Lotus Notes 8.5.x on Citrix XenApp Installation & Configuration Best Practices Administration (W4S1)
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)

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Citrix Foundations

• 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 offers various products:
  • **XenApp**: Application virtualization
  • **XenDesktop**: Desktop virtualization
  • **XenServer**: Server virtualization
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:

![Installation error screenshot](image1)

After they manage to install:

![Installation success screenshot](image2)

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...
Lotus Notes 8.5.x on XenApp 5.0

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

Windows Server 2008 SP1 64 Bit:

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

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

Windows/2008 R2 6.1 [64-bit] (Build 7600), Plat
Running as 32-bit windows application on

→ 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:

<table>
<thead>
<tr>
<th></th>
<th>Lotus Symphony</th>
<th>Lotus Sametime (embedded)</th>
<th>Lotus Connections</th>
<th>Lotus QuickR connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrix Presentation Server 4.5 on MS Windows Server 2003 (32/64 Bit)</td>
<td>Yes</td>
<td>Yes (limited)</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>XenApp 5.0 on MS Windows Server 2003 (32/64 Bit)</td>
<td>Yes</td>
<td>Yes (limited)</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>MS Windows Server 2008 (32/64 Bit)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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
According to IBM, near-linear scalability 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
Lotus Notes 8.5.x on Citrix XenApp - Scalability

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

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Working set (MB)</th>
<th>Max. Working set (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lotus Notes 8.5.2 (Mail &amp; Calendar)</td>
<td>230</td>
<td>368,4</td>
</tr>
<tr>
<td>Internet Explorer 8.0 (1 Web page)</td>
<td>27,4</td>
<td>69,2</td>
</tr>
<tr>
<td>OpenOffice 3.2.1 (1 presentation)</td>
<td>94,8</td>
<td>147,7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>352,2</strong></td>
<td><strong>585,3</strong></td>
</tr>
</tbody>
</table>

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**

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

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!
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 CommandLine 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 ...cp/rcplauncher.properties for the following entries and remove them:

```properties
config.system.2=${rcp.home}/rcp/systemdata
config.system.1=-data
```

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 too high

Templates & other:
Administrators & System: Full control
Users: Read & execute, Read

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

- Notes is requesting an **exclusive** read/write lock, but my testing shows that **Read** access is sufficient 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).
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 single 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.Xm=-Xmx7m
- vmarg.Dshare=-Xshareclasses: name=xpdplat_.jvm,controlDir=${prop.jvm.shareclasses.loc},groupAccess,keep,singleJVM,nofatal
- vmarg.Xverify=-Xverify:none
- vmarg.Xgcpolicy=-Xgcpolicy:gencon
- vmarg.Xzero=-Xzero
- vmarg.Xtrace=-Xtrace:none
- vmarg.Djavapolicy=-Djava.security.policy=${rcp.home}/../java.policy
- vmarg.Xmxt=-Xmxt0.6

jvm.shareclasses.loc=${rcp.data}/.config/org.eclipse.osgi

modified:

- vmarg.Xminf=-Xminf0.1
- vmarg.Xm=-Xmx7m
- vmarg.Dshare=-Xshareclasses: name=xpdplat_.jvm,controlDir=${prop.jvm.shareclasses.loc},groupAccess,keep,nofatal
- vmarg.Xverify=-Xverify:none
- vmarg.Xgcpolicy=-Xgcpolicy:gencon
- vmarg.Xzero=-Xzero
- vmarg.Xtrace=-Xtrace:none
- vmarg.Djavapolicy=-Djava.security.policy=${rcp.home}/../java.policy
- vmarg.Xmxt=-Xmxt0.6

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:

