

How to Perform HCL Notes 14 Upgrades Smoothly

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Host & Speaker



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Agenda

- Why are we “still” talking about HCL Notes Upgrades?
- HCL Notes Client Upgrade Challenges
- AUT & 64-bit
- **LIVE DEMO**
- MarvelClient Upgrade Comparison
- Q & A



Why are we “still” talking about HCL Notes Upgrades?



Stay current with (security) updates

- **Current available and supported releases**

- **HCL Notes 12.0.2 FP2 (August 2023)**

- No EOL defined yet

- **HCL Notes 11.0.1 FP8 (September 2023)**

- No EOL defined yet

- **HCL Notes 10.0.1 FP8 IF1 SHF15 (May 2023)**

- EOL = arrived ; EOS = June 2024 AND “Support Update - List of Exceptions Starting 12/31/2021” here: https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0085697

- **HCL Notes 9.0.1 FP10 IF12 SHF655 (August 2023)**

- EOL = arrived ; EOS = June 2024 AND “Support Update - List of Exceptions Starting 12/31/2021” here: https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0085697



Product Lifecycle

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You are viewing products in the **Notes** family of products. Select multiple products to download a .csv or .xml file with the lifecycle information.

<input type="checkbox"/> Select All	Product Name ▾	Ver. ▾	Product Category ▾	Policy Type ▾	General Availability ▾	End of Support ▾	More Info ▾
<input type="checkbox"/>	HCL Notes	12.0.x	Digital Solutions	S	05/27/2021		
<input type="checkbox"/>	HCL Notes	11.0.x	Digital Solutions	S	12/20/2019		
<input type="checkbox"/>	Notes	10.0.x	Digital Solutions	E	10/10/2018	06/01/2024	More Info
<input type="checkbox"/>	Notes	9.0.x	Digital Solutions	E	04/12/2013	06/01/2024	More Info
<input type="checkbox"/>	Lotus Protector for Mail Security	2.8.x	Digital Solutions	E	09/09/2011	02/11/2021	
<input type="checkbox"/>	Lotus Protector for Mail Security	2.5.x	Digital Solutions	E	10/16/2009	02/11/2021	
<input type="checkbox"/>	Lotus Expeditor	6.2.x	Digital Solutions	E	12/19/2008	04/30/2020	

HCL Notes 14 is coming soon

HCL Notes 14 is coming soon

Launch – Event on December 7th, 2023





HCL Notes Client Upgrade Challenges



Upgrade Your Time

HCL Notes Client Upgrade Challenges

Package creation and standardization

- Initial Install Vs. Upgrades packages
- Uninstall included Vs. non-uninstall
- Re-Installs &| In-place upgrades
- One Vs. multiple packages → Laptops, Desktops, Citrix, WTS &| VDI
- Command lines and parameters/switches
- Installation order
- **32-bit** Vs. **64-bit** & Single Vs. MultiUser & Standard Vs. Admin/Designer

Package deployment

- Onsite/Inhouse Vs. Remote workers (with or without VPN)

HCL Notes Client Upgrade Challenges (cont.)

Execution trigger

- Notes internal solutions → **AUT**, **Smart Upgrade**
- Software deployment solution
- GPO (Group Policy Object)
- Logon script
- Manual start

Notes Client preparation/optimization

- Windows Services
- jvm.properties file
- ODS
- Stub notes.ini
- Config file

HCL Notes Client Upgrade Challenges (cont.)

Migration → IBM to HCL and/or 32 to 64-bit

- Data folder
- SharedData folder
- Program folder
- notes.ini
- ...

AUT & 64-bit



HCL Notes 64-bit – before we start

- This is the ***very condensed version*** of a 75 slides presentation by Julian Robichaux → Webinar planned for January
- Please be aware that when upgrading your Notes clients from 32 to 64 bit **YOU MUST REVIEW (YOUR CODE) AND TEST YOUR APPLICATIONS** (excuse the screaming)
- **If you only have plain vanilla apps without any of what we cover next, you may not have to do anything.**
 - If you don't know, see red text above.
 - If you are “unable” to review your code/apps, upgrade a few users to **ensure all your apps work as expected before upgrading all your users** (or take a look at panagenda iDNA for Applications)
 - Please bear in mind that **code may just fail or produce unexpected results silently.**

HCL Notes 64-bit – before we start

- We are talking about 32 → **64-bit application upgrades**, not operating system
 - Everyone should be on a 64-bit OS for years
- We are talking about Notes **Rich clients (Basic/Std) on Windows**
 - Not Mac, Linux, iOS, Android, Nomad, Nomad Web etc.
 - Sidenote: Moving to Nomad Web comes with other issues
- **Primary 64-bit advantages:**
 - More Memory and CPU registers
 - Some organizations have 64-bit only directives, and 32-bit programs seem “old”
 - Easier to maintain and support once we all made the switch (for both HCL and you!)

