Installing and Administering ArcGIS Software

We will discuss the ArcGIS product types and their installation and configuration options including silent installations and required machine and user permissions. We will also cover administration tools and touch on licensing concepts for the various ArcGIS products.

http://video.esri.com/watch/87/installing-and-administering-arcgis-software

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Video Transcription

00:01 My name's Chris Whitmore and this is Laurene Koman, not Natalie Hansen. We both work on the install team at Esri.

00:07 The install team develops the majority of ArcGIS software.

00:10 I think there's a few that we consult on instead of development.

00:13 So if you have any questions, whether it's directly about the presentation or just in general about setups...

00:17 ...we'll be more than happy to answer them.

00:23 Before starting, I wanted to ask a couple questions.

00:26 Does anyone have ArcGIS 10 already installed?

00:30 A couple of you.

00:31 Anybody going to be installing it in the near future?

00:34 Ah, the rest of you, okay.

00:36 Does anyone have any 8 installations still around?

00:41 8.3, 8.2, 8.1, anything that's...okay, a couple of you.

00:46 Well, as part of preparing to install, for installing any ArcGIS software, you need to determine which products you need.

00:57 You need to determine how this product should be configured across your site.

01:03 And then we're going to walk through a couple installations of ArcGIS Desktop.

01:08 I'm going to go through the slides, show you what you can expect, show you what's changed from 10.

01:14 And while I'm going to use ArcGIS 10 as an example, much of what is discussed in the presentation...

01:19 ...can be abstracted to include all ArcGIS setups.

01:24 And after going through the installation, we're going to talk about what it takes to maintain the installation.

01:28 Whether that's adding extensions later, authorizing additional extensions, repairing the product...

01:33 ...changing licenses, or applying service packs.

01:38 ArcGIS 10 is a substantial release both in terms of software functionality as well as setups.

01:45 And I'll go over the changes at 10 that affect setup mostly.

01:50 And then we'll pass along some tips for a smoother installation, whether that's troubleshooting install-related or uninstall-related.

01:57 Hopefully, some of the "gotchas" that you run into, this will help explain them.

02:01 And while not the focus of the session today, I do want to touch on software deployment.

02:05 I'll define what it is, how it can help you, what we support, and what other users have reported as successful.

02:13 And finally, we'll wrap up with some questions and answers, and I have two demos tossed in there as well.

02:22 So the first thing you do when preparing your site, you need to determine what products you need.

02:28 Whether you're upgrading from a previous version, it's going to be just a one-to-one product upgrade...

02:33 ...or maybe there's a new product out there that fits your organizational needs better.

02:37 Or, maybe there is a product you don't need anymore or is being deprecated.

02:41 Well, since you're here today, you're probably interested in ArcGIS Desktop.

02:45 There are three license levels for ArcGIS Desktop and they are ArcView, ArcEditor, and ArcInfo.

02:51 And you've probably heard people say ArcView, I've been working in ArcView, I've been working in ArcInfo.

02:55 They all refer to the same ArcGIS Desktop core products, which are ArcMap, ArcCatalog...

03:02 ...and then an integrated ArcToolbox which is in both ArcMap and ArcCatalog.

03:07 You may need some visualization products.

03:10 ArcReader and ArcGIS Explorer are both freely available for download, or you may develop applications in-house.

03:16 And, if so, you'll need the ArcGIS runtime setup as well as ArcObjects Software Developer Kits or VBA resources.

03:24 Those have changed a little bit from 9.3.1 and other earlier versions.

03:28 It used to be that we had SDK as a targeted desktop and then Engine separately.

03:33 There would be an individual setup for each.

03:36 Now, for example, the ArcObjects SDK for .NET targets both Engine and Desktop.

03:42 It will integrate with both of them.

03:44 In addition to .NET, we also offer one for Visual C++, cross-platform C++, and one for Java as well.

03:54 And you Visual Basic programmers out there probably recognize that we no longer support Visual Basic.

04:00 We no longer offer a software developer kit for it.

04:04 VB code will still work against ArcObjects, but we just won't support it.

04:13 And on the server side, you need to consider which platform you're going to use.

04:17 Are you going to use ArcGIS Server for the Microsoft .NET framework?

04:20 Or, are you going to use the Java platform?

04:21 The core server components are the same, it's just the API that you choose to use with it.

04:27 And if you're still using ArcIMS, is it time to migrate the server?

04:32 ArcIMS is still supported, but we will no longer be releasing enhancements for the product.

04:37 And I believe with ArcIMS license you also get a copy of Server.

04:41 So we recommend that you migrate.

04:46 And are you using ArcSDE?

04:48 Which database?

04:50 Are you changing databases?

04:51 Are you...are you thinking about moving your data to an SDE database?

04:56 In the last couple years, mobile applications have really blown up.

04:59 Is it time to work mobile devices into your organization?

05:08 Regardless of how you decide or which products you decide, you still have to configure your site before installing.

05:15 You need to determine how those products will be configured across your organization.

05:20 For starters, you can have ArcGIS Desktop installed across an unlimited number of machines.

05:26 There is nothing to prevent you from doing that.

05:28 The license...the number of licenses you have will determine how many functional copies of the software you have.

05:34 Licenses are available either as concurrent use or as single use.

05:38 Single use...Single use licenses is a single license for one local machine.

05:43 Concurrent use licensing are licenses served from a license server repos...repository which is the License Manager.

05:51 And the License Manager can be one or more UNIX machines set up on your network.

05:57 And you may want to have more than one for several reasons.

06:00 You may have a remote office that you want to have a dedicated License Manager set up for.

06:05 Or, you may want to have failover.

06:07 If you have 100 desktop licenses being served out, and if you only have one License Manager and it goes down

06:12 ...you can affect 100 workstations.

06:15 And for your Server machines, you need to consider many of the same things as License Manager.

06:20 Failover, access, whether it's going to be public access, internal access...

06:25 And whether you want to have ArcSDE, ArcGIS Server on the same machine.

06:29 You may want to have the server components distributed for maximum productivity.

06:35 And for your development machines, you need to consider which platform.

06:38 Which platform do your developers use?

06:40 Java?

06:42 If they use Visual Studio 2005 or .NET, we no longer support it at ArcGIS 10.

06:47 We have a...ArcObjects SDK supports Visual Studio 2008 and Visual Studio 2010.

06:55 Regardless of how you decide to configure your site, it's important to remember that all...

06:58 ...ArcGIS products can coexist on the same machine.

07:01 Installation doesn't...installation order doesn't matter.

07:05 We'll support all configurations.

07:10 This diagram shows what is a typical site configuration maybe, even though typical has

become more ambiguous.

07:19 But you can have data being served; whether it's maps, Web applications, or a straight, direct-connect data...

07:26 ...to ArcSDE, ArcGIS Server, ArcIMS, or some combination thereof.

07:31 You know, that may be something in the Amazon cloud.

07:34 That may be something you're consuming from ArcGIS Online or just from another organization.

07:38 It doesn't necessarily need be something in-house.

07:42 And your licenses are served from a License Manager machine.

07:45 And those licenses and the data from ArcGIS Server are consumed by your ArcGIS Desktop applications...

07:51 ...as well as any engine applications.

07:55 And a change at 10 also is that Engine is now concurrent use.

07:59 It is concurrent use and single use, so if you're deploying Engine applications you can connect them...

08:04 ...to the License Manager as well.

08:06 And you may also have some laptops out in the field.

08:09 Those laptops are either single use or they could be borrowing licenses from your License Manager machine.

08:20 So after determining which products you need and how they're going to be configured across your site...

08:25 ...the next thing you need to do is remove previous versions of ArcGIS...

08:28 ...from the machines where you'll be installing ArcGIS 10.

08:32 There's an uninstall utility.

08:33 It's both on the media download and I believe it's on the support site as well, that will uninstall...

08:38 ...all conflicting ArcGIS products as well as some extensions.

08:43 Before running the uninstall utility, we recommend that you uninstall any third-party applications or extensions.

08:50 Sometimes those depend on the ArcGIS products, and if they're not found or if the ArcGIS product isn't found...

08:56 ...the install or uninstall of the extension can fail.

08:59 And also, be sure to remove Python after you remove the ArcGIS products.

09:07 ArcGIS Desktop requires a new License Manager at 10.

09:10 Your old 9 License Manager will no longer work.

09:13 You have to install the new License Manager.

09:17 But, License Manager 10 can serve licenses to both 9.x and 10.

09:22 There's no hardware key required, and no hardware key is necessary, and your old keycodes will not work.

09:28 You will have to request new authorization files.

09:30 And all your single use products will require reregistering.

09:33 And they will require a new authorization file as well, whether that's single use Desktop, Engine, Server, ArcIMS, or ArcSDE.

09:45 With all previous versions uninstalled, you're now ready to start with the ArcGIS Desktop installation process.

09:52 If you already requested an authorization number and have installed the new License Manager

09:58 ...you can go to preparing the Desktop installation.

10:01 Now, here is where the game has changed a little bit.

10:04 Before, we always used to recommend that you do an admin install no matter what.

10:08 With the media available as downloads, you can copy those downloads after extracting them...

10:14 ...to a location on your network and you can share them out.

10:17 From there, clients can install and have local copies of Desktop.

10:22 The admin install is still useful for those of you that would be deploying in an environment such as group policy.

10:29 Regardless, from however you do it, whether it's admin or just copying the downloaded files...

10:34 ...you can install ArcGIS Desktop from either and it's the same Desktop.

10:43 So what is an administrative installation?

10:47 It leverages the Windows Installer to copy the installation source file to the location of your choosing.

10:53 You then share that location out on your network and then clients can install from it.

10:59 You can perform the installation either through the UI or silent, and the Windows Installer command line is msiexec/a.

11:07 I'll be giving you several command lines throughout.

11:10 You don't have to worry about remembering them.

11:12 The slides are available afterwards and it's documented online, support site google windows installer...

11:19 ...command line parameters. These are all standard command line parameters.

11:23 Well, regardless of whether you do an admin install or you copy the media files directly...

11:27 ...it's important that you do not remove the admin files until after the next release or later.

11:33 Leave them there as long as possible.

11:35 Disk space is fairly cheap now.

11:37 And the advantage of that is that if you have run repair, if you have to troubleshoot...

11:41 ...if you have to add an extension or, six months later, if someone decides they need to install Desktop

11:46 ...you have everything right there.

11:47 No hunting for the media, redownloading, or anything like that.

11:51 And then from that network server point, you install a functional copy of ArcGIS.

11:56 It installs on one machine and you can install it either deployed, silently, or through the UI.

12:08 And I think, so far I've said client installation, I've said local installation.

12:13 But there's really no difference between the two.

12:15 The...it's semantics.

12:16 Both perform a Desktop installation; just the client install is run typically from a network server...

12:22 ...and a local install is run from a DVD.

12:25 But really, with downloading media files and everything else...

12:29 ...and maybe no DVDs in use in your office anymore, it kind of blurs the lines.

12:34 Regardless of which way you download, you can either run the setup.exe and the Desktop install files folder...

12:42 ...or you can launch the front end from the media image.

12:45 That's at esri.exe executable at the root of a media image, and either one will launch setup.exe.

12:53 And if you're using the setup MSI to install...

12:54 ...you can use Windows Installer command line parameters to control the installation.

12:59 And also new at 10, you can do the same thing with setup.exe.

13:02 So setup.exe is transparent.

13:05 It passes the command line parameters directly to the MSI.

13:13 So at this point you've launched a Desktop installation, you've accepted the license agreement

13:18 ...and this is the first dialog you see.

13:20 Complete is a default option.

13:22 It will install all extensions.

13:23 And this is a change from previous versions.

13:27 We used to offer a Typical Install, and Typical Install would only install the core applications like desk...

13:33 ...ArcMap, ArcCatalog, ArcToolbox and the extensions would be left off.

13:38 Now, Complete installs all extensions as a default option.

13:41 If you want to...or don't want to install an extension, you need to choose Custom and then unselect the feature.

13:54 And this is the dialog that shows the installation location.

13:58 It's a little bit different than it was at ArcGIS 9.3.1.

14:02 Before, we installed to C/Programs/ArcGIS by default.

14:05 Now it's Desktop 10.0.

14:08 How would this affect you?

14:09 Well, if you have any plug-ins or third-party applications that were relying on the installation directory being...

