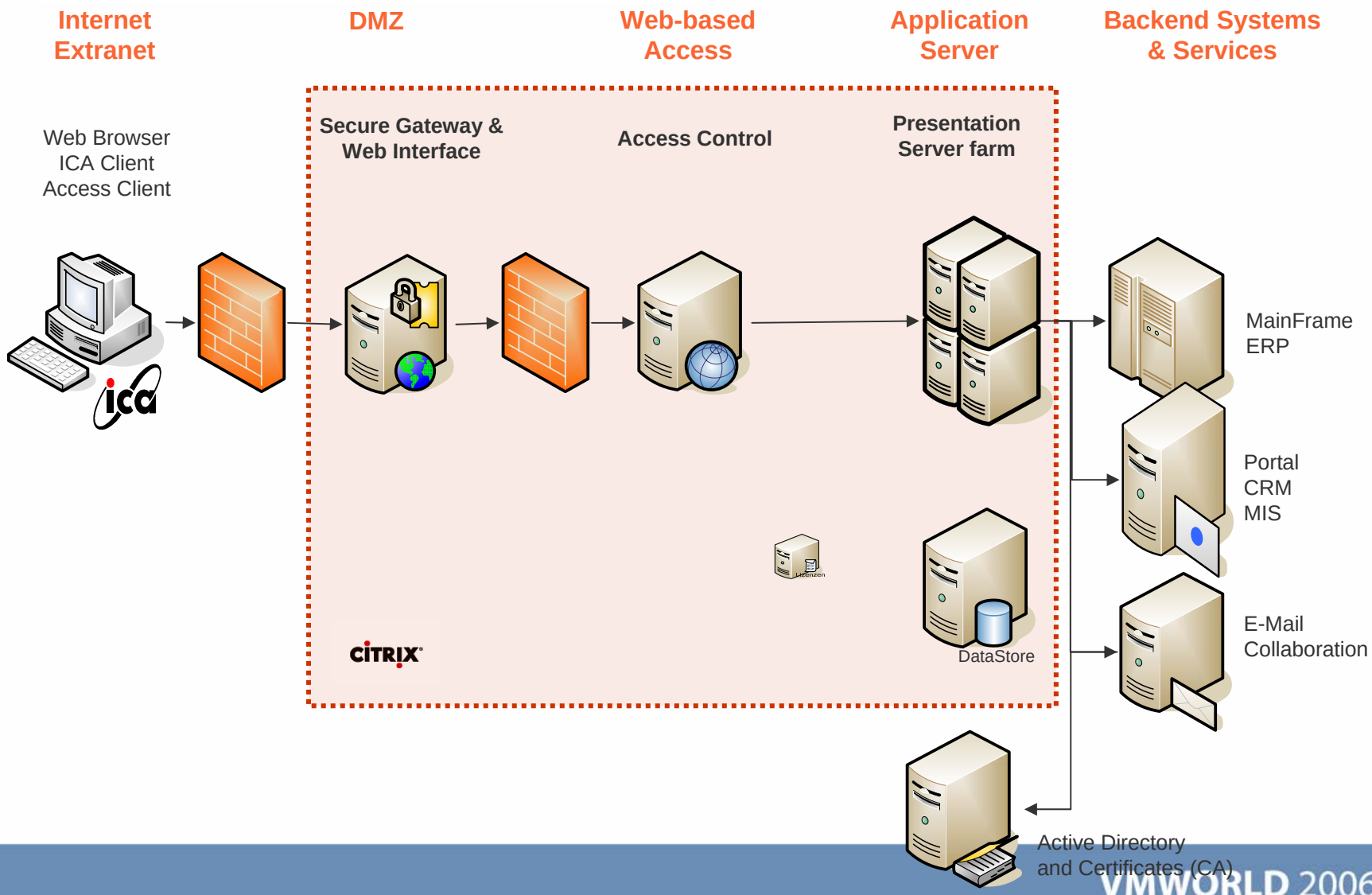
- Citrix and VMware basic concept
- Virtualizing Citrix Presentation Server
  - Performance comparison
  - LiveDemo
- VMware / Citrix Desktop Virtualization
  - Remote Desktop Broker
  - LiveDemo

Citrix Access Suite Components

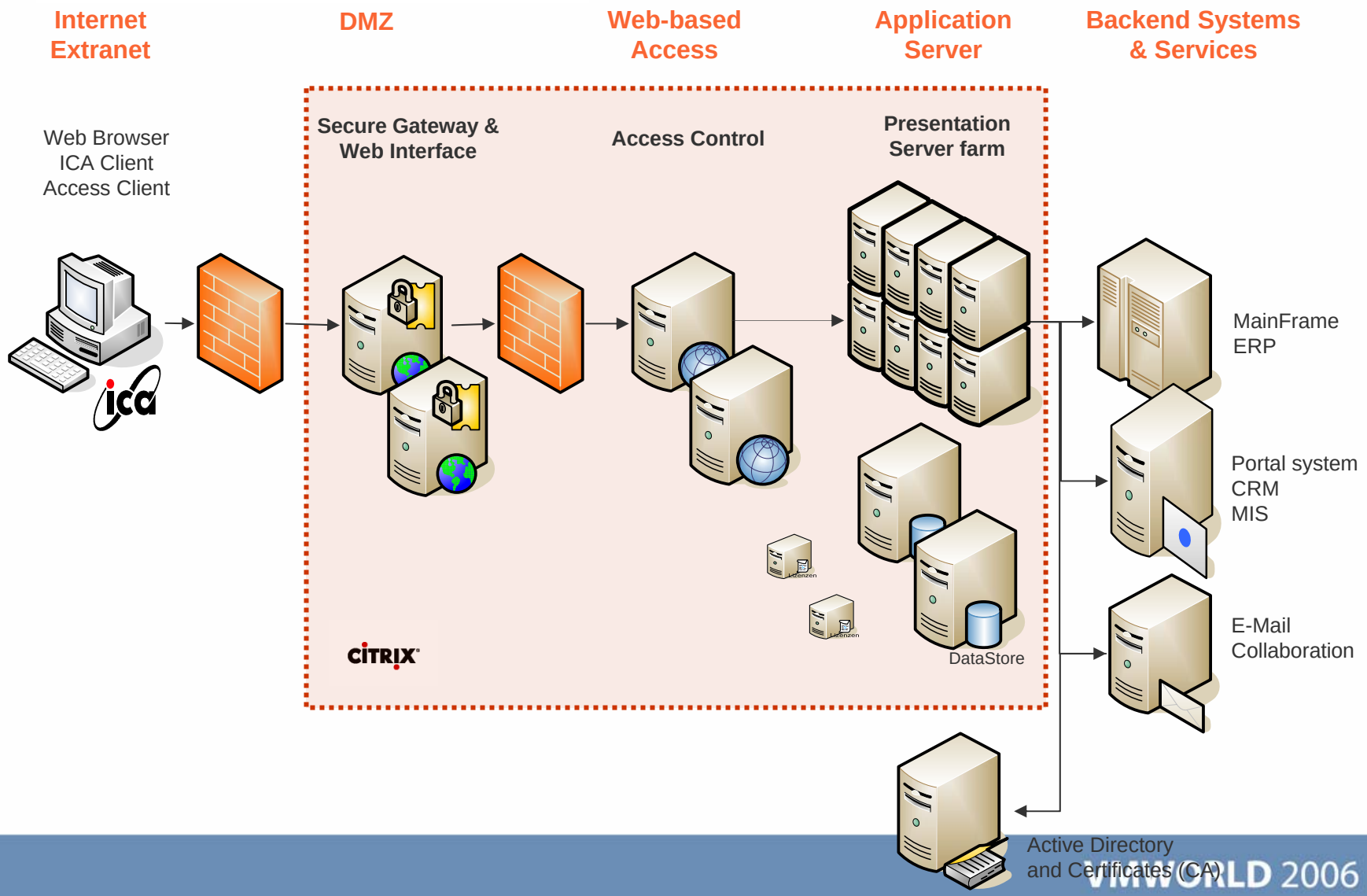


- Presentation Server
  - Data Store, Data Collector,
  - Summary Database
  - Web Interface & Secure Gateway
- Access Gateway & Access Control
  - Database Server, Agent Server, Web Server, HTML Preview Server, Index-Server
- Password Manager
  - Central Credential Store Password Manager Service
- License Server=