HCL Notes 64-bit – Domino vs. Notes

- Didn't we figure out all the issues when we switched to 64-bit Domino?
- **So many differences...**
 - UI code
 - Eclipse integration
 - Third-party libraries and app integrations
 - Broader range of API calls (both Notes and Windows)
 - Users do much crazier things than admins do
- Client has a lot more code running on a much wider variety of machines

HCL Notes 64-bit – What to watch out for: In General

- Any application that **uses OLE, COM, ODBC**, or has a **3rd party** dependency
 - The right 64-bit registry entries for Office 32-bit may suffice (you have to add them), OR upgrade Office to 64-bit
- notes.ini: **EXTMGR_ADDINS, NSF_HOOKS, AddinMenues**
- **LotusScript code** (see next slides)
- **Maybe also Java** related code/bits (not covered in this presentation)

- At panagenda, we had to update various apps for 64-bit three times:
 - 12.0.2 – first 64-bit client, adjusted all relevant C-API calls (we thought)
 - 12.0.2 FP1 – some stuff broke when saved with 64-bit designer and run in 32-bit client
 - 12.0.2 FP2 and 14.0 EAP2 – NotesSession.UseDoubleAsPointer now worked and broke code

HCL Notes 64-bit – What to watch out for: LotusScript

- In general, LotusScript works the same on 64-bit
- Potential issue with **smaller stack size** (recursive functions)
 - https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0102290
- **Max size of static String array** is 4049 (was 8190 on 32-bit)
 - https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0040725
- **NotesView.GetAllEntriesByKey** compilation issue !!!
 - https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0102291
- **Replace(str, arr1, arr2)** compilation issue !!!
 - Compile on 12.0.2 FP2/14.0 EAP2, always returns "" on 32-bit client



Fixed in
14

HCL Notes 64-bit – What to watch out for: LotusScript

- Any code that uses **NotesSession.Platform** or **IsDefined()** needs to be reviewed
- `NotesSession.Platform = "Windows/32"`
 - WILL NOT RECOGNIZE 64-BIT
- `Left(NotesSession.Platform, 3) = "Win"`
 - THINKS 32- AND 64-BIT ARE THE SAME
- `IsDefined("WIN32")`
 - THINKS 32- AND 64-BIT ARE THE SAME (as of 12.0.2 FP2 & 14 EAP2)

HCL Notes 64-bit – What to watch out for: C-API calls

- If a C-API call parameter is a **Windows HANDLE** or a **pointer**...
 - Use **Long** on 32-bit clients, **Double** on 64-bit clients
 - Call **session.UseDoubleAsPointer = True** before you make the calls on 64-bit
 - Call **session.UseDoubleAsPointer = False** after you make the calls on 64-bit
 - NotesSession.UseDoubleAsPointer is only effective since 12.0.2 FP2 / 14.0 EAP3
- What if you might have to compile the code on a pre-12.0.1 client?
 - **UseDoubleAsPointer didn't exist before 12.0.1**, won't compile
 - Use an Execute statement... but make sure it only runs on 64-bit clients
 - All 64-bit clients are guaranteed to recognize this property

```
If (session.Platform = "Windows/64") Then  
    Execute |Dim session As New NotesSession  
            session.UseDoubleAsPointer = True|
```

HCL Notes 64-bit – What to watch out for: C-API calls

Notes API

Common Examples(!)

- NSPingServer
- ODSReadMemory
- OSLock
- OSLockBlock
- OSLockObject
- OSMemoryLock
- OSTranslate (if using pointers)

Windows API

- IstrcpyA / IstrcpyW
- RtlMoveMemory
- GetActiveWindow
- Get/SetClipboardData
- Anything with “Handle”
 - GetModuleHandle, CloseHandle...
- Anything with “Process”
 - OpenProcess, GetCurrentProcess...
- Anything with “Service”
 - OpenService, QueryServiceStatus...

HCL AUT = HCL Notes Auto Update

Why are we talking about AUT when there is MarvelClient Upgrade?

1. Self-interest:

Because we would like to use AUT for local elevation without the server bits


- Today, we support: Corporate Software Deployment, panagenda Upgrade service, built-in Admin, local Admin, and Domain Admin.

We would LOVE to add HCL Auto Update service as another option.

- ### 2. We want to make sure,
- that as many companies as possible
upgrade their clients – even if they don't use MarvelClient.

HCL AUT = HCL Notes Auto Update

Why are we talking about AUT when there is MarvelClient Upgrade?

3. Because we may need your help/vote today and in the future:
 - Today (please vote!): <https://domino-ideas.hcltechsw.com/ideas/NTS-I-2479>
 - Tomorrow: we are discussing more ideas with HCL → more ideas to come for voting
4. Not everyone knows AUT (and its current limitations )
 - Regarding its current limitations:
 - We are discussing more ideas with HCL
 - The most important differences are summarized later
 - (can't promise anything)

Together with HCL, we want to make sure that as many companies as possible can (and do) upgrade their clients easily and successfully

What is HCL AUT = HCL Notes Auto Update?

HCL Auto Update is a Windows service installed with every client

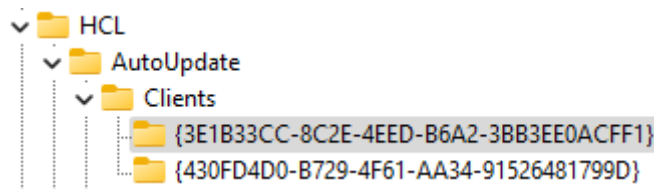
based on Google Update → Project Omaha <https://github.com/google/omaha>

When the HCL Auto Update Service is started AND the Notes client is started,

- The Notes client checks for whether the user has a policy assigned for checking for upgrades
- If so, it tells AUT to check for upgrades via https using LTPA auth
- AUT then checks for upgrades for the currently installed client(s):

For Notes 32 bit: HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\HCL\AutoUpdate\Clients

For Notes 64 bit: HKEY_LOCAL_MACHINE\SOFTWARE\HCL\AutoUpdate\Clients



Name	Type	Data
(Default)	REG_SZ	(value not set)
name	REG_SZ	HCL Notes
pv	REG_SZ	V1202FP2_07122023

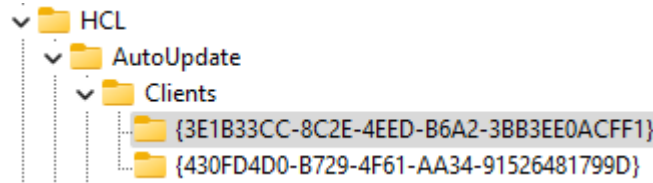
How is HCL AUT set up/configured?



After setup *cough* (getting better), two databases are relevant:

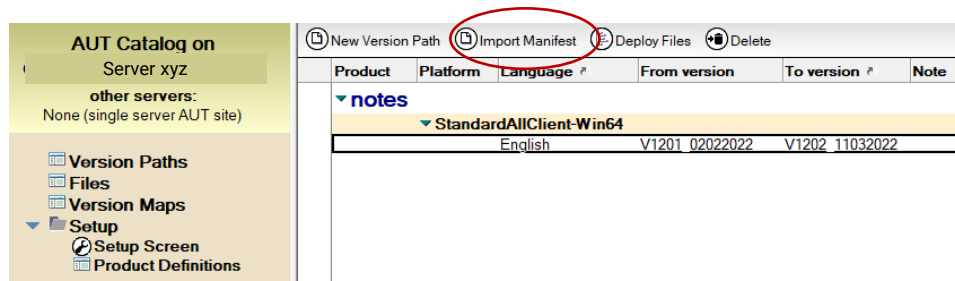
- [names.nsf](#) (People\Policies\Settings\Desktop Settings\AUT tab)
- [autcat.nsf](#) (AUT Catalog)
- In AUT Catalog, check Setup\Product Definitions before looking into 64 bit:

Product	Platforms
hcaa	HCAA-Win32 ::: {20FBA170-A37F-4861-9573-8BE17F6CF325}
notes	StandardAllClient-Win32 ::: {3E1B33CC-8C2E-4EED-B6A2-3BB3EE0ACFF1} StandardNotesClient-Win32 ::: {A12C1247-8FDC-44CB-A658-5417439E6D05} BasicNotesClient-Win32 ::: {B45BF9B2-3E20-4B85-9BFC-C2C5F862023A} StandardAllClient-Win64 ::: {6DEBC930-703F-4419-931A-C4DD577654B5} StandardNotesClient-Win64 ::: {EDB2BC7B-1724-4EEE-94A4-7AB0C4DCAE69} BasicNotesClient-Win64 ::: {BB5209BF-8710-4568-94E7-F6D4516399AD}



How is HCL AUT set up/configured?

Upgrades are configured with **Manifest files**, **Version Paths** and **Version Maps** in AUT Catalog:



The screenshot shows the AUT Catalog interface. On the left is a navigation pane with 'Setup' expanded to show 'Setup Screen' and 'Product Definitions'. The main area has a toolbar with 'New Version Path', 'Import Manifest' (circled in red), 'Deploy Files', and 'Delete'. Below the toolbar is a table with columns: Product, Platform, Language, From version, To version, and Note.

Product	Platform	Language	From version	To version	Note
▼ notes					
▼ StandardAllClient-Win64					
		English	V1201_02022022	V1202_11032022	

Manifest files can be found in the download portals (flexnet & myportal), and/or on the support site.



There are no manifest files for language packs.



Oh, and even if there were: AUT cannot install more than one file.

→ No Major+FP, No Major+Language, No Major+FP+Language

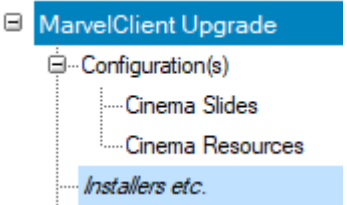


```
<manifest lang="en" version="V1201FP1_03302022" name="StandardNotesClient-Win32" appid="{A12C1247-8FDC-44CB-A658-5417439E6D05}">
<package name="HCL_Notes_12.0.1FP1_Win.exe" hash="F/B+a42yQxd8WMd0rzSp9DuVU=" size="168301936">
<action arguments="-silent" event="install" run="HCL_Notes_12.0.1FP1_Win.exe" events="postinstall" version="V1201FP1_03302022" onsuccess="exitsilentlyonlaunchcmd"></action>
</package>
</manifest>
```

How is HCL AUT set up/configured?



Sidenote
MarvelClient Upgrade customers (including FREE25) can create manifest files in the MarvelClient Configuration database from any HCL installer.



Package details:	
Product type:	Full installer (Standard) 64 bit
Language(s):	en
Product name:	HCL Notes x64
Installer info:	HCL Notes 14.0 x64
Release Flags:	NotesClient64 StandardClient64 StandardNotesClient64 IncludeJVM
Source filepath:	C:\Users\Public\MCUpgrade\Installers\Notes_14.0_Win64_English_EA3.exe
Version Info:	14.00.23269
File version:	4.0.100.1124
SHA 256 Hash	CFB65170713CDD1F00B362CB8BD23340DCB5A1977F762BA6C5AAE994D2EDC72D
SHA1B64 Hash	YM3qXuNiq+PnFzl+O46o4iIKAt8=

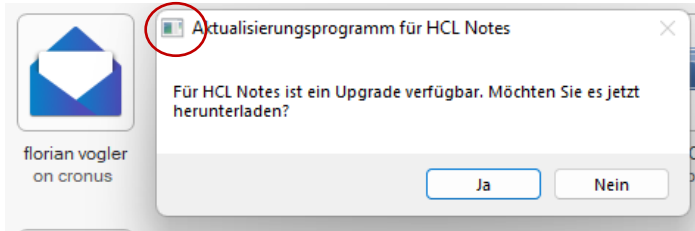
Do not use language pack manifest files from the MarvelClient Configuration database in AUT!

Manifest	
CAA	
Basic Client	
Standard Client	<manifest lang="en" version="V1400_09272023" name="StandardNotesClient-Win64" appid="{E8B2BC7B-1724-4EEE-94A4-7AB0C4DCAE69}"> <package name="Notes_14.0_Win64_English_EA3.exe" hash="YM3qXuNiq+PnFzl+O46o4iIKAt8=" size="746253944"> <action arguments="-s -a /s /w"SETMULTIUSER=1 REBOOT=ReallySuppress /qn"" event="install" run="Notes_14.0_Win64_English_EA3.exe" events="postinstall" version="V1400_09272023" onsuccess="exitsilentlyonlaunchcmd"> </action></package></manifest>
All Client	

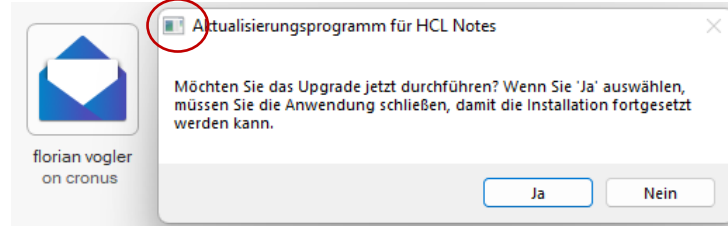
Back to AUT ...

HCL AUT: Important things to know

If an upgrade is found, the user is asked whether s/he wants to download it



... followed by a prompt whether they want to install it ...



Unfortunately, the user must close the client (as prompted) – otherwise the upgrade will fail.



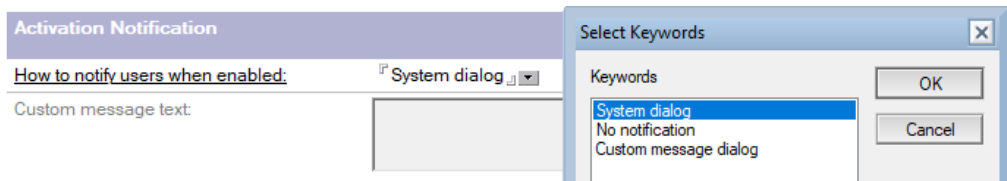
(MarvelClient Upgrade automatically closes an open client and gracefully handles open and unsaved documents.)

HCL AUT: Important things to know

Unfortunately,
neither the download nor install prompt can be disabled or customized.



The only prompt that can be disabled (or customized),
is a prompt shown to users when AUT is enabled.
(via Desktop Settings\AUT tab configuration)



AUTUpdate for <application> is Enabled.

HCL AUT: Important things to know

DON'T even think about using AUT to upgrade to 64-bit < 14.0

- Any 64-bit installer < 14.0 is not 32-bit aware
- Starting with 14.0, the installer uninstalls any previous 32-bit client (whilst preserving the data folder)
- All HCL Notes 64-bit versions < 14.0 have issues ...

MarvelClient Upgrade addresses all of the before mentioned (and more) ...

- Smart File Distribution (no questions)
- With or without corporate software deployment
- Smart auto-close of Notes client
- Clean uninstall prior to major upgrades
- Closing of hung processes and services
- Client start prevention during upgrades
- One package for multi-use (initial, upgrade, VDI)
- Migration of ALL folders (Lotus|IBM|... → HCL)
- Change of notes.ini entries
- Major+FP+language packs upgrades in one go
- Silent setup.txt and ConfigFile configuration
- Informational content during upgrades
- Windows desktop shortcut icon hint
- Upgrade tracking,



LIVE DEMO

**If you are interested to see
a Marvel Client Upgrade configuration from scratch**

**If you are interested to see
a Marvel Client Upgrade configuration from scratch**



**Send a mail to
christoph.adler@panagenda.com**



MarvelClient Upgrade Comparison

Upgrade Solution Comparison

Feature	Smart Upgrade	Notes Auto Update	InstallShield Tuner	Software Deployment	Marvel Client Upgrade
Easy to configure	✗	✗	✗	✗	✓
100% flexible customization	✗	✗	Limited	Very costly	✓
Upgrade as local Admin	✗	✗	✗	✓	✓
Upgrade as Domain Admin	✗	✗	✗	✓	✓
Upgrade via Service	✓	✓	✗	✓	✓
Windows UAC support	✗	✗	✗	Depends on solution	✓
Clean and safe with uninstall	✗	✗	✗	✓	✓
Any2any Upgrades in one single step	✗	✗	✗	✓	✓
„Knows Notes“ notes.ini, Names.nsf, ...	✗	✗	✗	✗	✓

Upgrade Solution Comparison (cont.)

Feature	Smart Upgrade	Notes Auto Update	InstallShield Tuner	Software Deployment	Marvel Client Upgrade
Initial configuration for end users	✗	✗	✓	✓	✓
Without scripts / programming	✓	Limited	✗	✗	✓
Change of ALL folder locations	✗	✗	✗	✗	✓
Fastest possible upgrades	✗	✗	✗	✗	✓
Users can choose when to upgrade	✓	✓	✗	✓	✓
Upgrades without data loss	✓	✓	✓	✓	✓
Home office/remote worker package distribution	✗	✗	✗	Depends on solution	✓
Customizable design	✗	✗	✗	✗	✓

Upgrade Solution Comparison (cont.)

Feature	Smart Upgrade	Notes Auto Update	InstallShield Tuner	Software Deployment	Marvel Client Upgrade
Customizable text and languages	✗	✗	✗	✗	✓
Citrix, WTS and VDI upgrades	✗	✗	✓	✓	✓
Citrix, WTS and VDI optimization	✗	✗	✗	✗	✓
Success Reporting and Monitoring	Only if successful	Only if successful	✗	✓	✓

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