Lotus Notes 8.5.x on Citrix XenApp
Installation & Configuration
Best Practices

Administration (W4S1)

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Agenda

- Introduction
- Lotus Notes 8.5.x on Citrix XenApp 5.0
- Lotus Notes 8.5.x installation types
- Tuning the recommended installation type
- Application delivery
- Further considerations, tipps & tricks, troubleshooting
- Q & A

Who am I

- Freelancing IBM Lotus Notes/Domino Specialist
- Core competency: Lotus Notes client deployments
- IBM Lotus Notes/Domino experience since 1999 (4.6.2a)
- IBM Design Partner for Domino Next
- IBM Certified System Administrator for Lotus Notes and Domino 8.5 (8,7,6,5,4)
- IBM Certified Application Developer for Lotus Notes and Domino 8 (7,6,5)
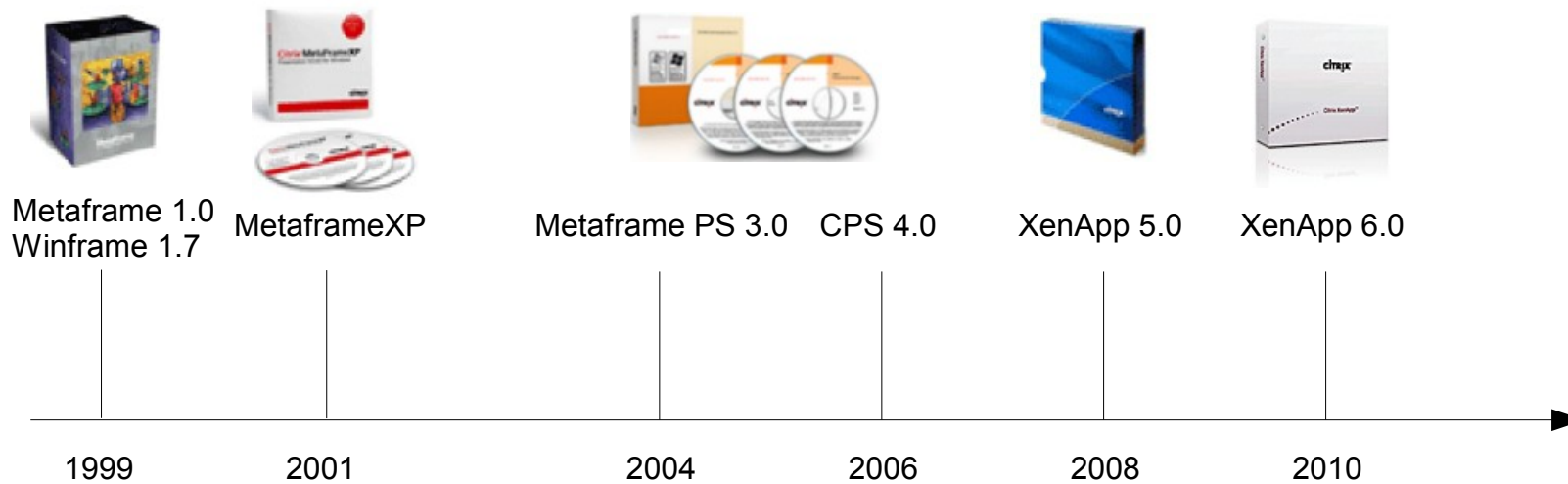
Currently involved in

- Lotus Notes 8.5.2 client and deployment concept for 70.000 clients on MS Windows Vista/7 (Yang) (See my session on BankCamp 2010)
- Decommissioning Lotus Notes/Domino environments (as preparation for migrating Lotus Notes to MS Exchange/Sharepoint for 100.000 seats (Yin)

contact:
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Citrix Foundations

| Metaframe 1.0 Winframe 1.7 | MetaframeXP | Metaframe PS 3.0 | CPS 4.0 | XenApp 5.0 | XenApp 6.0 |

| 1999 | 2001 | 2004 | 2006 | 2008 | 2010 |

- Initially a **Terminal Server** (Multi-user) solution, based on MS Windows NT 3.51 (WinFrame)

- Meanwhile an addon/extention of MS Windows TS/RDS

- While Citrix was a synonym for application virtualization in the past, the company **CITRIX** offers various products:

  - **XenApp:** **Application virtualization**
  - XenDesktop: Desktop virtualization
  - XenServer: Server virtualization

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Lotus Notes 8.5.x on Citrix XenApp

Starting with Lotus Notes 8.5.1, IBM has drastically improved
  XenApp compatibility:

- XenApp 5.0 is supported
- Windows Server 2008 32/64 Bit is supported
- Multi-User installations are supported
  - Data directories can be relocated
  - Data directories on network shared are supported on XenApp
- Roaming is supported (but not with OS Roaming profiles!)
- Many install issues of previous versions are fixed
- JVM settings file can be located easier
- General performance improvements

No XenApp specific improvements in 8.5.2, but general performance improvements (and
preloading)
  - So, if I write 8.5.x, I mean 8.5.1 and 8.5.2, but NOT 8.5.0
  - If not explicitly mentioned, an issue applies to both, 8.5.1 and 8.5.2

Citrix XenApp 6.0 & MS Windows Server 2008 R2

Citrix has introduced **XenApp 6.0** in March 2010.
- It supports MS Windows Server 2008 R2
- 15 % or more users per server on R2
- Introduces HDX (improved multimedia experience)
- Introduces AppCenter (consolidated/improved Management, similar MMC 3.0)
- Improved Application Streaming
  - Support for Services!
- It has been completely rewritten, so it's more than a simple version step

MS Windows Server 2008 **R2** Remote Desktop Services Improvements
- Remote Desktop Services Administration
- Client Experience (Aero support)
- Remote Desktop Protocol
- RemoteApp and Desktop Connection
- Remote Desktop Connection Broker centralized publishing
- Remote Desktop Virtualization (RDS-V)
- IP Virtualization
- RemoteFX (with SP1 [H1/2011])

XenApp 5.0 Feature Pack 3:
  - Application Streaming improvements
  - HDX

Lotus Notes 8.5.x on Citrix XenApp – support status

Many customer projects leveraging state of the art virtualization solutions are blocked, because IBM does **not support**:

- MS Windows Server 2008 R2 (released August 2009)

- Citrix XenApp 6.0 on Windows Server 2008 R2 (released March 2010)

- Lotus Notes as Published Application, Remote App

- Application Streaming (XenApp Application Streaming, MS RemoteApp)

- No VDI (neither Citrix XenDesktop, MS RDP-V, VMWare, etc...)

Support is planned for IBM Lotus Notes 8.5.3:

Ed Brill: „We are working on an 8.5.3 release with a target of early 2011, and yes, there will be a few incremental improvements -- but mainly for developers in Designer/XPages.“

What can we do?

- Open a PMR to increase weight for the appropriate feature request **SPR #RKUR85ND36**

- Vote for my IdeaJam ideas

    - Support MS Windows Server 2008 R2 Remote Desktop Services (RDS)

    - Support for Citrix XenApp 6.0

Lotus Notes 8.5.1 on Citrix XenApp 6.0

Although it is not supported, Lotus Notes 8.5.1 can be installed and run on a XenApp 6.0 system if **you** are willing to take the **risk**:
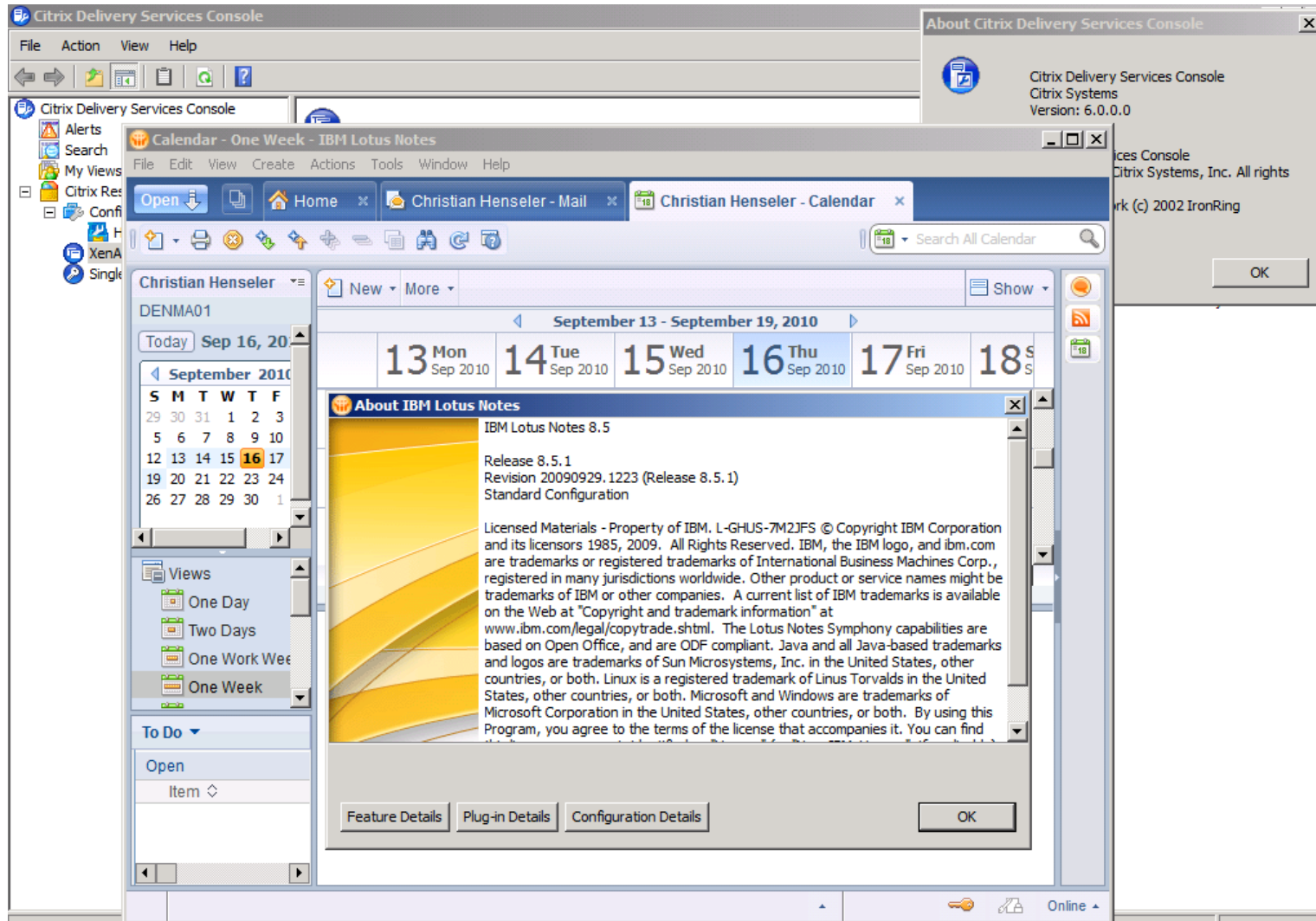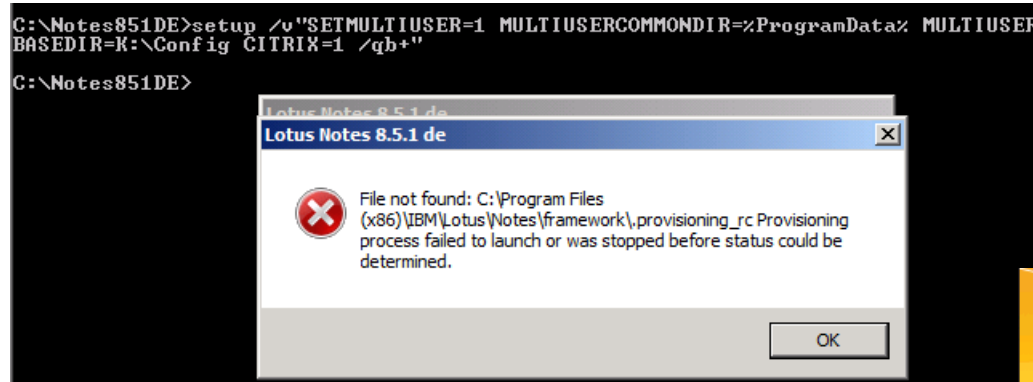
Lotus Notes 8.5.1 on Citrix XenApp 6.0 – Customer story

A customer trying to install and run Lotus Notes 8.5.1 on his XenApp 6.0 system had to learn the hard way, what unsupported means for IBM:

First, they got installation errors:

```
C:\Notes851DE>setup /v"SETMULTIUSER=1 MULTIUSERCOMMONDIR=%ProgramData% MULTIUSER
BASEDIR=K:\Config CITRIX=1 /qb+"

C:\Notes851DE>
```

Lotus Notes 8.5.1 de

❌ File not found: C:\Program Files (x86)\IBM\Lotus\Notes\framework\.provisioning_rc Provisioning process failed to launch or was stopped before status could be determined.

OK

After they manage to install:

IBM Lotus Notes/Domino

👥 **IBM Lotus Notes/Domino has stopped working**

Windows can check online for a solution to the problem.

➡ **Check online for a solution and close the program**

➡ **Close the program**

▲ Hide problem details

Problem signature:

Problem Event Name:	APPCRASH
Application Name:	NLNOTES.EXE
Application Version:	8.5.10.9271
Application Timestamp:	4ac1afad
Fault Module Name:	nnotes.dll
Fault Module Version:	8.5.10.9271
Fault Module Timestamp:	4ac205d7
Exception Code:	c0000005

IBM-Support:
> After reviewing this PMR, I can see that you are running Windows 2008 R2 6.0 [64-bit]
> Please note that Server 2008 R2 is not supported.
> Please advice if we can proceed and close this PMR
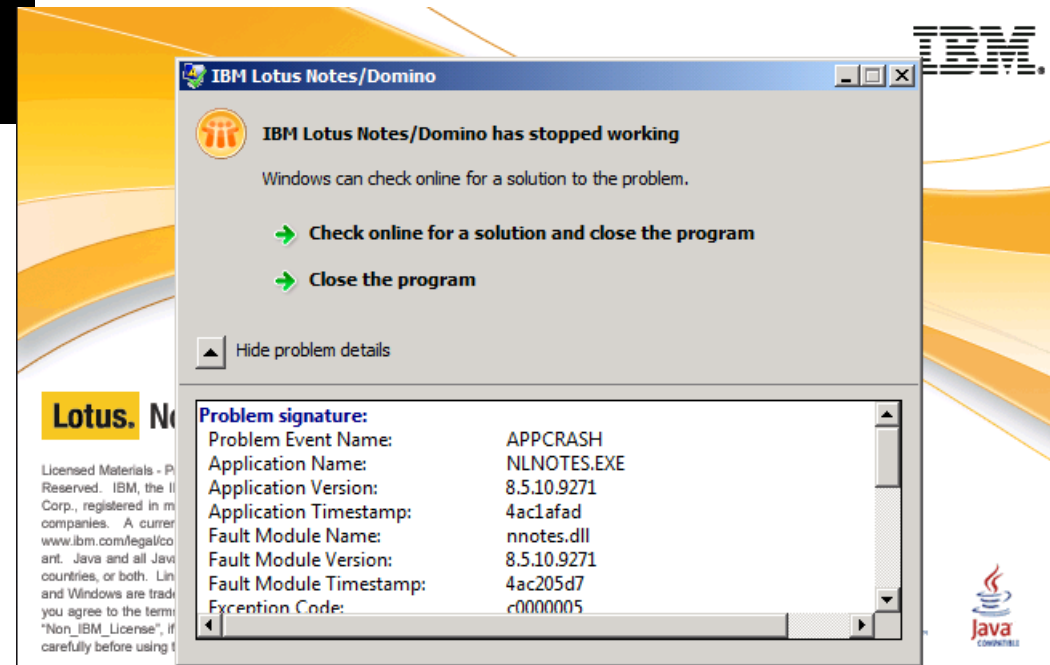
DON'T blame IBM! They've said that they won't support it...   9

Lotus Notes 8.5.x on XenApp 5.0

If you are sure that you are on Windows Server 2008, check for a but in NSD (SPR# DCON7SPS2Z):

Windows Server 2008 **SP1** 64 Bit:

```
: 8.5.10.9243 (Release 8.5.1)
: Windows/2008 R2 6.0 [64-bit] (Build 6001) PlatID=2, Service Pack 1
      Running as 32-bit windows application on 64-bit windows
```

Windows Server 2008 **SP2** 64 Bit

```
: 8.5.10.9243 (Release 8.5.1)
: Windows/2008 R2 6.0 [64-bit] (Build 6002), PlatID=2, Service Pack 2
      Running as 32-bit windows application on 64-bit windows
```

Windows Server 2008 **R2** 64 Bit:

```
: C.\Program Files (x86)\IBM\Lotus\Notes\nsd.exe
: 8.5.10.9243 (Release 8.5.1)
: Windows/2008 R2 6.1 [64-bit] (Build 7600), Plat
      Running as 32-bit windows application on
```

I
→ **See** Technote 1412757

Fixed in Lotus Notes 8.5.2!

Lotus Notes 8.5.1 – Plugin support matrix

Although XenApp is supported in general, there are limitations within
Lotus Notes client components:

	Lotus Symphony	Lotus Sametime (embedded)	Lotus Connections	Lotus QuickR connectors
Citrix Presentation Server 4.5 on MS Windows Server 2003 (32/64 Bit)	Yes	Yes (limited)	No	No
XenApp 5.0 on MS Windows Server 2003 (32/64 Bit) MS Windows Server 2008 (32/64 Bit)	Yes	Yes (limited)	No	No

Further restrictions:
- Notes Single Login is **not** supported
- Notes Shared Login is **not** supported
- ID Vault is **not** supported
- Lotus Domino Administrator/Designer client is **not** supported

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Lotus Notes 8.5.1 on Citrix XenApp - Scalability

Lotus Notes 8.5.x Scalability

Comparison of HW and/or MS Windows platforms
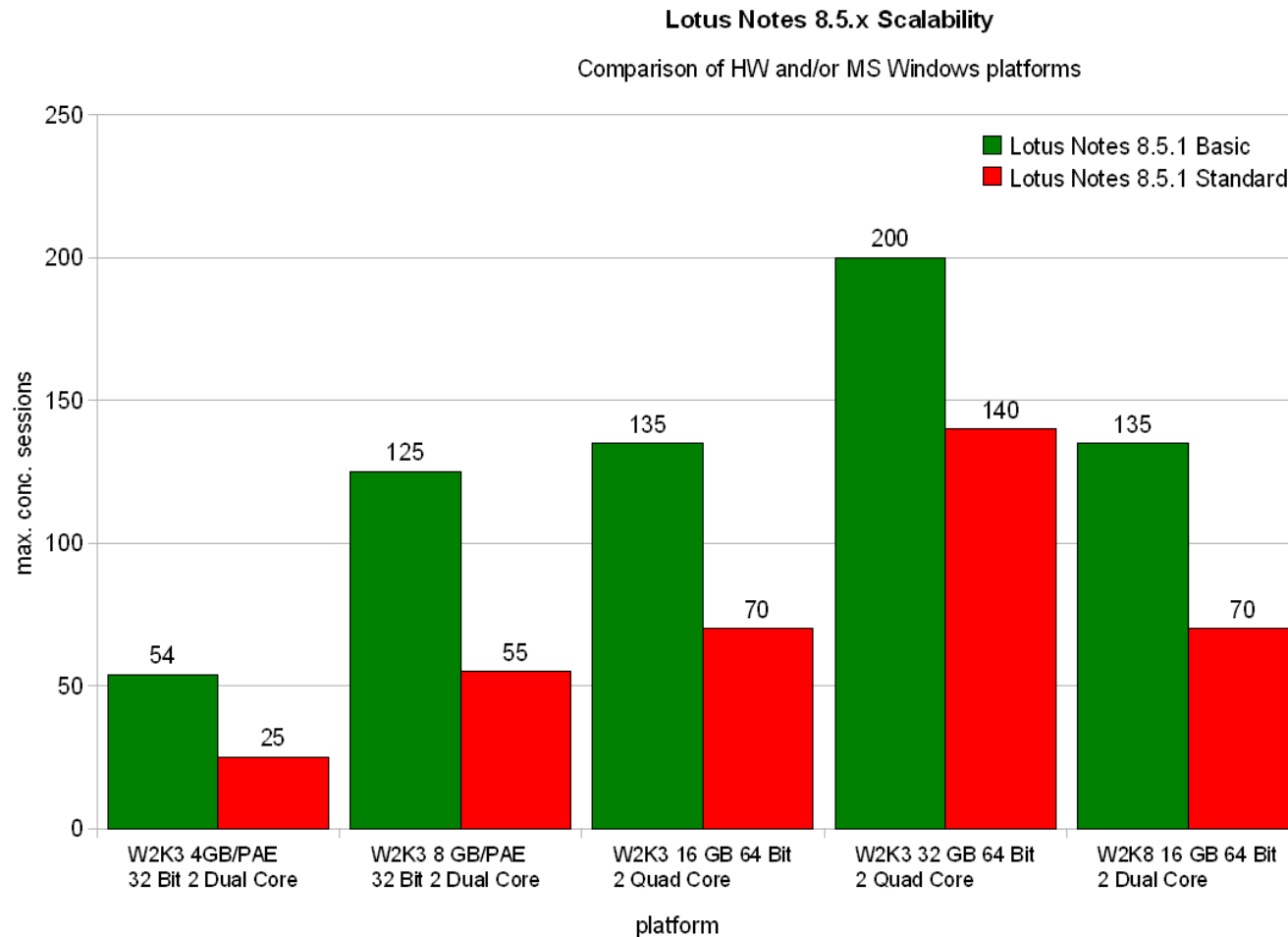
According to IBM, near-linear scalabilty can be observed, but:

➢ A given system can host up twice as much Basic as Standard client sessions.

➢ You need a) more (32-Bit) or b) larger (64-Bit) systems to host the same number of Standard clients sessions compared to Basic client

➢ On 32 Bit systems with PAE, watch out OS Kernel memory pools

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Lotus Notes 8.5.x on Citrix XenApp - Scalability

In non-lab environments, Lotus Notes has to compete for ressources with other applications.

Snapshot of a single user session, after 10 Min work:

Application	Working set (MB)	Max. Working set (MB)
Lotus Notes 8.5.2 (Mail & Calendar)	230	368,4
Internet Explorer 8.0 (1 Web page)	27,4	69,2
OpenOffice 3.2.1 (1 presentation)	94,8	147,7
Total	**352,2**	**585,3**

Esp. on 32 Bit systems, paging/trashing may occur, worsened by inefficient I/O (no a SAN is not always fast!)

➔ Prefer **Windows Server 2008** (because it has improved Memory Management and Terminal Services compared to Windows Server 2003)
➔ Prefer **64 Bit** (because even with PAE and/or AWE, memory is limited on 32 Bit platforms)
➔ Prefer running Terminal Server on **bare metal** (but you may virtualize License server and others) [I know, many customers are running virtualized Terminal servers]

Lotus Notes 8.5.1 – Installation Matrix for XenApp

Installation type	Multi-User	Upgrade from	Data Directory (existing/location)	Manual steps required?
8.5.1 clean install	Multi-user	none	None existing.	Special setup parameters
8.5.1 manual install with remote file server data	Single-user	none	None existing. Remote file server	Manual setup procedure
8.5.1 Install with existing local Citrix data directory	Multi-user	6.x/7.x/8.x single user **uninstalled**	Existing on local Citrix server	Special setup parameters, data move
8.5.1 Install with existing remote file server data directory	Multi-user	6.x/7.x/8.x single user **uninstalled**	Existing on Remote file server	Special setup parameters

No other migration paths are supported, esp. no upgrades!

If IBM support tries to close incidents with

- Technote 1431732: „...storing the Notes data directory on a file server is not supported."
- Technote 1086958 (obolete for 8.5.1!)"... assistance … to the extent ...not to be loss of connection..."

counter with Technotes **1386866** and **1430323 and 1412455:**

- Data directories on network shares are supported configurations for Citrix XenApp installations!

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Lotus Notes 8.5.x customized data directories

Starting with Lotus Notes 8.5.1, data directories can be relocated
for Multi-user installations at install time.

Benefits:
- Data directories can be located outside of OS user profiles
- No manual installation hacks anymore!

Setup Parameters:
- **MULTIUSERCOMMONDIR**
  - Specifies the location of the **common** data directory
  - \Lotus\Notes\Data\Shared will be appended automatically
  - **Optional**

- **MULTIUSERBASEDIR**
  - Specifies the location of **user specific** data directories
  - By using !...!, environment variables can be leveraged, e.g. !username!
  - **Optional**

- **CITRIX=1**
  - **Mandatory for XenApp installations (even for MUI Packs)**

Example:
Setup.exe /V"SETMULTIUSER=1 MULTIUSERCOMMONDIR=%ProgramData%
  MULTIUSERBASEDIR=C:\NotesData\!username! CITRIX=1"

Hint: Due to a bug in 8.5.2, you can't use setup.ini CmdLine without /s.
  CmdLine works in 8.5.1

Lotus Notes 8.5.x on XenApp – Notes Installer errors
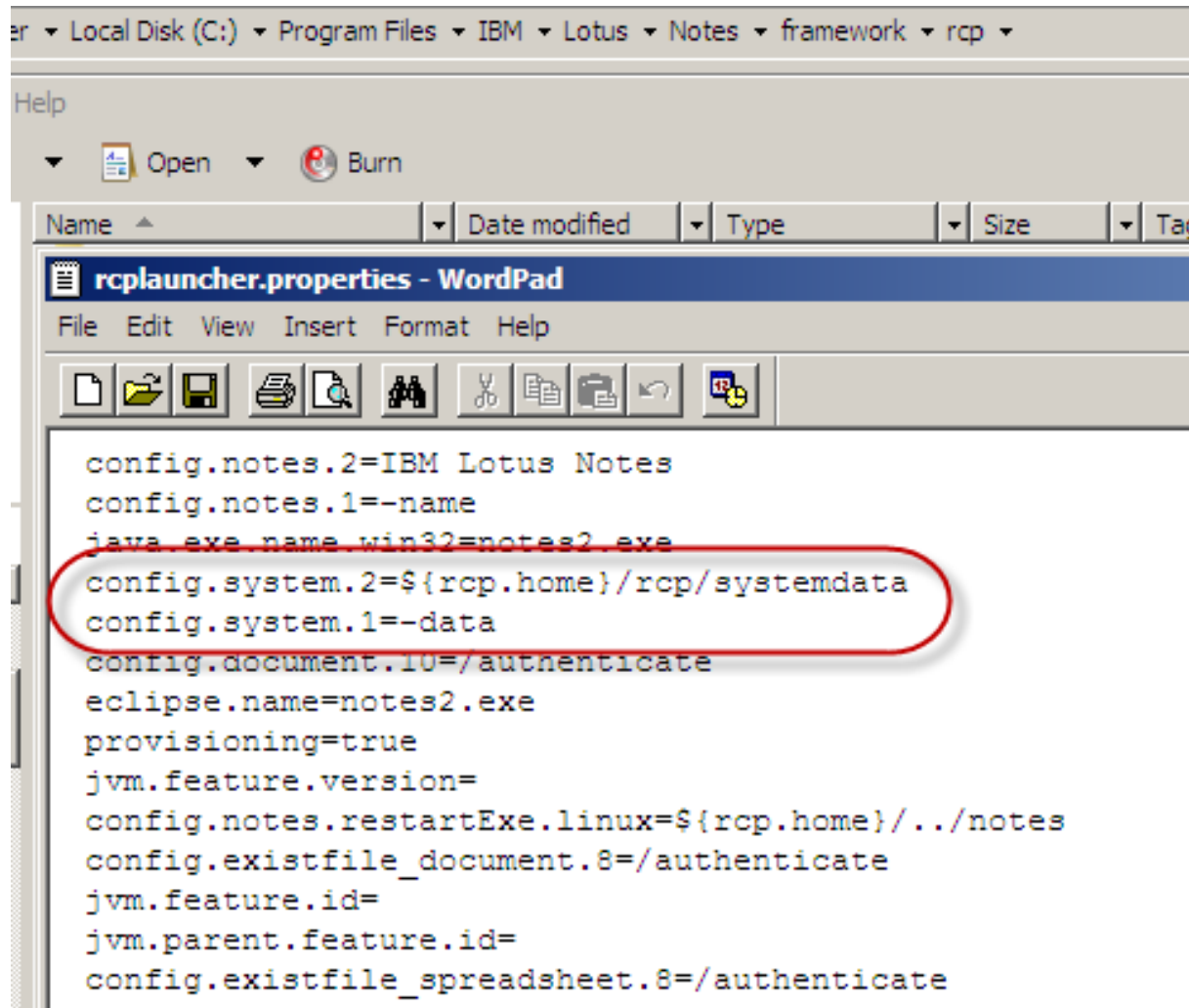
Sometimes, a ..\framework\rcp**systemdata** directory is created:
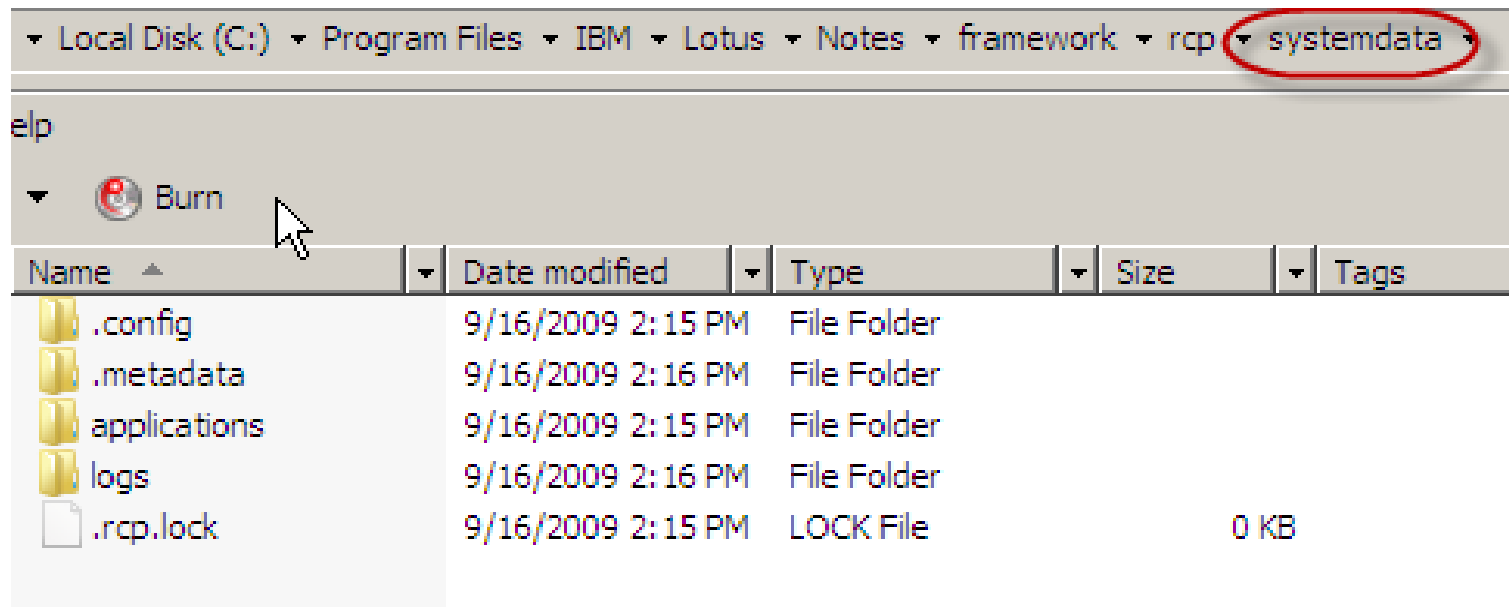
- ➤ Actually, it belongs to <DataDir>\workspace of the install user
- ➤ Will never be used and can be deleted
- ➤ Might be recreated by the installation of FixPacks

Lotus Notes 8.5.1 on Citrix – Notes Installer errors

Check ...\rcp\rcplauncher.properties for the following entries and remove them:

Lotus Notes 8.5.x on XenApp – NTFS security

Access rights for notes.ini in the common data directory are to high:
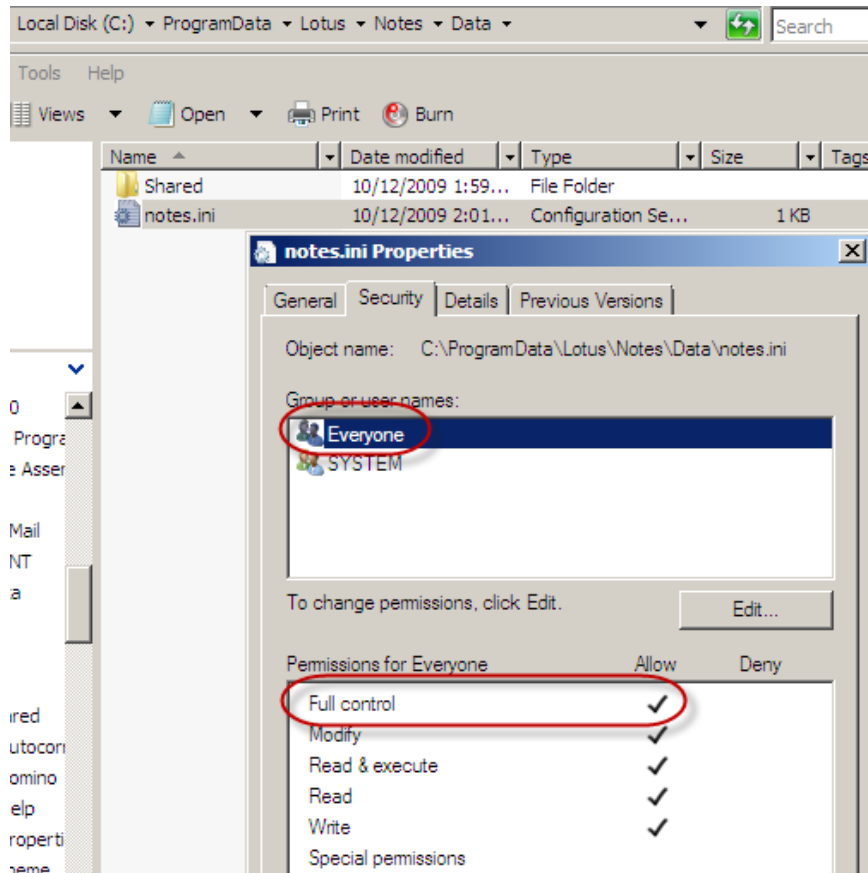
Lotus Notes 8.5.x on XenApp – NTFS security

Access rights for the shared data directory are to high
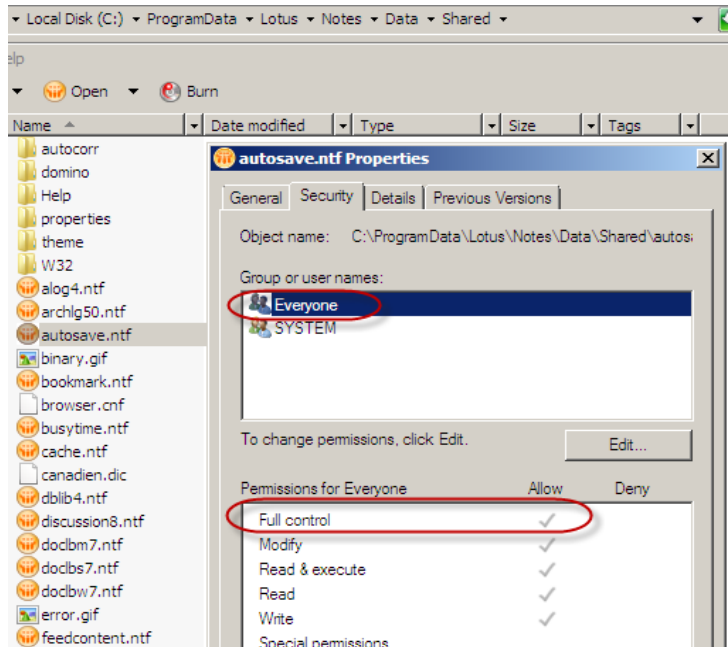
Templates & other:
Administrators & System: Full control
Users: Read & execute, Read

Help databases:
Administrators & System: Full control
Users: Write

- Notes is requesting an **exlusive** read/write lock, but my testing shows that **Read** access is sufficients as long as the templates are not accessed manually.
- If **Write** access is granted, templates will be modified at least by the first user who starts Lotus Notes.

Lotus Notes 8.5.1 Multi-User Installation on XenApp

Now that multi-user installations are supported and recommended, we are faced with new problems.
Even with read only access to the shared templates, access violations are very likely on servers with a large number of users:
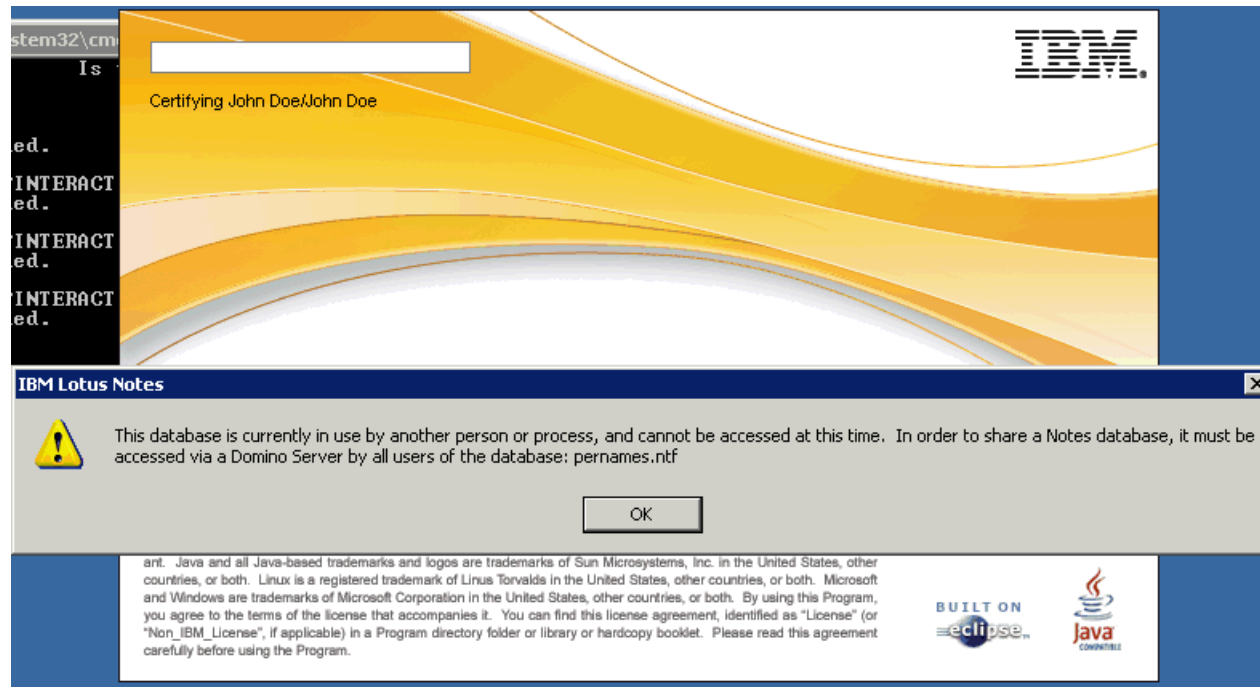
Work arounds (both have disadvantages)
• Use database links pointing to server based templates
• Upgrade the design of user databases on file servers using functional ids

Lotus Notes 8.5.x on XenApp – NTFS security

ALL(!) members of Users have access to EVERY file in ANY other directory below MULTIUSERBASEDIR, esp. ID-files, contacts.
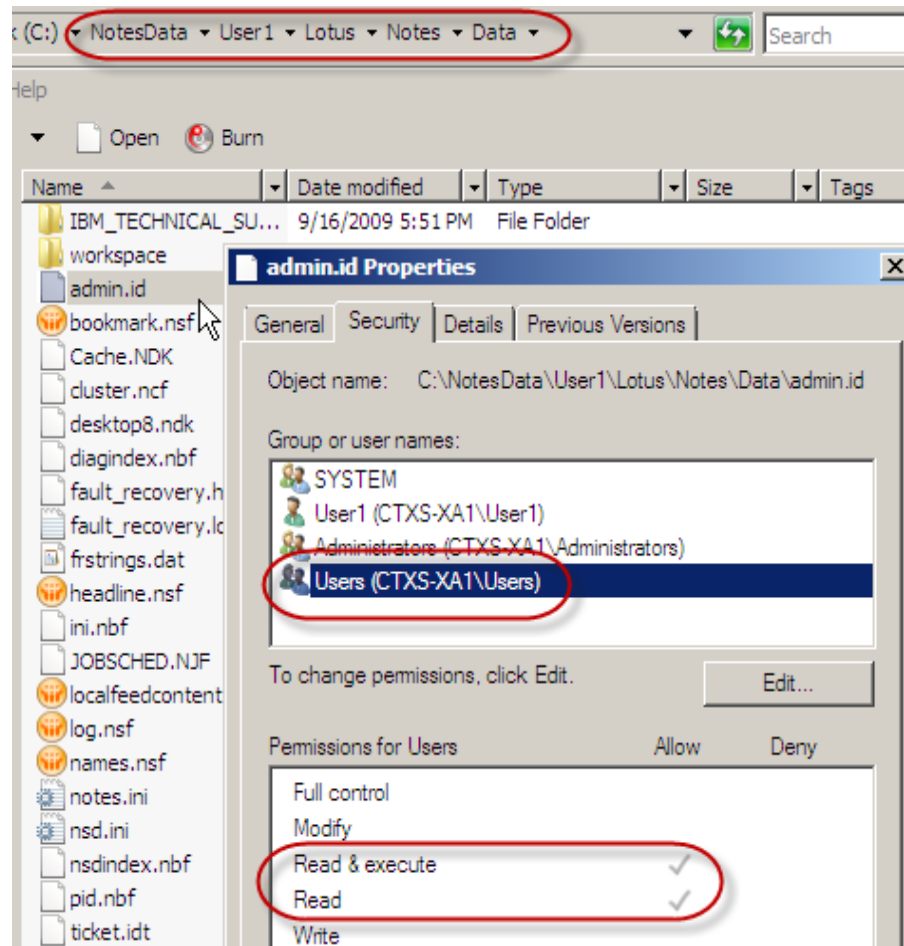
While network shares are protected by sharing access rights, this is a BIG security issue for local user data directories on a XenApp server.
Solution: Create parent directory manually and adjust ACL appropriately (#1447060).   21

Lotus Notes 8.5.x on XenApp - Services

If Lotus Notes is using data directories on a file server, you should **change** startup type of services from automatic to **manual**.