<table>
<thead>
<tr>
<th>SECTION</th>
<th>SHARED CLASSES subcomponent dump routine</th>
</tr>
</thead>
<tbody>
<tr>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>1SCLTEXTCSUM</td>
<td>Cache Summary</td>
</tr>
<tr>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>2SCLTEXTRCS</td>
<td>ROMClass start address = 0x11487900</td>
</tr>
<tr>
<td>2SCLTEXRCE</td>
<td>ROMClass end address = 0x11D0DE48</td>
</tr>
<tr>
<td>2SCLTEXTMRA</td>
<td>Metadata start address = 0x149754D4</td>
</tr>
<tr>
<td>2SCLTEXTCEA</td>
<td>Cache address = 0x15450000</td>
</tr>
<tr>
<td>2SCLTEXTRTF</td>
<td>Runtime flags = 0x2CBE229F</td>
</tr>
<tr>
<td>2SCLTEXTCGN</td>
<td>Cache generation = 6</td>
</tr>
<tr>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>2SCLTEXTCSZ</td>
<td>Cache size = 67108492</td>
</tr>
<tr>
<td>2SCLTEXRFB</td>
<td>Free bytes = 48556988</td>
</tr>
<tr>
<td>2SCLTEXRCB</td>
<td>ROMClass bytes = 12237668</td>
</tr>
<tr>
<td>2SCLTEXAOBB</td>
<td>AOT bytes = 4186284</td>
</tr>
<tr>
<td>2SCLTEXNOBB</td>
<td>Java Object bytes = 0</td>
</tr>
<tr>
<td>2SCLTEXRWBB</td>
<td>ReadWrite bytes = 224908</td>
</tr>
<tr>
<td>2SCLTEXTBAM</td>
<td>Byte data bytes = 3344928</td>
</tr>
<tr>
<td>2SCLTEXTBAM</td>
<td>Metadata bytes = 551804</td>
</tr>
<tr>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>2SCLTEXNRC</td>
<td>Number ROMClasses = 5217</td>
</tr>
<tr>
<td>2SCLTEXNAM</td>
<td>Number AOT Methods = 2862</td>
</tr>
<tr>
<td>2SCLTEXNOJ</td>
<td>Number Java Objects = 0</td>
</tr>
<tr>
<td>2SCLTEXNCP</td>
<td>Number Classpaths = 3</td>
</tr>
<tr>
<td>2SCLTEXNUR</td>
<td>Number URLs = 106</td>
</tr>
<tr>
<td>2SCLTEXNTK</td>
<td>Number Tokens = 0</td>
</tr>
<tr>
<td>2SCLTEXNST</td>
<td>Number Stale classes = 0</td>
</tr>
<tr>
<td>2SCLTEXNST</td>
<td>Percent Stale classes = 0%</td>
</tr>
<tr>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>2SCLTEXTCPF</td>
<td>Cache is 30% full</td>
</tr>
<tr>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>1SCLTEXTCMST</td>
<td>Cache Memory Status</td>
</tr>
<tr>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>1SCLTEXTCNTD</td>
<td>Cache Name</td>
</tr>
<tr>
<td>NULL</td>
<td></td>
</tr>
<tr>
<td>2SCLTEXTCMDT</td>
<td>xpdplat_jum</td>
</tr>
<tr>
<td>C:/temp/xpdplat\C240D2A32P_xpdplat_.jum_G06</td>
<td>Memory mapped file</td>
</tr>
</tbody>
</table>
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, sufficient 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

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.
\[\text{cache=C:\Users\chenseler\AppData\local\Temp\cache.ndk}\]

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:
- \[\text{Log=-,1,0,7,20000}\]

**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 (*.xpplat_.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>\nnotes.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
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 users access it?

There are 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 obvious 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
Important: When configuring Lotus Notes as published application, set the working directory to the original working directory, not to the user's data directory!

Main problem: File type association (FTA):

Mailto: .vcf:

Unable to open this Internet Shortcut. The protocol "mailto" does not have a registered program.

Lotus Notes 8.5.x on XenApp – Published Application
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
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 **General Protection Fault**

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 (see Technote 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:

- Do not allow clipboard redirection
- Allow timezone redirection
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 Citrix 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:
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
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: