



Networking Autodesk Products Beyond Z - IT11008

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Key learning objectives

At the end of this class, you will be able to:

- Integrate options file with active directory
- Use license parse to create options file
- Clean license breadcrumb entries in the Windows Registry
- Set desktop license environment variables
- Maintain and rotate the debug log
- Address non-silent issues for deployment updates

Before Trying This At Home

- Many of the techniques discussed in this session involve registry editing and scripts any of which can cause unintended results if an error is made during implementation.
- Be familiar and comfortable editing the Windows Registry.
- Test everything in an isolated test environment before rolling out to production.
- If you don't understand something seek help before proceeding!

A wide-angle photograph of a city skyline with various skyscrapers under a clear blue sky.

Active Directory Integration



Active Directory Integration

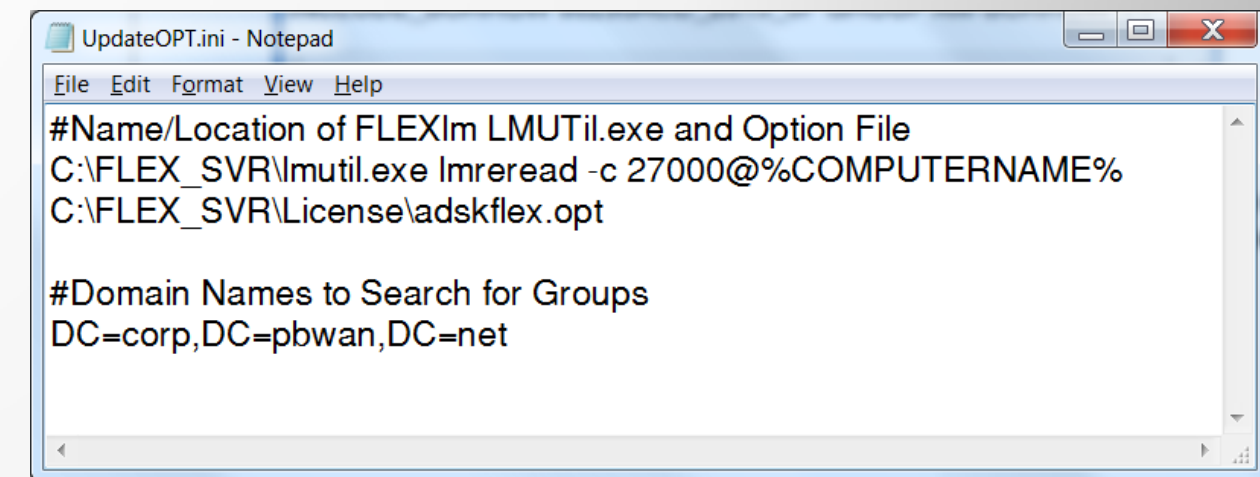
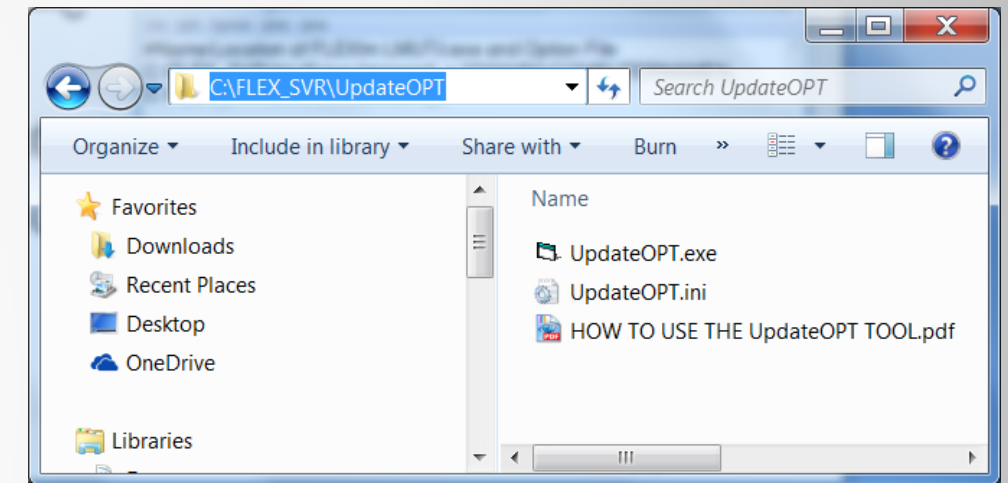
- VB 2010 compiled application (Code will be provided)
 - UpdateOPT.exe
 - UpdateOPT.ini
- Integrate Vendor Daemon Option File with Active Directory
 - User or Host Groups
 - Borrowing, Restrictions, etc
- Setup
 - Create Groups in Active Directory
 - Update UpdateOPT.ini and Vendor OPT file
 - Create Schedule Task on License Server(s)

Active Directory Integration

- Steps to implement
 - Identify or create AD Group(s)
 - Create Mirror Group(s) in the Options File
 - Update the UpdateOPT.ini Control File
 - Test Run UpdateOPT.exe
 - Create a Scheduled Task to Automate

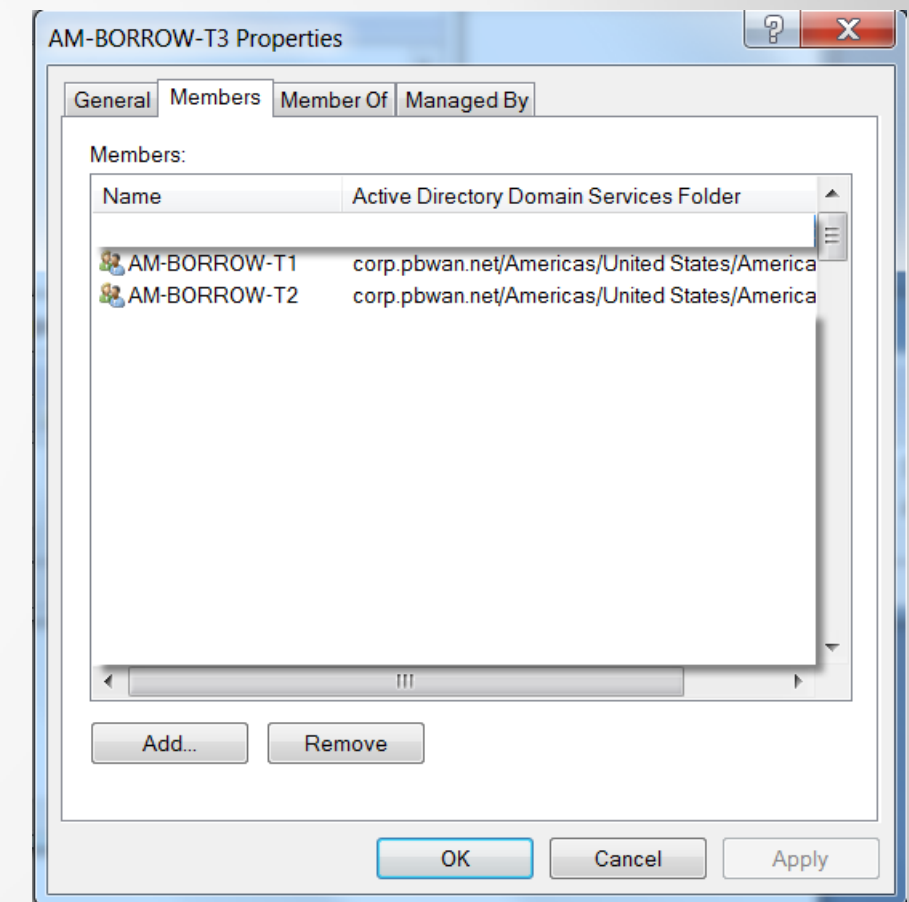
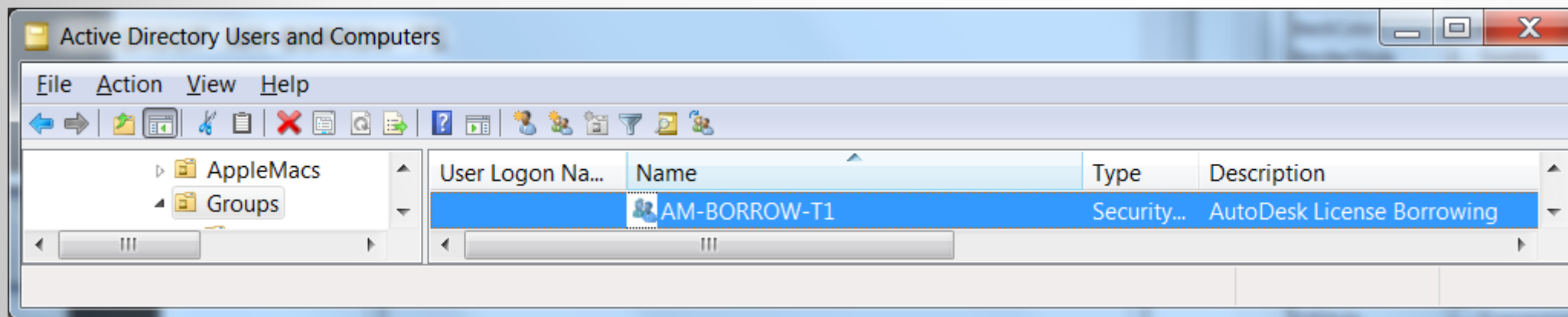
Active Directory Integration: Update INI File

- Place UpdateOPT.exe and ini files on license server(s)
 - Can exist in any folder
- Edit the UpdateOPT.ini
 - #Name/Location of Imutil.exe and OPT file
 - C:\FLEX_SVR\Imutil.exe Imrread -c 27000@%COMPUTERNAME%
 - C:\FLEX_SVR\License\adskflex.opt
 - #Domain Names to Search for Groups
 - DC=my,DC=company,DC=com



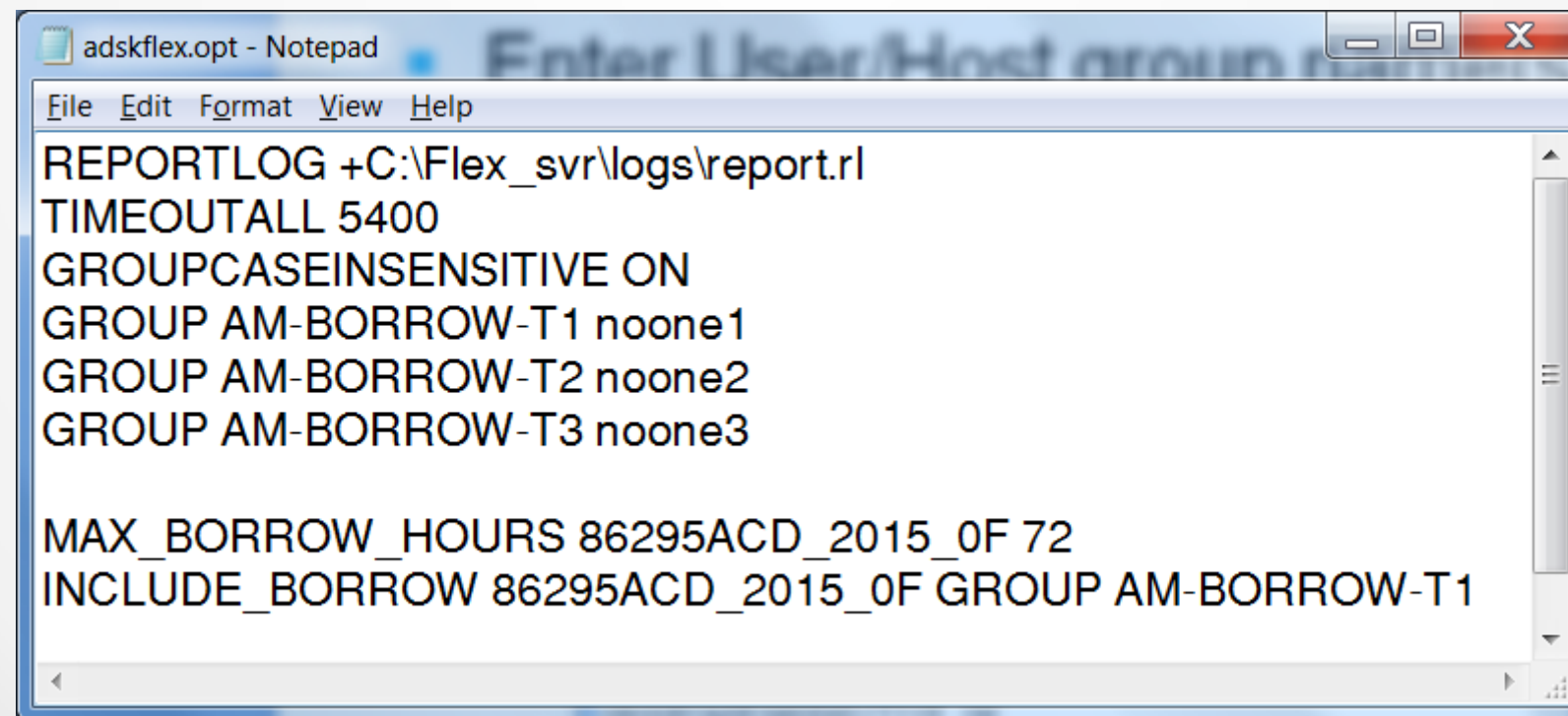
Active Directory Integration: Setup AD Groups

- Create Group(s) in Active Directory
 - AD name must match User/Host group name in OPT file
- Add members to AD Group(s)
 - Groups can contain Groups



Active Directory Integration: Update OPT File

- Enter User/Host group name(s) in OPT file
 - OPT file User/Host name(s) must match AD group name(s)
 - Set noone as a member of the group
- Assign User/Host group(s) to OPT commands
 - Example assigns AM-BORROW-T1 to AutoCAD 2015 borrowing



```
adskflex.opt - Notepad
File Edit Format View Help
REPORTLOG +C:\Flex_svr\logs\report.rl
TIMEOUTALL 5400
GROUPCASEINSENSITIVE ON
GROUP AM-BORROW-T1 noone1
GROUP AM-BORROW-T2 noone2
GROUP AM-BORROW-T3 noone3

MAX_BORROW_HOURS 86295ACD_2015_0F 72
INCLUDE_BORROW 86295ACD_2015_0F GROUP AM-BORROW-T1
```

Active Directory Integration: Create Schedule Task

The image displays three overlapping screenshots of the Windows Task Scheduler 'Create Basic Task Wizard' dialog boxes, illustrating the steps to create a scheduled task.

Leftmost Window: Task Trigger

- Wizard Title: Create Basic Task Wizard
- Section: Task Trigger
- Left Panel: Create a Basic Task (Trigger, Action, Finish)
- Right Panel: When do you want the task to start?
 - ☒ Daily
 - ☐ Weekly
 - ☐ Monthly
 - ☐ One time
 - ☐ When the computer starts
 - ☐ When I log on
 - ☐ When a specific event is logged

Middle Window: Daily

- Wizard Title: Create Basic Task Wizard
- Section: Daily
- Left Panel: Create a Basic Task (Trigger, Action, Finish)
- Right Panel:
 - Start: 11/14/2015 8:00:00 AM ☐ Synchronize across time zones
 - Recur every: 1 days

Rightmost Window: Action

- Wizard Title: Create Basic Task Wizard
- Section: Action
- Left Panel: Create a Basic Task (Trigger, Action, Finish)
- Right Panel: What action do you want the task to perform?
 - ☒ Start a program
 - ☐ Send an e-mail
 - ☐ Display a message
- Bottom Buttons: < Back, Next >, Cancel

Active Directory Integration: Create Schedule Task

Create Basic Task Wizard

Start a Program

Create a Basic Task

Trigger

Daily

Action

Start a Program

Finish

Program/script:

C:\FLEX_SVR\UpdateOPT\UpdateOPT.exe

Browse...

Add arguments (optional):

Start in (optional):

C:\FLEX_SVR\Updat

< Back Next > Cancel

Create Basic Task Wizard

Summary

Create a Basic Task

Trigger

Daily

Action

Start a Program

Finish

Name:

UpdateOPT

Description:

Updates Autodesk Vendor Options with Active Directory

Trigger:

Daily; At 8:00 AM every day

Action:

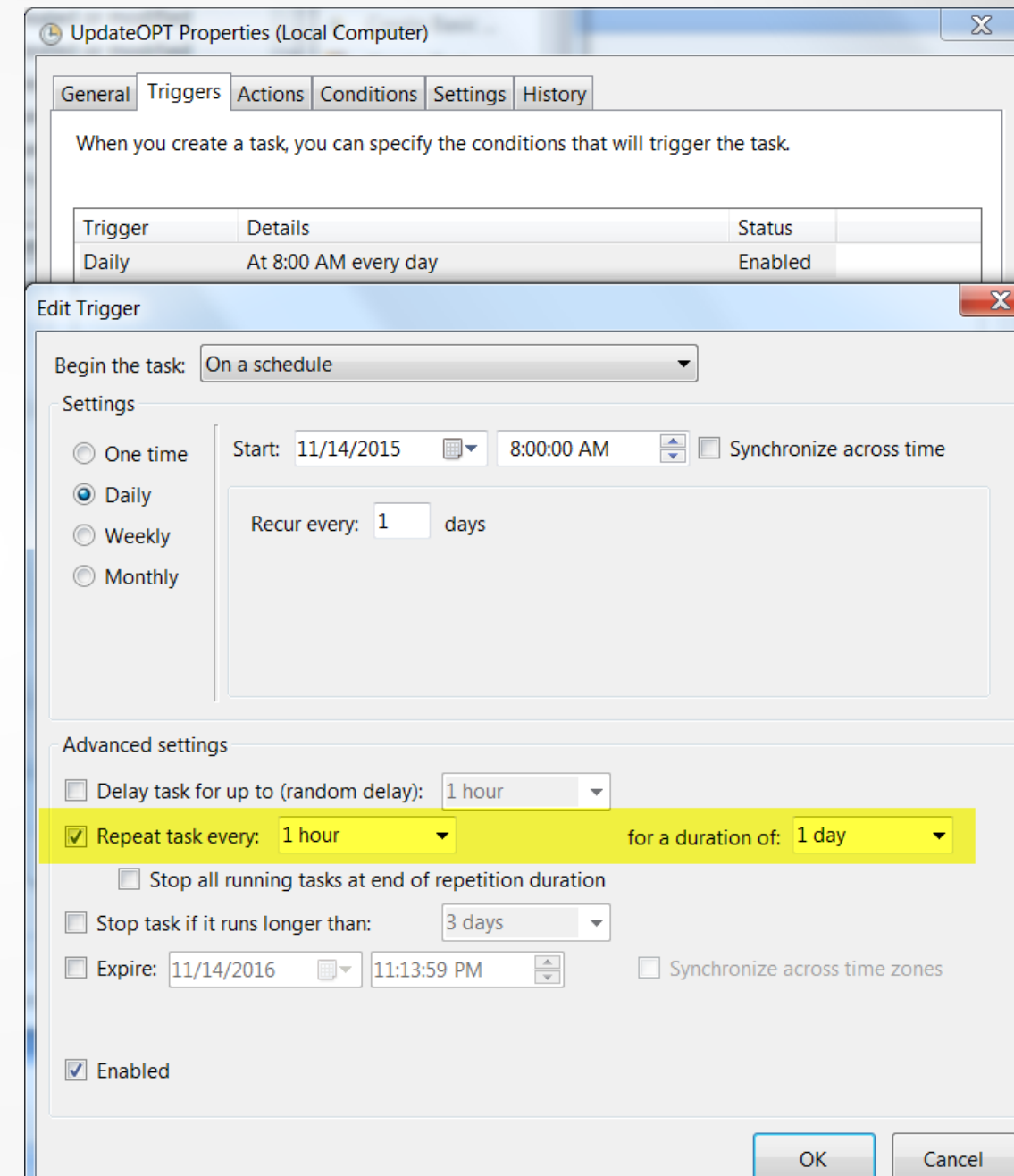
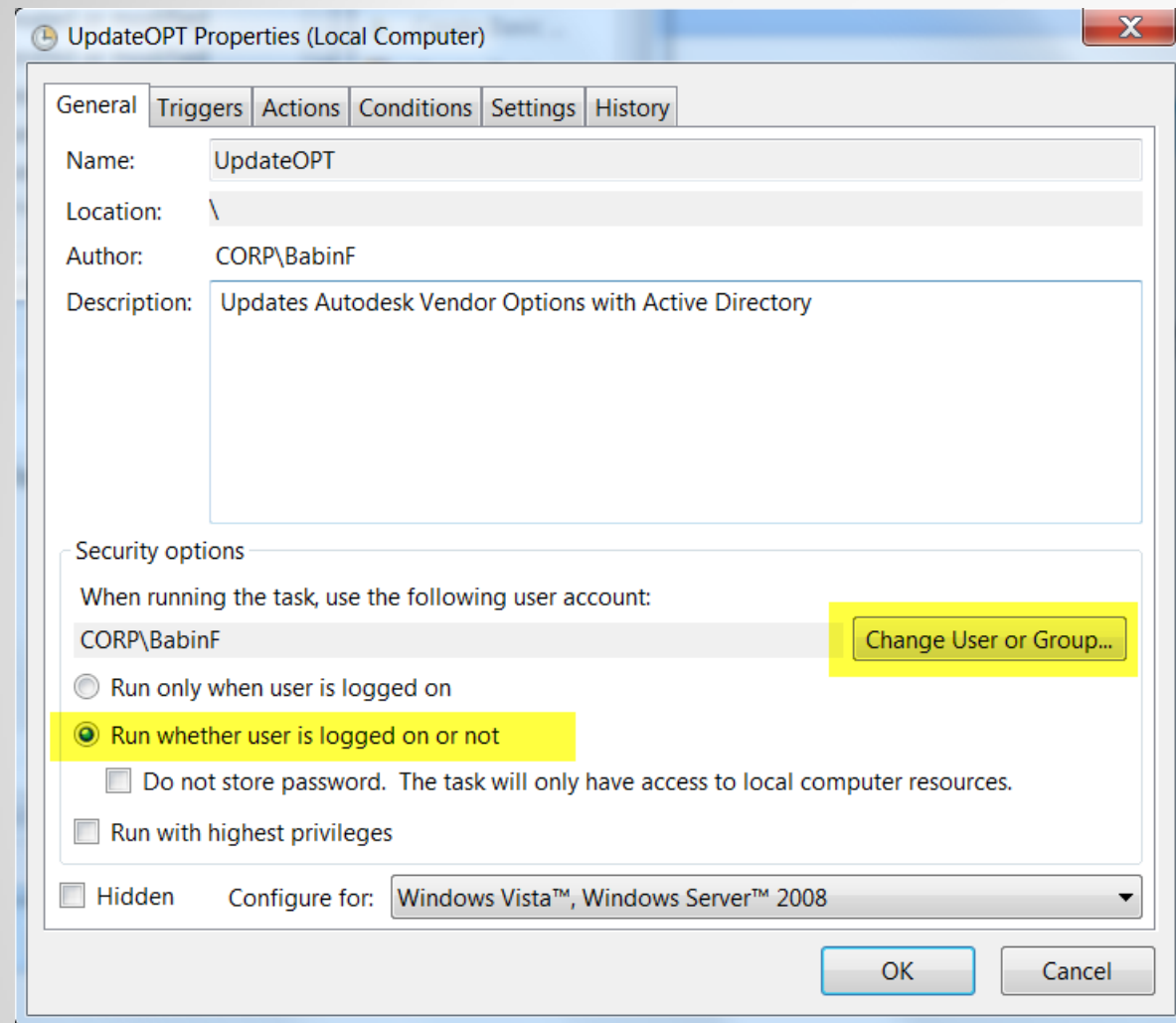
Start a program; C:\FLEX_SVR\UpdateOPT\UpdateOPT.exe

☒ Open the Properties dialog for this task when I click Finish

When you click Finish, the new task will be created and added to your Windows schedule.

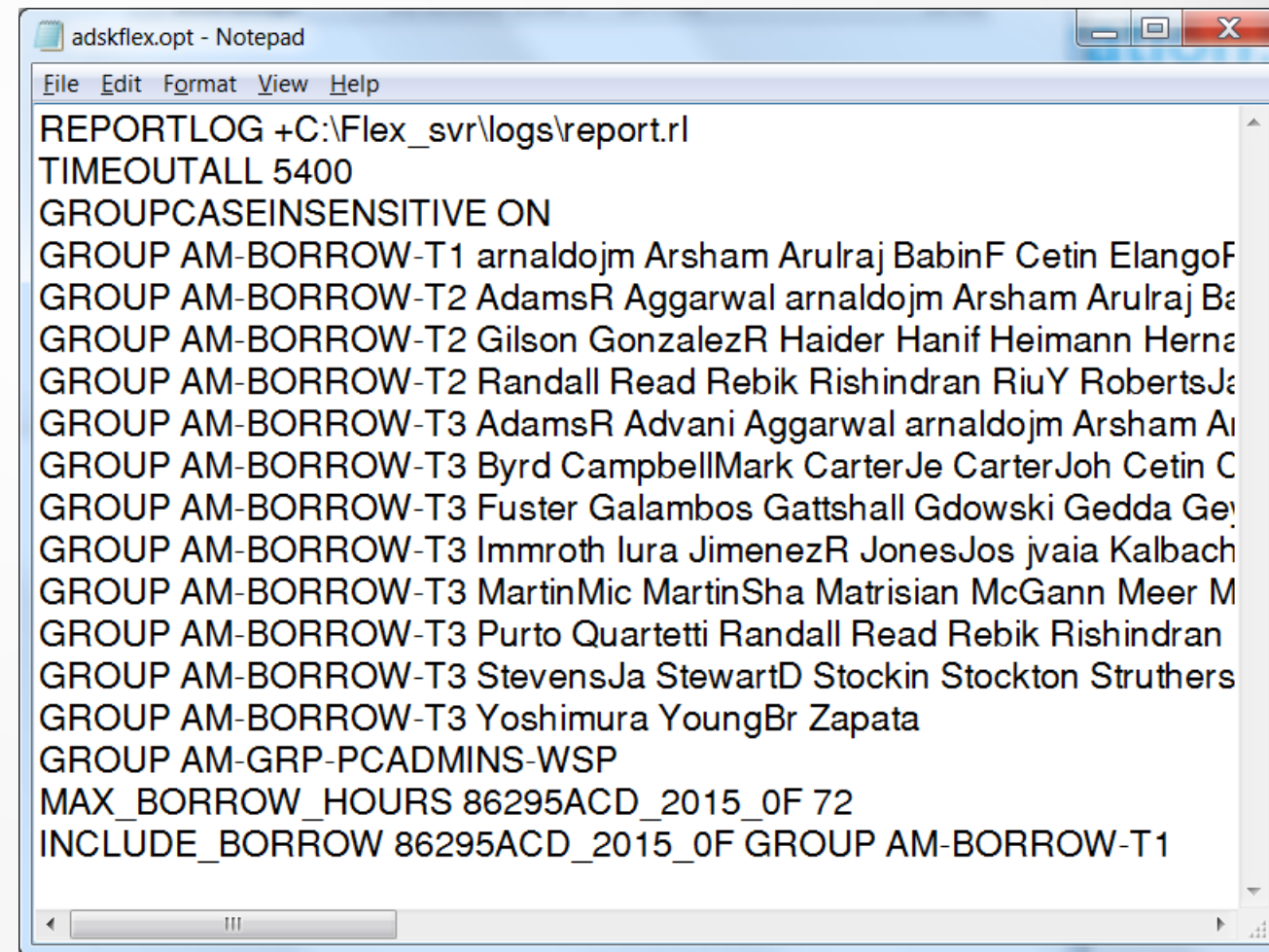
< Back Finish Cancel

Active Directory Integration: Create Schedule Task



Active Directory Integration: Test Schedule Task

- Open Task Library and Create Basic Task
 - Suggested run once and repeat every 1-2 hours
- Test run the task...
 - Max 2000 chars/line
 - Updates only on changes
 - Creates BAK



```
adskflex.opt - Notepad
File Edit Format View Help
REPORTLOG +C:\Flex_svr\logs\report.rl
TIMEOUTALL 5400
GROUPCASEINSENSITIVE ON
GROUP AM-BORROW-T1 arnaldojm Arsham Arulraj BabinF Cetin ElangoF
GROUP AM-BORROW-T2 AdamsR Aggarwal arnaldojm Arsham Arulraj Ba
GROUP AM-BORROW-T2 Gilson GonzalezR Haider Hanif Heimann Herna
GROUP AM-BORROW-T2 Randall Read Rebik Rishindran RiuY RobertsJa
GROUP AM-BORROW-T3 AdamsR Advani Aggarwal arnaldojm Arsham Ar
GROUP AM-BORROW-T3 Byrd CampbellMark CarterJe CarterJoh Cetin C
GROUP AM-BORROW-T3 Fuster Galambos Gattshall Gdowski Gedda Ge
GROUP AM-BORROW-T3 Immroth Iura JimenezR JonesJos jvaia Kalbach
GROUP AM-BORROW-T3 MartinMic MartinSha Matrisian McGann Meer M
GROUP AM-BORROW-T3 Purto Quartetti Randall Read Rebik Rishindran
GROUP AM-BORROW-T3 StevensJa StewartD Stockin Stockton Struthers
GROUP AM-BORROW-T3 Yoshimura YoungBr Zapata
GROUP AM-GRP-PCADMINIS-WSP
MAX_BORROW_HOURS 86295ACD_2015_0F 72
INCLUDE_BORROW 86295ACD_2015_0F GROUP AM-BORROW-T1
```




Options File Techniques



Licenseparser.com

License File Parser - Beta

Home

License File Report

Configuration Information

Parsed License File	sample.lic
License Type	Single / Distributed
Computer / Hostname	paradise
MAC Address / Host ID	ab12cd34ef56
Specified Port	27006

Increments Matched

Seats	Feature	Feature Code	Serial Number	Issue Date	Expiration
1	Autodesk Product Design Suite Ultimate 2013	85963PDSU_2013_0F	399-99999999	30-Jan-2013	permanent
1	AutoCAD 2012	85730ACD_2012_0F	399-99999999	06-Sep-2013	permanent
1	Autodesk Product Design Suite Ultimate 2014	86133PDSU_2014_0F	399-99999999	04-Nov-2013	permanent
1	AutoCAD 2014	86063ACD_2014_0F	399-99999999	04-Nov-2013	permanent
1	Autodesk AutoCAD 2016	86445ACD_2016_0F	399-99999954	14-Nov-2015	14-dec-2015

Package Increments Matched

Seats	Feature	Feature Code	Serial Number	Issue Date	Expiration
1	Subscription Package: Autodesk AutoCAD	64300ACD_F	399-99999999	06-Jun-2014	13-apr-2017
	Autodesk AutoCAD 2015	86295ACD_2015_0F			
	AutoCAD 2014	86063ACD_2014_0F			
	AutoCAD 2013	85871ACD_2013_0F			
	AutoCAD 2012	85730ACD_2012_0F			
1	Subscription Package: Autodesk Product Design Suite Ultimate	85815PDSU_F	399-99999999	23-Oct-2014	13-apr-2017
	Autodesk Product Design Suite Ultimate 2015	86268PDSU_2015_0F			
	Autodesk Product Design Suite Ultimate 2014	86133PDSU_2014_0F			
	Autodesk Product Design Suite Ultimate 2013	85963PDSU_2013_0F			
	AutoCAD Raster Design 2013	85952ARDES_2013_0F			

Create Options File Syntax

-Copy-Paste from the Parser

	A	B	C	D	E	F	G
1		1 Autodesk Product Design Suite Ultimate 2013	85963PDSU_2013_OF	399-99999999	30-Jan-13	permanent	
2		1 AutoCAD 2012	85730ACD_2012_OF	399-99999999	6-Sep-13	permanent	
3		1 Autodesk Product Design Suite Ultimate 2014	86133PDSU_2014_OF	399-99999999	4-Nov-13	permanent	
4		1 AutoCAD 2014	86063ACD_2014_OF	399-99999999	4-Nov-13	permanent	
5		1 Autodesk AutoCAD 2016	86445ACD_2016_OF	399-99999954	14-Nov-15	14-Dec-15	
6							
7	Package Increments Matched						
8							
9	Seats	Feature	Feature Code	Serial Number	Issue Date	Expiration	
10		1 Subscription Package: Autodesk AutoCAD	64300ACD_F	399-99999999	6-Jun-14	13-Apr-17	
11		Autodesk AutoCAD 2015	86295ACD_2015_OF				
12		AutoCAD 2014	86063ACD_2014_OF				
13		AutoCAD 2013	85871ACD_2013_OF				
14		AutoCAD 2012	85730ACD_2012_OF				
15		1 Subscription Package: Autodesk Product Design Suite Ultimate	85815PDSU_F	399-99999999	23-Oct-14	13-Apr-17	
16		Autodesk Product Design Suite Ultimate 2015	86268PDSU_2015_OF				

Create Options File Syntax

-Delete and Clear Unneeded Columns

	A	B	C	D	E	F	G
1		85963PDSU_2013_OF					
2		85730ACD_2012_OF					
3		86133PDSU_2014_OF					
4		86063ACD_2014_OF					
5		86445ACD_2016_OF					
6		64300ACD_F					
7		86295ACD_2015_OF					
8		86063ACD_2014_OF					
9		85871ACD_2013_OF					
10		85730ACD_2012_OF					
11		85815PDSU_F					

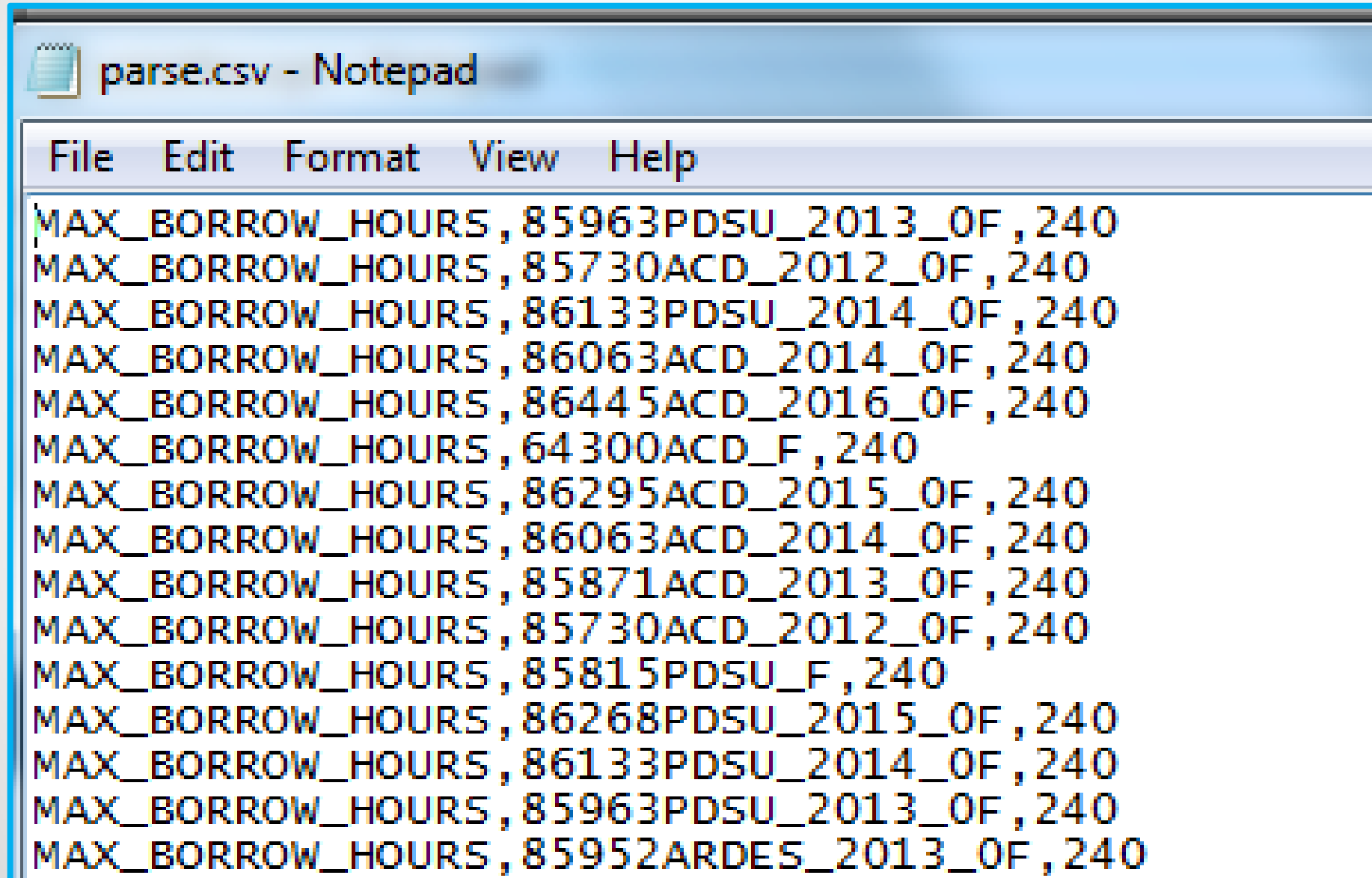
Create Options File Syntax

-Add Syntax

	A	B	C	D
1	MAX_BORROW_HOURS	85963PDSU_2013_OF	240	
2	MAX_BORROW_HOURS	85730ACD_2012_OF	240	
3	MAX_BORROW_HOURS	86133PDSU_2014_OF	240	
4	MAX_BORROW_HOURS	86063ACD_2014_OF	240	
5	MAX_BORROW_HOURS	86445ACD_2016_OF	240	
6	MAX_BORROW_HOURS	64300ACD_F	240	

Create Options File Syntax

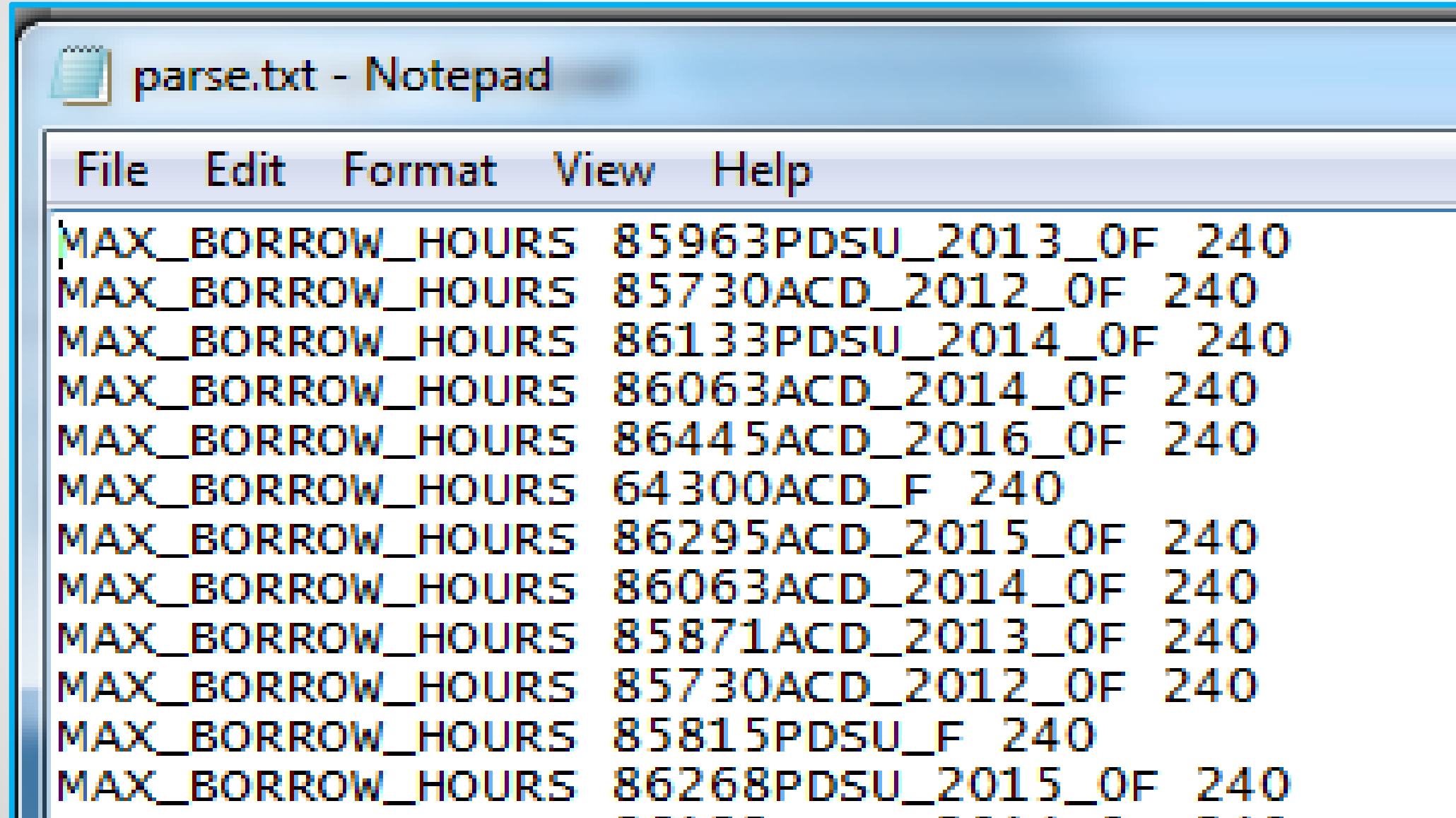
-Save as CSV File



```
File Edit Format View Help
MAX_BORROW_HOURS,85963PDSU_2013_OF,240
MAX_BORROW_HOURS,85730ACD_2012_OF,240
MAX_BORROW_HOURS,86133PDSU_2014_OF,240
MAX_BORROW_HOURS,86063ACD_2014_OF,240
MAX_BORROW_HOURS,86445ACD_2016_OF,240
MAX_BORROW_HOURS,64300ACD_F,240
MAX_BORROW_HOURS,86295ACD_2015_OF,240
MAX_BORROW_HOURS,86063ACD_2014_OF,240
MAX_BORROW_HOURS,85871ACD_2013_OF,240
MAX_BORROW_HOURS,85730ACD_2012_OF,240
MAX_BORROW_HOURS,85815PDSU_F,240
MAX_BORROW_HOURS,86268PDSU_2015_OF,240
MAX_BORROW_HOURS,86133PDSU_2014_OF,240
MAX_BORROW_HOURS,85963PDSU_2013_OF,240
MAX_BORROW_HOURS,85952ARDES_2013_OF,240
```

Create Options File Syntax

-Replace commas with space and save as .TXT



```
MAX_BORROW_HOURS 85963PDSU_2013_OF 240
MAX_BORROW_HOURS 85730ACD_2012_OF 240
MAX_BORROW_HOURS 86133PDSU_2014_OF 240
MAX_BORROW_HOURS 86063ACD_2014_OF 240
MAX_BORROW_HOURS 86445ACD_2016_OF 240
MAX_BORROW_HOURS 64300ACD_F 240
MAX_BORROW_HOURS 86295ACD_2015_OF 240
MAX_BORROW_HOURS 86063ACD_2014_OF 240
MAX_BORROW_HOURS 85871ACD_2013_OF 240
MAX_BORROW_HOURS 85730ACD_2012_OF 240
MAX_BORROW_HOURS 85815PDSU_F 240
MAX_BORROW_HOURS 86268PDSU_2015_OF 240
```


A horizontal strip showing a city skyline with various skyscrapers under a clear blue sky.

Log File Management



Keep Your Debug Log File!

LMTOOLS by Flexera Software LLC

File Edit Mode Help

Service/License File | System Settings | Utilities | Start/Stop/Reread | Server Status | Server Diags | Config Services | Borrowing

Configure Service

Service Name: ADLM-Flex

Path to the lmgrd.exe file: C:\flex_adlm\lmgrd.exe

Path to the license file: C:\flex_adlm\license\PDSU2016.lic

Path to the debug log file: +C:\flex_adlm\log\debug.log

☒ Start Server at Power Up ☒ Use Services

Buttons: Save Service, Remove Service, Browse, View Log..., Close Log

Add the + sign if you do not want the debug log deleted upon restart

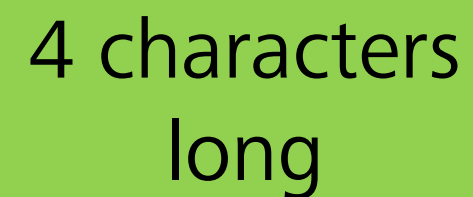
Rotate Your Report Log

```
Imutil Imnewlog -c @127.0.0.1 adskflex .\%COMPUTERNAME%_%date:~10,4%-_%date:~4,2%-_%date:~7,2%.rl
```

```
C:\Users\milanaj>echo %DATE%  
Mon 11/30/2015
```



10th
position



4 characters
long



Registry and Environment Variables



Registry Breadcrumbs

- Delete these:

- HKEY_CURRENT_USER\Software\FLEXlm License Manager\ADSKFLEX_LICENSE_FILE
- HKEY_LOCAL_MACHINE\SOFTWARE\FLEXlm License Manager\ADSKFLEX_LICENSE_FILE

- Don't delete this:

- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Session Manager\Environment\ADSKFLEX_LICENSE_FILE

Use SETX.EXE to Set Environment Variables

```
REM This script is to set the ADSKFLEX_LICENSE_FILE environment variable
REM This must be done in a DOS Prompt as Administrator
ECHO OFF
CLS
setx ADSKFLEX_LICENSE_FILE @Server1;@Server2 /M
IF %ERRORLEVEL% == 0 GOTO by
Echo ATTENTION, an error occurred! Did you right click and 'Run As
Administrator'?
pause
:by
exit
```

Use Group Policies to Set Environment Variables

Create and link the Group Policy object (GPO)

1. Open Group Policy Management. In the console tree, right-click the *domain name* in the forest in which you want to create and link a Group Policy object (GPO).

Where?

Forest name/Domains/Domain name

- If one policy is to drive all PCs for Autodesk licensing then link at the upper most level of the forest
 - If multiple policies are to be create for regionalized policies the link to the appropriate organizational unit in the forest
2. Click Create and Link a GPO Here
 3. In the New GPO dialog box, specify a name for the new GPO, and then click OK
 - Make the name of the GPO easy to distinguish as an Autodesk Licensing GPO
 - Example: AdskFlex-Lic-Variable

Use Group Policies to Set Environment Variables

Creating an Environment Variable preference item

1. Right-click the new Autodesk License GPO that should contain the new preference item (variable) then click **Edit**
2. In the console tree under **Computer Configuration** or **User Configuration**, expand the **Preferences** folder, and then expand the **Windows Settings** folder.
3. Right-click the **Environment** node, point to **New**, and select **Environment Variable**.
4. In the **New Environment Variable Properties** dialog box, select an **Action** for Group Policy to perform. Choose the **Replace** action.

Create	Create a new environment variable for computers or users.
Delete	Remove an environment variable from computers or users.
Replace	Delete and recreate an environment variable. The net result of the Replace action is to overwrite all existing settings associated with the environment variable. If the environment variable does not exist, then the Replace action creates a new environment variable.
Update	Delete and recreate settings of an existing environment variable. This action is the same as Replace in that it overwrites the existing variable value associated with the environment variable. If the environment variable does not exist, then the Update action creates a new environment variable.

Use Group Policies to Set Environment Variables

5. Enter environment variable settings for Group Policy to configure.

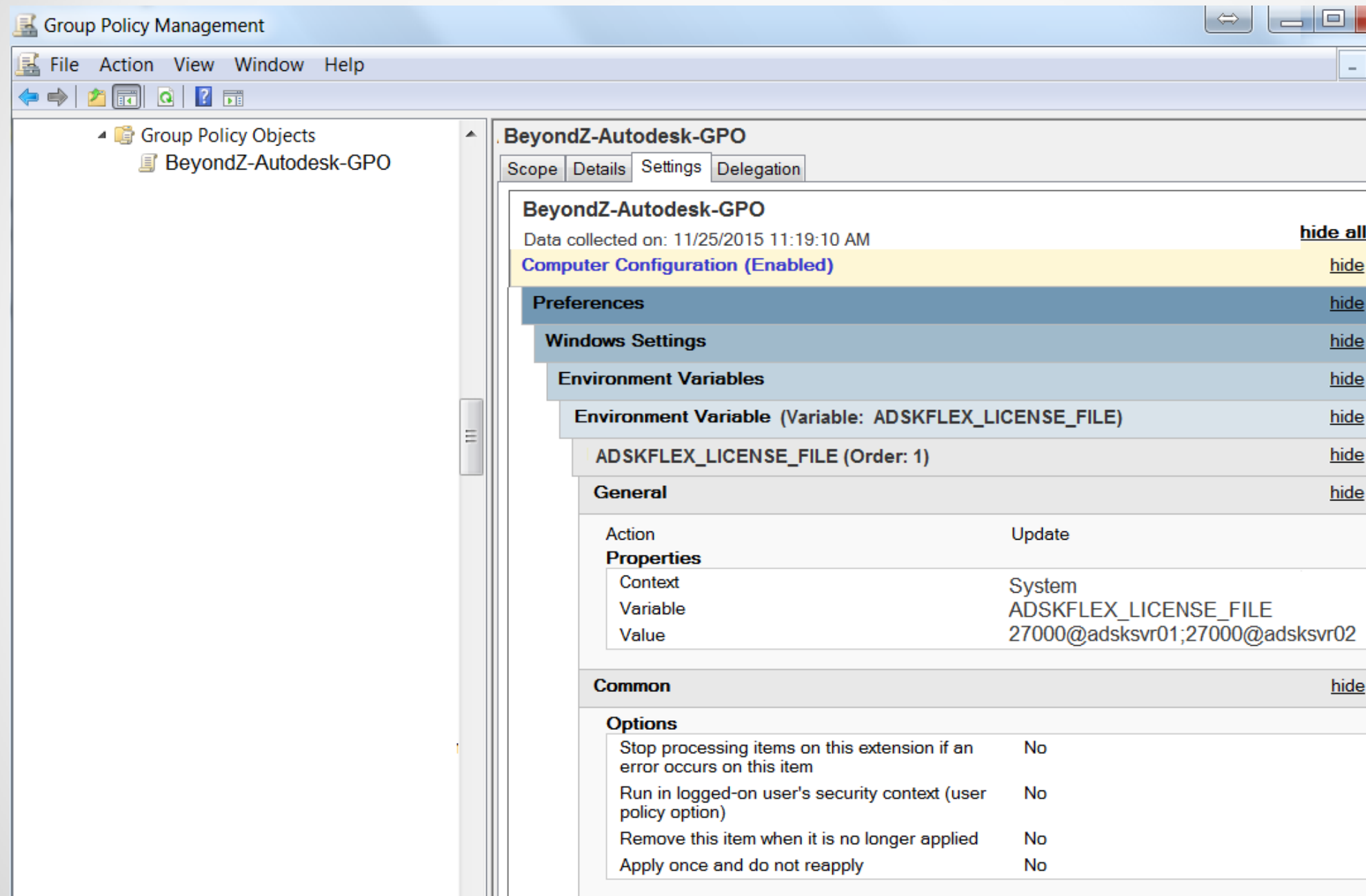
Options	Use these values	Description
User Variable or System Variable	System Variable (preferred)	To cause the environment variable to affect each user independently, select this setting for an Environment preference item under User Configuration . The environment variable is stored in the registry in HKEY_CURRENT_USER. To cause the environment variable to affect all users of the computer, select this setting. The environment variable is stored in the registry in HKEY_LOCAL_MACHINE.
Name	ADSKFLEX_LICENSE_FILE	Type a name for the environment variable to which the action is applied. To select the PATH variable, leave this field blank.
Value	27000@adsksvr01;27000@adsksvr02	Type the value for the environment variable. This field accepts variables.

Other Autodesk Licensing variables to consider enforcing through Group Policy

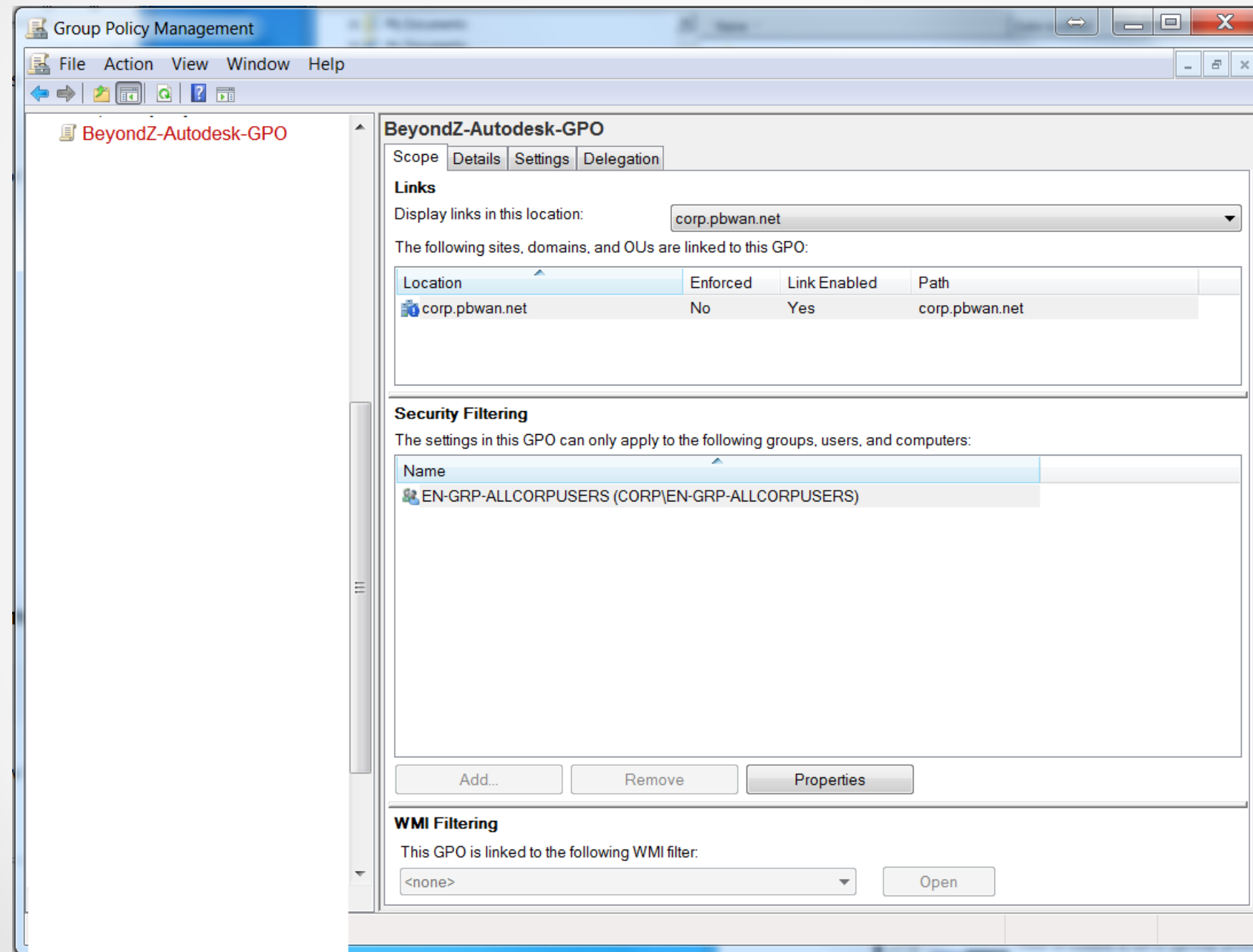
- FLEXLM_TIMEOUT
 - License search timeout (in ms). Default suggested value is 200000
- LM_PROJECT
 - If using PROJECT to control license access

6. Click OK. The new preference item appears in the details pane.

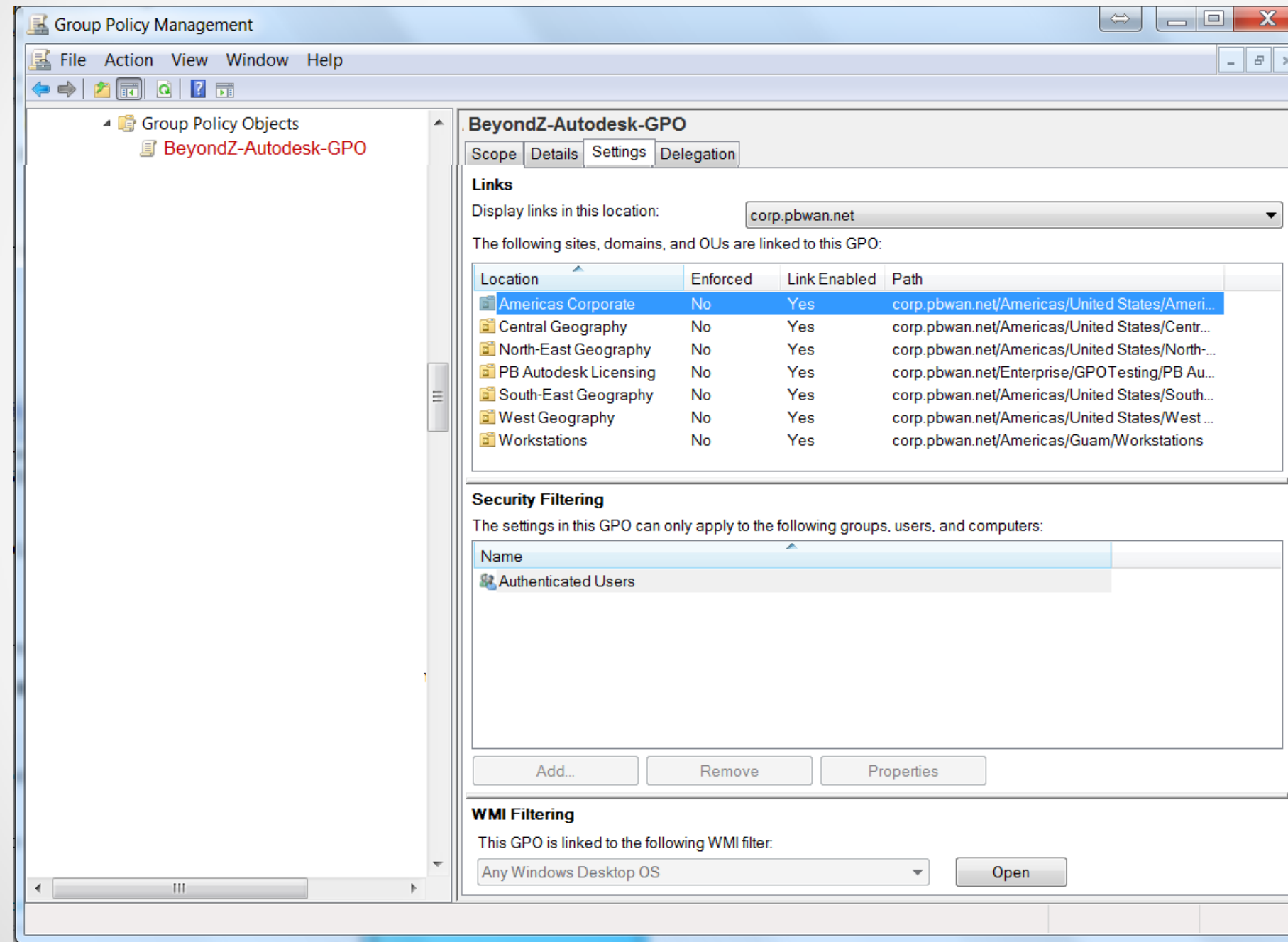
Use Group Policies to Set Environment Variables



Use Group Policies to Set Environment Variables

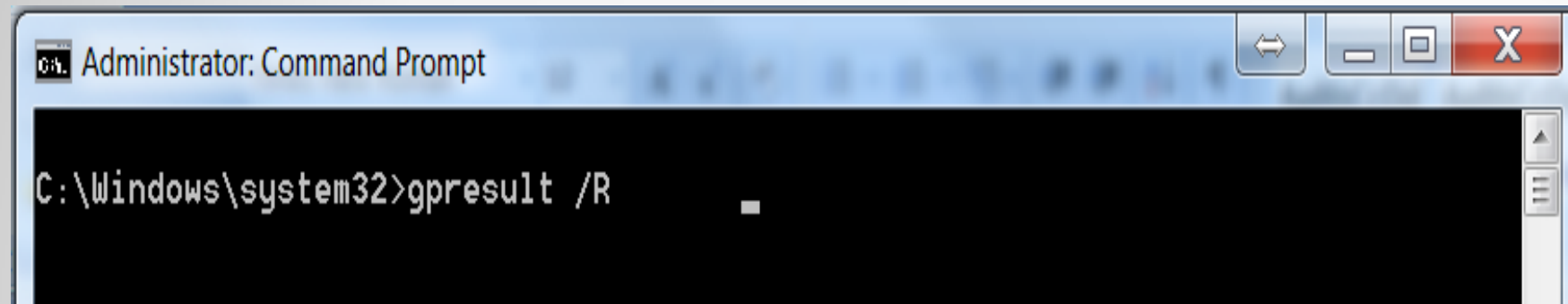


Use Group Policies to Set Environment Variables



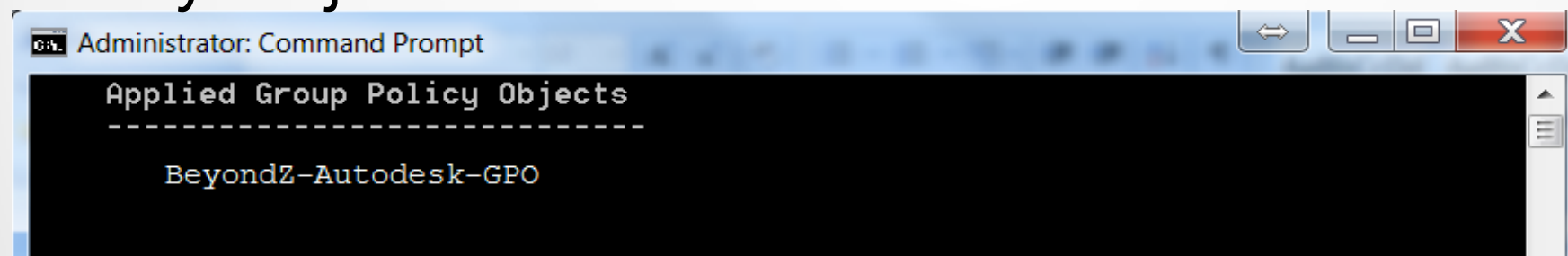
Test the Policy

Type gpresult /R then press Enter



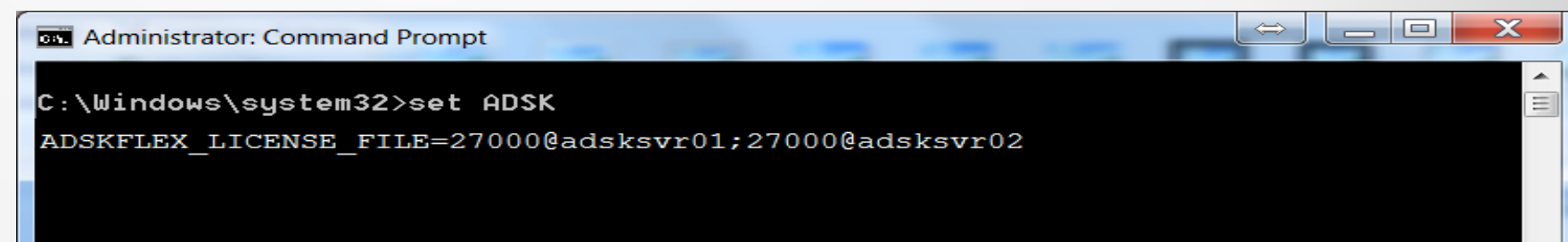
```
Administrator: Command Prompt
C:\Windows\system32>gpresult /R
```

Scroll up to the section called Applied Group Policy Objects



```
Administrator: Command Prompt
Applied Group Policy Objects
-----
BeyondZ-Autodesk-GPO
```

Type Set ADSK then press Enter



```
Administrator: Command Prompt
C:\Windows\system32>set ADSK
ADSKFLEX_LICENSE_FILE=27000@adsksvr01;27000@adsksvr02
```

The image is a composite. The top half features a clear blue sky above a city skyline with several tall, modern skyscrapers. The bottom half shows an aerial perspective of a multi-lane bridge crossing a wide river. The bridge has a rainbow-colored line along its edge. On the left side of the bridge, a red car is visible. The surrounding landscape includes green grass, small trees, and a landscaped area with purple flowers near the riverbank.

Applying Updates

Apply Updates to Deployments: Non-Silent Fix

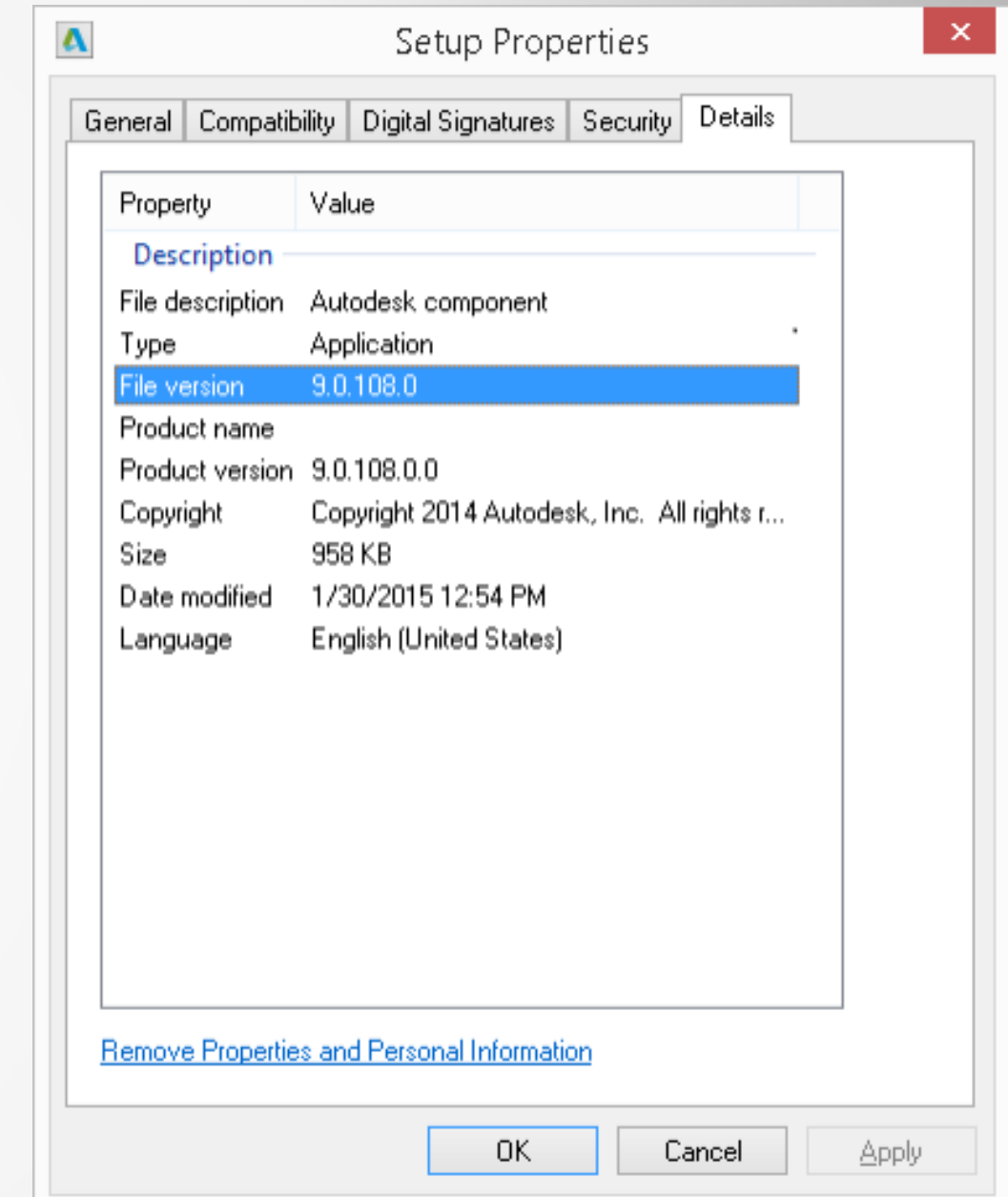
- Updates don't honor silent switches
- Update bug fix for Setup DLLs
 - Setup.exe version 9.0.107.0
 - Extract G107.B.05_Clic_X86_Release.zip
 - Setup.exe version 9.0.108.0
 - Extract G108.1_X86_Release.zip
 - Replace Img\Setup\DLLs with files
 - SetupUi.dll
 - AssetReader.dll



G108.2_X86_Release.zip



G107.B.06_Clic_X86_Release.zip



Apply Updates to Deployments: ReCap Non-Silent

- ReCap updates can be full installs
 - Extracts and Updates in verbose mode
- Suggested workaround...
 - Don't include ReCap in AutoCAD based images
 - Create a separate ReCap deployment
 - Install post AutoCAD based image install
 - If ReCap already exists...
 - Image will uninstall existing and reinstall the updated version

Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2016 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time