14:15 ...C/Program Files/ArcGIS, it's no longer the same.

14:19 It's now in the Desktop 10.0 folder, so they may not work.

14:22 And also, if you have one with multiple products on your machine like Desktop and Server maybe

14:26 ...they have different installation directories now.

14:28 Desktop 10.0 and then have Server 10.0, Engine 10.0, Reader 10.0.

14:33 And so again, that could potentially affect third-party applications that target multiple products.

14:43 The next dialog you see is very similar to 9.3.1.

14:46 It's a Python installation location.

14:49 As with previous versions, you should not install to a directory with spaces in the path.

14:53 If you do, the setup won't stop you but you could run into functionality issues with Python later on.

15:03 And at 10, we've upped the Python requirements.

15:05 Python 2.6.x and numerical Python 1.3.0 are the only supported versions.

15:12 If you don't have one or the other of those installed, whether...even if it's Python 2.5 or numerical Python 1.2...

15:21 ...ArcGIS Desktop 10.0 will install them for you.

15:25 However, ArcGIS Desktop installation now uninstalls Python.

15:29 So whenever you uninstall 10 later on, it will remove Python 2.6 and numerical Python 1.3.0...

15:36 ...from your machine if the ArcGIS setup installed it.

15:40 And it's the same thing for Server, and it's the same thing for Engine.

15:43 For both Engine and Server, if they install Python, it's the same exact way as Desktop.

15:47 It will uninstall it.

15:53 So this is a substantial change from 9.3.1, and someone was up here right before this session asking about this.

16:01 And for those of you familiar with installing ArcGIS Desktop, you notice that I didn't talk about selecting ArcView...

16:07 ...or talk about if you're installing single use or whatever.

16:11 ArcGIS Desktop is the same now.

16:13 There's no different media.

16:14 It's the same installation at the ArcGIS administrator wizard that comes up after you complete the installation...

16:21 ...and click the Finish button.

16:22 You can choose whether you want to install ArcInfo concurrent use or single use product...

16:28 ...or any of the other concurrent use products.

16:30 And if you choose a concurrent use product, you'll be given the opportunity to define the License Manager.

16:34 And if you choose a single use product, you can launch the authorization wizard.

16:43 So over the slides with the...that I've shown you of the Desktop dialogs, at the bottom there have been some command line...

16:49 ...parameters that I've listed I didn't really talk about.

16:52 Well, if you're interested in scripting silent installation, that's where those are important.

16:57 All ArcGIS setups are fully compliant with the Windows Installer.

17:01 So all of our setups use standard msiexec command line parameters.

17:06 So you can go to Google and find those.

17:07 The four main ones are /i, which performs an installation; /x which uninstalls a product...

17:15 .../a which performs the administrative install I discussed earlier and then /p applies a patch or a service pack.

17:24 And you invoke the Windows Installer by calling msiexe.exe.

17:31 And I have a command line example right here.

17:34 And you notice I invoke msiexec, use /i, and the path to the setup...

17:40 ...and Add Local is a Windows Installer standard command line.

17:44 And by passing it all it performs complete install.

17:47 And the QB parameter makes the installation silent.

17:51 The install guides for whatever product you're wanting to install have all the command line parameters...

17:55 ...as well as examples to get you started.

17:58 There's also examples on the support site, white papers, and as well with just a...going to Google and searching...

18:06 ...you'll come up with a wealth of information.

18:13 After installing Desktop or Server or any other product, you may need to install optional components.

18:19 I list a couple here, but it really applies to any optional component, tutorial data, Software Developer Kits, or other extensions.

18:27 If it's ArcGIS, it's compliant with the Windows Installer.

18:31 So that means that you must account for them separately, and you can launch them either using setup.exe or setup.msi.

18:41 Some of them are available on the media front end or the download front end.

18:45 The ArcObjects software developer kits are the tutorial data.

18:49 And the one exception to the Windows Installer rule is the Data and Maps collection.

18:53 The Data and Maps collection does not have a setup program.

18:57 It's a very large source of files as direct...you have to crop it directly from the media or from the download...

19:03 ...to wherever you want it to reside.

19:09 This is a screen shot of what you see whenever you launch esri.exe from the download

19:16 ...or whenever you insert the Desktop media or if you extract it and launch the front end.

19:22 You notice at the top there's the uninstall utility link.

19:25 It will uninstall all conflicting products, ArcGIS products.

19:29 And you have a link to ArcGIS Desktop as well as the data interop extension.

19:33 And then you also have the License Manager, which it says it's required for ArcGIS Desktop 10...

19:39 ...and then as well as Engine concurrent use users.

19:42 And then below that you have links to the developer kits.

19:51 So as part of maintaining any software, desktop or otherwise, you may have to add an extension later.

19:58 For Desktop, if you want to add an extension to a concurrent use license, you need to obtain the authorization number...

20:05 ...and then on the License Manager machine, open the license server administrator and click Authorize Now.

20:10 Follow the steps and it will give you a chance to input the authorization number.

20:15 And then you can go on the machine with Desktop installed, open up ArcMap or ArcCatalog...

20:21 ...and load the extensions using Customize and Extensions and select your extension.

20:25 This is whenever...this is when performing a complete install comes in handy.

20:28 You don't have to worry about going to Add/Remove and adding an extension later on.

20:33 But if you didn't and you performed a typical install, it also comes in handy if you have the source files on disk on the network.

20:39 You don't have to worry about hunting down the DVD or redownloading.

20:43 And if you did a single use install, instead of going to the license server administrator...

20:48 ...you'll want to go to the ArcGIS administrator on the desktop machine and follow the same steps.

20:59 Concurrent use and single use on the same machine.

21:02 There's really a ton you can say about it.

21:05 But for those of you that did this at 9.3.1 or earlier versions, it's enough to say that you don't have to do it anymore.

21:11 Concurrent use and single use on the machine is enabled by default.

21:14 There's no different media, there's no launching multiple setups.

21:18 As I showed you in the ArcGIS administrator wizard dialog a second ago, you can choose whether you want concurrent use or single use.

21:23 You can go back later and you can switch as well without having to do any disc jockeying.

21:33 Which brings us to the ArcGIS administrator.

21:35 The ArcGIS administrator is a little bit different than the 9.3.1 Desktop administrator.

21:40 It's available in the same location under the ArcGIS shortcuts program group.

21:45 It allows you to switch between ArcView, ArcEditor and concurrent use, all the Desktop license types...

21:50 ...and you can switch between concurrent use and single use.

21:53 You can change the License Manager, you can register single use products or extensions...

21:58 ...and you can review installation and service pack information.

22:05 And I have a short demo I want to show you right here.

22:10 Going through the tabs within the ArcGIS administrator.

22:18 To begin with, I want to show you the ArcGIS administrator wizard that comes up at the end of the install.

22:24 And you can see that I can choose ArcEditor concurrent use, a concurrent use product...

22:29 ...and I can now define the License Manager.

22:31 If I choose a single use product, I can launch the authorization wizard.

22:37 Once you authorize one product and you click OK, the ArcGIS Server administrator itself comes up.

22:49 At the ArcGIS tab at the top, you can see the install-related information.

22:54 And you can see that I have version 10.0 installed.

22:58 You can see the installation directory is Desktop 10.0 folder, the default.

23:02 And you can also see other, related installation information.

23:07 And below that you can see service pack information.

23:09 I don't have any service packs installed with 10.

23:12 And at the very bottom, you can see local license manager environment variable information.

23:19 The Desktop tab is where you can switch between products.

23:22 And again, those of you that are familiar with the 9.3.1 Desktop administrator, you know that...

23:29 ...these would not all be available by default.

23:32 They are now, so you can switch between concurrent use, single use, what have you.

23:38 And whenever you have concurrent use selected, you can change the License Manager.

23:42 And whenever you have a single use product enabled or selected, you can authorize now and you can also deauthorize.

23:49 Deauthorizing is beneficial if you want to transfer a single use license to a different machine.

23:54 It kind of streamline...streamlines the process for you.

23:59 The Availability tab is exactly as it sounds.

24:02 It lets you know what licenses are available to you.

24:05 If you're connected to a license server...License Manager, it will tell you what licenses are available on the License Manager.

24:11 And if you select a single use product, it will tell you what extensions you have installed and what you have authorized.

24:18 And I...you can see that I don't have anything authorized right now.

24:22 Now, this is a substantial change at 10.

24:24 You can now borrow licenses from the License Manager.

24:29 So earlier when I showed you the site configuration dialog, I showed you that you can have laptops in the field.

24:34 Those laptops could be either using single use, which is...was the framework previous to 10...

24:39 ...but you could also borrow licenses.

24:41 And you can set the time limit on the amount of time to be borrowed from those licenses.

24:46 And if you're interested, there's a license...licensing framework tech session Thursday.

24:55 And finally, the data licenses.

24:57 If you have data licenses that need to be applied to your Desktop installation, you can apply them here.

25:06 So the main things I wanted to show you with that quick demo is just that you can switch between software product types...

25:11 ...without having to enable or add other setups.

25:17 And you can also do the same with borrowing.

25:20 You can borrow as long as you're connected to a License Manager.

25:26 And also as part of maintaining an installation, you're going to have to install service packs at some point.

25:32 Because we build our setups with Windows Installer technology, which I've said 10 times now...

25:38 ...our service packs are built the same way.

25:39 They are .msp files.

25:42 You install them by either double-clicking the .msp.

25:46 You double-click it on the machine where the software installation is that you want to target.

25:50 Or, if you created an admin install, you can now patch the client...or you can patch the admin using the command here.

25:57 And again, it's documented online.

25:59 And the benefit of that is if you're in a deployment environment, you can patch the admin and redeploy...

26:03 ...especially with group policy.

26:06 Or, say in six months from now, you decide to install ArcGIS Desktop 10 and Service Pack 1 has been released.

26:12 Well, you can install Desktop 10 Final and the service pack at the same time using Windows Installer command line parameters.

26:23 With whichever way you decide to install the service pack, it's important that all products on the same machine...

26:27 ...are at the same service pack level.

26:30 An extension of that is that all products in the organization should be the same service pack level.

26:35 And, if you contact tech support and you say like well, I'm trying to connect with a Desktop 10 final to Server 10...

26:43 ...Service Pack 1, they'll tell...they'll tell you right away to upgrade the 10...the ArcGIS Desktop 10 to Service Pack 1.

26:51 So it's better if you have all the products at the same service pack release.

26:55 You can tell if a service pack is installed by the ArcGIS Administrator utility.

26:59 There's also a patch finder utility available online.

27:02 It's available from the support site and it's...lists all products you have installed as well as a service pack level for each.

27:12 So what's new at 10?

27:15 I've talked about some of these, but I want to summarize them here.

27:18 Well first, the ArcGIS Desktop 10 installation is 40 percent faster than it was at 9.3.1.

27:24 We timed it.

27:28 And also, we've laid the groundwork for uninstalling service packs.

27:31 It's not in yet, but it could potentially be in later.

27:34 We're getting closer to realizing that goal.

27:39 Also at 10, we require .NET 3.5, Service Pack 1, for installing ArcGIS Desktop.

27:47 The ArcGIS Desktop installation will not proceed if .NET 3.5, Service Pack 1 is not on the machine.

27:53 So that must be installed before installing ArcGIS Desktop.

27:59 There's a new licensing framework, which is why we require you to install the new License Manager at 10.

28:05 It uses trusted storage.

28:07 It doesn't require a hardware key.

28:10 It doesn't use keycodes.

28:12 You'll need new authorization files and you can borrow.

28:18 And concurrent use and single use is automatically enabled on every Desktop installation.

28:23 That's even if you get ArcGIS Desktop evaluation.

28:26 Provided you have the licenses, you can use concurrent use and single use on the same machine.

28:33 As I said earlier, we require Python 2.6.x and numerical Python 1.3.0.

28:40 These are the only supported versions of Python.

28:43 We recommend you uninstall previous versions of Python before installing ArcGIS.

28:48 There have been reports that sometimes Python doesn't play well together with different versions with ArcGIS.

28:57 But, when you're uninstalling ArcGIS 10, if the ArcGIS 10 install installed Python for you, it will install it.

29:03 So no need to account for Python hopefully anymore with the scripts.

29:08 [Inaudible audience question]

29:09 Yes?

29:10 [Inaudible audience question]

29:33 So the question is, if you have a Python extension installed, does the ArcGIS uninstall account for it?

29:40 No, it doesn't. It only accounts for...specifically, for Python 2.6 and numerical Python 1.3.0.

29:48 So if you install afterwards, if you go in and install anything...other Python...

29:52 [Audience question] Specifically PythonWin.

29:54 Yeah, PythonWin, that's a big one.

29:56 [Audience question] [Inaudible] you have to install that yourself?

29:57 Yes, yes.

29:58 And it will not uninstall it afterwards either.

30:05 So what else is new at 10?

30:08 Well, this is Service Pack 1 requirement was at 9.3.1 as well.

30:12 But the change is that ArcGIS Desktop 10 setups require the service pack to be installed.

30:17 If this is Service Pack 1 is not installed, the majority of ArcGIS products will not install on the machine.

30:23 So you have to have this as Service Pack 1 installed.

30:27 And also, Server 2008 is fully supported now.

30:30 I'm not aware of any issues where Server 2008 isn't supported, and that includes the latest release, R2.

30:36 ArcGIS Desktop 10 no longer installs VBA.

30:39 If you need to use VBA, the VBA editor in ArcMap or ArcCatalog, you have to install the ArcGIS...

30:45 ...VBA Resources Software Developer Kit or install the run...the VBA runtime separately.

30:53 And Internet Explorer 7 is required.

30:56 The setup does not check for it, it only checks for Internet Explorer 6.

31:00 But if you run into issues with display, Internet Explorer for whatever you're using...

31:05 ...you may want to upgrade to Internet Explorer 7 and see if that resolves your issues.

31:09 And as I said earlier, the installation directory is unique for each product.

31:14 That can affect...yes?

31:16 [Inaudible audience question]

31:18 Yes, good point.

31:21 [Inaudible audience question]

31:22 The question is, is Service Pack 3 required for XP?

31:26 Yes, it is.

31:31 [Inaudible audience question] Yes.

31:35 Is IE 8 supported...I'm not sure.

31:37 I think...I know it's tested.

31:40 If it's not supported, I'm sure it's not coming far.

31:42 I'm not sure how far.

31:46 So for installation directories being unique, in addition to third-party plug-ins maybe not targeting correctly

31:53 ...if you install multiple products you have to be aware of disk size.

31:58 If you apply...if you install ArcGIS 10 Engine and Server and apply a service pack to each

32:03 ...because each no longer shares resources, service packs can consume more space.

32:09 But the other side of it is that you no longer have a shared directory, so you can install Server to a different directory...

32:14 ...even if it's on the same machine or a different drive.

32:23 So a few tips and tricks I want to pass along that hopefully will help you avoid any "gotchas."

32:30 It kind of...back and forth and no rhyme or reason to them, but...

32:35 Admin rights are required to install all ArcGIS setups except for ArcGIS Explorer.

32:41 The only way to get around that is if you deploy them with a managed setup such as GP or group policy.

32:48 And the system account requires full control to the system drive as well as a target installation drive and to the registry.

32:56 So if you run into any install issues, this is one of the first things you should check.

33:00 Even if you're installing from an admin account, you can't assume that the system drive has full permissions of these areas.

33:06 Because sometimes, for whatever reason, those permissions are degraded or stripped.

33:14 And I'm sure many of you have seen a repair.

33:16 Like whenever you launch ArcMap and you have ArcOff...or you have Microsoft Office on the machine...

33:21 ...and the Windows Installer kicks up and says "configuring Office," or "configuring ArcGIS Desktop."

33:27 It's a Windows-resiliency feature and it's a good thing.

33:30 What happened is, or what happens is, the system integrity has been compromised...

33:35 ...and usually it has to do with system files that have been degraded.

33:38 And it happens after ArcGIS has been installed, which is why the Windows Installer launches ArcGIS.

33:44 And this comes...or this is a...one of the reasons that you want to leave the media connected to the network...

33:50 ...or out on a network share.

33:51 Whether you did admin or direct copy, you can let the repair go.

33:55 It takes about 10 minutes or so, and then hopefully that will resolve the issues.

33:59 It does in probably 90 percent of them.

34:01 But if it doesn't resolve the issue, check out the Event Viewer.

34:05 The Event Viewer says what triggered the repair and you can send it to tech support for analysis.

34:09 You can post it on the user form, or you can send it to us if you happen to have our e-mail.

34:18 And if you do want to script silent installations, as I said earlier, all install guides...

34:26 ...for whatever product you want to install have full documentation of all the properties applicable.

34:32 You can control the installations exactly as you would install them through the UI.

34:36 Has all command lines available and it has examples.

34:39 You can utilize whatever kind of scripting you want to.

34:43 Yes?

34:44 [Inaudible audience question]

34:49 Yes; so the question is, can you...using a scripting command line, can you perform the installation on multiple machines?

34:57 [Inaudible audience question]

34:59 Yes, yeah; and I'll discuss it more here in second, and it falls under deployment and you have several options that you can do.

35:08 One thing that we get from tech support a lot, and we really see this internally as well as occasionally from users...

35:16 ...is they performed a manual install or uninstall.

35:20 There is no such thing as a manual uninstall.

35:23 That's when you delete files, you got registry keys to try and get the software off your machine.

35:30 MSI technology really puts...it takes care of it for you.

35:33 It has the different cache locations, it has different registry locations, so you will never be able to just uninstall...

35:39 ...or delete everything from the machine.

35:41 You have to go Add or Remove Programs and remove it.

35:44 And if you're running into an error, you know, post it on the user form.

35:48 Contact tech support.

35:50 Let us know.

35:51 We monitor the user forms pretty vigorously, so we'll help you out pretty quickly.

35:56 And most of the time, it's something that takes five minutes to do.

35:59 But if you try and gut the machine by deleting files and registry keys, you may have to reimage your OS.

36:05 And as part of that, another thing we see is files removed from the Windows Installer folder.

36:12 That's the Windows Installer cache location.

36:14 That's where it stores files on disk that it needs to administer installations that are on the machine...

36:19 ...not just ArcGIS but other software as well.

36:24 And we suspect that some cleanup utilities, when you go in try and get disk space, they remove files from those locations.

