As Many CAD Manager Tips as We Can Fit into a Single Hour!

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Class summary

- You are probably familiar with Lynn Allen's world-famous class, “60 Tips in 60 Minutes.” Let's do the same with tips geared toward the CAD managers! We'll review some tools to help diagnose and solve problems, some tips that help streamline application usage, and some tips just for you to help your users in the background.

Key learning objectives

At the end of this class, you will:

- Learn some tips and tricks that you can pass on to your users
- Learn some tips and tricks you can apply in the background to help your users
- Discover some hidden features in AutoCAD that can help you diagnose and fix issues
- Discover some tools that can help you with your daily CAD manager tasks

Speaker summary

- R.K has worked in the Civil Engineering/Survey fields for more than 20 years, with his duties ranging from hand drafting to using the latest versions of Autodesk Civil 3D. During this time, he has developed systems for the ease of administration of AutoCAD systems including installations, maintenance, customization, and compliance with CAD standards.
- R.K. currently serves as CAD Manager for the IT department at LJA Engineering, a 650 employee firm primarily based in Texas
- R.K. created CAD Panacea (http://cadpanacea.com) over 11 years ago as a resource for CAD users all over the world. He is a member of the Autodesk Expert Elite and multiple council groups at Autodesk.

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Getting Started

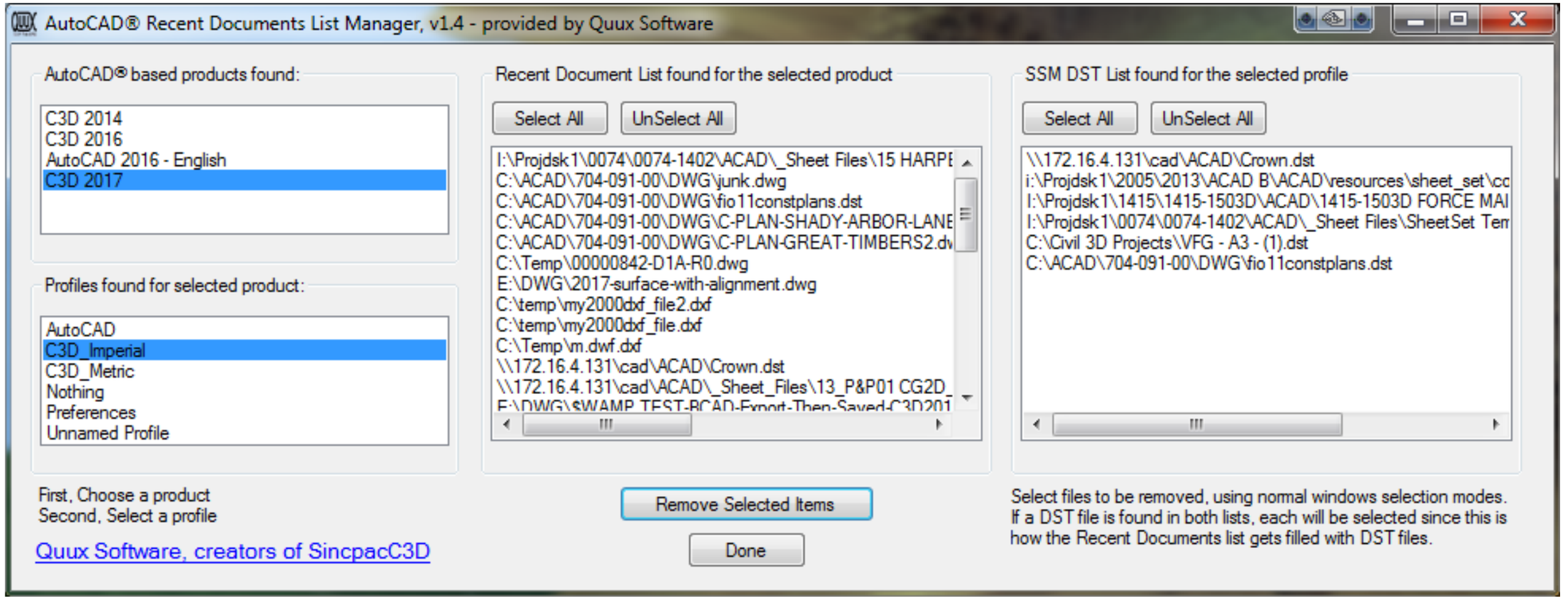
What is our job as a CAD Manager? From my experience, this title can mean many things.

- You may be in charge of a production group, directly responsible for producing billable work.
- You may be a branch of the IT department, more geared towards application setup, support, and maintenance
- You may be all of the above and more, especially at a smaller firm.

Whatever your job duties, I'm quite sure one of your goals is to achieve better performance for the people in the trenches, using CAD for 8+ hours a day. If you can identify a task on which to improve, then you are removing a bottleneck and this will lead to better productivity.

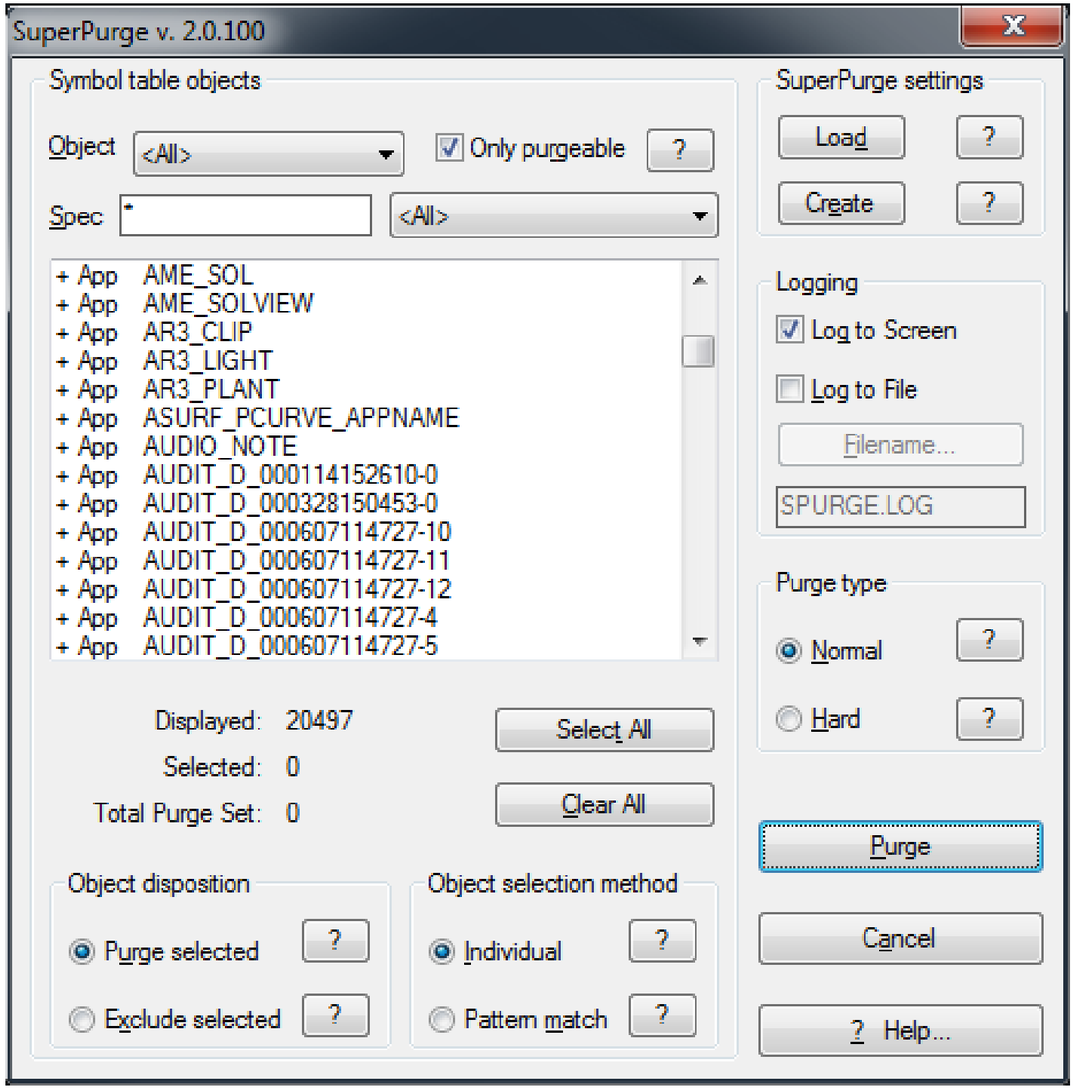
1

AutoCAD Recent Files Manager – Civil 3D guru and fellow Expert Elite member Jeff Mishler authored this free tool to help clean the recent files list of DWG and DST files. It works in AutoCAD and verticals. If you have old file and path links in your recent files list, including drawing files and sheet set files, AutoCAD will try to resolve those links and this can slow AutoCAD down to a crawl.



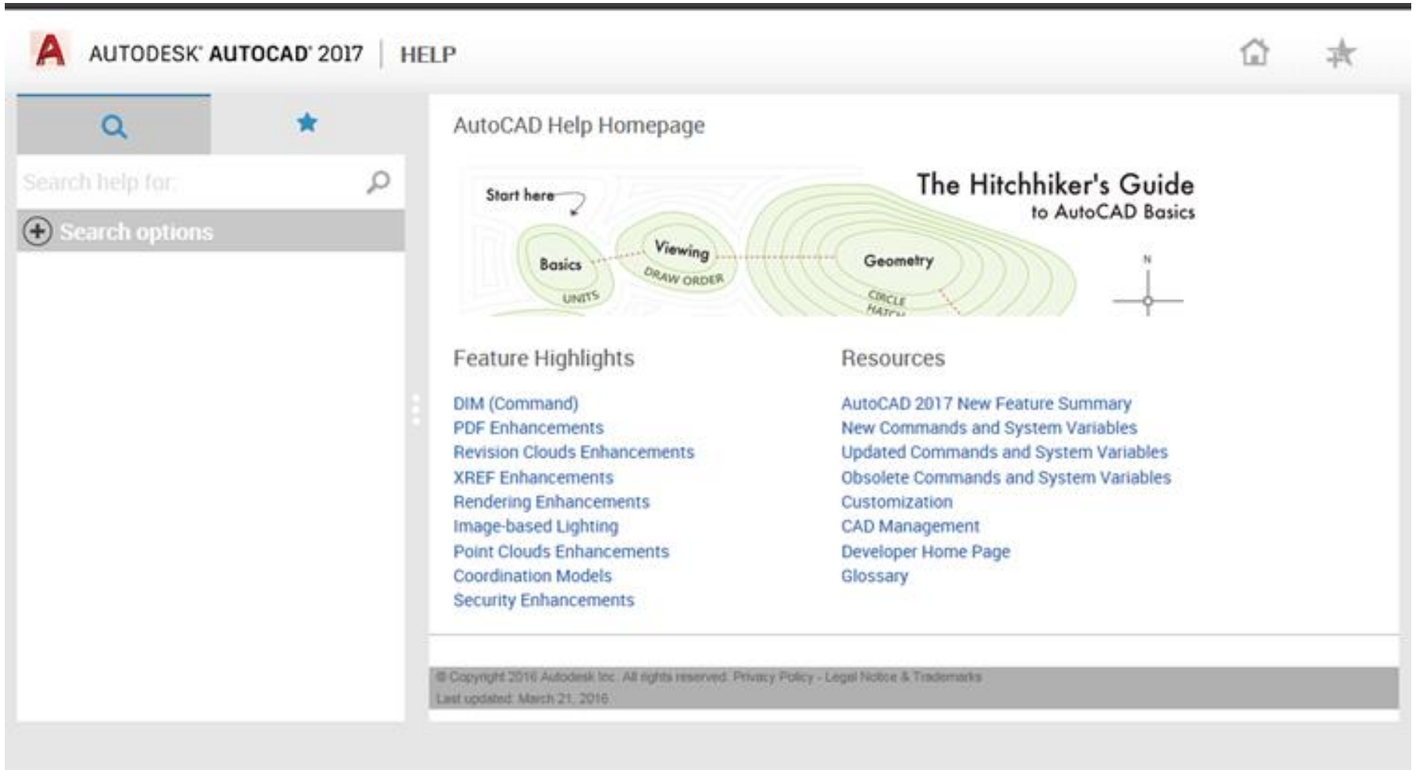
2

SuperPurge – this is a commercial application from Manusoft.com. It is used to purge objects and data from DWG files that otherwise cannot be purged. Even if a copy of this tool is not in the budget for every user, you could get a copy for the CAD Manager and maybe for a power user or two. Work on a copy of the drawing if you are not comfortable with this power tool. It will delete references in order to purge the item(s) you select. SuperPurge retail price is US$30.



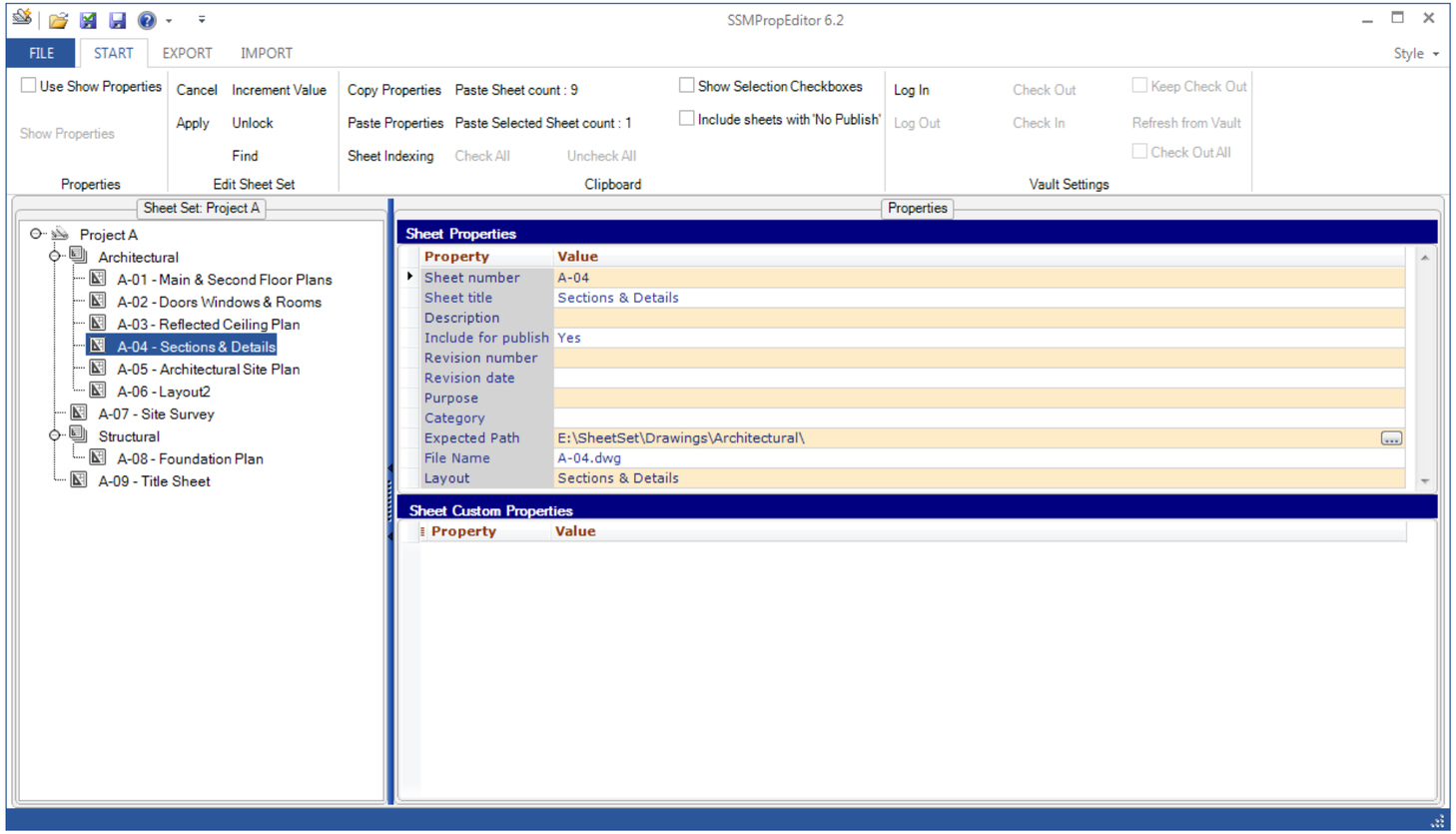
3

Offline Help – If your office has tight Internet restrictions or you are a mobile user, you might want to download and install offline HELP - It is no longer a simple file, the download is a regular installer and will integrate with the application. Optionally, you can tell AutoCAD to always use this local help (Options>System Tab).



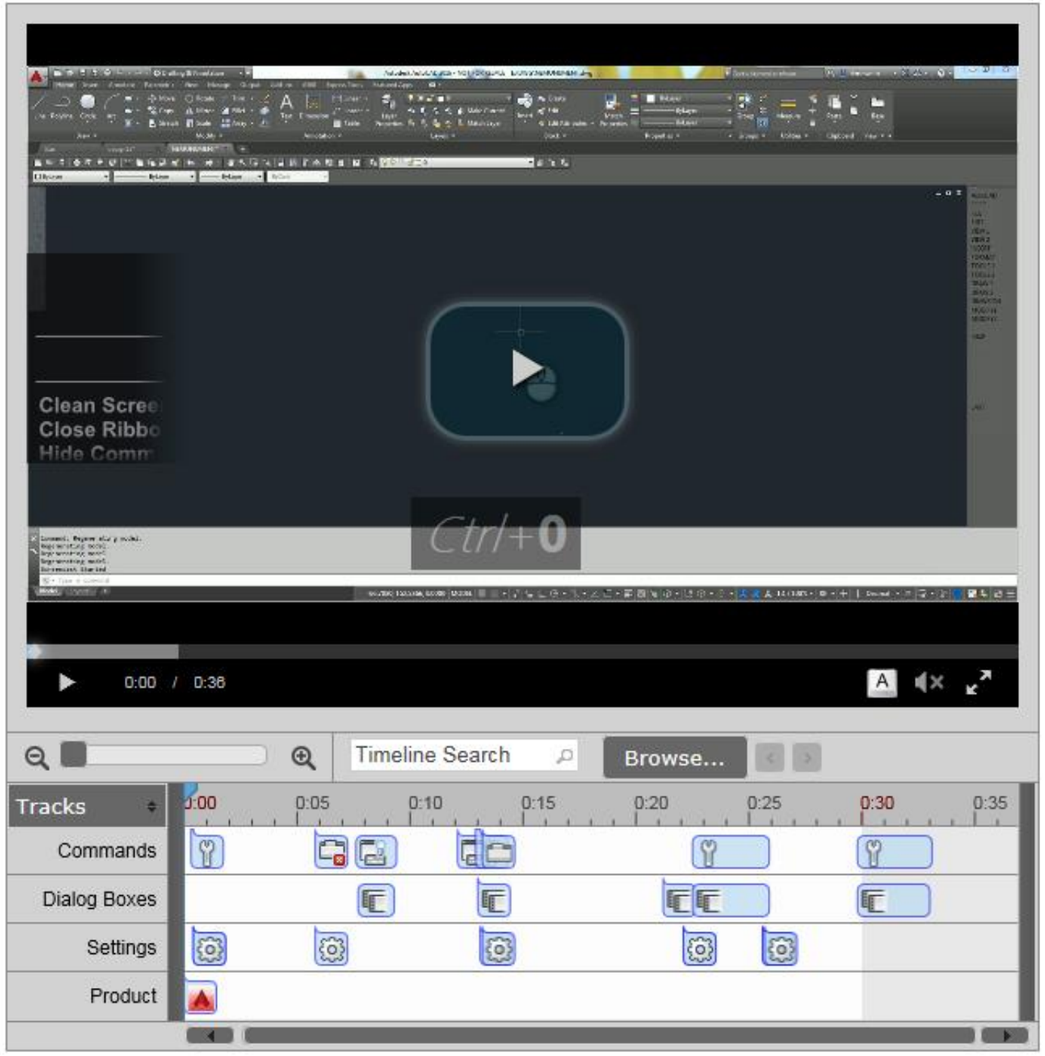
4

SSMPropEditor from JTB World is a tool that can be used to edit AutoCAD Sheet Set files (.DST Files) and AutoCAD Architecture's Project Navigator files, even if you do not have AutoCAD or AutoCAD Architecture. It contains tools for editing multiple properties of sheets all at once. This is a very powerful tool and includes many batch type operations that are not possible inside of the Sheet Set Manager. The SSMPropEditor retail price is US$50.



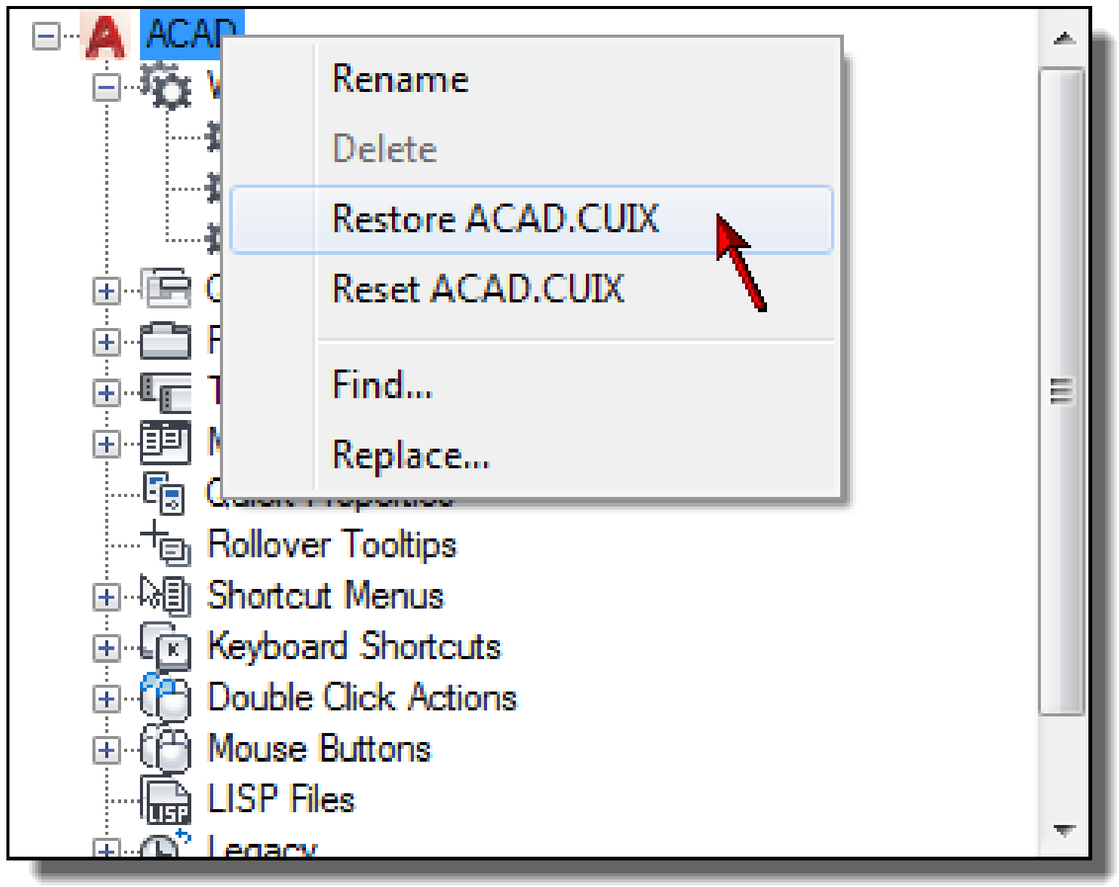
5

Screencast is a tool from Autodesk that allows you to record applications as you use them. You may be familiar with other screen recording apps, but Screencast also records screen clicks and keyboard input for maximum data capture. If a picture is worth a thousand words, then a Screencast must be worth a hundred thousand. When you are done recording, you upload the recording to Autodesk and they will process it on their side and email you a URL when it is done. The resulting recording can be used to describe a problem in the Autodesk forums, used for training purposes, or even as the basis of your own online tech document.



6

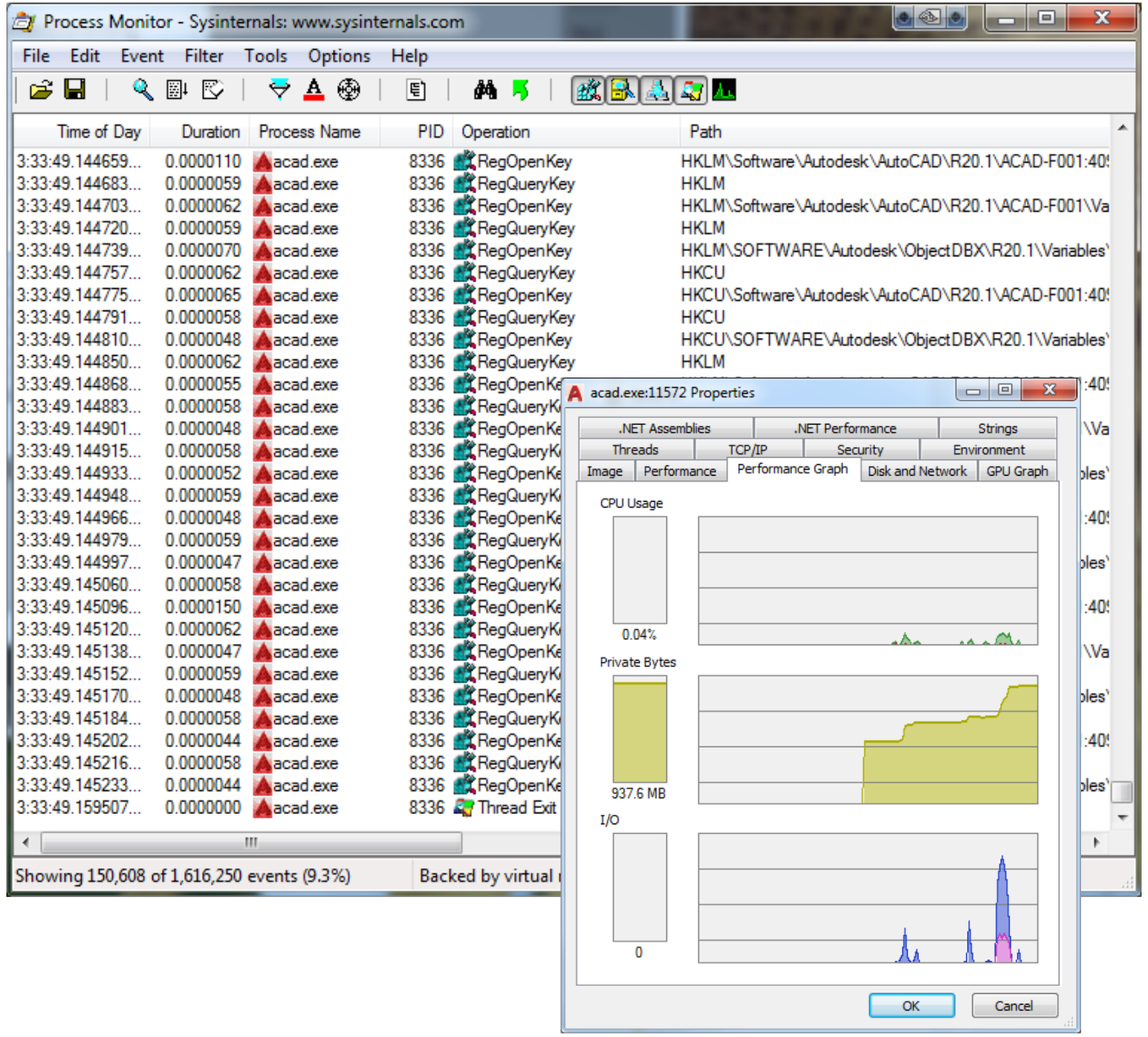
Have you ever had a user mess with the CUI file so much that things are broken now? Contextual tabs not working, buttons missing, etc.? Run the CUI command. Right-click on the main cui file name and choose Restore or Reset <menuname.CUIX>. Restore means that it will replace the current CUIX file with the last saved backup copy. Reset means that it will replace the current CUIX file with the stock, out-of-the-box CUIX file. This also works on partial menus.



7

Process Monitor – I have been a longtime proponent of using this free tool (it was previously named “FileMon”) for investigating what AutoCAD, or any other program for that matter, is doing behind the scenes. This tool had helped me find the root cause of many various “slow CAD” issues. As an example, I once found a drawing file had a dozen hidden references to multiple sheet sets on a slow network resource. Another time, a particular system had several hundred fonts in the support file search path, causing a long delay when doing text related tasks.

Process Explorer – This free tool picks up where the Windows Task Manager leaves off. You can examine, in detail, the properties, performance, threads, etc. for any running task. I have used this at times to watch specific disk i/o activity for AutoCAD, when it looked like AutoCAD was just doing nothing. Use this tool in conjunction with Process Monitor to find bottlenecks.



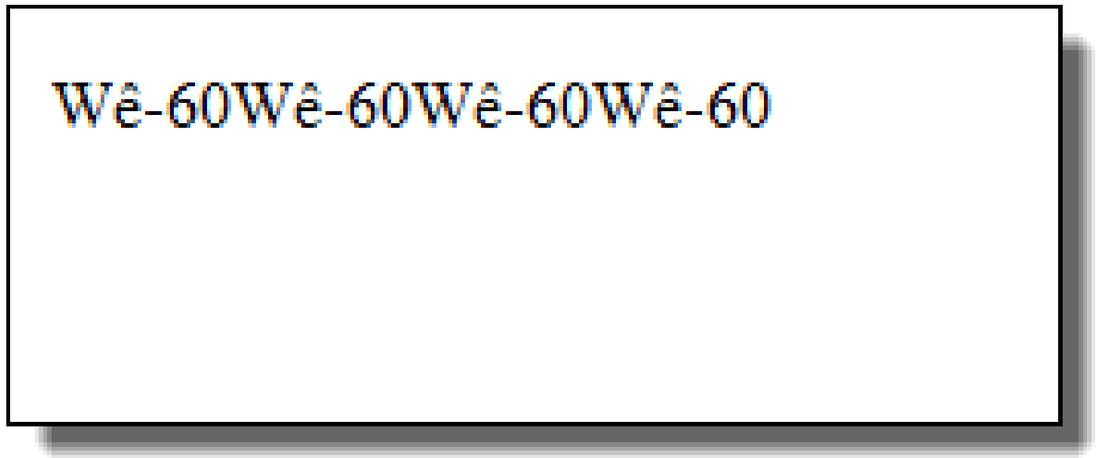
8

Network License Manager Troubleshooting – This undocumented trick can help you when diagnosing NLM troubles. Open Internet Explorer (this will not work in any other browser), and enter these URLs:
http://server_name:2080/
http://server_name:27000/

If the LM is up and operational, you will get a mostly blank page with the following characters:
Wê-60Wê-60Wê-60Wê-60Wê-60

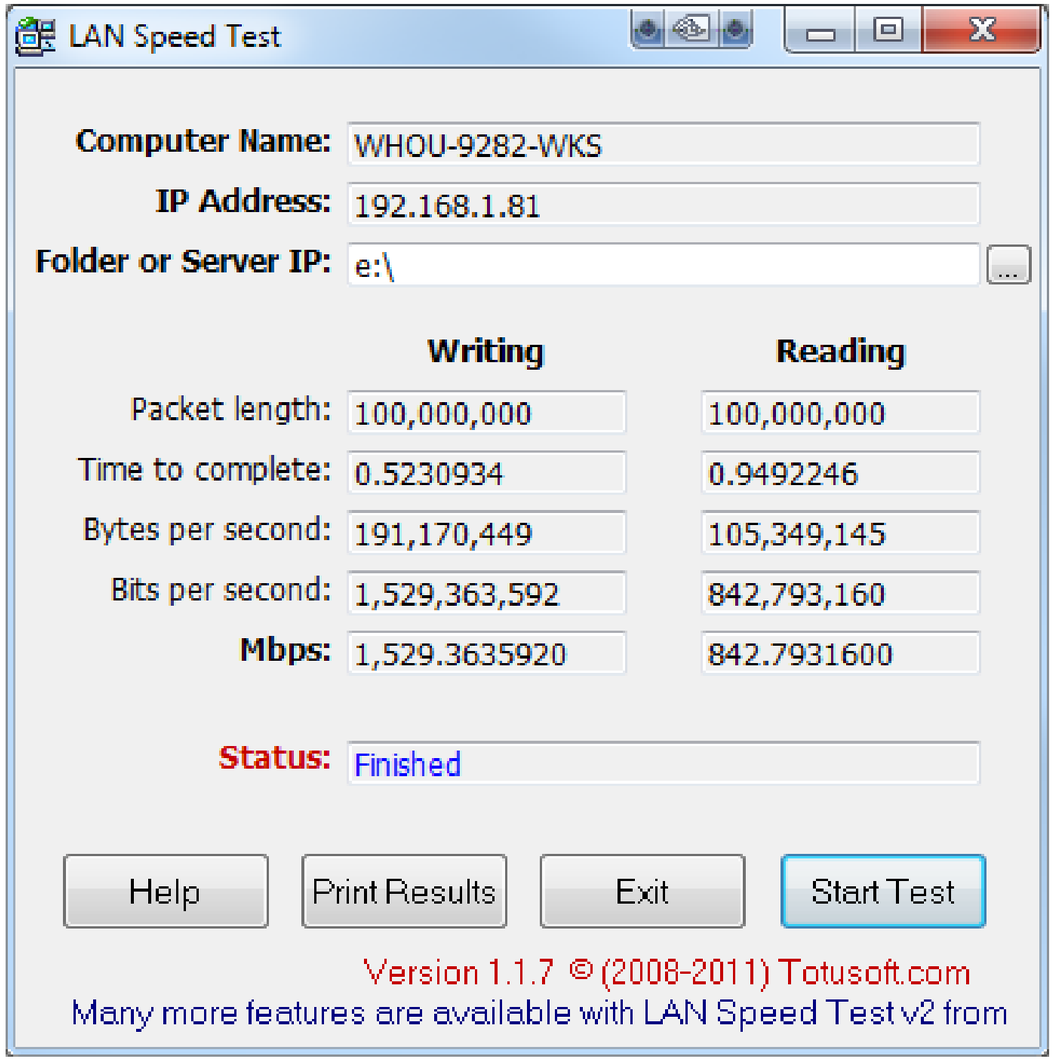
If you get back anything other than that, then you know that the LM is not ready to serve up licenses. It's either not started, or there is something blocking communication to the ports.

More info



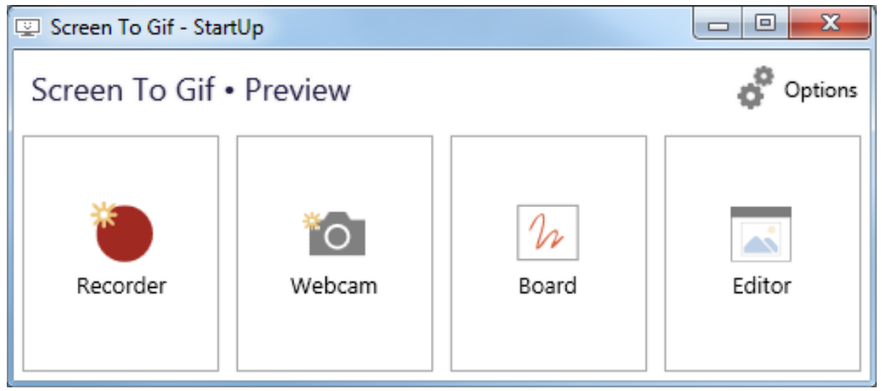
9

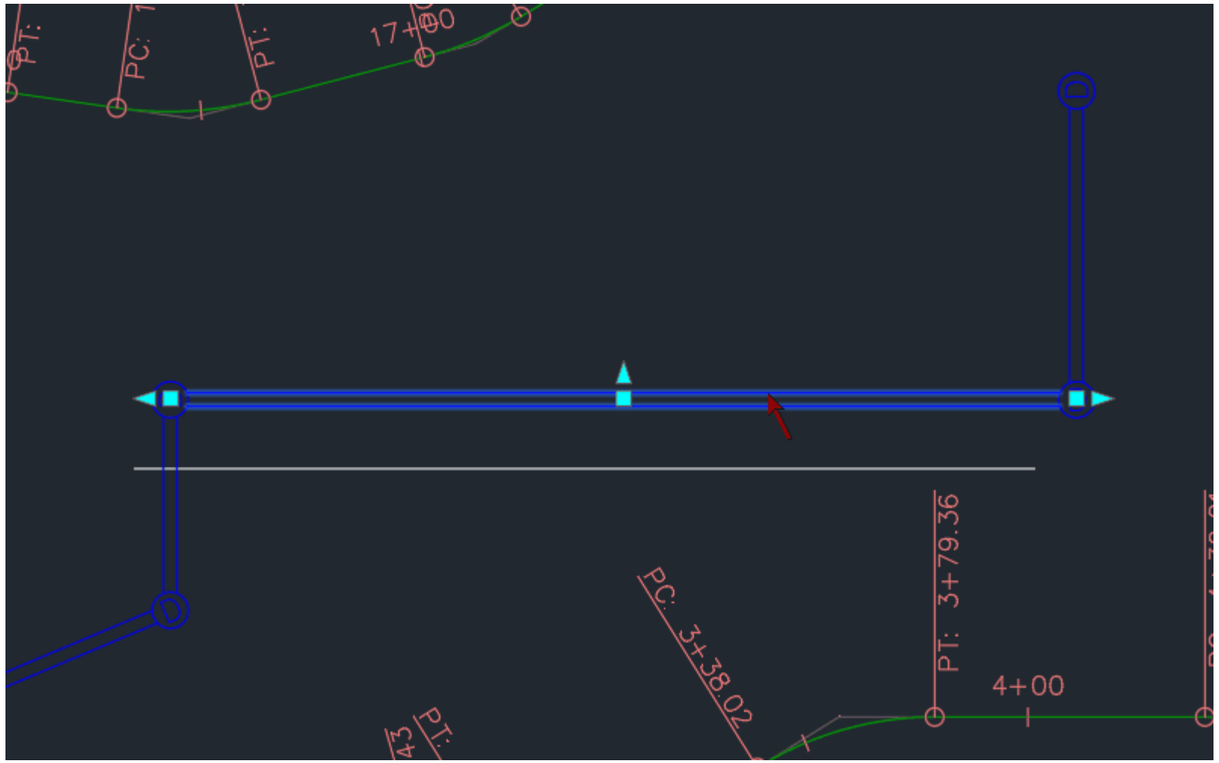
LAN Speed Tool – This is another free tool that can quickly be used to verify network speed. I have used this program and found bad network cables and gigabyte PC connections mistakenly running through 10/100 switches and phones. It is a quick way to verify the connection speed of a user before diving in further to diagnose “slow CAD” issues.



10

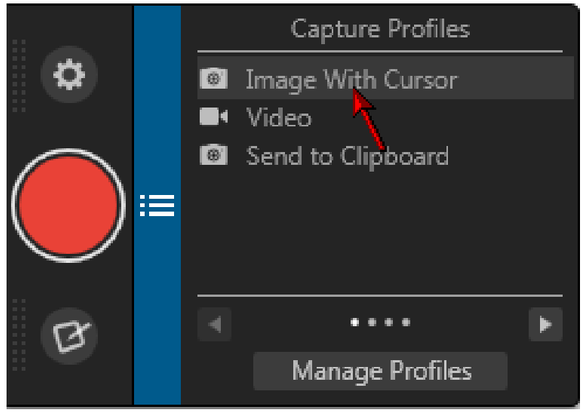
Screen to GIF – This free tool allows you to capture short duration screen activity into an animated GIF file. Why would you want to do this? Animated GIF images can be emailed, inserted into online support forums, or otherwise shared with little worry about supported video file formats on the receiving end. Keep in mind that GIF animations are only appropriate for short (less than 60 seconds) videos, because animated GIF file sizes are very large compared to other video formats.

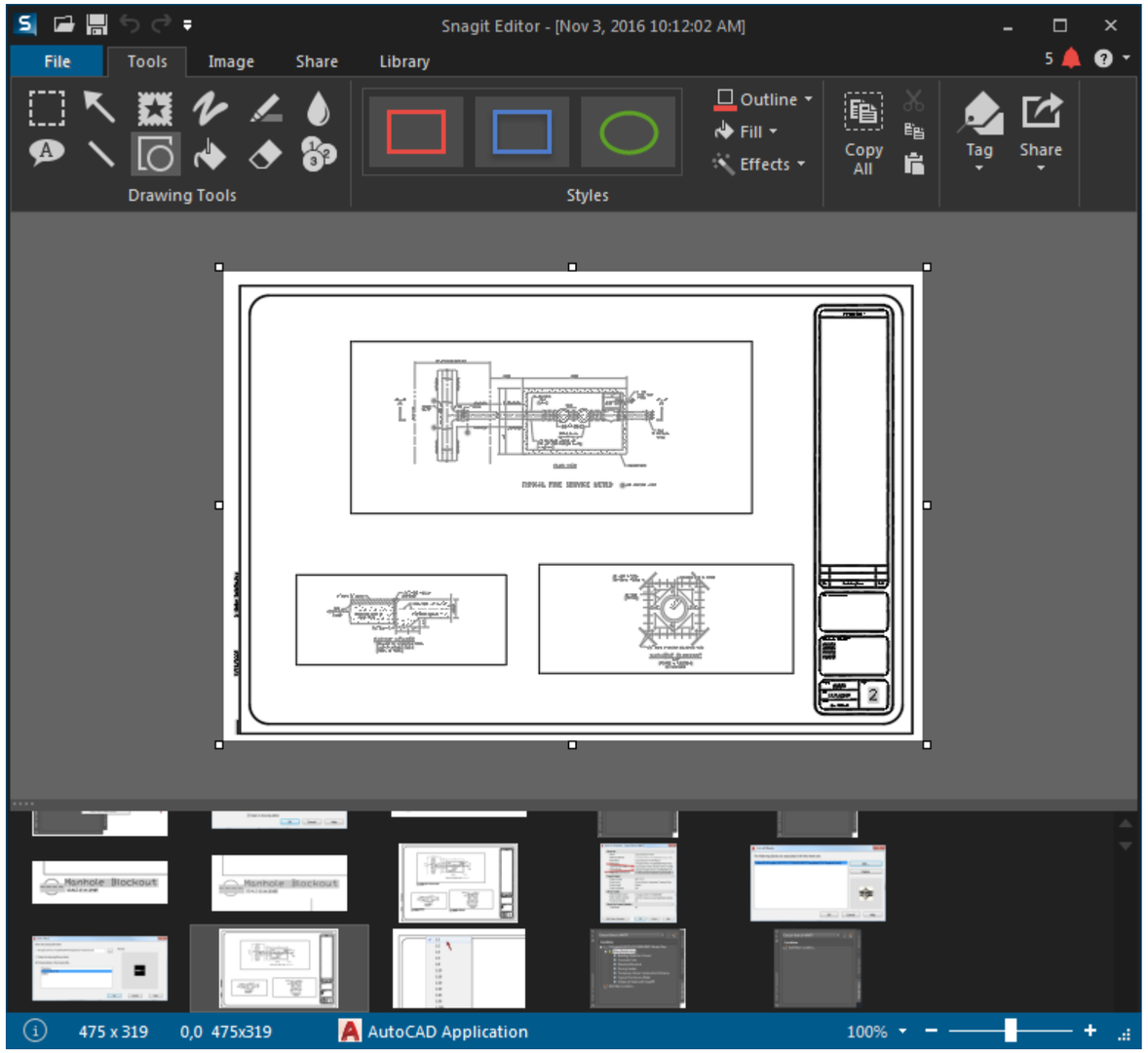




11

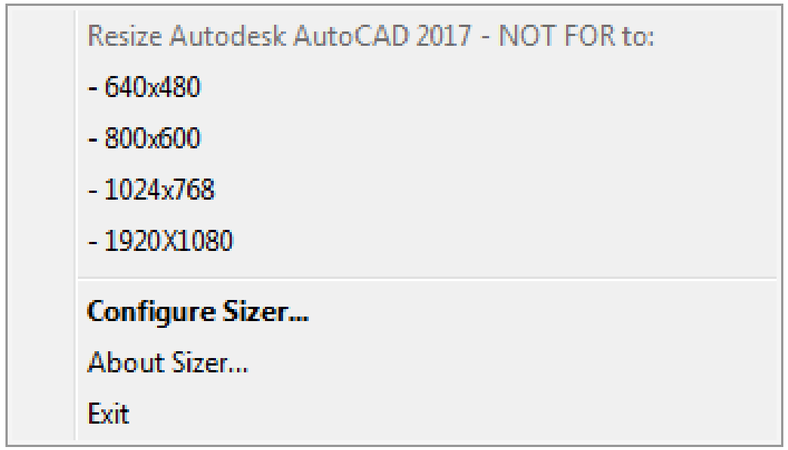
SnagIT – Windows 7 and later comes with the “Snipping Tool” for doing screen captures, but if you are creating documentation and want a professional look, then SnagIT is the tool you should have. There are many programs that can capture the screen, but the real power of SnagIT is the other features, such as capturing scrolling windows, and all of the image editing tools that are part of the SnagIT Editor.





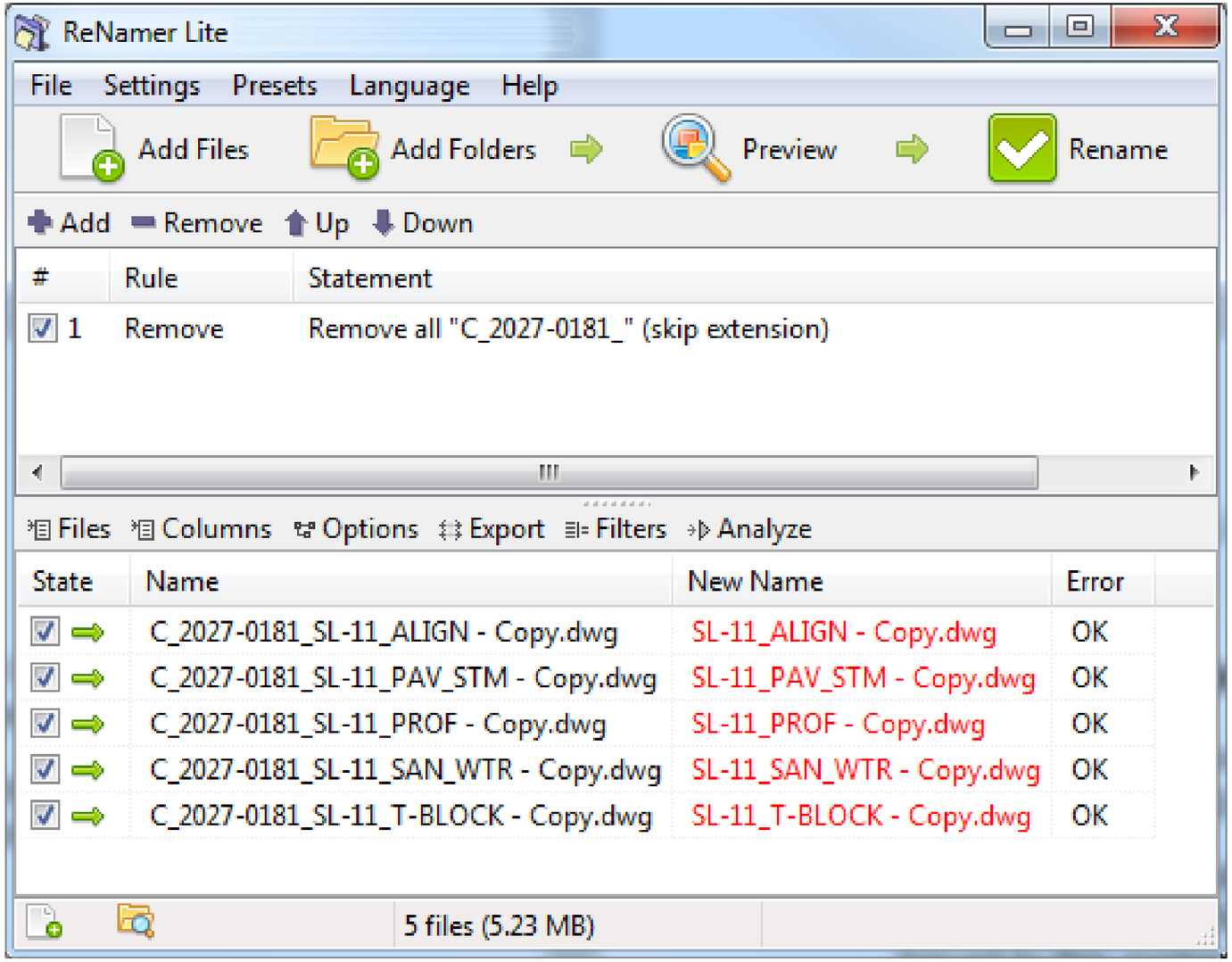
12

Sizer (Thanks to Paul Munford for this tip) – This is a small Windows application that allows you to resize most windows applications to a predefined size, which is useful when preparing documentation or to see what websites (think online CAD help…) will look on certain platforms.



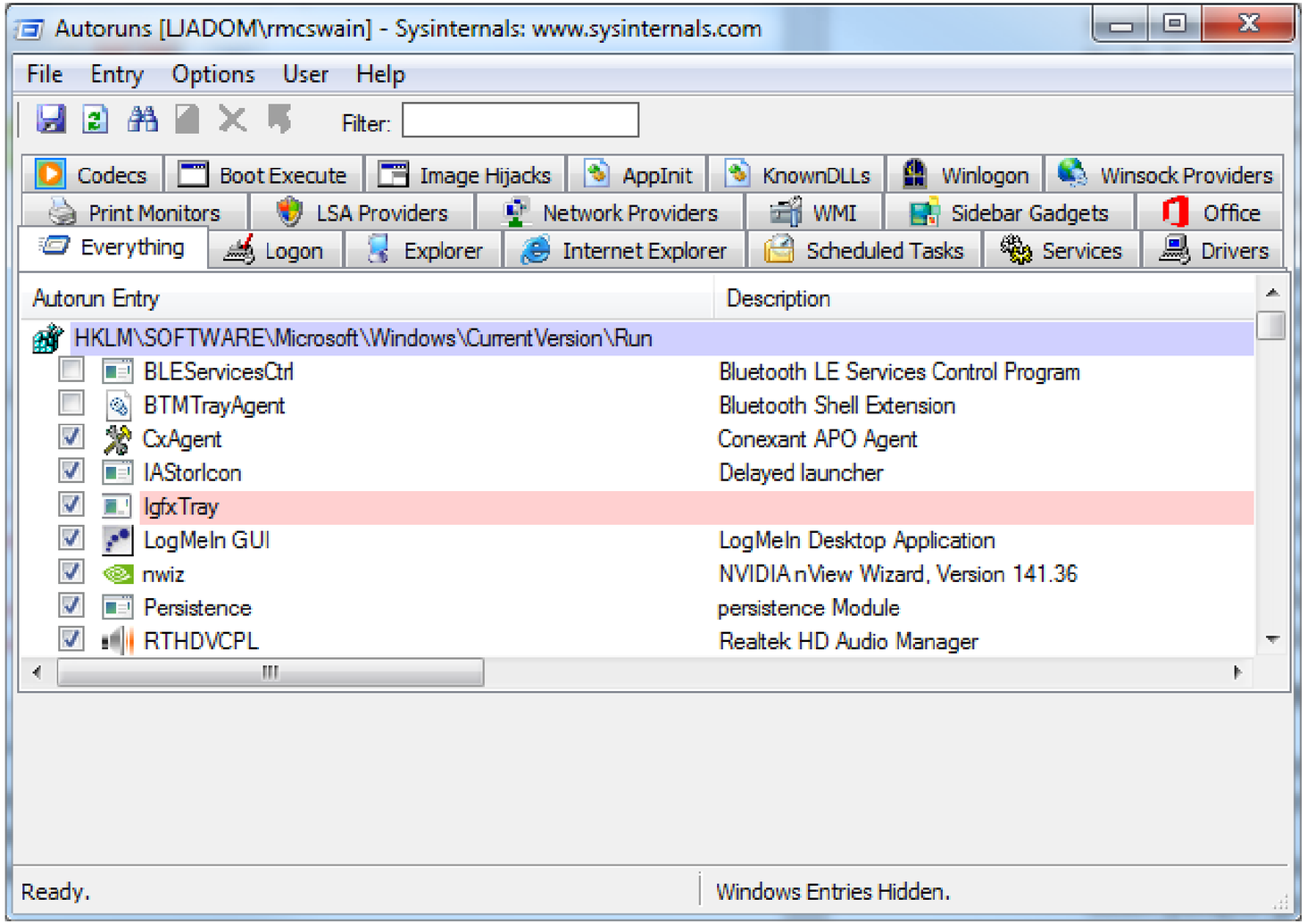
13

Renamer (Thanks for Melanie Perry for this tip) – This is another small Windows application. This one allows you to batch rename files to almost any specification.



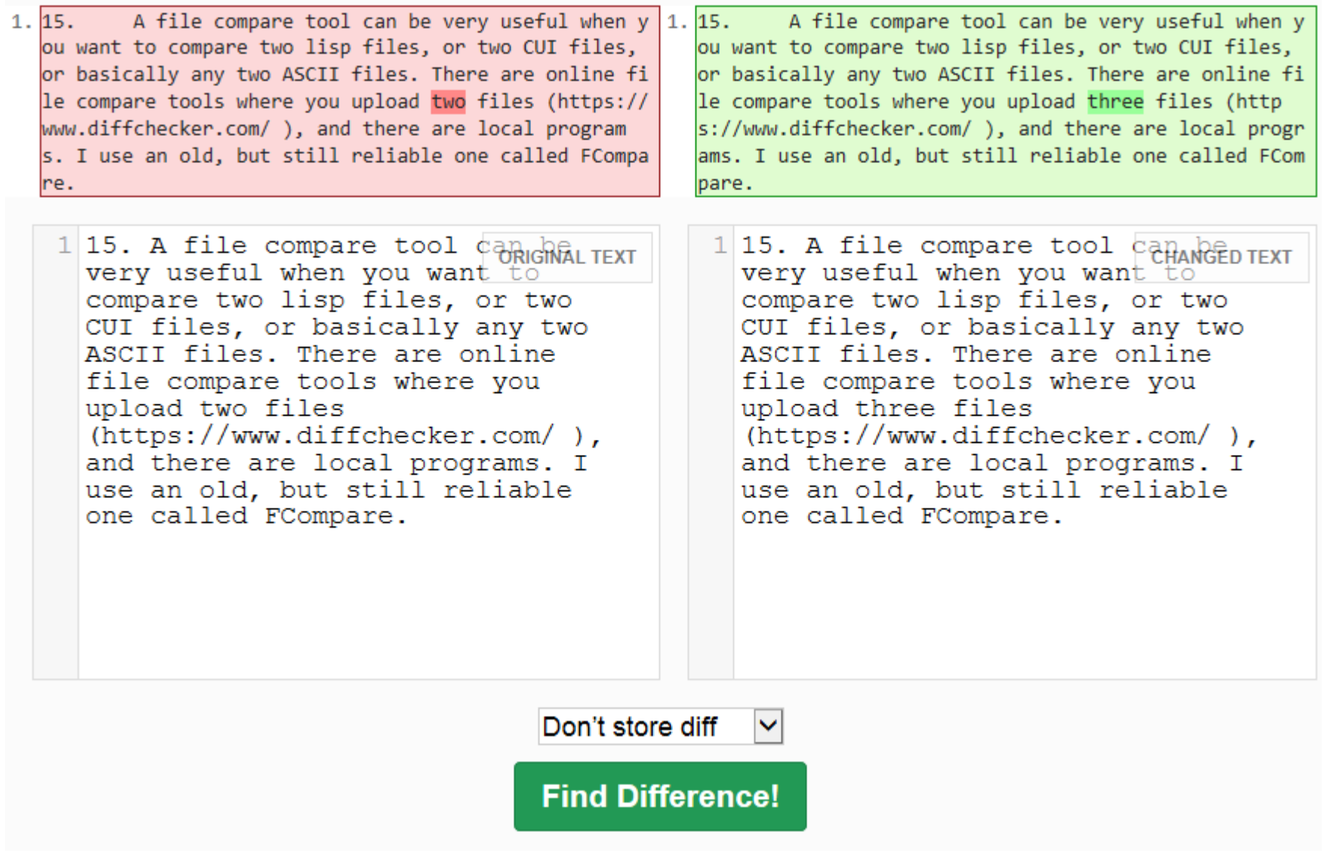
14

Autoruns is a comprehensive free tool used to find virtually everything that is set up to run at PC startup. Do your users have a ton of things running at startup that are slowing them down? Use this tool to find and eliminate them.



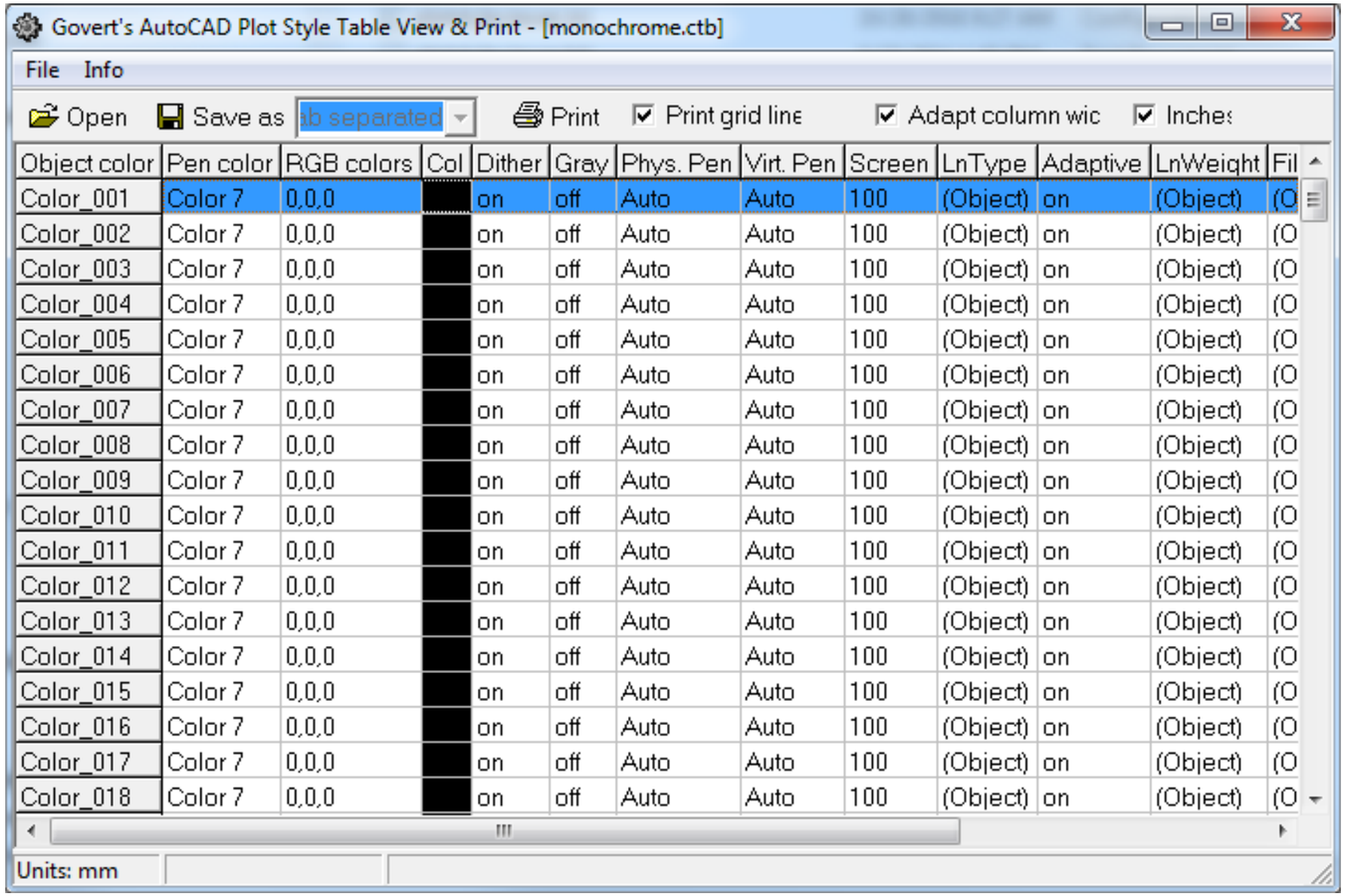
15

A file compare tool can be very useful when you want to compare two lisp files, or two CUI files, or basically any two ASCII files. There are online file compare tools where you upload two files (https://www.diffchecker.com/), and there are local programs. I use an old, but still reliable one called FCompare.



16

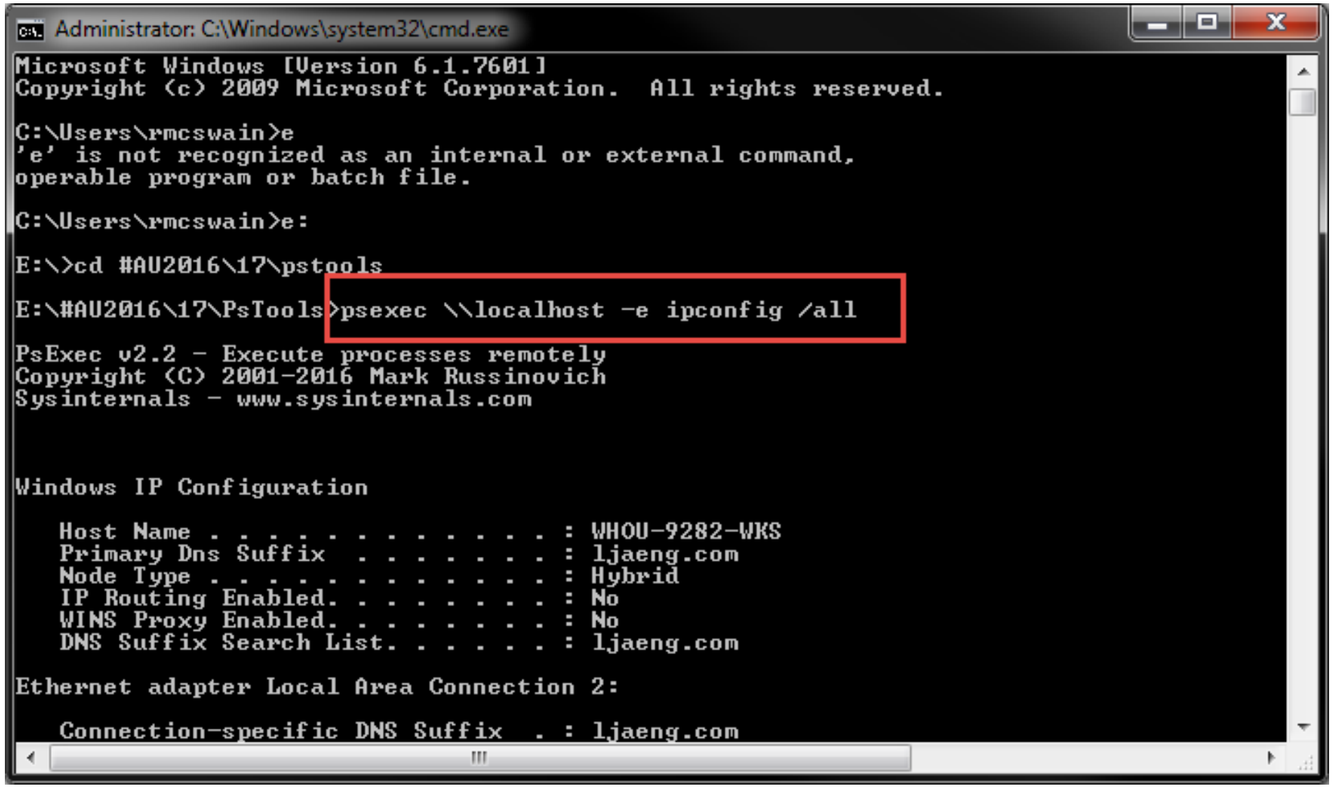
Plot/Print support files – AutoCAD provides only limited tools for viewing and editing PC3, STB, CTB, and PMP files. The tools available from noliturbare.com allow you to view and potentially edit these files outside of the AutoCAD environment. These are great for finding problematic data in these files, and possibly even using the editor to make edits.



Object color	Pen color	RGB colors	Col	Dither	Gray	Phys. Pen	Virt. Pen	Screen	LnType	Adaptive	LnWeight	Fil
Color_001	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_002	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_003	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_004	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_005	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_006	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_007	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_008	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_009	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_010	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_011	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_012	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_013	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_014	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_015	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_016	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_017	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O
Color_018	Color 7	0,0,0		on	off	Auto	Auto	100	(Object)	on	(Object)	(O

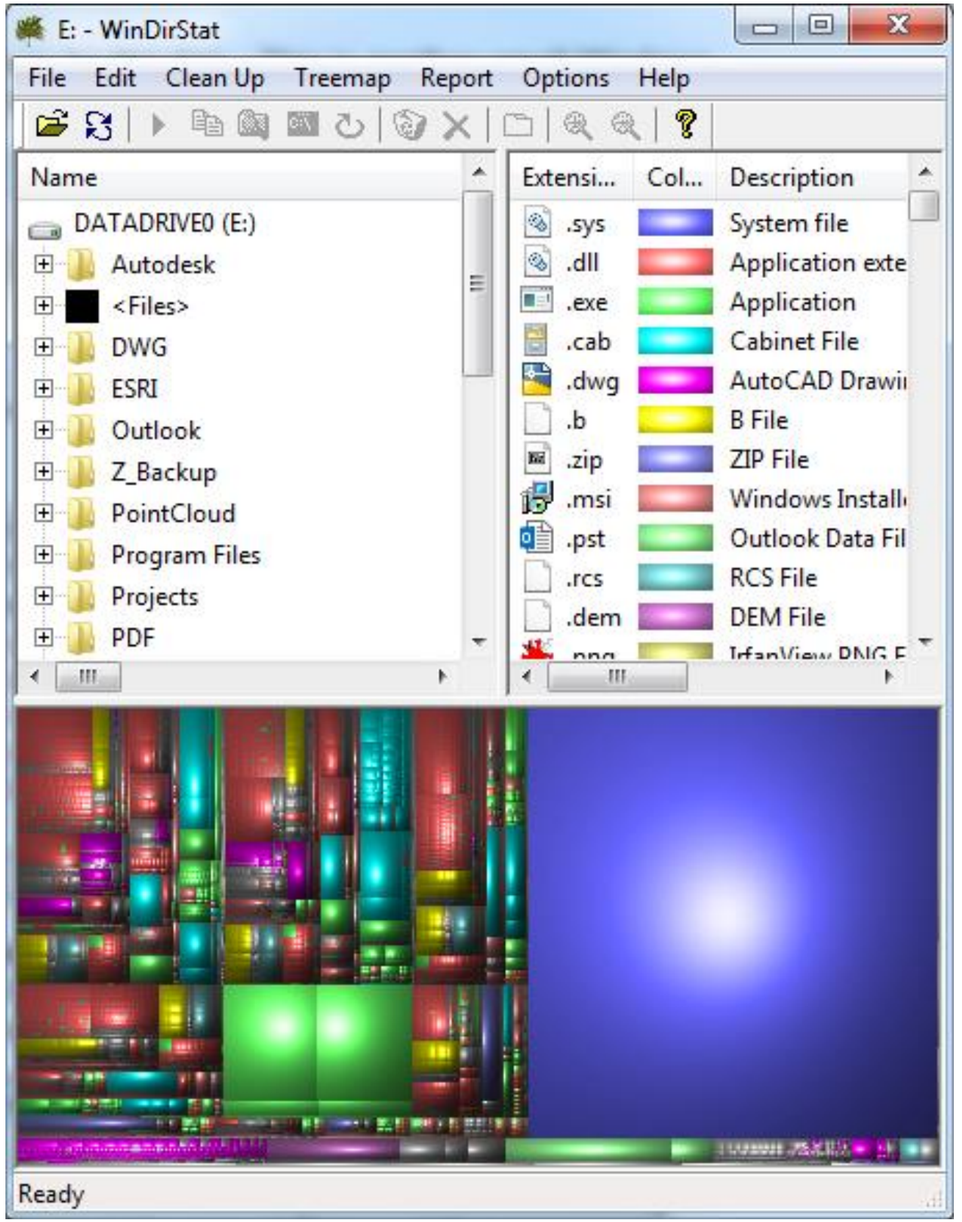
17

PSTools – This is a collection of Windows command line tools that can be very useful when working on remote systems. Examples: PsExec which allows you to run processes on remote systems, and PsKill allows you to terminate processes on a remote system.



18

WinDirStatPortable – This is another free tool, and like many others, requires no install and is made to run from a flash drive. WinDirStatPortable will scan a local disk or network resource and report how the disk space is used. I find the reporting format very useful since it makes it easy to drill down and find large disk space killers.



19

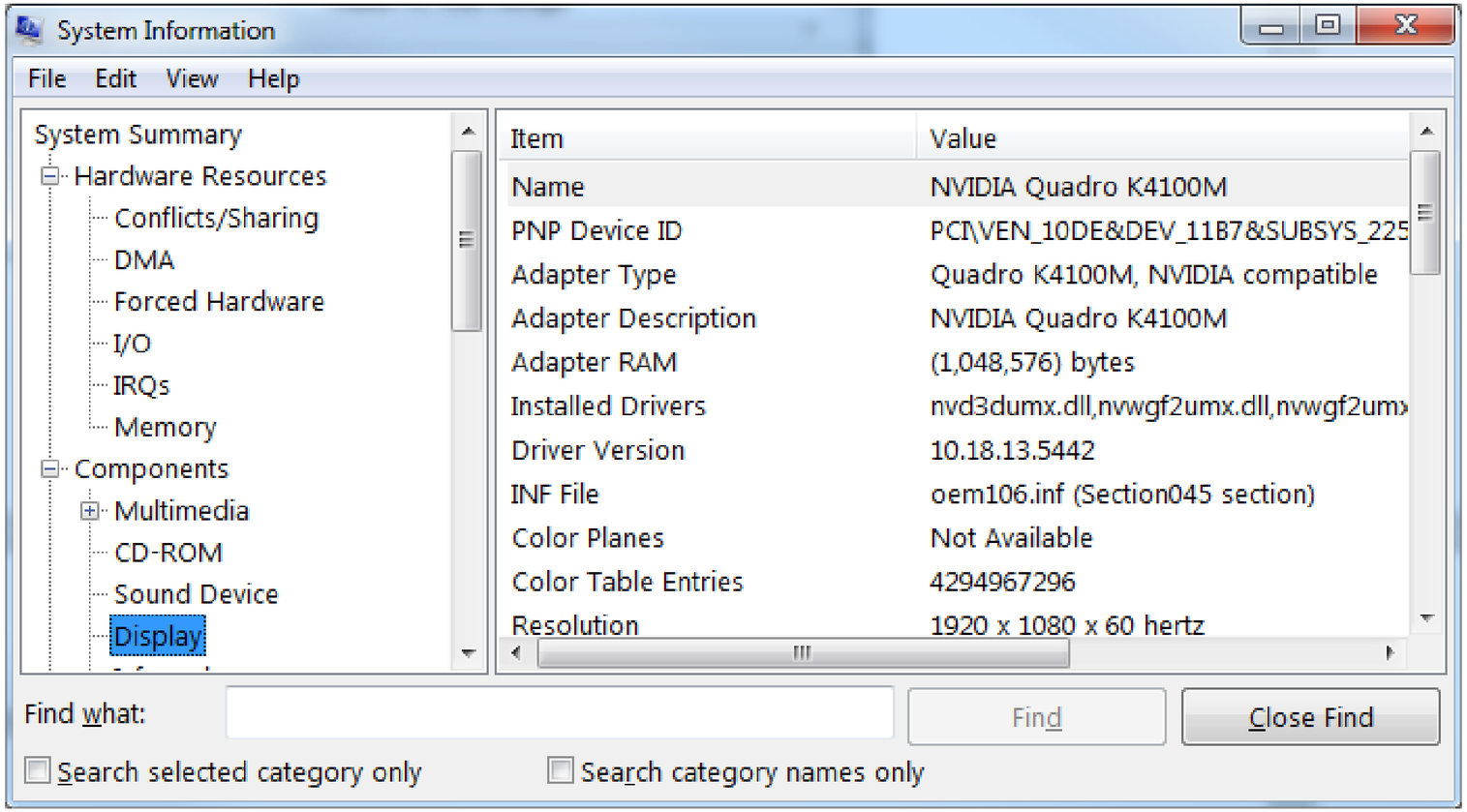
Being proactive with DWG (or other file) cleanup – This not a tool, but rather a suggestion. Most CAD Managers have tools to do things like automation of purging and removing bloat data, such as RegApps and the DGN linetype bloat data. The suggestion here is to put these tools to use at drawing startup. You can choose whether or not to inform the users of the changes being made. Purging unneeded data at DWG open is a great start towards keeping a clean DWG environment.

Make use of ACAD.LSP, ACADDOC.LSP, <menu>.MNL, etc.

Example: We have custom tools in place to Purge RegApps, Purge DGN Linetype Bloat, and to Reset the Scales list – all done automatically w/o the user even knowing it's happening. At first, this does add some time to the opening process, but as data files are cleaned, this all but vanishes.

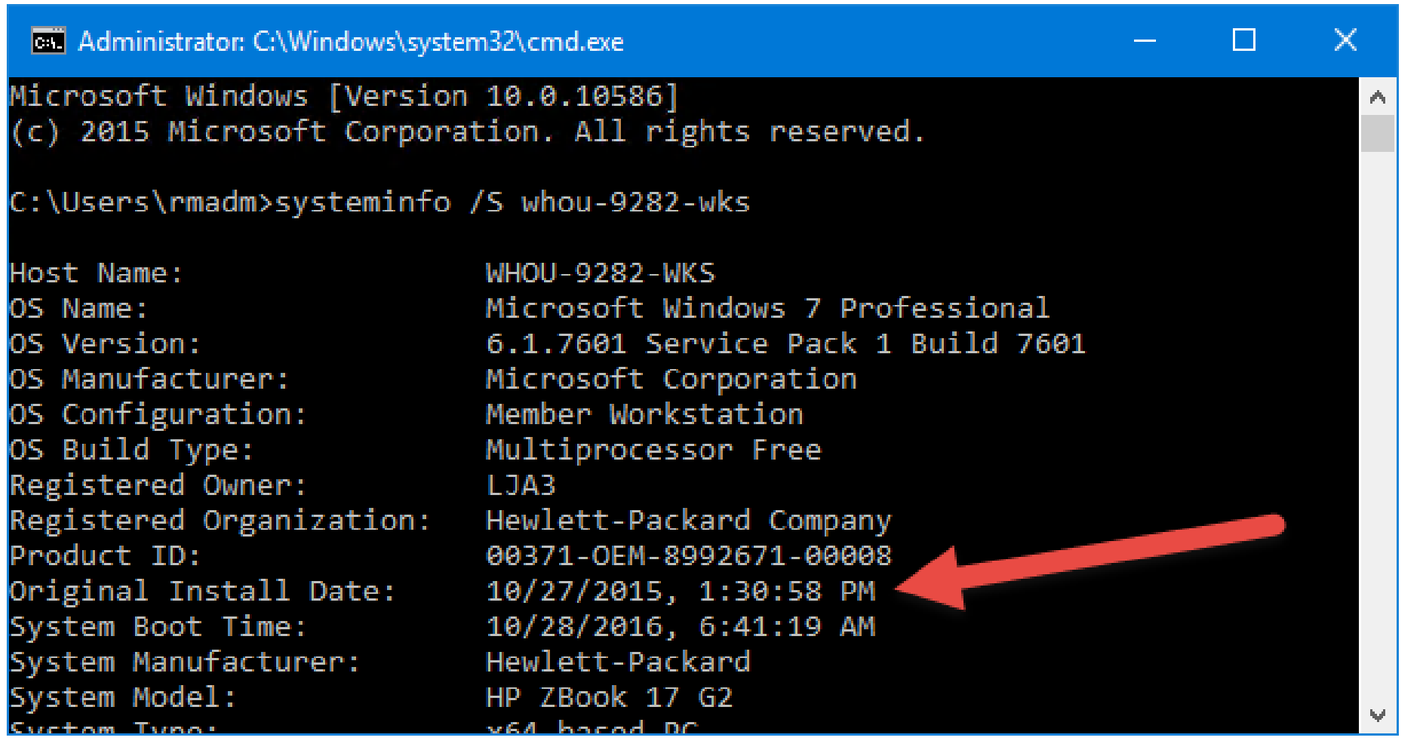
20

MSinfo32 – This is a Windows program that has been around since Windows 98, but it can still provide some valuable information for local and much more importantly, remote Windows computers. Some of the data that can be useful to the CAD Manager are basic items such as processor type, amount of RAM, number and types of hard disks. It will also report more complex data such as the list of environment variables, number of and types of network connections, and even running tasks and processes.