Default Citrix Environment



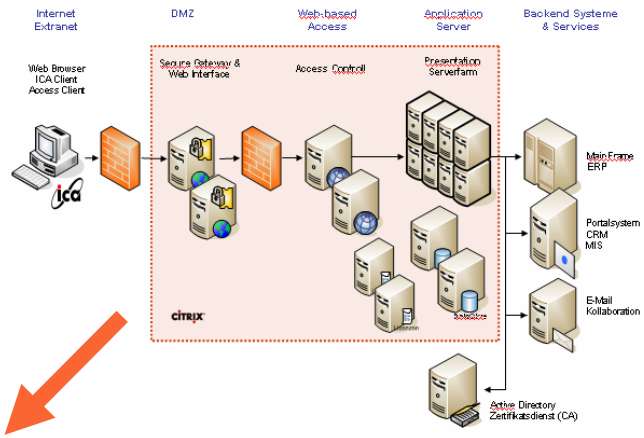
HA Citrix Environment



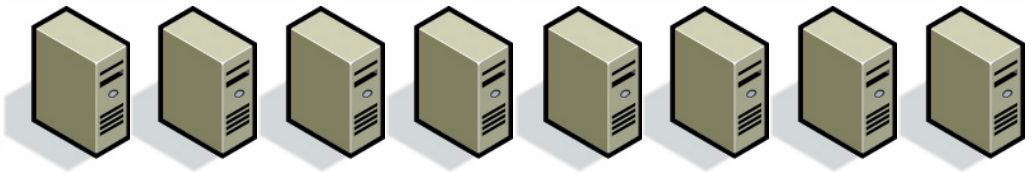
Consolidation of Citrix Components

Citrix Presentation Server

CSG
License Server
Access Control
Database
...



VMware HA & DRS



Benefit:

High Availability and Load Balancing for you Citrix components using VMware DRS and HA

Citrix and Citrix on VMware
a performance comparison

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What has been tested?

- Citrix performance on a physical HP DL585
  - 4 AMD Opteron 875 dualcore, 32 GB RAM
- Citrix performance on a single proc VM
  - Running on ESX Server 2.5
  - Runninng on ESX Server 3.0

What have we been looking for?

- Number of users and cpu load on a physical Citrix server running a specific load script
- Number of users and cpu load in the Citrix VM running the same load script

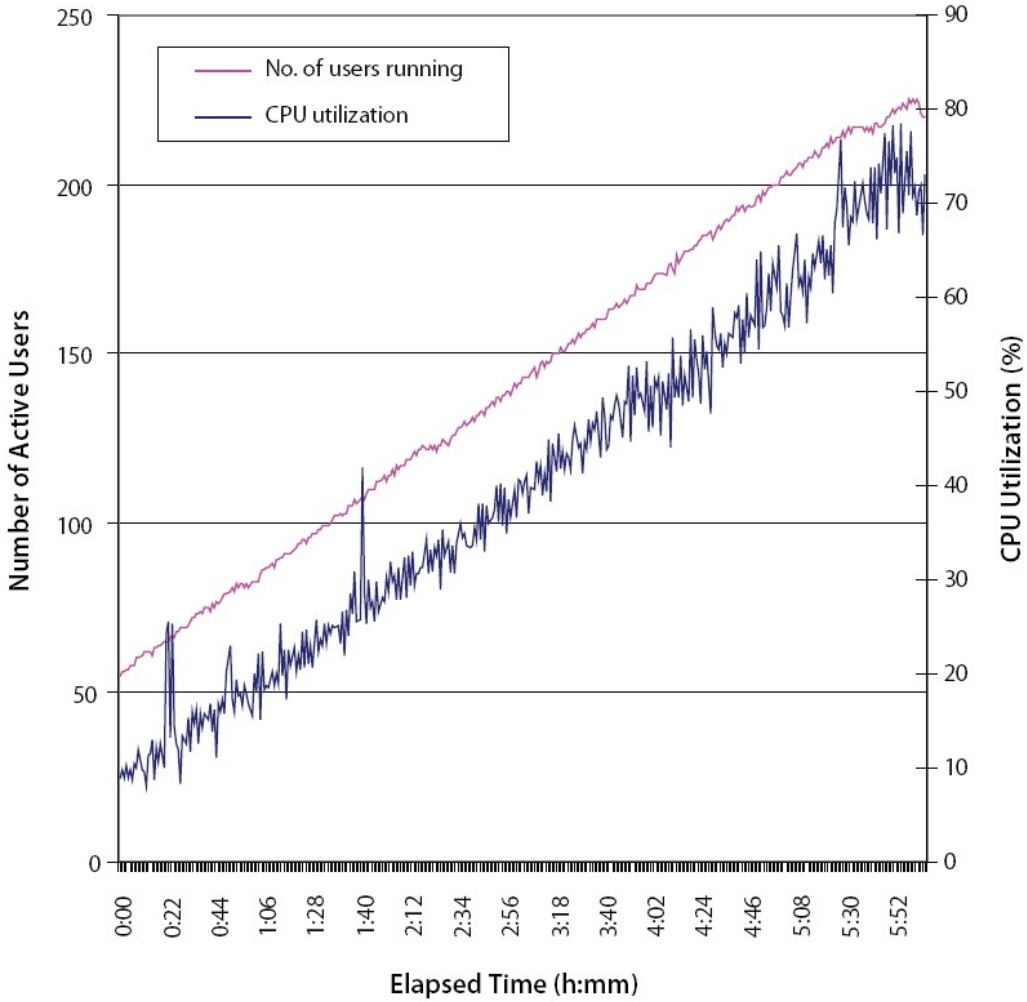
Test Hardware

- HP Proliant DL 585
  - 4 AMD Opteron 875 dual-core cpus 2.2 GHz
  - 32 GB RAM
- Native
  - Windows Server 2003 Enterprise Edition
  - Citrix Presentation Server 4.0
- ESX Server
  - ESX Server 3.0
  - Windows Server 2003 Enterprise Edition
  - Citrix Presentation Server 4.0

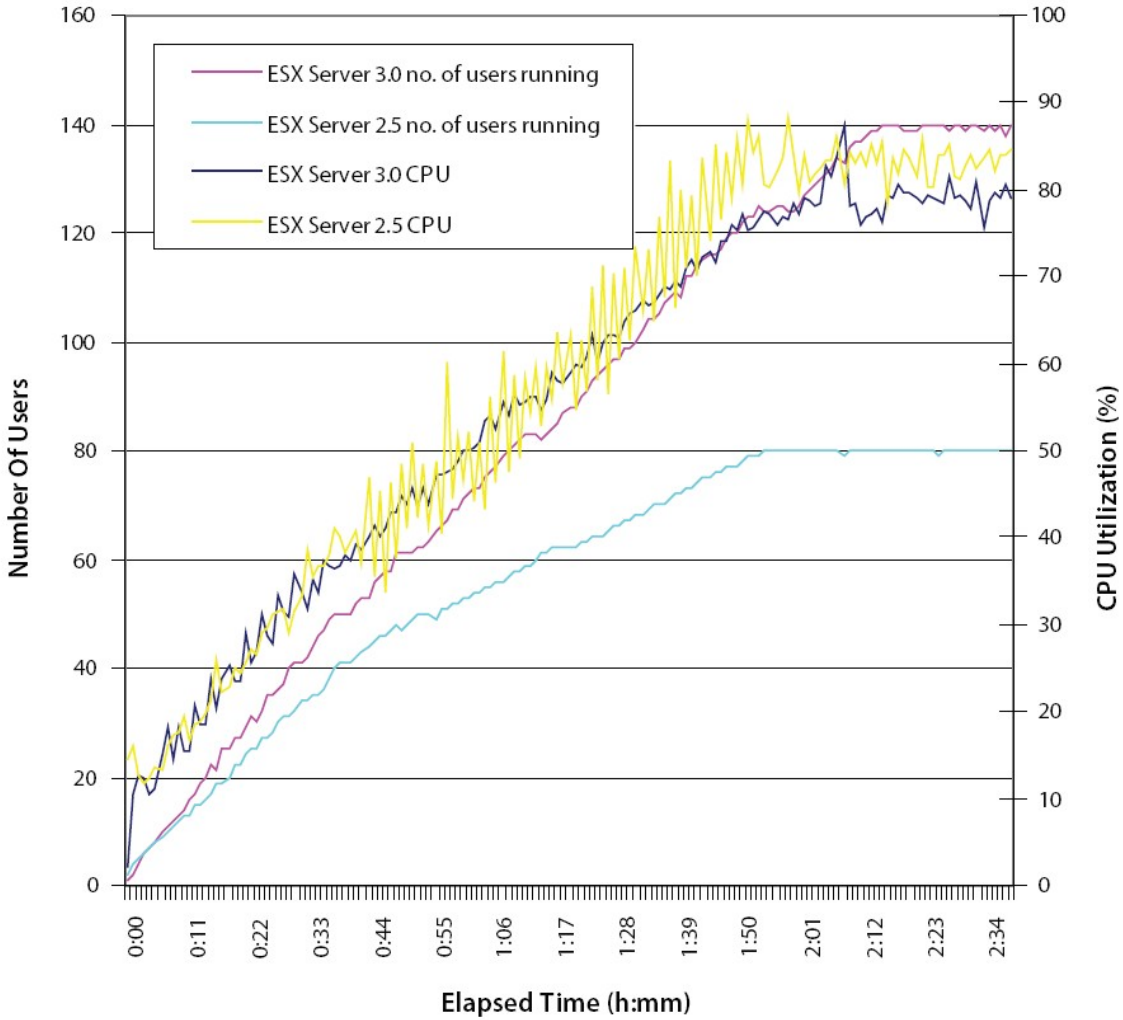
Test Setup

- Load on the servers was generated using a Citrix client script to fire up multiple ICA sessions to the Citrix servers
- Script ran in a loop and was timed from launch to end of execution
- During the test we looked for a significant and sustained deviation in script execution time to determine max load.
- We also looked for the point where performance was not consitent in a control session (this is one key factor in perceived performance of a solution). During the test we kept a session open on the targeted server and used it to open web pages and apps
- Testing order
  - Citrix on physical HP DL585 hardware
  - Citrix on ESX Server

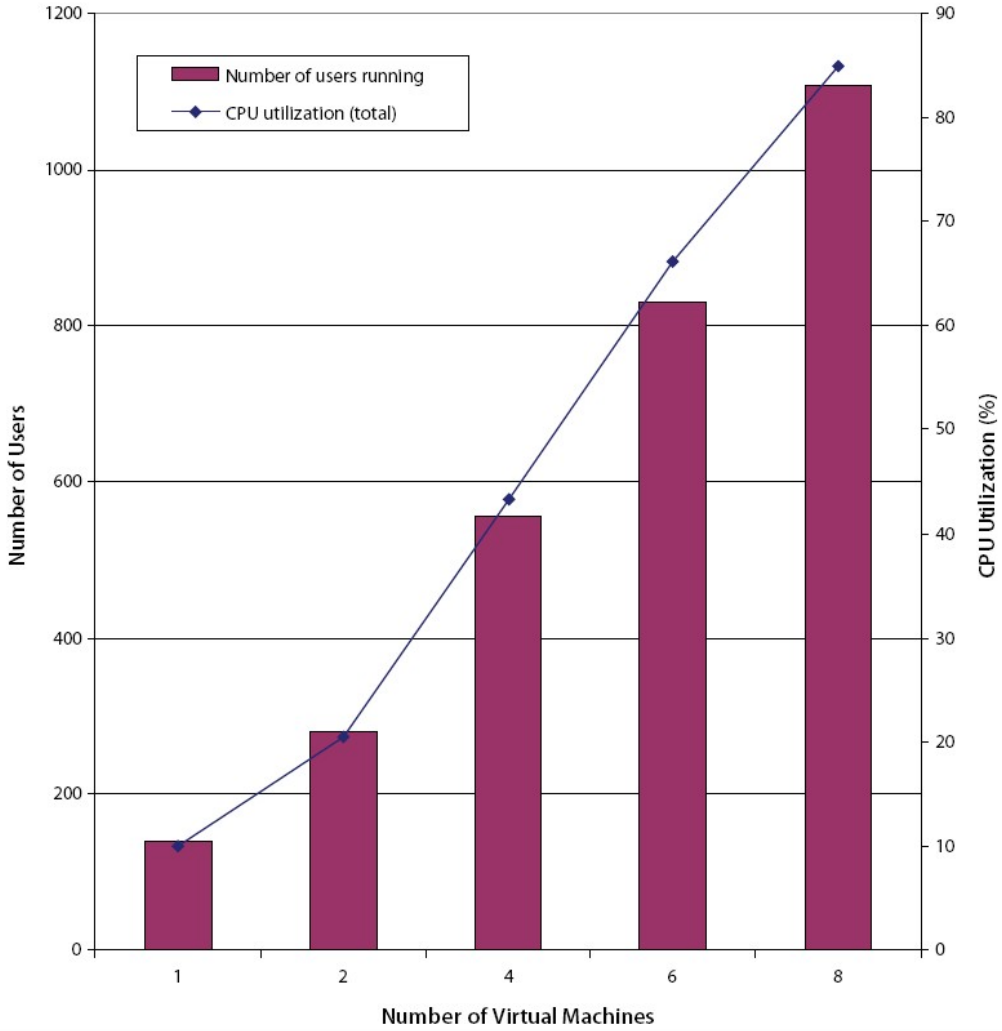
Test Results (CPS on DL585)



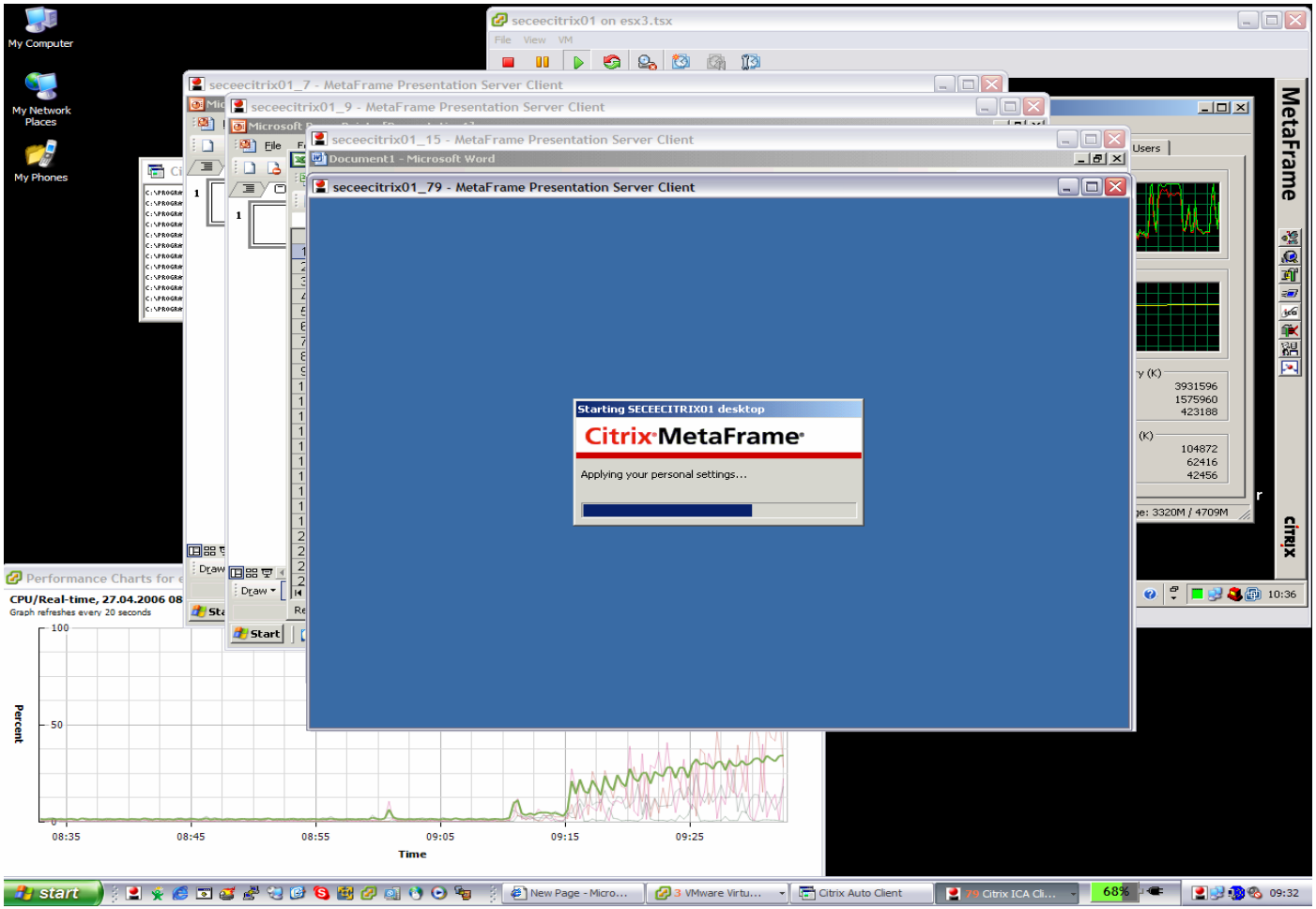
Test Results (CPS in VM on DL585)