36:35 When uninstalling, use Add or Remove Programs or the uninstall utility.

36:41 If you want to do a silent install, as I said earlier, the parameter is /x and you can pass in the product code.

36:50 Product codes for each product release by us in the ArcGIS product suite are available online.

36:56 There's a KB article that just has a whole dump of all the product codes.

37:00 It's also listed in each install guide and it may also be in the white paper.

37:06 Oh, also in the media location if you browse into the product directory for the installation source files...

37:13 ...the setup.ini file has the product code.

37:18 And tying into earlier with your administrative installations and for your media copy to the network server...

37:25 ...do not delete it until the last copy of that software is uninstalled from your organization.

37:33 You may need to run a repair, as I said, you may need to add an extension or install it again.

37:37 And so you may end up having multiple releases of the software on the...or in your organization.

37:45 And so what you want to do is, you want to explicitly define them.

37:48 An example here like ArcGIS 9.3.1 versus ArcGIS 10.

37:52 Because if the files happen to be overwritten it will...the install will definitely not work.

38:00 [Inaudible audience question] Yes.

38:04 Can multiple versions be run on the same machine? No.

38:09 But I guess, my example is for like...within your organization.

38:13 Because like for...some people want to have like 9.3.1 and preserve it here while they migrate to 10.0...

38:19 ...and so it doesn't affect productivity.

38:22 But necess....it can't be on the same machine.

38:29 So if you run into problems with the install, the first thing to do is to generate a log.

38:34 This is the command line to do it.

38:36 It's the same thing for the /i action parameter, and the end is just /l

38:43 And then send them to tech support, post them on the user forms, or send it to us.

38:48 And if you'll be running a bunch of installs, you may want to consider enabling Windows Installer logging...

38:53 ...for all soft...or for all installations.

38:56 It will log to the temp folder all installations performed on that machine.

39:00 And I have a handout up here that has how to enable Windows Installer logging.

39:04 It's a registry key that you can obtain afterwards.

39:10 We have any Citrix users?

39:13 A couple of you...a couple of you.

39:15 Well, when installing ArcGIS Desktop on Citrix...on a Citrix server, install is ArcInfo...

39:21 ...then change to ArcEditor, ArcView with the environment variable.

39:26 You see these listed here.

39:27 They are case-sensitive, and the environment variable is esri_software__class.

39:33 That allows multiple users to use the different product types.

39:37 And while the application title in ArcMap and ArcCatalog doesn't change...

39:42 ...the functionality will reflect whatever setting you set in the license...or within the environment variable.

39:50 There are a couple of knowledge base articles online, as well as a white paper...

39:54 ...white paper titled, Support for Windows Terminal Server and Citrix Metaframe.

39:59 It's available on the support site.

40:02 And there's also a special interest group meeting for Citrix users tomorrow night at 5:30 in Room 32B.

40:13 So what is software deployment?

40:16 Software deployment in the strictest sense is the mass distribution of software from a central location.

40:20 So you don't have to be at one physical machine or all the machines physically to install.

40:26 And mass distribution is used loosely; it can be five machines and that's still a software deployment.

40:32 It could be a thousand machines or ten thousand machines.

40:34 And it really doesn't matter; that's what's nice about software deployment, is once you get the framework set up...

40:38 ...the number of machines deployed to irrelevant.

40:42 With software deployment, you can manage setups.

40:45 All the Windows Installer command line parameters that I've...kind of showing you throughout the presentation...

40:49 ...they really come into play here when you want to do software deployment.

40:52 You can control the installation completely as if you were installing through the UI.

40:57 It gives you the ability to control a user's environment, and that usually means lockdown environment.

41:02 So a user on the end machine, on the client machine, does not need administrative privileges...

41:07 ...to install software which is one of the biggest perks.

41:15 We support Microsoft Systems Management server, or SMS, and Microsoft Active Directory Group Policy.

41:24 The SCCM second bullet that you see is SMS.

41:27 That...they changed the name in 2007, but it's the same product, it just depends on what year you're using.

41:34 Clients have reported HP Radia, Novell, and ZENworks as alternatives but we haven't tested those in-house.

41:42 And batch files are very interesting; they're not, in the strictest sense, software deployment...

41:47 ...because at some level you have to be on the client machine.

41:50 But they are a free option for you if you're interested in scripting command line installations.

42:00 And with that, I have a short demo I want to show with scripting of batch files.

42:06 As I just said, Batch Files is a free technology.

42:11 It's easy to use, and it's robust.

42:13 You just want to start simple.

42:15 And I have an example.

42:17 I have an example machine that I'm going to show you how to uninstall 9.3.1 Desktop and 9.3.1 Software Developer Kit.

42:24 And then I'm going to install the corresponding ArcGIS Desktop 10 setups.

42:31 To begin with, when building a batch file you just want to open up Notepad.

42:34 There's no software download, there's nothing.

42:37 Open up Notepad, and you can start beginning the batch file.

42:44 Now, this is just formatting, and I have a fully copied version right here that I want to go through.

42:49 And this, I just open up Notepad and copy this here, really using scripts from the...

42:53 ...or command line parameters available from the install guides.

42:58 The Add echo off is just...

43:01 [Inaudible audience question]

43:02 Yeah, let me see if I can...

43:08 [Inaudible audience question]

43:15 Is that better...or more?

43:23 Okay, so this is formatting right here with the Add echo off.

43:25 It's not critical to having it there, but it will make it nice when you actually double-click the batch file to run it.

43:31 Then you can see that I...I'm going to output uninstalling previous versions...

43:35 ...and then I'm going to output uninstalling ArcGIS Desktop for the SDK, .NET Framework 9.3.1.

43:42 And now here's my first Windows Installer command line parameter.

43:46 I pass it...the msiexec/x and then I have the product GUID and then /qb.

43:52 Now I do the same thing for ArcGIS Desktop 9.3.1...

43:57 ...and then I uninstall Python...

44:00 ...and now, below that, I start installing ArcGIS Desktop 10 products, or ArcGIS 10 products.

44:07 I begin with the ArcGIS Desktop 10 installation.

44:11 I invoke the Windows Installer, I pass a /i parameter, and now I have the path to the source files as well as setup.msi.