- **Lotus Notes Diagnostics**
  This won't stop Lotus Notes from crashing, but you will be able to create NSD dumps again.

- **Multi-User Cleanup utility**
  - If the user data directories are located on a network share, the Service can't access them.
  - If you are not using Roaming with cleanup option, you can **deinstall** it.

- **Lotus Notes Single Logon**
  - Not supported on Citrix XenApp and it does not work on 64 Bit anyway.
  - Do **not** install it.

Lotus Notes 8.5.x on XenApp – Tuning memory

By using one singe Java Shared Classes cache for all sessions, memory consumption is reduced and start up time of Lotus Notes is improved.

<Program directory >\framework\rcp\deploy\jvm.properties must be modified:

Standard:

```
vmarg.Xminf=-Xminf0.1
vmarg.Xmn=-Xmn7m
vmarg.Dshare=-Xshareclasses:name=xpdplat_.jvm,controlDir=${prop.jvm.shareclasses.loc},groupAccess,keep,singleJUM,nonfatal
vmarg.Xnoverify=-Xverify:none
vmarg.Xgcpolicy=-Xgcpolicy:gencon
vmarg.Xzero=-Xzero
vmarg.Xtrace=-Xtrace:none
vmarg.Djavapolicy=-Djava.security.policy=${rcp.home}/../java.policy
vmarg.Xmaxt=-Xmaxt0.6
jvm.shareclasses.loc=${rcp.data}/.config/org.eclipse.osgi    modify
# launcher will ensure jvm.shareclasses.fullpath location exists before jvm launching
jvm.shareclasses.fullpath = ${prop.jvm.shareclasses.loc}
```

singleJUM circled — delete

modified:

```
vmarg.Xminf=-Xminf0.1
vmarg.Xmn=-Xmn7m
vmarg.Dshare=-Xshareclasses:name=xpdplat_.jvm,controlDir=${prop.jvm.shareclasses.loc},groupAccess,keep,nonfatal
vmarg.Xnoverify=-Xverify:none
vmarg.Xgcpolicy=-Xgcpolicy:gencon
vmarg.Xzero=-Xzero
vmarg.Xtrace=-Xtrace:none
vmarg.Djavapolicy=-Djava.security.policy=${rcp.home}/../java.policy
vmarg.Xmaxt=-Xmaxt0.6
jvm.shareclasses.loc=C\:/temp/xpdplat
# jvm.shareclasses.loc=${rcp.data}/.config/org.eclipse.osgi
# launcher will ensure jvm.shareclasses.fullpath location exists before jvm launching
jvm.shareclasses.fullpath = ${prop.jvm.shareclasses.loc}
```

Lotus Notes 8.5.x on XenApp – Tuning memory

Prerequisites when changing the Java shared classes location:

At least the parent directory (here C:\temp) must already exist, otherwise a client will still use the standard location:

- Don't forget clean up of the old cache files in the user data directories:
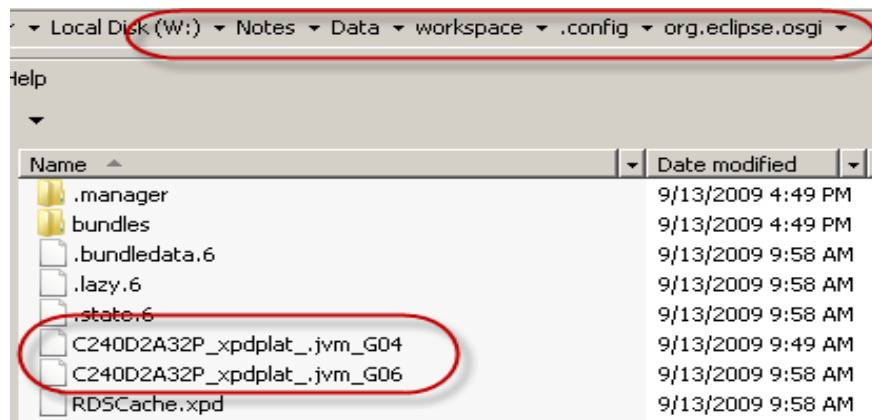
min. 64 MB garbage per user/directory!

Lotus Notes 8.5.x on XenApp – Tuning memory

- The cache size is defined by **vmarg.Dscmx=-Xscm...**
- Cache statistics can be reviewed in a Java core dump
  (..\workspace\logs\javacore*.*), created by NSD:

```
0SECTION        SHARED CLASSES subcomponent dump routine
NULL            =========================================
NULL
1SCLTEXTCSUM    Cache Summary
NULL            ------------------
NULL
2SCLTEXTRCS         ROMClass start address      = 0x11487000
2SCLTEXTRCE         ROMClass end address        = 0x11D0DE48
2SCLTEXTMSA         Metadata start address      = 0x149754D4
2SCLTEXTCEA         Cache end address           = 0x15450000
2SCLTEXTRTF         Runtime flags               = 0x2CBE229F
2SCLTEXTCGN         Cache generation            = 6
NULL
2SCLTEXTCSZ         Cache size                  = 67108492
2SCLTEXTFRB         Free bytes                  = 46560908
2SCLTEXTRCB         ROMClass bytes              = 12237660
2SCLTEXTAOB         AOT bytes                   = 4188284
2SCLTEXTNOB         Java Object bytes           = 0
2SCLTEXTRWB         ReadWrite bytes             = 224908
2SCLTEXTBAM         Byte data bytes             = 3344928
2SCLTEXTBAM         Metadata bytes              = 551804
NULL
2SCLTEXTNRC         Number ROMClasses           = 5217
2SCLTEXTNAM         Number AOT Methods          = 2862
2SCLTEXTNOJ         Number Java Objects         = 0
2SCLTEXTNCP         Number Classpaths           = 3
2SCLTEXTNUR         Number URLs                 = 106
2SCLTEXTNTK         Number Tokens               = 0
2SCLTEXTNST         Number Stale classes        = 0
2SCLTEXTNST         Percent Stale classes       = 0%
NULL
2SCLTEXTCPF         Cache is 30% full
NULL
1SCLTEXTCMST    Cache Memory Status
NULL            ------------------
1SCLTEXTCNTD        Cache Name                       Memory type          Cache
path
NULL
2SCLTEXTCMDT        xpdplat_jvm                      Memory mapped file
C:/temp/xpdplat\C240D2A32P_xpdplat_.jvm_G06
NULL
```

Lotus Notes 8.5.x on XenApp – Core Dumps

Memory core dumps consume a lot of disk space
(here 300 MB per dump):

Over time, suffient free disc space is at risk

Lotus Notes 8.5.x on XenApp – Core dump location

To reduce this problem, use two different, but supplementary workarounds:

- Delete the core dumps periodically (e.g. when logging off)
  Pro: Disk space is only consumed during the session
  Con: Valuable analysis data is lost

- Relocate the directory where dumps are written when data directory is network drive
  The directory locations are specified in the file rcpinstall.properties:

  env.set.IBM_JAVACOREDIR=${rcp.data}/logs
  env.set.IBM_COREDIR=${rcp.data}/logs
  env.set.IBM_HEAPDUMPDIR=${rcp.data}/logs

  change to e.g. local temp directory of the user:

  env.set.IBM_JAVACOREDIR=${**env.TEMP**}/logs

  env.set.IBM_COREDIR=${**env.TEMP**}/logs
  env.set.IBM_HEAPDUMPDIR=${**env.TEMP**}/logs

%temp% should be user specific!

Reminder: By default, %temp% is deleted as soon as a session ends on Terminal Servers

Lotus Notes 8.5.x on XenApp – Reducing Log size

Workspace ▸ logs

Freigeben für ▼   Bren

Name

- error-log-0.xml
- error-log-1.xml
- error-log-2.xml
- error-log-3.xml
- error-log-4.xml
- error-log-5.xml
- trace-log-0.xml
- trace-log-1.xml
- trace-log-2.xml
- trace-log-3.xml
- trace-log-4.xml
- trace-log-5.xml
- trace-log-6.xml
- trace-log-7.xml
- trace-log-8.xml
- trace-log-9.xml
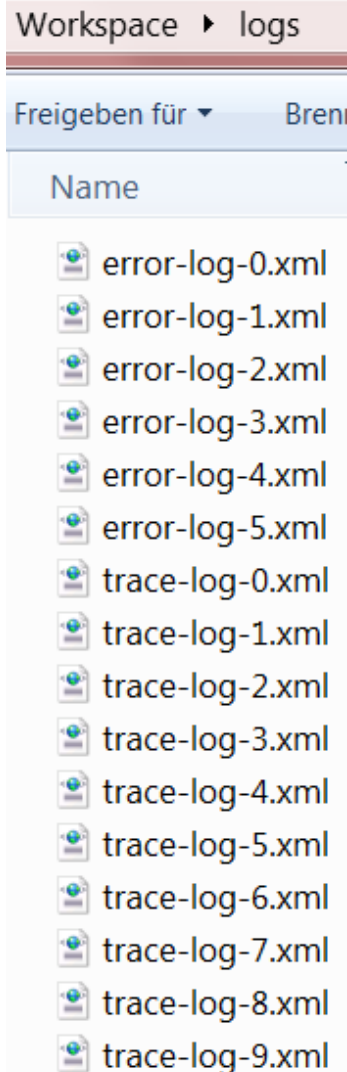
By default, a maximum of 64 MB log files is allowed:

com.ibm.rcp.core.internal.logger.boot.RCPTraceHandler.count=10
com.ibm.rcp.core.internal.logger.boot.RCPLogHandler.count=6

com.ibm.rcp.core.internal.logger.boot.RCPLogHandler.size=4000000
com.ibm.rcp.core.internal.logger.boot.RCPTraceHandler.size=4000000

Specified in rcpinstall.properties

Lotus Notes 8.5.x on XenApp – Tuning notes.ini settings

Cache.ndk
Cache.ndk should be located locally, if user data directories on
network shares are used, e.g.
cache=C:\Users\chenseler\AppData\local\Temp\cache.ndk

The default size (30 MB) of the cache.ndk can be modified, using:
UserSetCacheQuota=1
UserCacheQuotaSize=65535 (value in KB, here 64 MB)

Only applies if cache.ndk is **created**.
Does not affect existing cache files.

Log.nsf
A performance improvement might be achieved by **not** using log.nsf:
Log=,1,0,7,20000

DISABLE_CLIENTRECORD=1
„Update Client Information in Person Record" AdminP requests are disabled.

PercentAvailSysResources:
Don't use it anymore (obsolete since 8.0)

Lotus Notes 8.5.x on XenApp – Tuning AV Settings

It is mission critical to configure AV settings on XenApp servers!
I've seen 10-30 sec. hangs in Notes, caused by AV protection.

Exclude the following files and/or directories from real time scanning:
Lotus Notes Program directory
*.nsf,
*.ntf,
*.ndk
*.xml,
*.prefs,
*.properties
Java Shared Classes cache (*_xpdplat_.jvm_*)
others:: *.log, *.txt, *.nbf, *.ncf

or use a task whitelist:
notes.exe, ntaskldr.exe, notes2.exe, nlnotes.exe, etc...

Lotus Notes 8.5.x on XenApp – Migrating data

In many cases, existing user data directories must be moved, because they **do not** end with „\Lotus\Notes\Data".

Method a) session-centric
The data is migrated in user context, e.g. using log-in scripts, Active Setup, Launchers, etc...

Method b) file server centric
The data is migrated by an administrator for all affected users (at once)

It depends on customer situation, if data should moved or copied.
Pro move:
- Fast
- No additional disk space required on file servers

Pro copy:
- Coexistence with older Lotus Notes clients
- Fallback scenario

As soon as a XenApp-server has been updated, all user that connect to this server must be updated appropriately.
Hence, XenApp farms should be upgraded en bloc in most cases.

Alternatively, a user by user migration to dedicated XenApp servers is possible, but with higher administrative efforts

Lotus Notes 8.5.x on XenApp – User Shortcuts

Don't forget to clean up any Shortcut referencing the previous Notes version:

1. After 8.5.1 upgrade, users were using there old Notes 6 shortcut,
referencing <oldpath>\nlnotes.exe and they got an error:

2. They „Notes guru" of the department found the „solution":
   and he presented/communicated the solution to the whole
   department, so we got no incidents/calls...

   Unfortunately, he forgot:
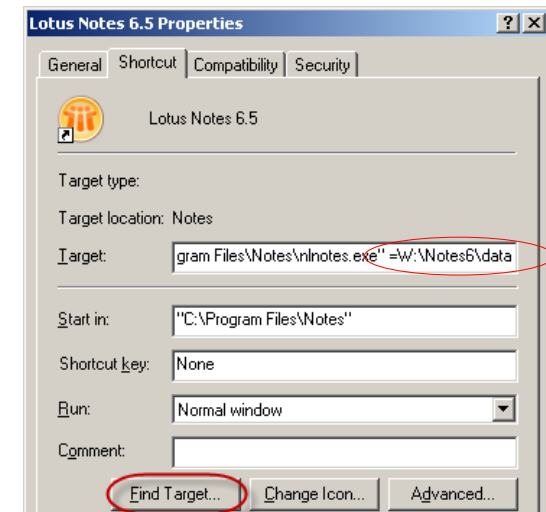
3. In effect, the whole department was using Lotus Notes 8.5.1 Basic with their old
Lotus Notes 6 data directories, which were left for coexistence/Fallback.

This wasn't a user error. They've done, what they always did.
We hadn't reckoned with the resourcefulness of the users

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Lotus Notes 8.5.x on XenApp – User Shortcuts

Meanwhile, after the old Lotus Notes version has been uninstalled,
I use a tool to delete any shortcut that references notes.exe, nlnotes.exe,
nminder.exe, killnotes.exe, etc... in the target property.

If run in admin context, it parse the whole profiles directory and deletes
- Program group Shortcuts
- Desktop Shortcuts
- Quick Launch Shortcuts
- Pinned to taskbar Shortcuts

```
: Lotus Notes Remove Shortcuts Utility 09/17/2010 11:49:21 on computer CTX1
-------------------------------------------------------------------------
: Username: Administrator
-------------------------------------------------------------------------
: User profile: C:\Users\Administrator
-------------------------------------------------------------------------
: IP-Adresse des Rechners: 10.10.10.1
-------------------------------------------------------------------------
: Profiles Directory: C:\Users
-------------------------------------------------------------------------
Success: Shortcut C:\Users\Chris\Desktop\Lotus Notes 6.5.lnk successfully deleted.
-------------------------------------------------------------------------
Success: Shortcut C:\Users\cschoeneich\Application Data\Microsoft\Internet Explorer\Quick Launch\Lotus Notes 6.5.lnk
         successfully deleted.
-------------------------------------------------------------------------
Success: Shortcut C:\Users\cschoeneich\Desktop\Lotus Notes 6.5.lnk successfully deleted.
-------------------------------------------------------------------------
Success: Shortcut C:\Users\rmueller\Application Data\Microsoft\Internet Explorer\Quick Launch\Lotus Notes 6.5.lnk
         successfully deleted.
-------------------------------------------------------------------------
Success: Shortcut C:\Users\rmueller\Desktop\Lotus Notes 6.5.lnk successfully deleted.
```

To handle roaming OS user profiles, it should be run once again in user
context, where only the current user profile is cleaned.

Lotus Notes 8.5.x on XenApp – Application Delivery

Now that Lotus Notes 8.5.x has been installed successfully on the XenApp servers, how can user access it?

There a different ways, to deliver an application to the client:
• Published Server Desktop
• Published Application
• Streamed Application

Clients needed for Application access
• XenApp online plugin (Full/Web)
• XenApp offline plugin

Lotus Notes 8.5.x on XenApp – Server Desktop

The only supported way to access Notes on XenApp is as Published Server Desktop, here as CTX1 Desktop icon on the user's Desktop
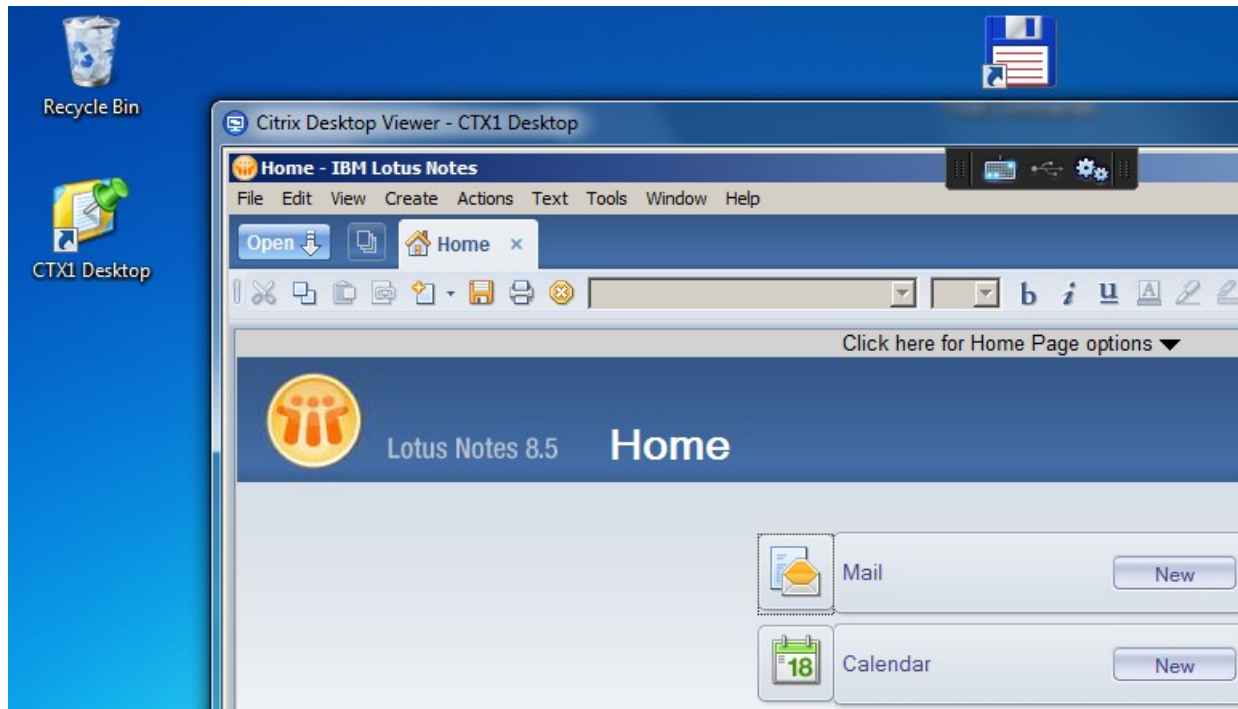
- User has to handle a different desktop
- It's obivous that a different computer is accessed.
- Extra work to protect the server's desktop against end user access.
- Extra Application window with different look and feel

Lotus Notes 8.5.x on XenApp – Published Application

Lotus Notes as published application:
• Although still installed on a XenApp server, only the program icon is
  published to the client
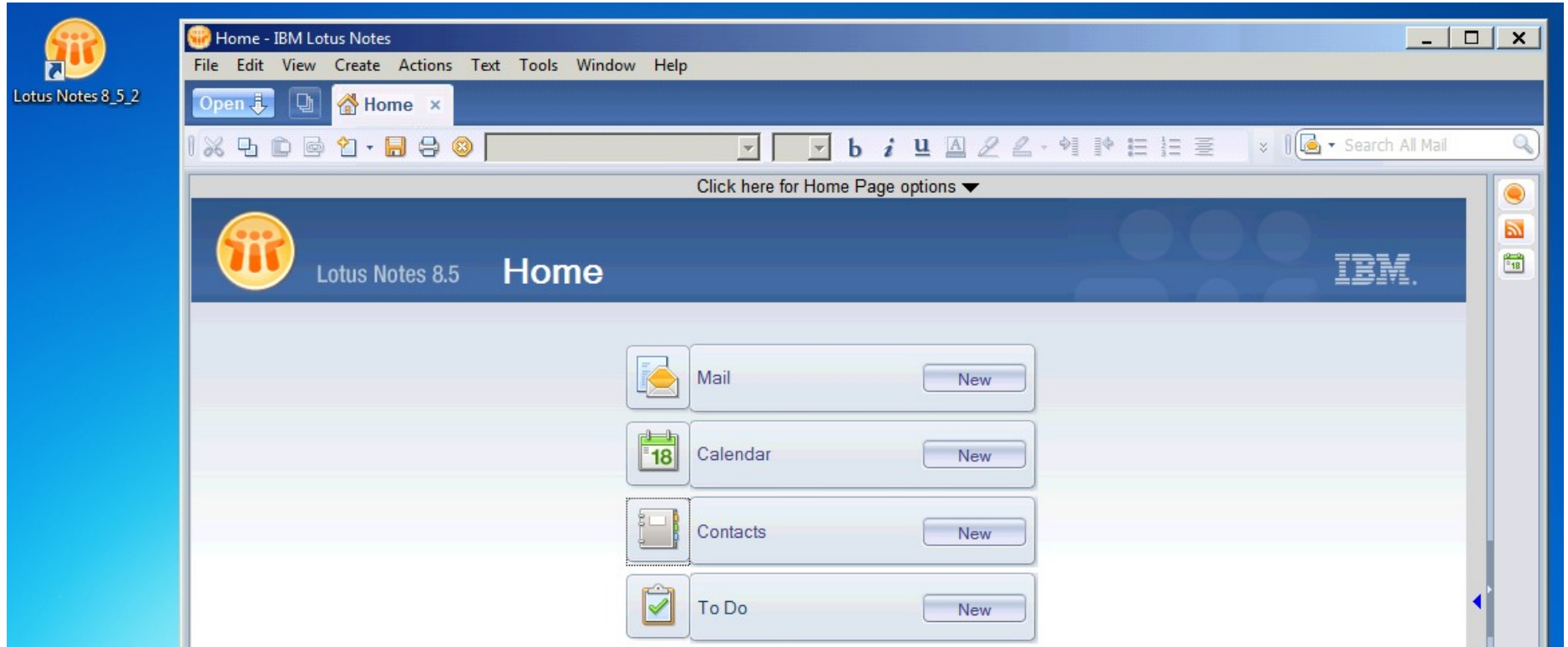
The delivered application is seamlessly integrated into the client environment
• Desktop icon (optional)
• Program group (optional)
• Look and feel like a locally installed application

Lotus Notes 8.5.x on XenApp – Published Application

Important: When configuring Lotus Notes as published applciation, set the working directory to the original working directory, **not** to the user's data directory!
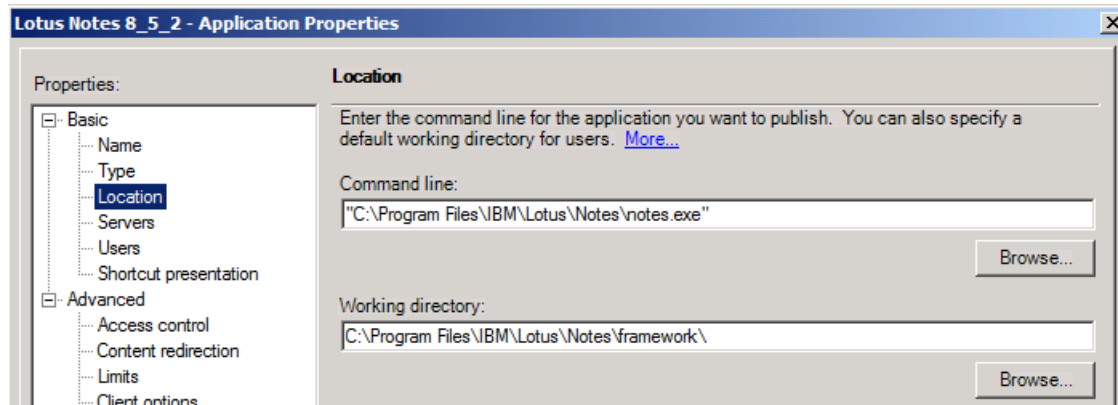
Main problem: File type association (FTA):
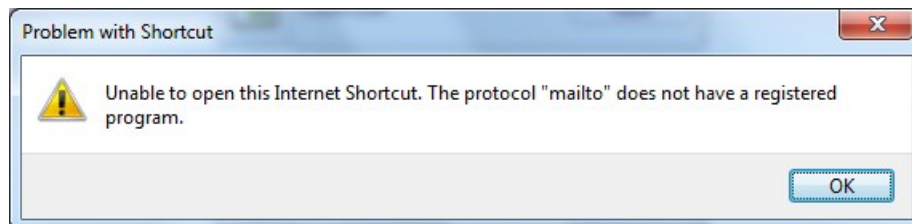
Mailto: .vcf:
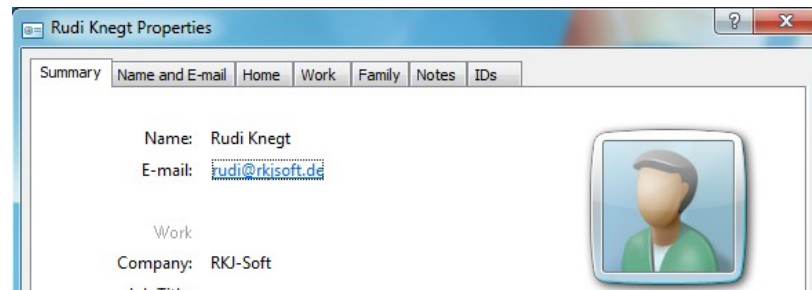
Lotus Notes 8.5.x on XenApp – Published Application

By activating and configuring **Content redirection**, you can assign the appropriate file types and protocols to Lotus Notes:
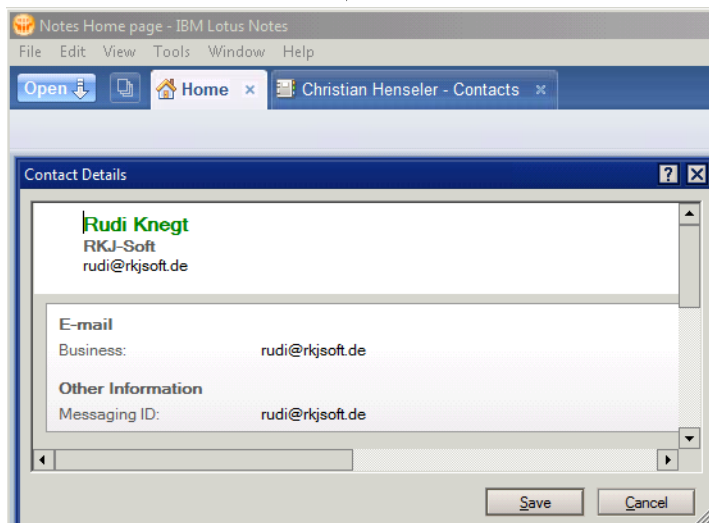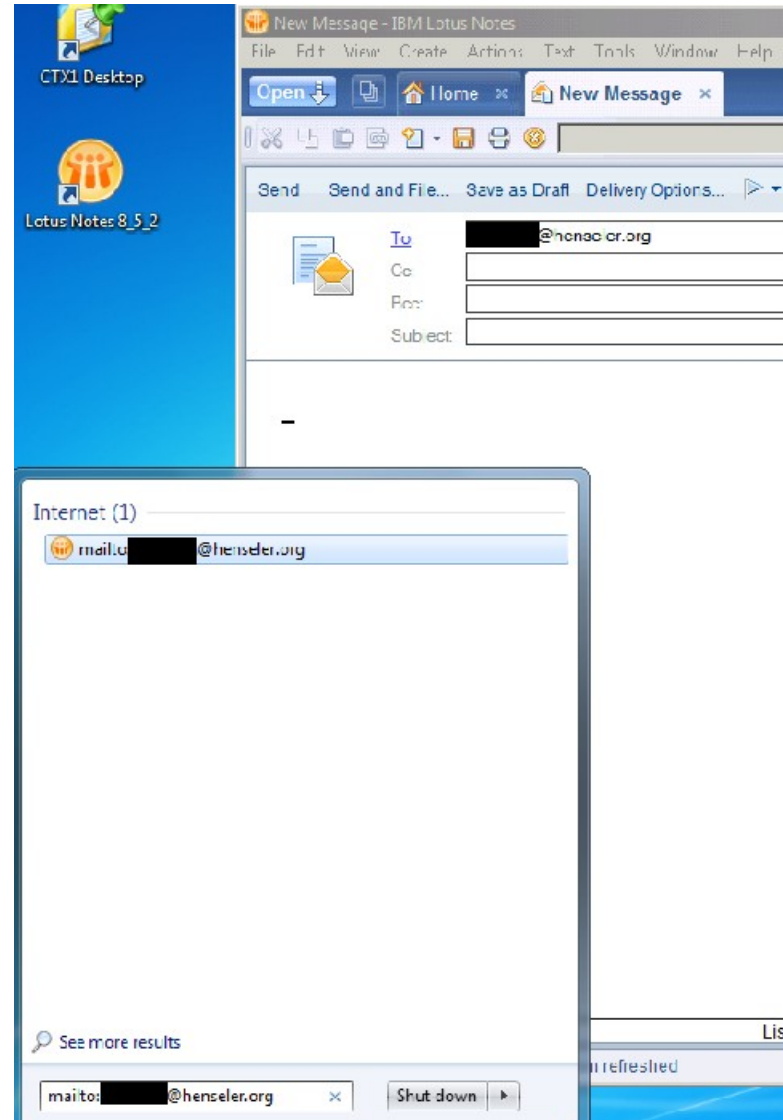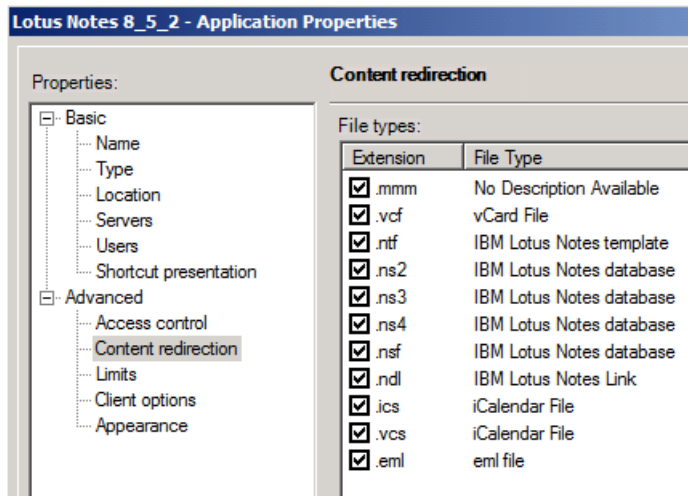
Lotus Notes 8.5.x on XenApp – Application Streaming

The world of Application streaming:

- Isolate applications
- Deliver applications on demand
  - Server to server
  - Server to client

Procedure:
1. Profile your App
2. Publish your App
3. Stream the App

Benefits:
- Use incompatible applications
- Use different versions of an app
- Put load off the XenApp server

*Figure taken from Citrix eDocs
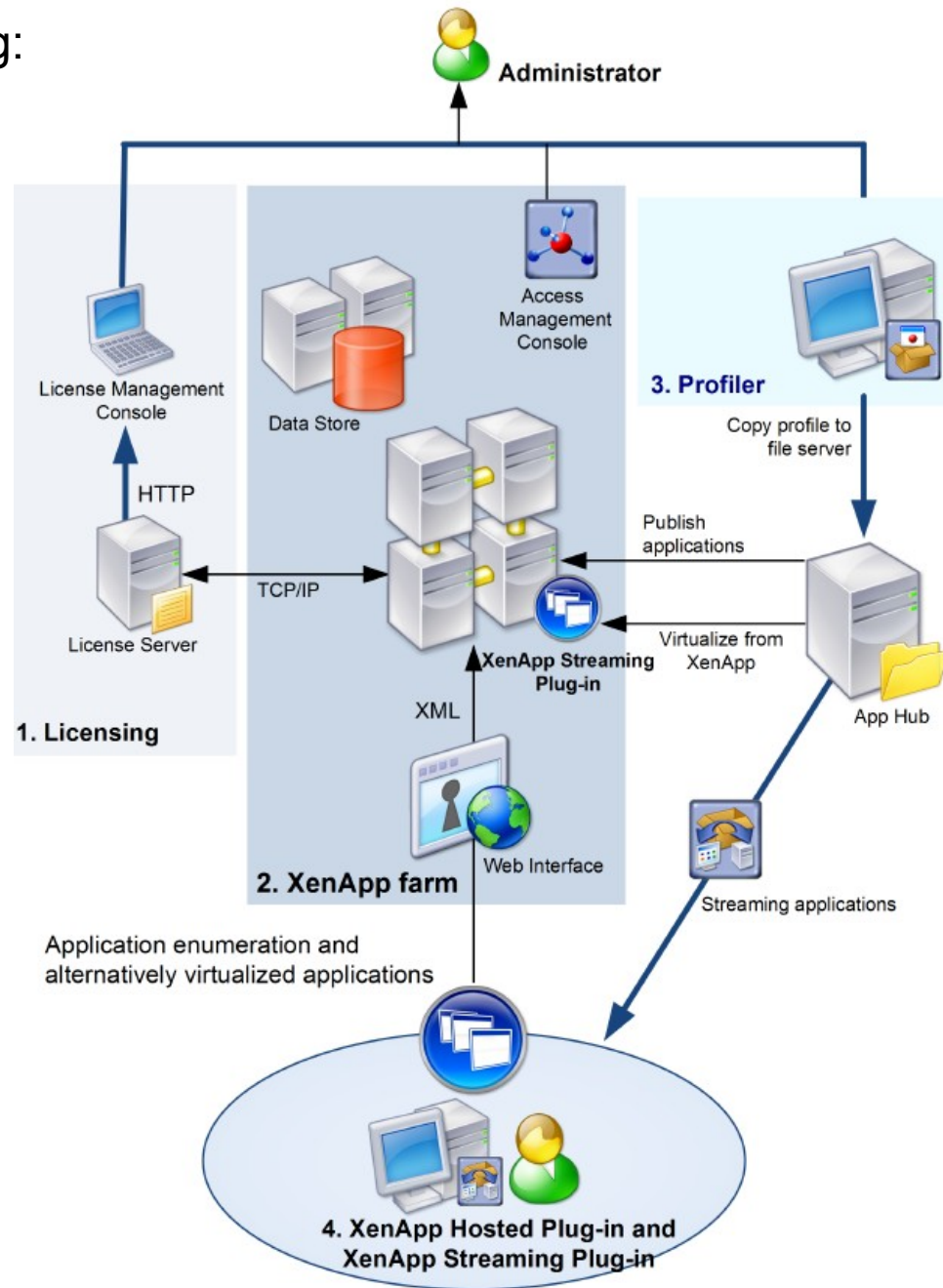
Lotus Notes 8.5.x on XenApp – Application Streaming

The Streaming Profiler is the client component used to create the application package (profile).

You have to think about
• Target platforms
• Languages
• Use initiated updates
• Inter-Isolation Communication
• Signature of the package

New to Streaming Profiler 6.0:
Support for Services!

Use a clean machine with target OS to create the Profile!
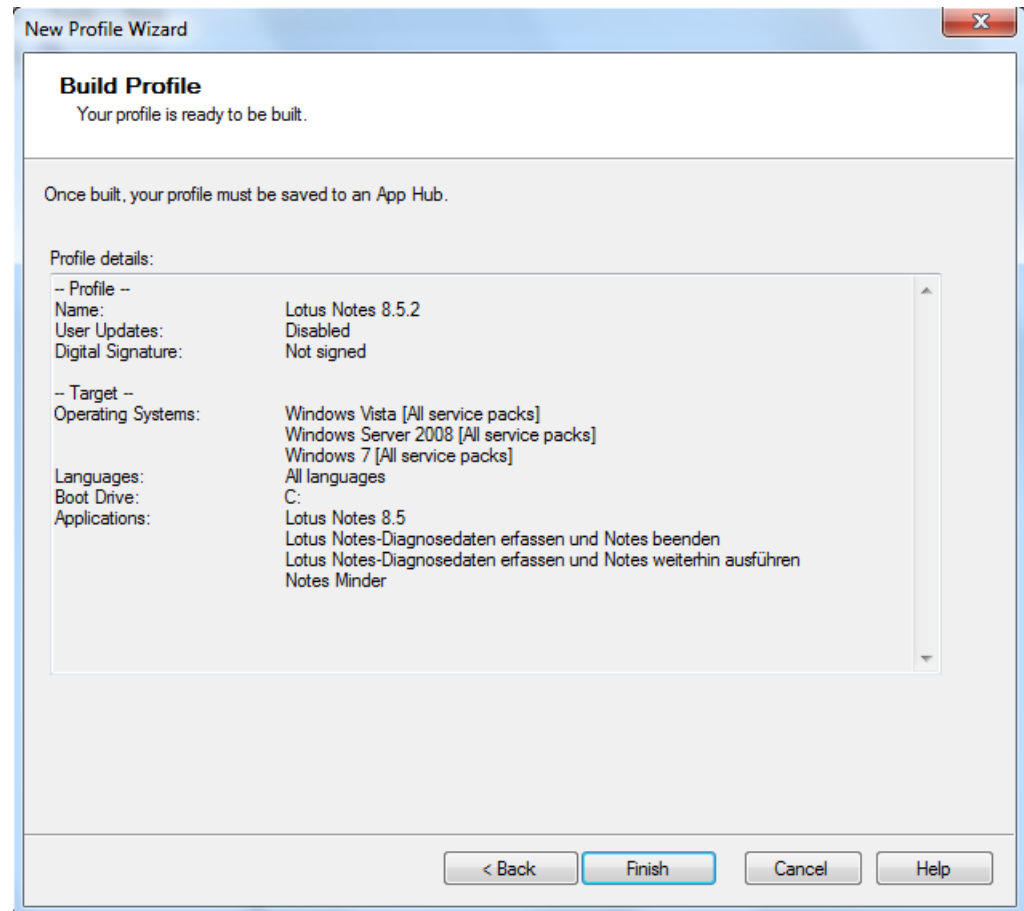
Lotus Notes 8.5.x on XenApp – Application Streaming

After the profile has been created, it is copied to one or more file servers (Application Hubs):
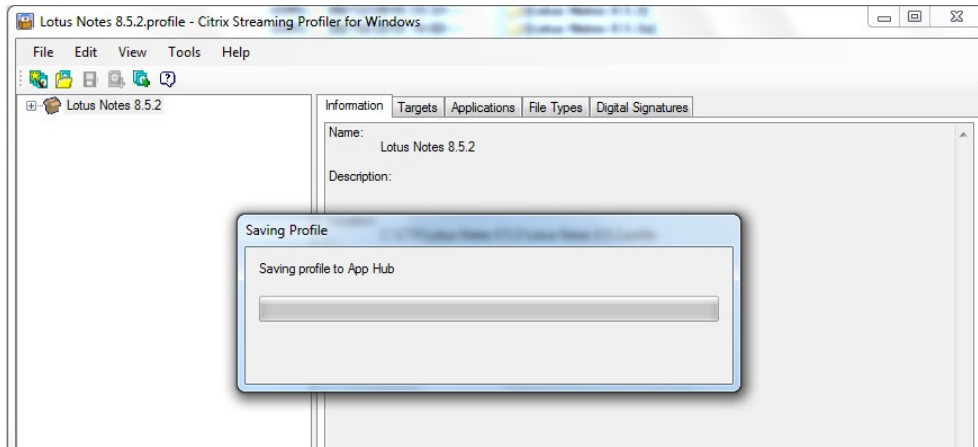
On the File server, the directory of the profile must match the profile name!
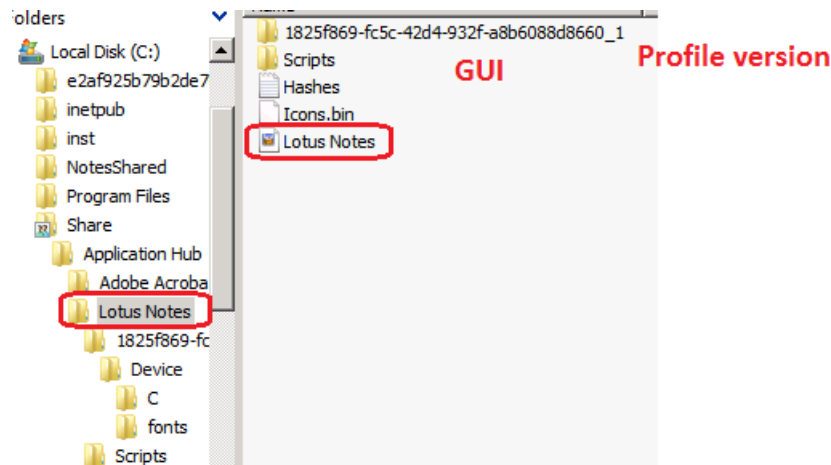
The users need access to the share!

Lotus Notes 8.5.x on XenApp – Application Streaming

When publishing the application, you define the type of the application as Streamed Application:

Lotus Notes 8.5.x on XenApp – Application Streaming

The primary location of the profile can be accompanied by alternate profile locations, based on the IP range of the client:

Lotus Notes 8.5.x on XenApp – Application Streaming

- A profile can be made available offline.
- The users that are able to use a profile offline, can be defined
- The period of days a profile can be used offline can be configured

Lotus Notes 8.5.x on XenApp – Application Streaming

On the user's machine, you need the XenApp offline plugin to stream an application locally.
Initially, the profile if streamed to the client

45
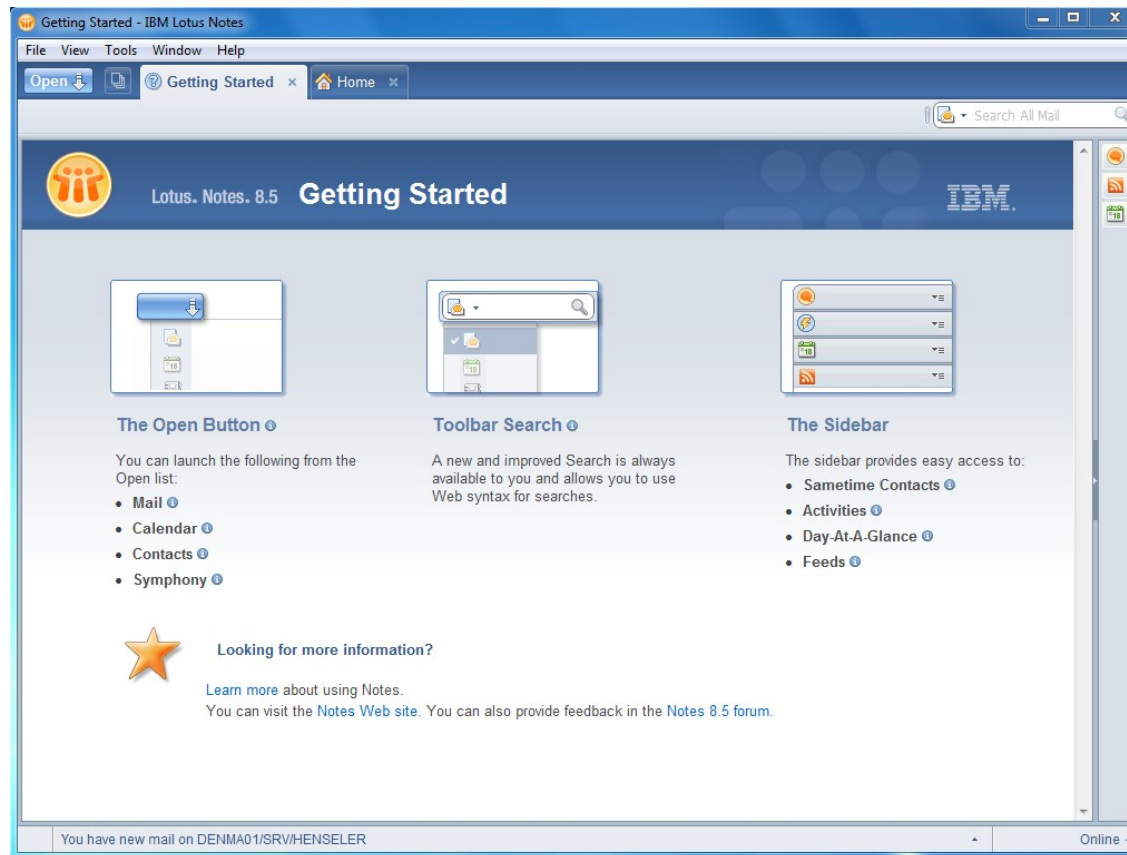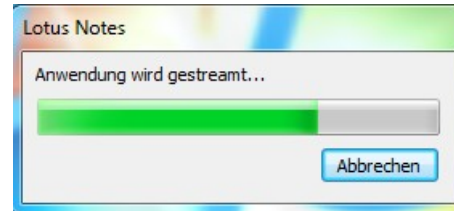
Lotus Notes 8.5.x on XenApp – Application Streaming

Under the hood:
The profile itself is stored in the offline cache:
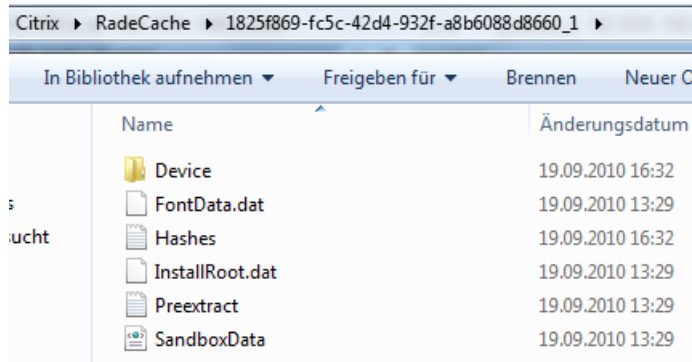
For performance reasons, the parts of the profile are streamed as needed:
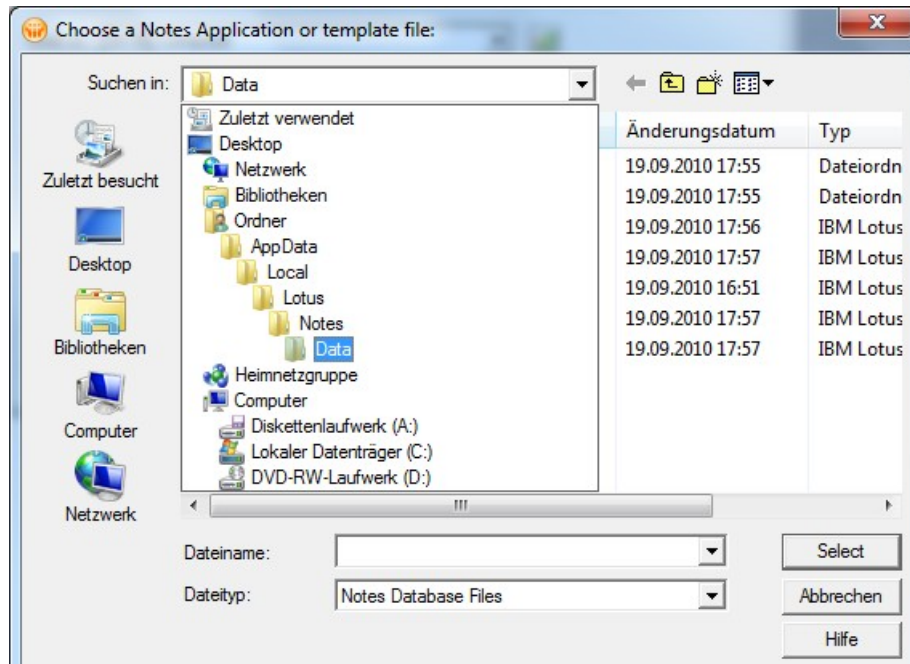
At the beginning:
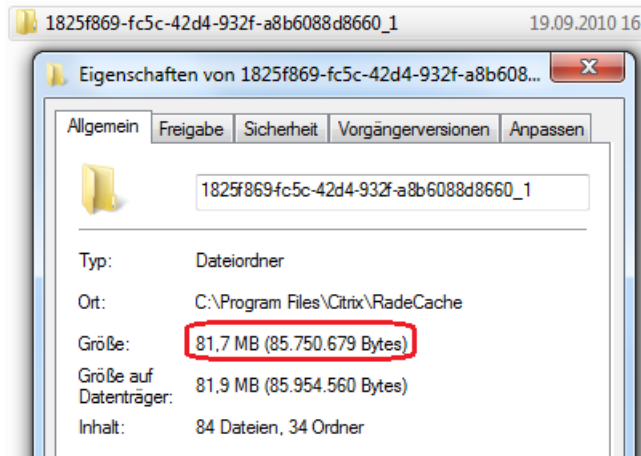
At the end:
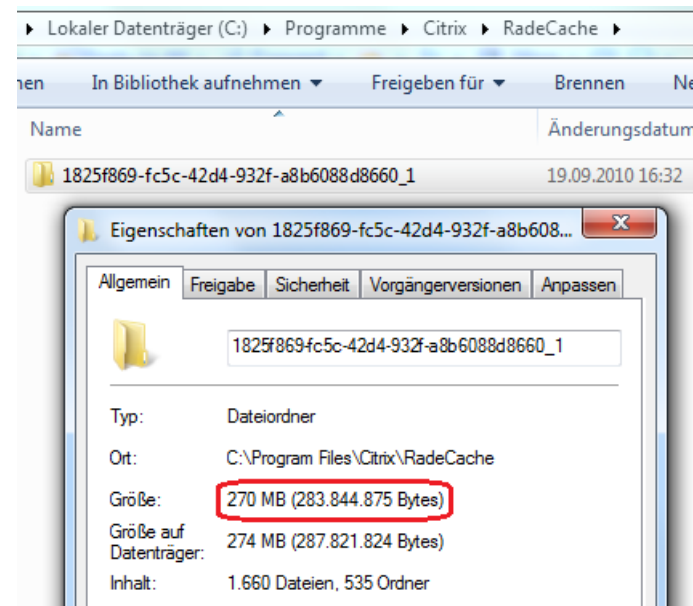
Lotus Notes 8.5.x on XenApp – Application Streaming

The file system is client local (in contrast to different publishing methods:

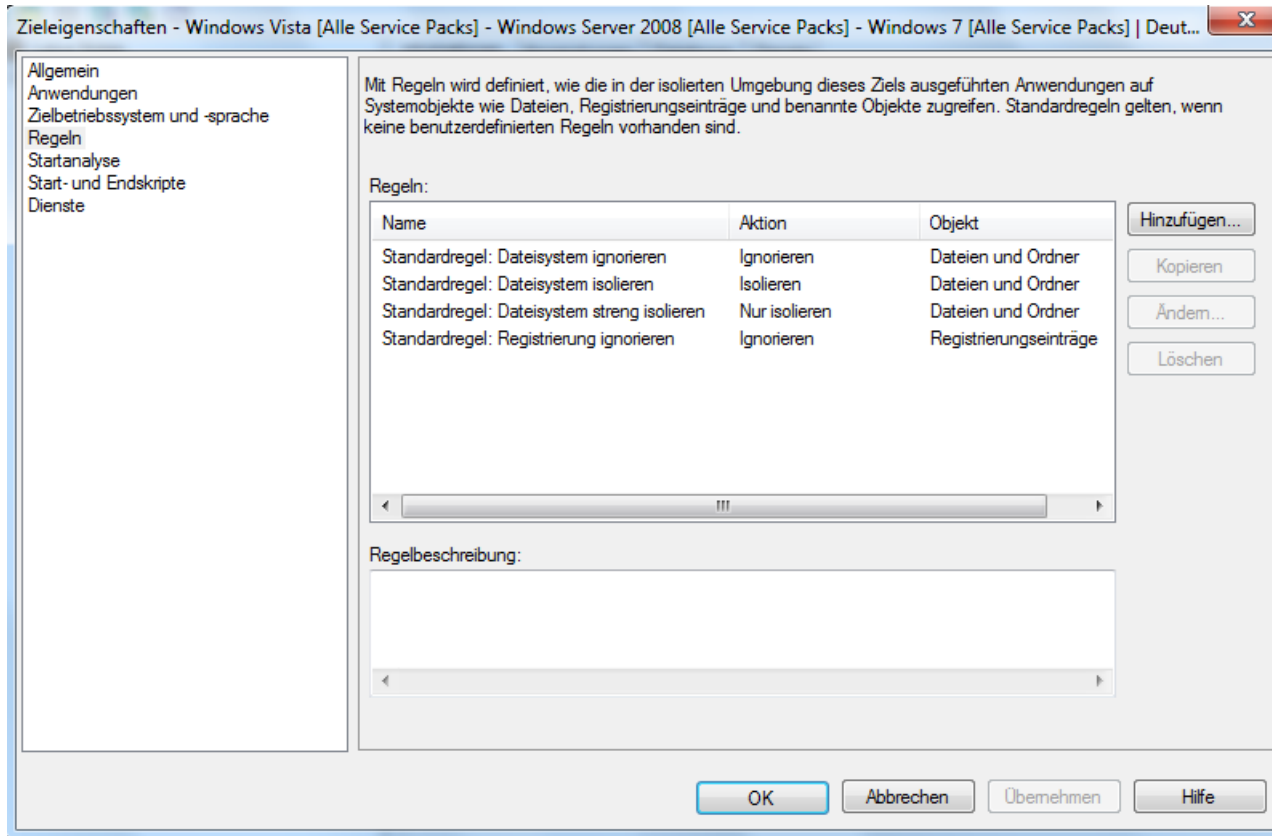The user's data directory is, where defined by the app:

Here, a standard user directory in the user's profile path
(as default for Multi-User Lotus Notes)

Lotus Notes 8.5.x on XenApp – Application Streaming

The isolation level of a profile is defined by rules in the profile:

Lotus Notes 8.5.x on Citrix – Troubleshooting

General approach

1. How many users are affected?
2. Is a single server or a server farm affected?
3. Can the problem be reproduced using a ICA client?
4. Can the problem be reproduced using RDP?
5. Can the problem be reproduced when using the server desktop?
6. Can the problem be reproduced using the server console
7. Are both clients – Standard and Basic - affected?

Lotus Notes 8.5.1 crashes with abnormal termination on Windows Server 2008

Problem:
Lotus Notes 8.5.1 crashes on MS Windows Server 2008.

Analysis:
NSD dump file:
WARNING (0): **WCT Abnormal Termination Detected**! Notes paniced because process notes2.exe (pid=...)
was missing.
…
WARNING (0): **Javacore file ...\Lotus\Notes\Data\workspace\logs\javacore....txt** was found. Please review
this file for further information on why notes2.exe abnormally terminated

Java core file:
1TISIGINFO   Dump Event "**gpf**" (00002000) received   GPF for **G**eneral **P**rotection **F**ault
…
1XHEXCPMODULE Module:
C:\Windows\WinSxS\x86_microsoft.windows.gdiplus_6595b64144ccf1df_1.0.6002.18005_none_
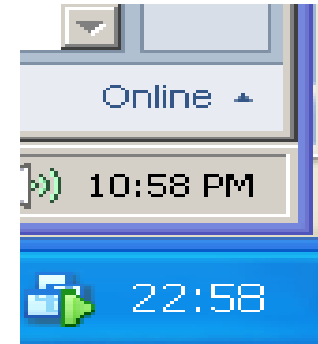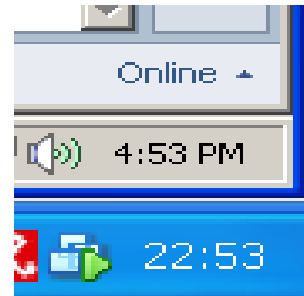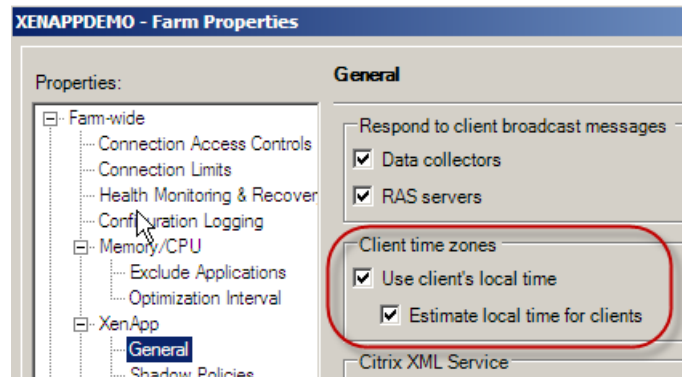9e50b396ca17ae07**gdiplus.dll**

Cause: Error in gdiplus.dll of Windows Server 2008

Solution: MS Hotfix KB971589 (seeTechnote 1414365)

Lotus Notes 8.5.x on XenApp – Troubleshooting

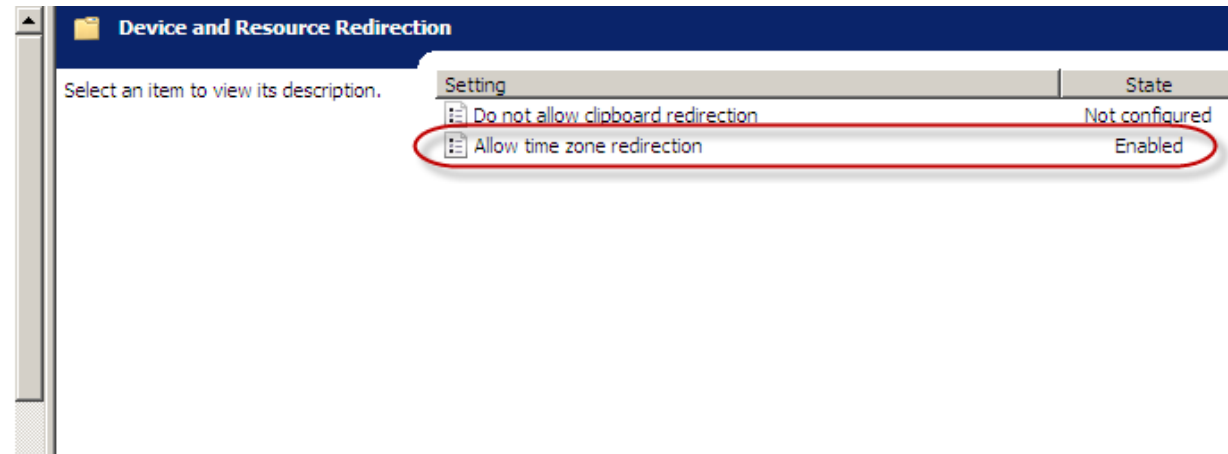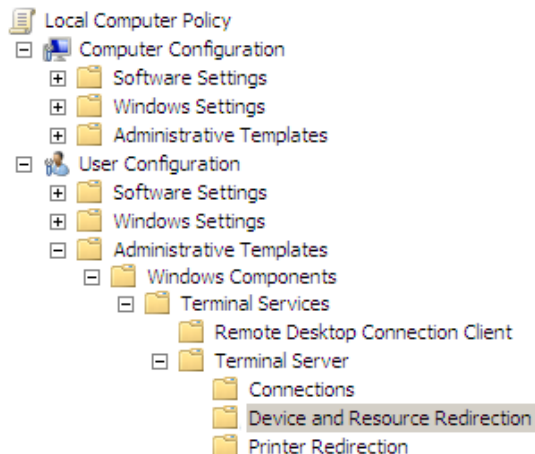Different Timezone settings of server and client.

Citrix Farm Properties:

Does not apply to ICA Java clients!
Check *EnableTimeZoneMapping=true* in *appEmbedClient.js*

GPO:

Lotus Notes 8.5.x on XenApp – Troubleshooting

If only some users or specific clients are affected, the timezone problem may be caused by a corrupted
HKLM\System\CurrentControlSet\Control\TimeZoneInformation Setting.

→ Import the Registry hive from a working machine.

→ SPR #DCON7VRMTR, fixed in 8.5.2

If the user creates a Calendar entry in the Notes Client (Standard) it is four hours out (i.e., if entry should be at 14:00, it appears to be at 10:00).
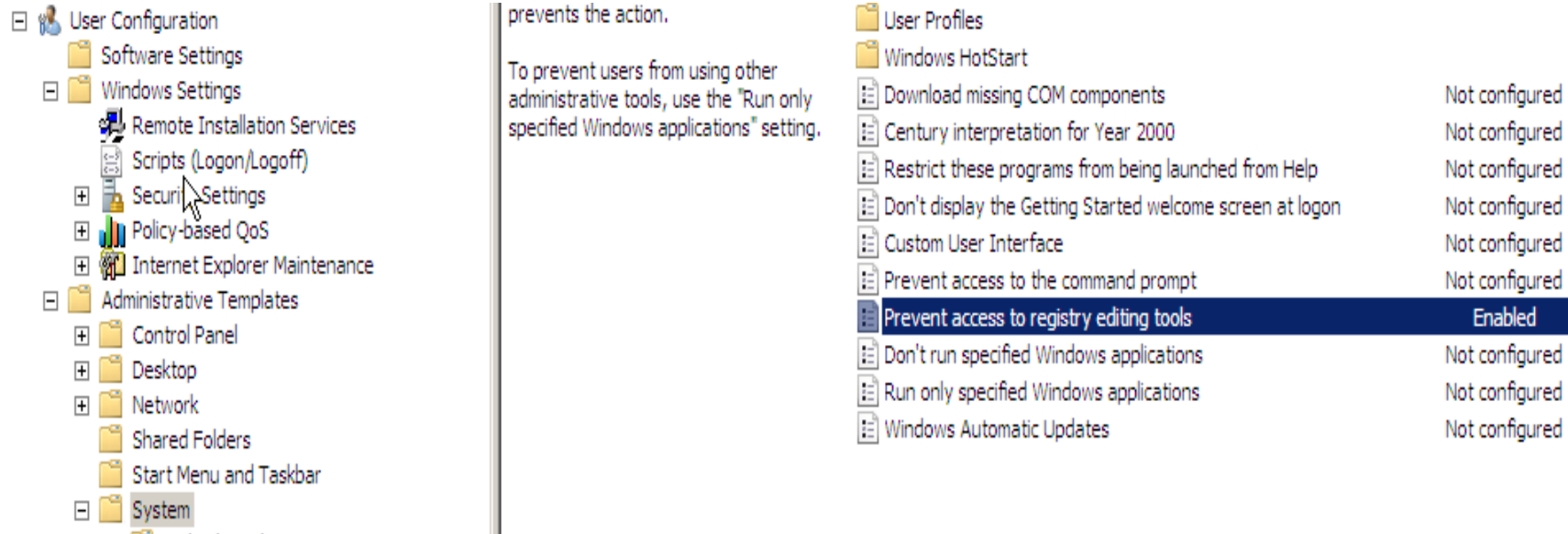
On the Basic Notes Client, the entry is seven hours out, (i.e., if it should be 14:00, it appears to be at 07:00).

This issue is not specific to the template

→ Caused by Citrx XenApp bugs (esp. tzuser.dll) that were fixed in XenApp 5.0 Hotfix Rollup 5 (PSE450R05W2K3002):
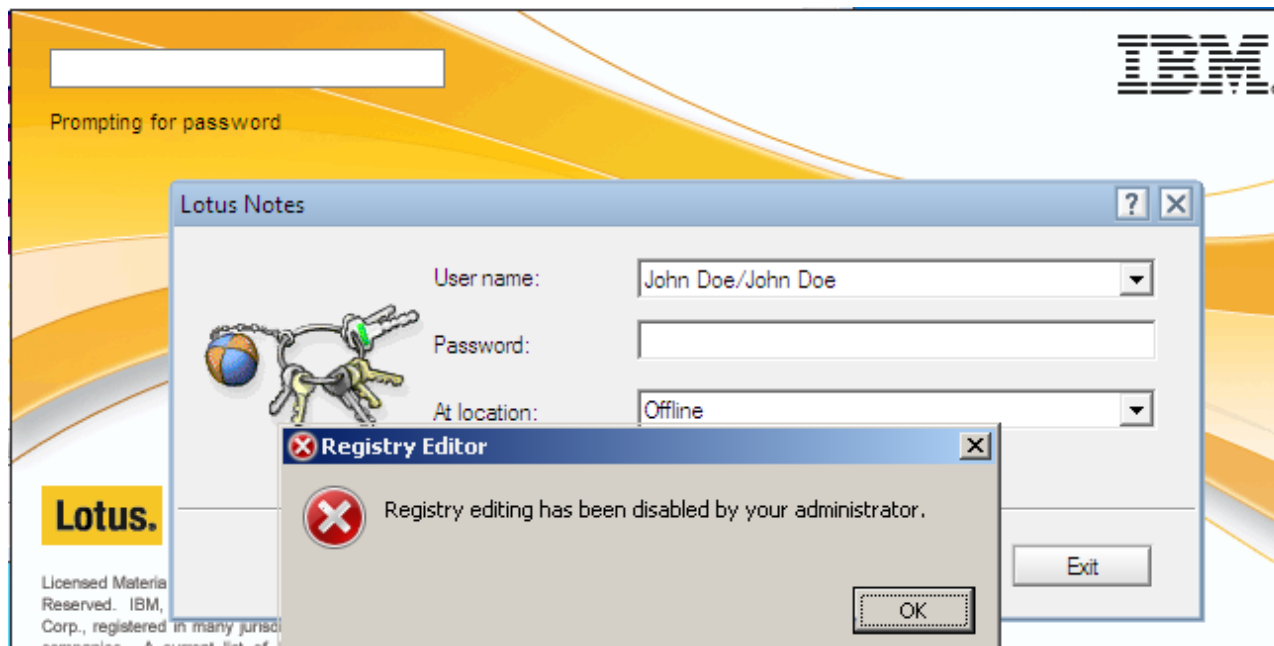
Lotus Notes 8.5.x on XenApp – Troubleshooting

If you are preventing access to the registry by policy

You're user may see the following error:

Lotus Notes 8.5.1 on Citrix – Troubleshooting

This is caused by CA- and CAI protocol registry entries written by the Lotus Notes client at first start:

comment in the handler.properties of the mention directories of the framework\rcp\features directory with '#':

framework\rcp\eclipse\features\com.ibm.portal.feature_6.2.1.20090925-1604
exec.command.win32x86="${plugin.dir}\\${plugin.dir.com.ibm.portal}**register_cai_url.bat**" "${rcp.home}" "${plugin.dir}\\${plugin.dir.com.ibm.portal}**cai_register.reg**" "${product.install.dir}" "${plugin.dir.com.ibm.portal}"

framework\rcp\eclipse\features\com.ibm.rcp.portal.feature_6.2.1.20090925-1604
exec.command.win32x86="${plugin.dir}\\${plugin.dir.com.ibm.rcp.ca.utils}**register_ca.bat**" "${rcp.home}" "${plugin.dir}\\${plugin.dir.com.ibm.rcp.ca.utils}**register_ca.reg**"

If Lotus Symphony is installed:
framework\shared\eclipse\features\com.ibm.productivity.tools.notes.branding.feature_3.5.0.20090922-1655
exec.command.win32x86="${plugin.dir}\\${plugin.dir.com.ibm.productivity.tools.notes.branding}**register_sodc_url.bat**" "${rcp.home}" "${plugin.dir}\\${plugin.dir.com.ibm.productivity.tools.notes.branding}**sodc_register.reg**"

Thank you very much!

Q & A

Technotes & Links

Related sessions:

W1T8 - Erfahrungsbericht aus dem Arbeitsalltag der User über den Einsatz des Lotus Notes 8.5.1
Standardclient - Jürgen Wienecke (Mittwoch 11:00 - 12:30)

Technotes:

Technote 7016205: Lotus Notes 8.5.1 - Detailed system requirements (Section Terminal Services)

Technote 7019220: IBM Lotus Notes 8.5.2 System Requirements – Windows (Section Terminal Services)

Technote 1098489: Supported configurations and support policy for Citrix products

Technote 1430323: Steps for installing and configuring Notes 8.5.1 on Citrix XenApp 5

Technote 1414365: Notes Client 8.5.1 crashes on MS TSE Windows 2008 (not R2) - Citrix XenAPP 5.0 with ICA Client on Windows Vista

Technote 1412757: NSD generated by Notes 8.5.1 lists wrong OS version for Windows Vista and Windows 2008

Technote 1411347: Lotus Notes 8.5.1 client support for Windows 2008 R2 on Citrix

Technote 1386866: Upgrading a Notes deployment on the Citrix platform—release-specific upgrade matrix

Technote 1406523: Lotus Domino 8.5.1 Administrator Help Errata

Technote 1158619: Are roaming users on a Citrix platform supported?

Technote 1444510: JVM Issue: Timezone problems with Notes Calendar on Citrix Presentation Server 4.5/5.0, on Windows 2003

Technote 1433734: Error: "Invalid directory name or device not ready" occurs when clicking Open button during Notes 8.5.x multi-user install on Citrix

Technote 1396661: Troubleshooting Timezone support for Citrix® clients

Technote 1390167: Running Notes multi-user on Citrix using a custom data directory install can yield a security error at Notes startup

Technotes & Links

Technote 1412455: Customized data directory may cause problems with Windows Roaming User

Technote 1426389: Support for Domino 8.5x ID Vault feature within a Citrix environment

Technote 1418129: Notes Single Login does not work properly on a 64-bit operating system

Technote 1431289: Is Lotus Notes supported in a XenDesktop environment

Technote 1390173: In a Notes multi-user install on Citrix, Notes uninstall may not remove all needed registry settings

Technote 1438725: Lotus Notes Steals Focus from Citrix Password Manager during Login

Technote 1447060: Using MULTIUSERBASEDIR with network drive destination requires an existing directory

Links:

IBM Lotus Notes and Lotus iNotes 8.5.1 on Citrix XenApp 4.5/5.0: A scalability analysis:
(http://www.ibm.com/developerworks/lotus/documentation/d-ls-notes851xenapp/index.html)