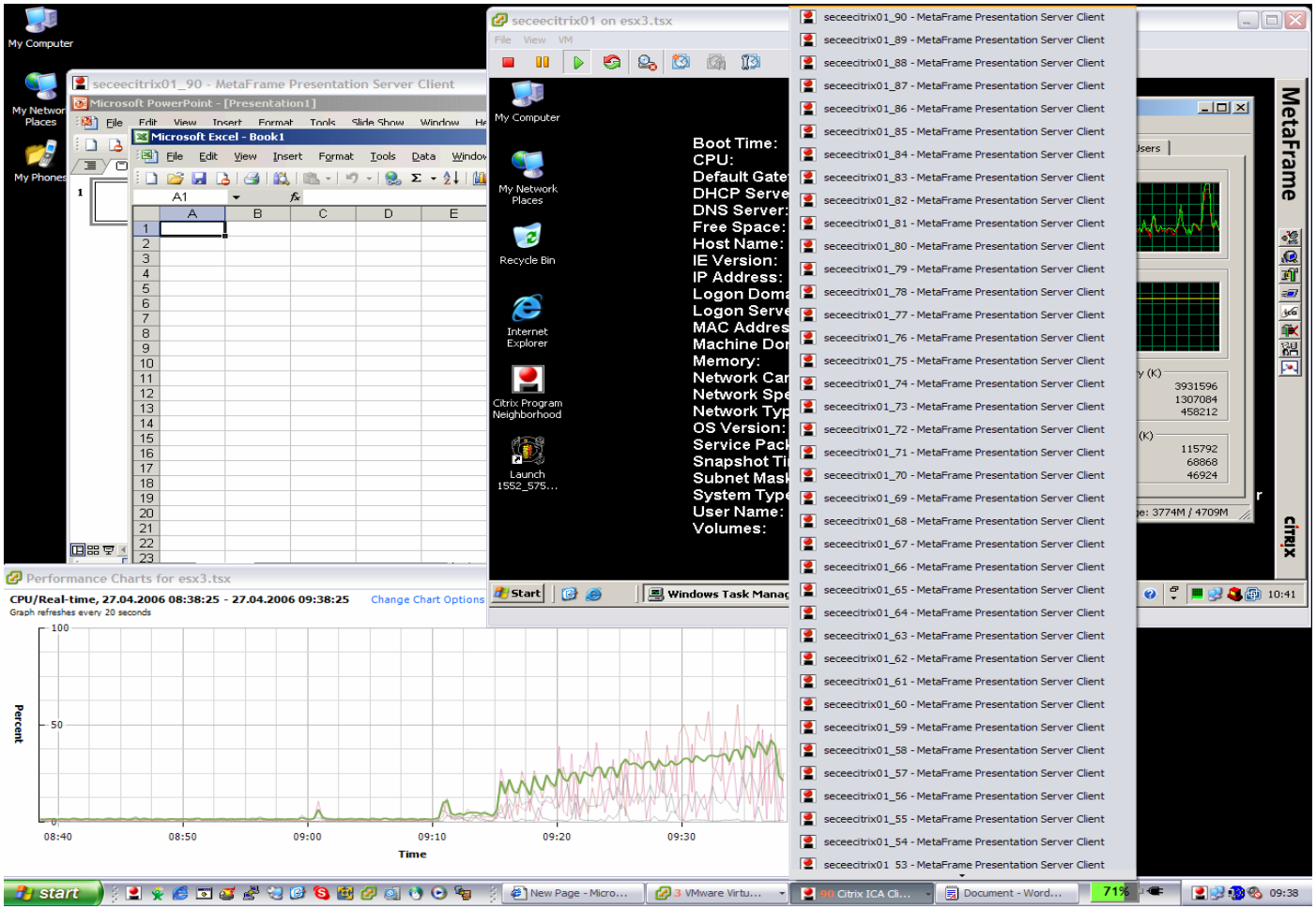


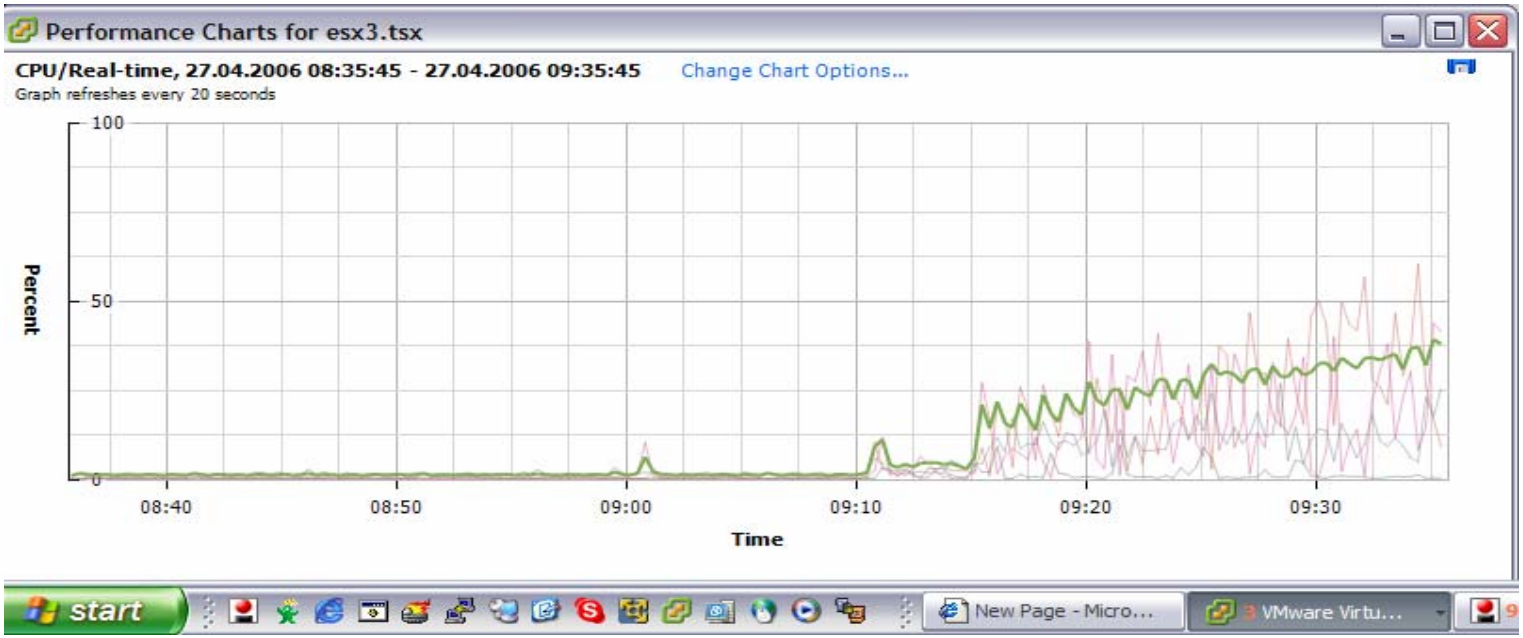
Scalability

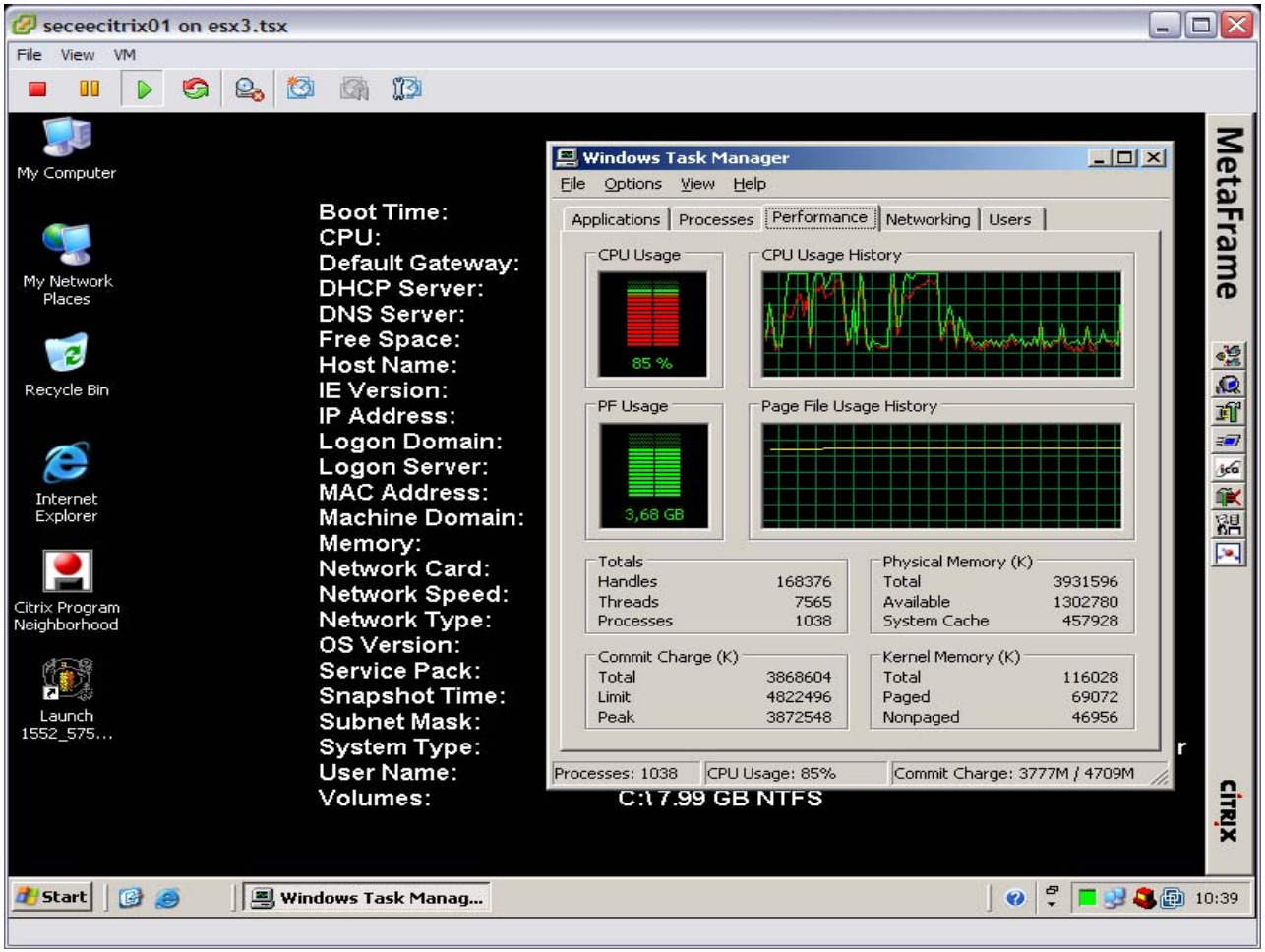


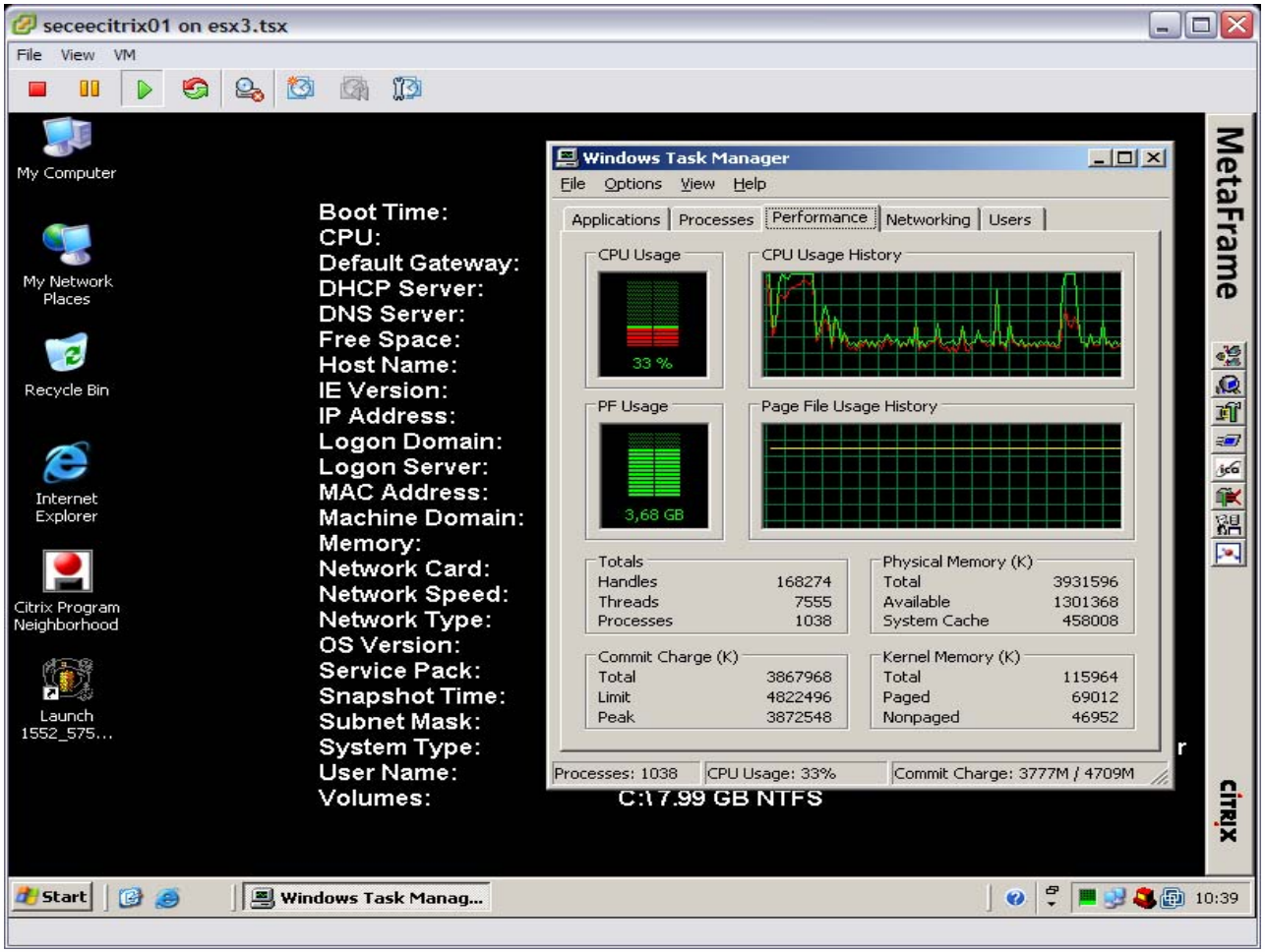
Live Demo

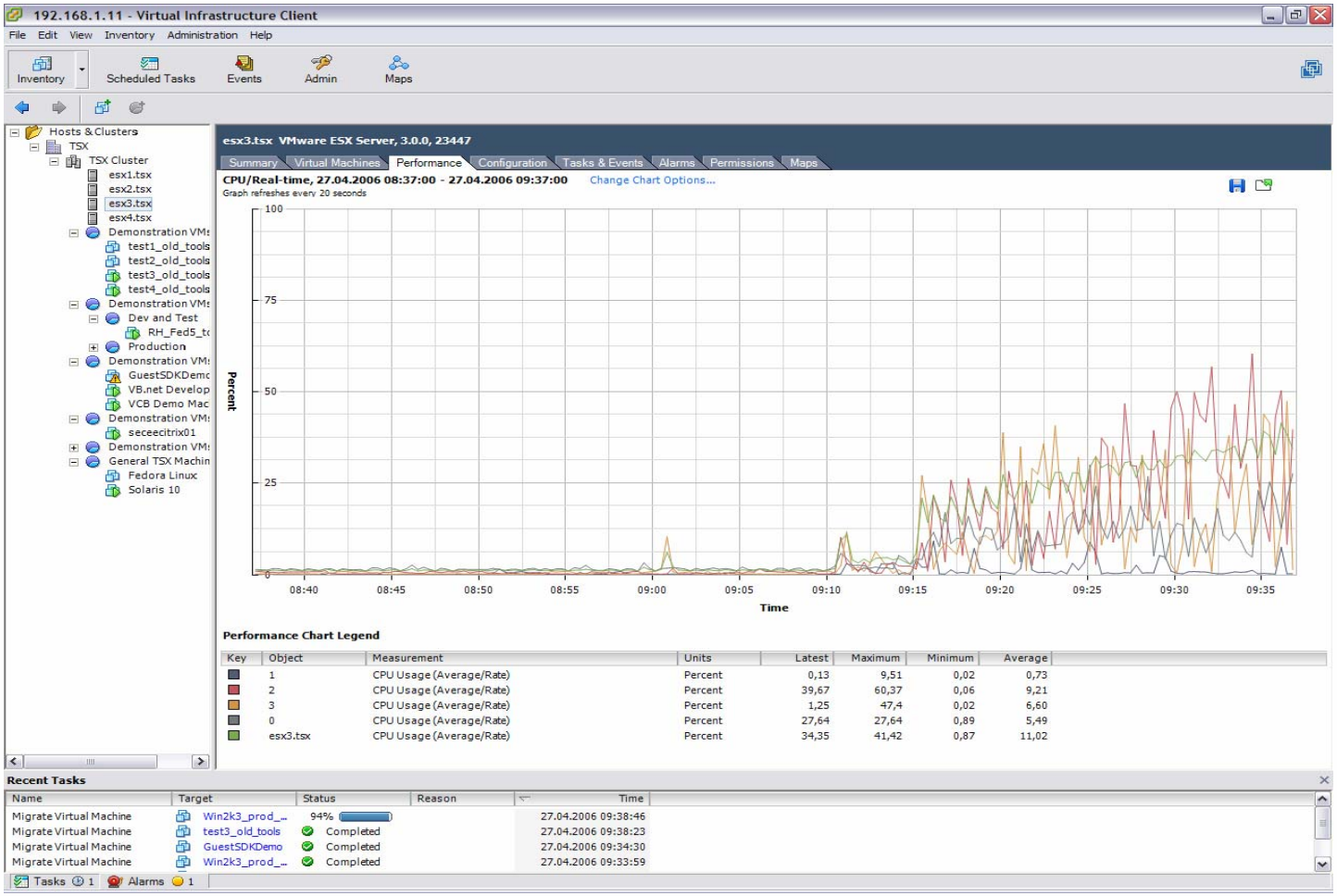

My Computer
My Network Places
My Phones
seceecitrix01 on esx3.tsx
File View VM
seceecitrix01_7 - MetaFrame Presentation Server Client
seceecitrix01_9 - MetaFrame Presentation Server Client
seceecitrix01_15 - MetaFrame Presentation Server Client
Document1 - Microsoft Word
seceecitrix01_79 - MetaFrame Presentation Server Client
Starting SECEECITRIX01 desktop
Citrix MetaFrame
Applying your personal settings...
MetaFrame
citrix
Users
3931596
1575960
423188
104872
62416
42456
Performance Charts for
CPU/Real-time, 27.04.2006 08
Graph refreshes every 20 seconds
Percent
Time
08:35
08:45
08:55
09:05
09:15
09:25
start
New Page - Micro...
VMware Virtu...
Citrix Auto Client
Citrix ICA Cl...
68%
09:32

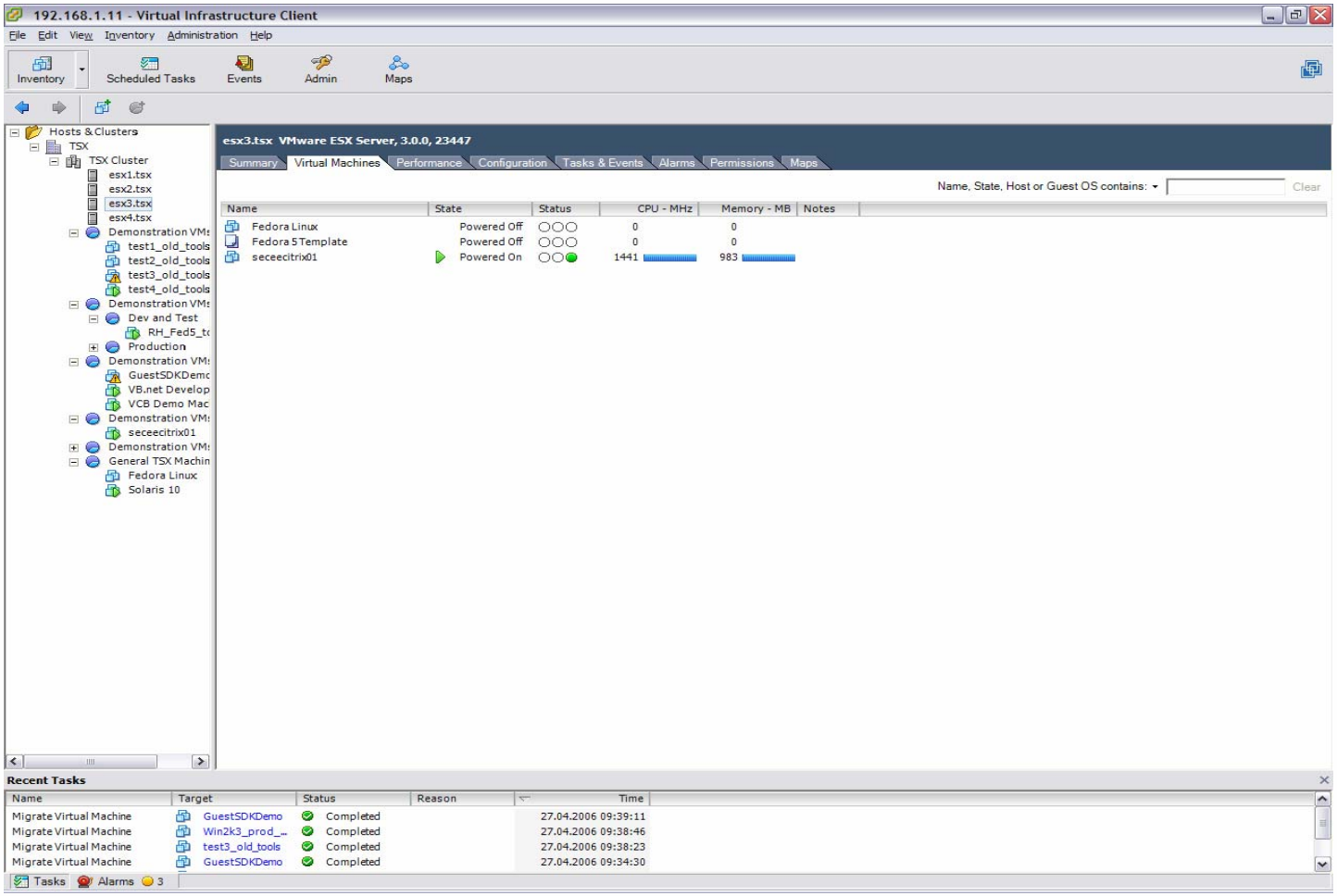

My Computer
My Network Places
My Phones
seceecitrix01_90 - MetaFrame Presentation Server Client
Microsoft PowerPoint - [Presentation1]
Microsoft Excel - Book1
seceecitrix01 on esx3.tsx
Recycle Bin
Internet Explorer
Citrix Program Neighborhood
Launch 1552_575...
Boot Time:
CPU:
Default Gate
DHCP Serve
DNS Server:
Free Space:
Host Name:
IE Version:
IP Address:
Logon Doma
Logon Serve
MAC Addres
Machine Dor
Memory:
Network Car
Network Spe
Network Typ
OS Version:
Service Pack
Snapshot Ti
Subnet Mask
System Type
User Name:
Volumes:
Performance Charts for esx3.tsx
CPU/Real-time, 27.04.2006 08:38:25 - 27.04.2006 09:38:25
Change Chart Options
Graph refreshes every 20 seconds
Percent
Time
08:40
08:50
09:00
09:10
09:20
09:30
MetaFrame
citrix
start
09:38


Performance Charts for esx3.tsx
CPU/Real-time, 27.04.2006 08:35:45 - 27.04.2006 09:35:45
Change Chart Options...
Graph refreshes every 20 seconds
100
50
0
Percent
08:40
08:50
09:00
09:10
09:20
09:30
Time
start
New Page - Micro...
VMware Virtu...


seceecitrix01 on esx3.tsx
File View VM
My Computer
My Network Places
Recycle Bin
Internet Explorer
Citrix Program Neighborhood
Launch 1552_575...
Boot Time:
CPU:
Default Gateway:
DHCP Server:
DNS Server:
Free Space:
Host Name:
IE Version:
IP Address:
Logon Domain:
Logon Server:
MAC Address:
Machine Domain:
Memory:
Network Card:
Network Speed:
Network Type:
OS Version:
Service Pack:
Snapshot Time:
Subnet Mask:
System Type:
User Name:
Volumes:
C:\ 7.99 GB NTFS
Windows Task Manager
File Options View Help
Applications Processes Performance Networking Users
CPU Usage
85 %
CPU Usage History
PF Usage
3,68 GB
Page File Usage History
Totals
Handles 168376
Threads 7565
Processes 1038
Physical Memory (K)
Total 3931596
Available 1302780
System Cache 457928
Commit Charge (K)
Total 3868604
Limit 4822496
Peak 3872548
Kernel Memory (K)
Total 116028
Paged 69072
Nonpaged 46956
Processes: 1038
CPU Usage: 85%
Commit Charge: 3777M / 4709M
MetaFrame
CITRIX
Start
Windows Task Manag...
10:39


seceecitrix01 on esx3.tsx
File View VM
My Computer
My Network Places
Recycle Bin
Internet Explorer
Citrix Program Neighborhood
Launch 1552_575...
Boot Time:
CPU:
Default Gateway:
DHCP Server:
DNS Server:
Free Space:
Host Name:
IE Version:
IP Address:
Logon Domain:
Logon Server:
MAC Address:
Machine Domain:
Memory:
Network Card:
Network Speed:
Network Type:
OS Version:
Service Pack:
Snapshot Time:
Subnet Mask:
System Type:
User Name:
Volumes:
C:\ 7.99 GB NTFS
Windows Task Manager
File Options View Help
Applications Processes Performance Networking Users
CPU Usage
33 %
CPU Usage History
PF Usage
3,68 GB
Page File Usage History
Totals
Handles 168274
Threads 7555
Processes 1038
Physical Memory (K)
Total 3931596
Available 1301368
System Cache 458008
Commit Charge (K)
Total 3867968
Limit 4822496
Peak 3872548
Kernel Memory (K)
Total 115964
Paged 69012
Nonpaged 46952
Processes: 1038
CPU Usage: 33%
Commit Charge: 3777M / 4709M
MetaFrame
CITRIX
Start
Windows Task Manag...
10:39


192.168.1.11 - Virtual Infrastructure Client
File Edit View Inventory Administration Help
Inventory
Scheduled Tasks
Events
Admin
Maps
Hosts & Clusters
TSX
TSX Cluster
esx1.tsx
esx2.tsx
esx3.tsx
esx4.tsx
esx3.tsx VMware ESX Server, 3.0.0, 23447
Summary Virtual Machines Performance Configuration Tasks & Events Alarms Permissions Maps
CPU/Real-time, 27.04.2006 08:37:00 - 27.04.2006 09:37:00
Change Chart Options...
Graph refreshes every 20 seconds
Percent
100
75
50
25
0
08:40 08:45 08:50 08:55 09:00 09:05 09:10 09:15 09:20 09:25 09:30 09:35
Time
Performance Chart Legend
Key Object Measurement Units Latest Maximum Minimum Average
1 CPU Usage (Average/Rate) Percent 0,13 9,51 0,02 0,73
2 CPU Usage (Average/Rate) Percent 39,67 60,37 0,06 9,21
3 CPU Usage (Average/Rate) Percent 1,25 47,4 0,02 6,60
0 CPU Usage (Average/Rate) Percent 27,64 27,64 0,89 5,49
esx3.tsx CPU Usage (Average/Rate) Percent 34,35 41,42 0,87 11,02
Recent Tasks
Name Target Status Reason Time
Migrate Virtual Machine Win2k3_prod_... 94% 27.04.2006 09:38:46
Migrate Virtual Machine test3_old_tools Completed 27.04.2006 09:38:23
Migrate Virtual Machine GuestSDKDemo Completed 27.04.2006 09:34:30
Migrate Virtual Machine Win2k3_prod_... Completed 27.04.2006 09:33:59
Tasks 1 Alarms 1


192.168.1.11 - Virtual Infrastructure Client
File Edit View Inventory Administration Help
Inventory
Scheduled Tasks
Events
Admin
Maps
Hosts & Clusters
TSX
TSX Cluster
esx1.tsx
esx2.tsx
esx3.tsx
esx4.tsx
esx3.tsx VMware ESX Server, 3.0.0, 23447
Summary
Virtual Machines
Performance
Configuration
Tasks & Events
Alarms
Permissions
Maps
Name, State, Host or Guest OS contains:
Clear
Name
State
Status
CPU - MHz
Memory - MB
Notes
Fedora Linux
Powered Off
0
0
Fedora 5 Template
Powered Off
0
0
seceecitrix01
Powered On
1441
983
Recent Tasks
Name
Target
Status
Reason
Time
Migrate Virtual Machine
GuestSDKDemo
Completed
27.04.2006 09:39:11
Migrate Virtual Machine
Win2k3_prod_...
Completed
27.04.2006 09:38:46
Migrate Virtual Machine
test3_old_tools
Completed
27.04.2006 09:38:23
Migrate Virtual Machine
GuestSDKDemo
Completed
27.04.2006 09:34:30
Tasks
Alarms
3

VMware / Citrix
Published Desktop Usage and Deployment

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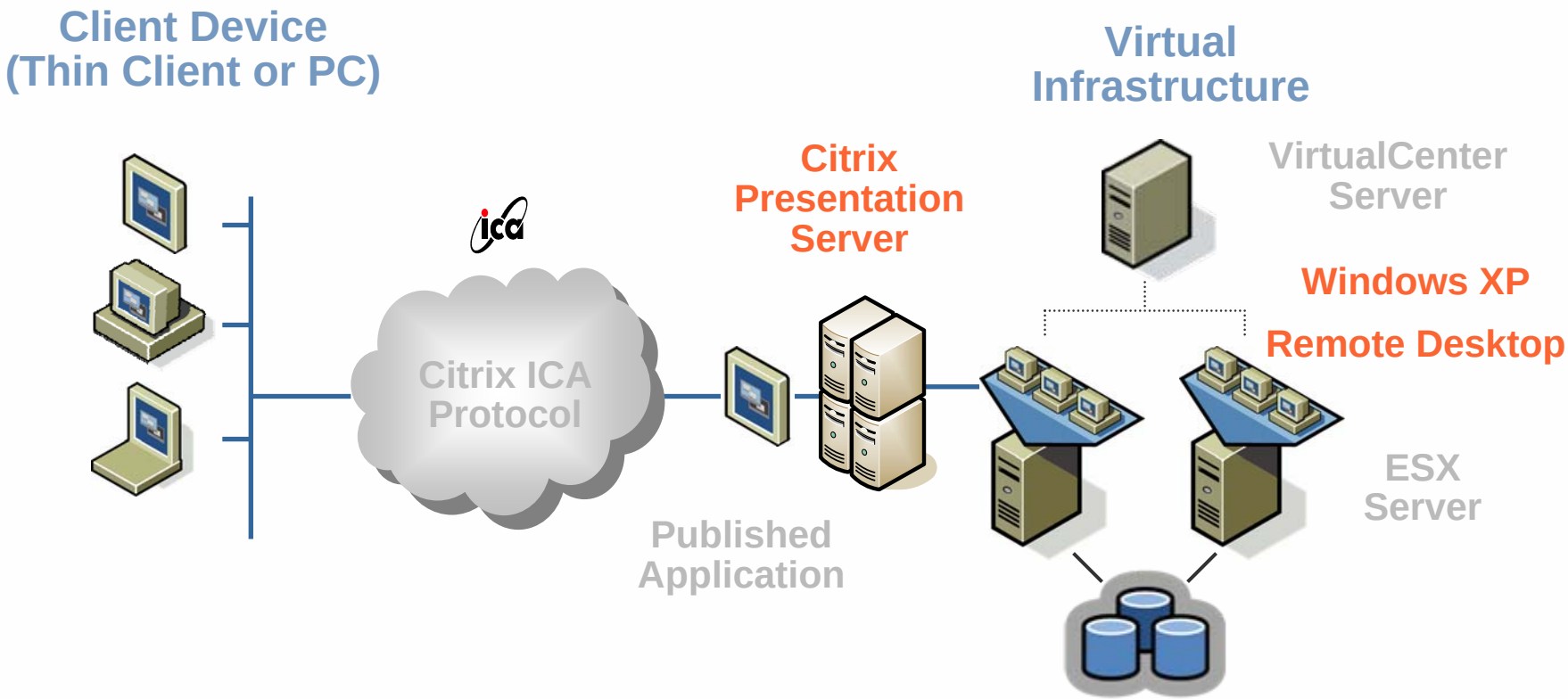
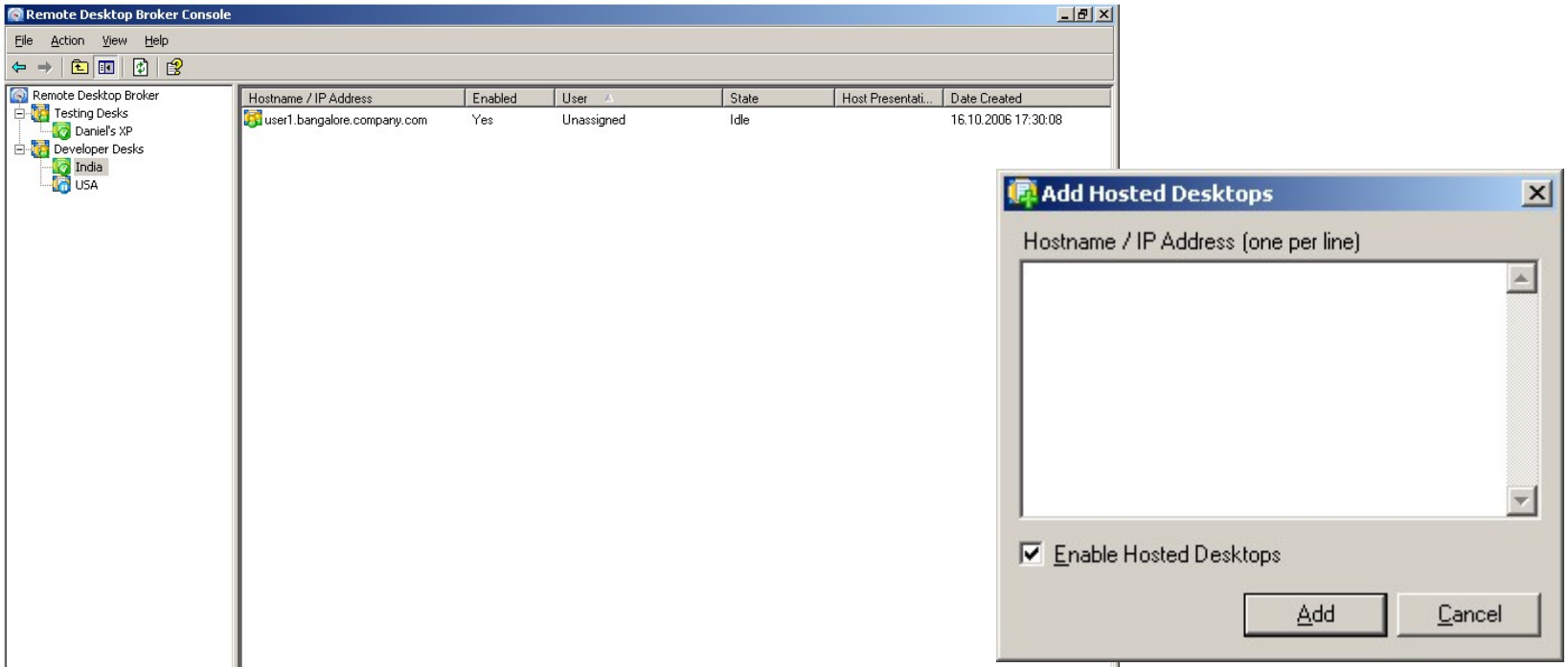
Virtual Desktop Infrastructure



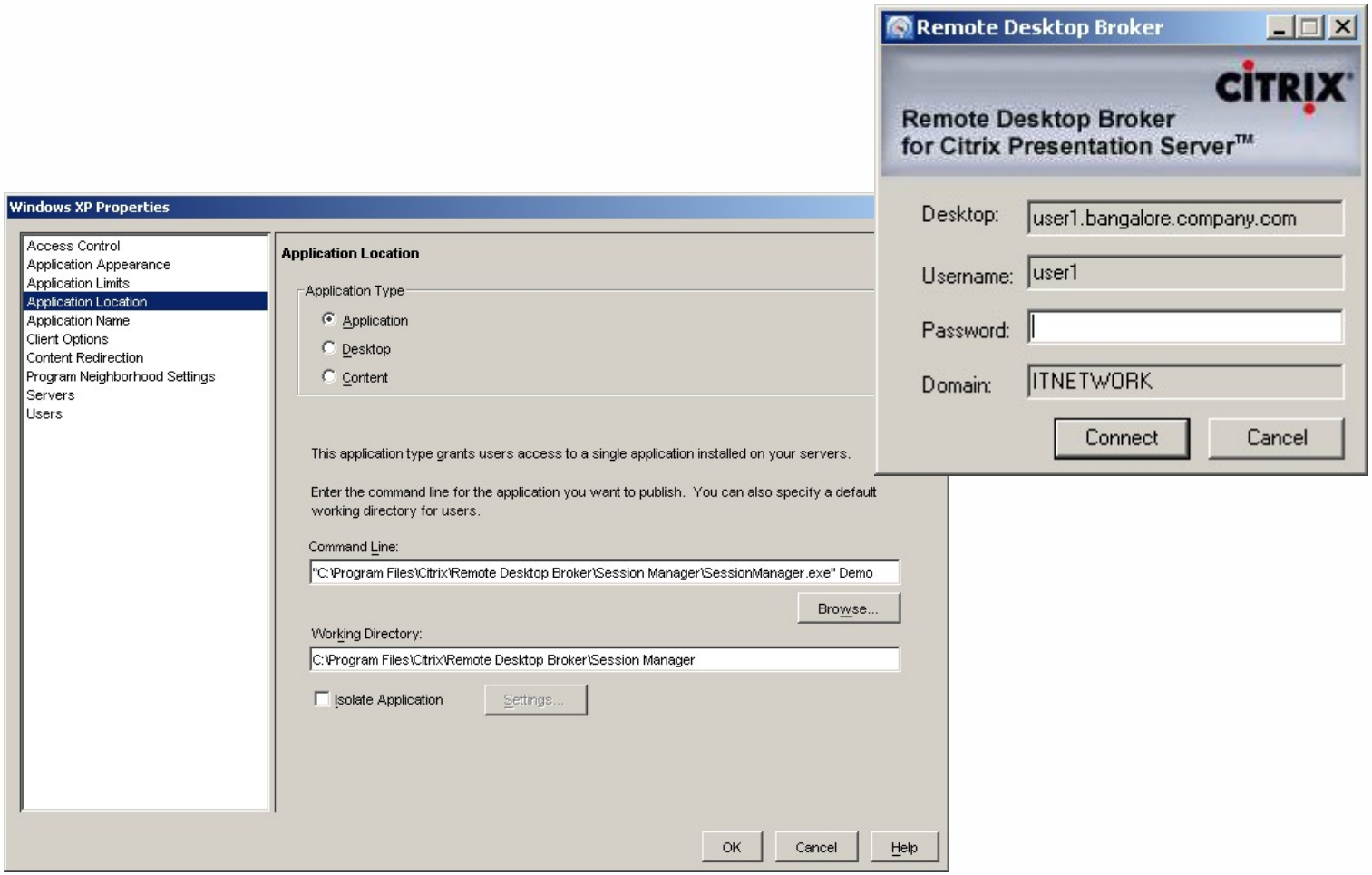
Citrix Remote Desktop Broker

- Integrate Windows XP Desktops into your Citrix Presentation Server Environment
- Easy deployment and user management for Windows XP desktops

Live Demo


Remote Desktop Broker Console
File Action View Help
Remote Desktop Broker
Testing Desks
Daniel's XP
Developer Desks
India
USA
Hostname / IP Address
Enabled
User
State
Host Presentati...
Date Created
user1.bangalore.company.com
Yes
Unassigned
Idle
16.10.2006 17:30:08
Add...
Delete
Reset
Properties...
Add Hosted Desktops
Hostname / IP Address (one per line)
Enable Hosted Desktops
Add
Cancel

Live Demo


Remote Desktop Broker
CITRIX
Remote Desktop Broker
for Citrix Presentation Server™
Desktop:
user1.bangalore.company.com
Username:
user1
Password:
Domain:
ITNETWORK
Connect
Cancel
Windows XP Properties
Access Control
Application Appearance
Application Limits
Application Location
Application Name
Client Options
Content Redirection
Program Neighborhood Settings
Servers
Users
Application Location
Application Type
Application
Desktop
Content
This application type grants users access to a single application installed on your servers.
Enter the command line for the application you want to publish. You can also specify a default working directory for users.
Command Line:
"C:\Program Files\Citrix\Remote Desktop Broker\Session Manager\SessionManager.exe" Demo
Browse...
Working Directory:
C:\Program Files\Citrix\Remote Desktop Broker\Session Manager
Isolate Application
Settings...
OK
Cancel
Help

Q&A

Questions?

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thuber@vmware.com

Recommended Sessions

- MED0096 - Citrix and VMware: A Range of Customer Solutions, Paul Hahn, Citrix
- MED0115 - Optimizing Citrix Presentation Server on VMware ESX Server, Paul Hahn, Citrix
- MED9518 - Virtual Desktop Infrastructure: How to use VMware ESX Server to Consolidate Desktops, Russel Wilkinson, VMware

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and return it to the room monitors
as you exit the session

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