44:20 qb makes it silent, and the Add Local parameter tells it that I want a complete install.

44:30 I give it a nondefault directory, I define the license host...

44:36 ...and again, these are documented in the install guides.

44:40 And then I tell it that I want the software type, the license type, to be Editor.

44:47 And then after installing ArcGIS Desktop 10, I install the SQL Server native client which enables direct connect...

44:55 ...to SDE SQL Server databases with ArcGIS Desktop.

44:59 And then I install the Visual Basic runtime to enable the VB Editor.

45:05 And then I install below that, finally, the ArcObjects SDK for the .NET Framework.

45:10 And you notice with this one, I only pass qb.

45:14 And the same thing for the VBA components in the SQL Server native client.

45:18 I completely configured Desktop, but then with these ones I only pass the qb parameter.

45:22 And if there are any parameters that you...that you really need, you can just pass qb and it will perform a silent installation.

45:30 So the key thing is to start simple.

45:32 You can just copy one and make sure it works and then keep on progressing.

45:36 [Inaudible audience question]

45:37 Yes.

45:38 [Inaudible audience question]

45:46 Does the VBA runtime installation order matter; does it need to come before Desktop or after?

45:51 It doesn't matter.

45:56 Now, right now this is just a bunch of command lines in text and in Notepad.

46:03 ....NET Framework 3.5 Service Pack 1?

46:04 When you go to save it, you need to change the file extension from .txt to .bat.

46:11 [Inaudible audience question]

46:16 What is the SQL native client?

46:20 That is installed automatically by Desktop whenever you launch the install from the DVD or from the...an admin image.

46:29 [Inaudible audience question]

46:32 It's required for certain functionality, enough so that we made it part of every Desktop installation.

46:37 So it definitely should be accounted for, and it's documented in the white paper, it's documented in the install guides.

46:43 So if you're building scripts, I would definitely want it because if you run into something and maybe...you need to do it.

46:48 You need to install it.

46:49 Yes?

46:50 [Inaudible audience question]

46:58 Good question; does the install automatically install...or does the setup automatically install

47:07 No, it doesn't.

47:08 You have to account for that separately.

47:10 And...

47:11 [Inaudible audience question]

47:16 Exactly; you could add that to it and then, you know, just make it as part of one batch file that you...that you send out.

47:23 Yes?

47:24 [Inaudible audience question]

47:30 If...if you were installing ArcGIS Desktop 10 interactively, it would install SQL Native Client.

47:36 That's your question, right?

47:37 Yeah, so if you go from, like, the media front end and click Desktop, it will install it.

47:41 Which is...that's why I hadn't really brought it up, is because it's really...

47:44 ...it's really hidden from you unless you're getting into the nitty gritty of deploying.

47:48 It will go there, and then it's documented in the install guide across it.

47:52 Yes?

47:53 [Inaudible audience question]

47:59 Does the .NET Framework require reboot?

48:01 Sometimes.

48:05 It...it has...you know, I've installed it a million times and sometimes it does and sometimes it doesn't.

48:10 However, there are command line parameters you can pass to suppress a reboot.

48:14 And so you could then install at the very end, because it...Desktop checks if it's there...

48:20 ...but it doesn't depend on the .NET Framework then.

48:22 So you can restart afterwards or whatever.

48:26 [Inaudible audience question]

48:36 Yes; if...

48:37 [Inaudible audience question]

48:40 Yes; if .NET Framework 3.5 Service Pack 1 isn't found on the machine, the Desktop installation will not proceed.

48:46 Yeah, you have to...you have to, have to install it beforehand.

48:50 Yes?

48:52 [Inaudible audience question]

49:00 Are there any considerations, or special considerations if you're installing ArcGIS Desktop 10 on a 64-bit machine?

49:06 No; the install directory will go to Program Files x86, but it...it's the same exact install.

49:15 There is one thing with the SQL Server Native Client, is that you see I have in the command...command line...

49:23 ...there is a 64-bit setup as well.

49:25 And that's documented in the install guide.

49:27 If you have a 64-bit setup that you want to do or you're installing there on a 64-bit machine

49:31 ...you need to use the 64-bit SQL Native Client.

49:33 [Inaudible audience question]

49:36 Ah, actually I don't know.

49:38 The...I think...I have the...I don't have the full name right here.

49:41 It's the SQL Server 2008 Native Client.

49:47 And it...I think the install guide has a full paragraph on what it's needed for, and how come you have it, or...

49:54 [Inaudible audience question]

49:55 Oh, it is, it's...it is a client runtime, I'm sorry.

50:01 [Inaudible audience question]

50:07 I'm sorry, I'm not following, I don't follow it.

50:09 [Inaudible audience question]

50:14 Oh, is 64-bit support on Server 2003 or Server 2008?

50:19 Yes, both, both.

50:20 Yeah, so any XP 64-bit as well, you know, any of the operating systems we support, we support the 64-bit version as well.

50:30 Yes sir? [Inaudible audience question]

50:45 The install doesn't check for what...how much RAM you have or the processor speed or anything...

50:51 But I believe it's a...processor speed is 2 gigahertz and I think RAM is 2 gigabyte.

50:58 [Audience question] Minimum.

50:59 Yes, minimum.

51:00 Now, the installation will proceed, but if you run into problems and you contact tech support and they...

51:06 ...you know, see what your system requirements are, the first thing they'll say is, you know...

51:09 ...increase RAM or try it on a machine that has this, or...

51:15 Okay, so I think, you know for...I've saved this as a batch file by changing...

51:23 [Inaudible audience question]

51:27 You have to...well, if...yes, this...this would work for 9.3 because the product codes are the same.

51:35 But it wouldn't work for 9.2.

51:36 So for 9.2, you'd have to have like, you know, different product codes and that KB article that I mentioned...

51:40 ...I think it has them sorted by version.

51:42 So starting with 8.3, then 9.0, then 9.1.

51:44 So you can uninstall everything using those GUIDs in the KB article.

51:52 [Inaudible audience question]

51:58 It depends on the installation.

52:00 So if you install, like say something like ArcGIS Explorer...

52:03 [Inaudible audience question]

52:04 Oh, I'm sorry.

52:06 Hard disk space, is there any minimum requirement?

52:08 And it varies per setup.