21

SystemInfo – This is a Windows Command Prompt based tool that is similar to the MSInfo32 described above. My favorite use of this tool is to find out the date that Windows was installed on the PC. This gives you a ballpark idea of the state of the PC in general. A PC where windows was installed 6 months ago is generally going to be in better shape than one where Windows was installed 5 years ago. The last boot time can also be a useful piece of information. Ever have those users who refuse to reboot? Use the syntax [**systeminfo /s <hostname>**]



22

LAYMRG – The “poor man’s” version of SuperPurge for layers. Simply use LAYMRG to merge the offending layer onto layer “0”, and voila, your offending layer is gone.

23

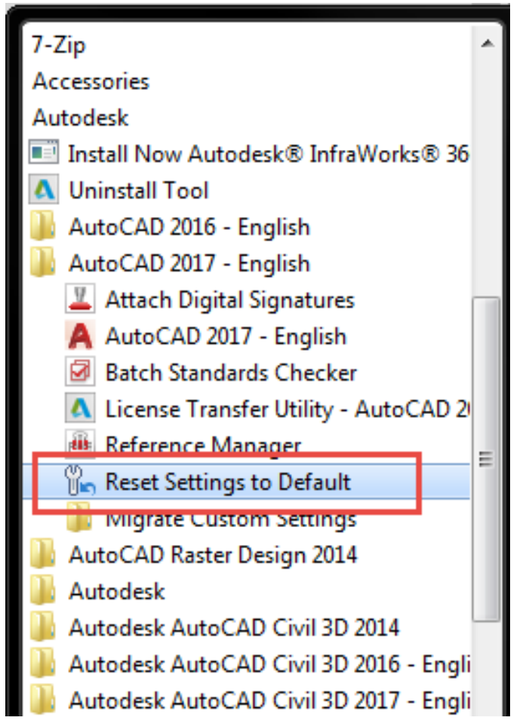
QAFLAGS – An undocumented system variable that can wreak havoc on AutoCAD. I’ve seen people go as far as uninstalling and reinstalling to “fix” a problem that can be traced to this system variable. If you are diagnosing any strange behavior in AutoCAD, start by making sure QAFLAGS = 0. Click here for more info.

24

CUIX – Way back in the day, it was easy to browse the content of .MNU menu files using Notepad if you were looking for something specific. When the .CUI file format came along, it was still fairly easy to view since a .CUI file is actually an XML file. But, have you ever tried to view a .CUIX file outside of AutoCAD? Well, it’s just a ZIP file, containing .CUI files, among other data. Use something like 7-ZIP to open the .CUIX file and then you can examine its inner working parts. This is helpful if you are trying to locate a bad path or block name, etc.

25

Reset the user profile can be a quick fix. When you suspect a user profile related problem, resetting that user's profile is a good test for a fix. Later versions of AutoCAD and verticals contain a built in tool for resetting the user profile. You can accomplish the same thing in earlier versions (2014 and earlier) by renaming some folders and making a registry edit. The Autodesk Knowledge Network contains details on how to do this for the various versions of various products.



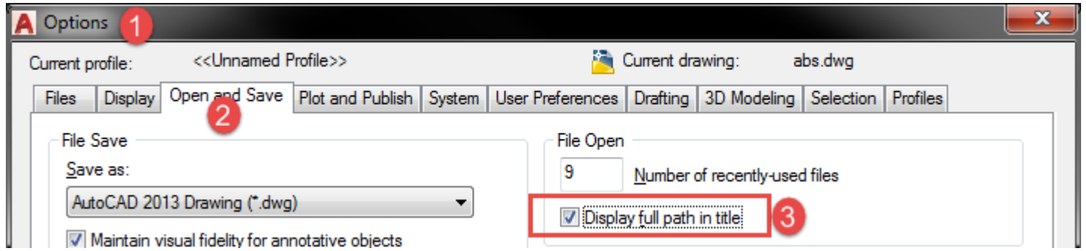
26

Disable InfoCenter – Many companies or departments do not want their users to receive update notices or have access to some of the things in the InfoCenter or Communication Center (names vary by version). Unfortunately, Autodesk does not provide a graphical user interface for removing this feature, but it can be done fairly easy. Start with the link here for 2017 and Google it for other versions. You can script it so that it will happen for the user without having to visit each machine.

27

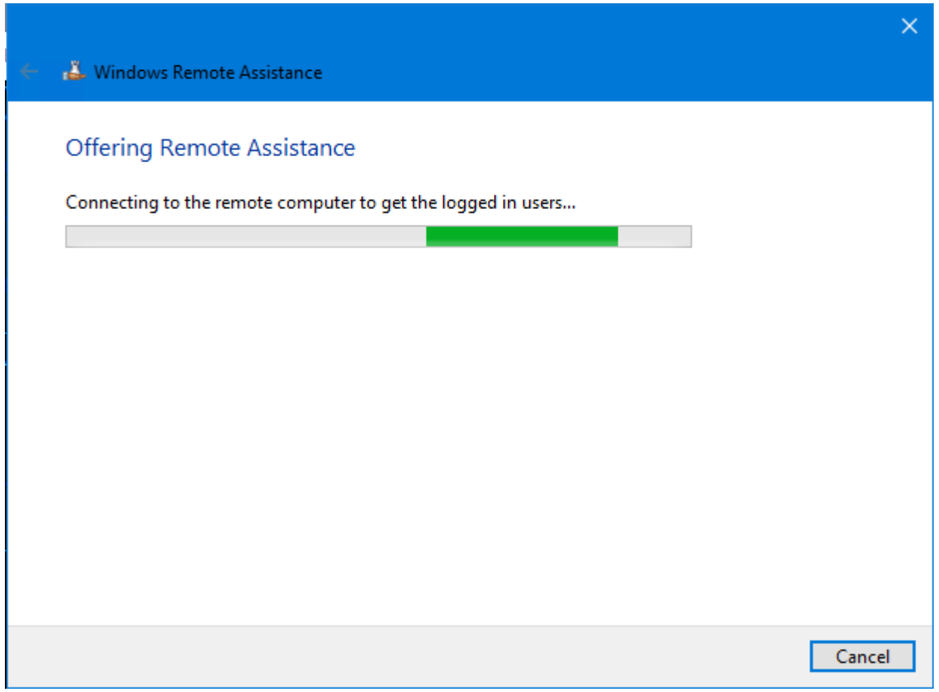
A bundle of UI tips from a couple of master CAD Managers: Suggestions for user systems: (*Thanks to Frank Mayfield and Sam Lucido for this collection*)

- Show the full path in the title bar. Helps the CAD Manager and the user see exactly which data file is open.
- If you have a company menu, name the Ribbon Tab/Drop Down menu something unique like <your company name>. Avoid names like “Tools” or “Custom”. This can help you identify whether or not your custom menu is loaded at a glance.
- Consider using the MODEMACRO string to display things such as the Profile Name.
- Consider a custom “About” command to display things such as menu or profile version.
- Store your tool palettes in a location that is read-only to the users, so that you are the only one with write access.



28

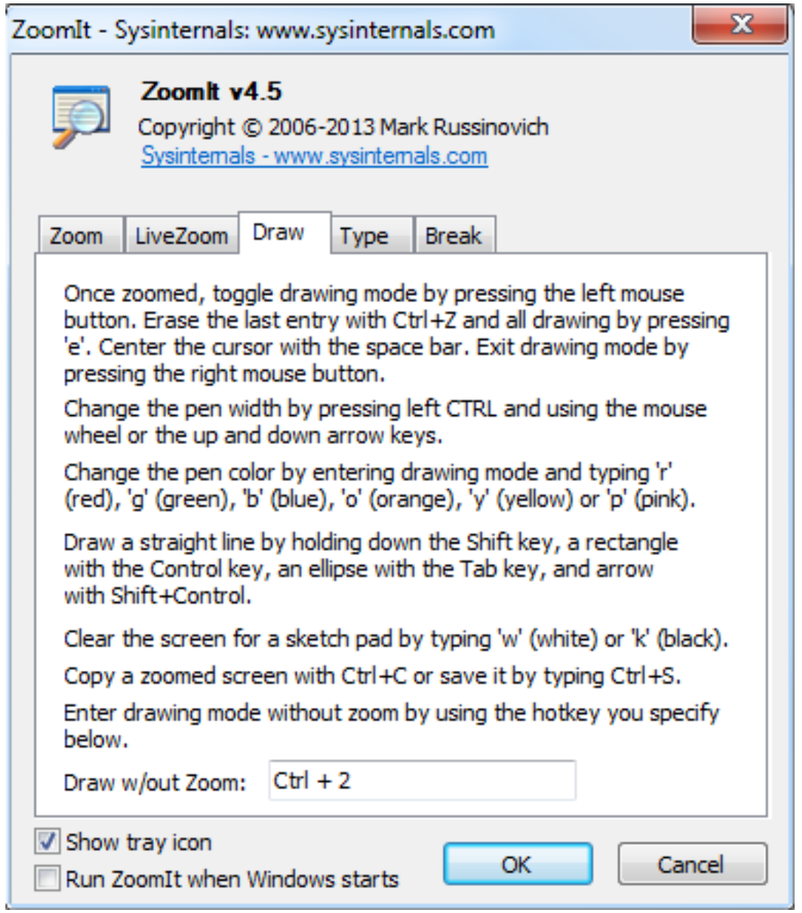
Push Remote Assistance – Use the following command either at a Windows command prompt or in the Windows Run or Search window [**MSRA /offerRA <hostname>**] – to initiate a Remote Assistance session with a currently logged on user. This is different than Remote Desktop in that with RA, both you and the user can see and interact with the users screen and applications.



29

ZoomIT is a tiny windows application that is useful during training sessions. It has 3 functions:

- It allows you to zoom in on portions of the screen;
- It allows you to draw on the screen using colors; and
- It allows you to start a break timer.



30

Lastly, here is one more tip for your users. I've rarely seen a user that didn't have some "tips" written on sticky notes and affixed to their monitor or wall. Why do they do this? Because it's something that they do that isn't frequent enough to stay in their memory, but often enough that they don't want to have to ask YOU. Find out what these things are and create some cheat sheets for your users. Keep it small, maybe 8"x5", laminate it if possible. Fill it up with your users most FAQ, and then add some of the tips you've learned today. Hand them out and update them every so often.

How did I do?

- Your class feedback is critical. Fill out a **class survey** now.
- Use the AU mobile app or fill out a class survey online.
- Give feedback after each session.
- AU speakers will get feedback in real-time.
- **Your feedback results in better classes and a better AU experience.**