52:11 So something lightweight like ArcGIS Explorer?

52:13 [Inaudible audience question]

52:14 For Desktop, it really depends on the machine.

52:17 I think the...

52:18 [Inaudible audience question]

52:19 I think...

52:20 [Inaudible audience question]

52:21 ...2 gigabyte I would think.

52:23 The install guide for all of them has them listed.

52:26 And I think Desktop's around 2 gigabyte.

52:29 And I think the same thing, Server is around the same, and then those are the two largest products.

52:37 Alright, so now that I have the batch file saved...I saved it to this 2010 folder.

52:43 I don't have any products installed on the machine, really.

52:46 So whenever I launch it, it's going to error.

52:48 But I wanted to show you what it shows.

52:51 You see that I set the output to uninstalling previous versions, and then uninstalling ArcGIS Desktop SDK.

52:58 Now, it attempted to install...uninstall it, but I don't have the product really installed.

53:02 So now I'm going to dismiss this and it will try to uninstall ArcGIS Desktop.

53:07 Now I'm not going to...I'm going to kill it here, but it would proceed to go through, through each one of it, each level.

53:12 It would start out by outputting...uninstalling this.

53:15 So you see exactly what's going on behind the scenes.

53:24 How long would an install like that take?

53:29 I would say probably 45 minutes to an hour.

53:31 It depends on your machine.

53:33 That would be, you know, uninstalling the SDK and then if you would add the .NET Framework to the beginning of it...

53:38 ...and then uninstalling Python and Desktop, and then installing it all.

53:42 Visual Studio integration and removing it takes quite awhile, especially if you had...

53:46 ...you know, it really depends on your system.

53:48 The question was, how long would that batch group that I have an example take?

53:51 And it would be 45 minutes to an hour probably.

53:57 [Inaudible audience question] Yes

54:00 [Inaudible audience question]

54:15 The question is, if you switch between concurrent use and single use, is there a local license file created?

54:22 No, there's not.

54:23 That...at 9.3.1 and previous, it would create localized files with the software...with the single use or what have you.

54:31 At 10.0, or 10, it's trusted storage which does not require...

54:35 [Inaudible audience question]

54:36 At 10, it's using trusted storage which, without getting too much into it, it doesn't use local license files.

54:44 It talks with the License Manager machine and that's where borrowing comes in and everything else.

54:49 There's no local license files on the machine.

54:53 [Inaudible audience question]

55:06 Yeah, and...

55:07 [Inaudible audience question]

55:11 Ah, well, you could download it.

55:13 You can download the media again if you have that...and then I believe you'll have to contact Customer Service if...to get...

55:21 If you do the single use license, you would have to contact Customer Service and then reauthorize.

55:30 So with batch files, it really offers you a free, robust option.

55:35 And I want you to start simple.

55:37 Just script one batch file at a time and use Google.

55:41 Google is your friend, and use the install guides.

55:43 The Google will give you all kinds of batch scripting options and you can really...it's really robust.

55:47 You can do anything, really.

55:50 [Inaudible audience question]

55:53 I looked at that last year, but no.

55:57 [Inaudible audience question]

56:00 Yeah, it's... [Inaudible audience question]

56:06 Yeah, there's...I think... [Inaudible audience question]

56:13 It's psexec, right?

56:14 Just like msiexec, but psexec.

56:16 [Audience question] Right.

56:17 Yeah, right. [Inaudible audience question]

56:25 And it doesn't require admin privileges on the client machine?

56:29 [Audience question] It would. It would.

56:30 [Audience question] It would. Okay.

56:31 [Inaudible audience question]

56:32 Okay, okay, okay, that's right.

56:35 Yeah, I think...I...I remember looking at this last year after you gave it to me, and there's real...

56:38 And there's...there's a couple options out there that do along the same lines as that, of running batch files.

56:43 And you can schedule them with the Windows Installer OS and stuff like that.

56:51 So to see more information about deployment, there is a white paper online titled ArcGIS 10 Enterprise Deployment.

56:58 It gives us a list, so it gives you the list of deployments that can be...a list of setups that can be deployed...

57:02 ...which is to say all ArcGIS setups.

57:06 The list of setups that can be deployed in lockdown environment, system requirements for each setup...

57:11 ...how to modify command line parameters or command line parameters in a transform file if you're using group policy...

57:18 ...and how to deploy with SMS, any known issues, and also deploying and reapplying service packs.

57:25 And there is a knowledge base...there's a couple of knowledge base articles online that elaborate on the issue.

57:30 And there is a workshop on Thursday that I really encourage you to attend.

57:36 In addition to the white paper, look up the install guide.

57:40 The install guide...I've mentioned it three or four times, is really, really an invaluable resource for getting you through installs.

57:46 For scripting them, or if you have any questions, more than likely it's answered there.

57:51 You can also go to the support site, whether it's the forms, or the KB articles, or white papers.

57:57 And also at the resources ArcGIS.com site.

58:01 That's a little bit more productcentric, so if you go to the ArcGIS Desktop product page...

58:04 ...it will have KB articles, white papers that are related to ArcGIS Desktop, as well as links to the

58:09 ...install guide and other related information.

58:16 So there's a couple workshops that I wanted to let you know about.

58:19 I've mentioned two of them, Deploying ArcGIS Advanced Topics, that's the one that talks about...

58:24 ...deploying with group policy and SMS, this Thursday at 12 in room 32B.

58:30 And then unfortunately the ArcGIS 10 Licensing and Copyright Protection that talks about using the License Manager...

58:35 ...and the new framework is the same time; Thursday at 12 in room 32A.

58:40 But the slides will be available afterwards, and I'm not sure where online or how they'll be distributed.

58:47 And there's also a session about configuring...installing and configuring ArcGIS Server.

58:51 It's Thursday at 1:30 in room 32B.

58:58 And before you leave, please complete the technical workshop survey, and don't forget the ArcGIS 10...

59:03 ...installation tips I have up here on the podium.

59:06 It covers enabling VBA, how to install VBA, it talks about how to create a batch file.

59:13 It shows there's a KB article batch file online.

59:15 Yes sir?

59:16 [Inaudible audience question]

59:25 Yes, exactly, exactly.

59:27 [Inaudible audience question]

59:32 If you...if that's what you want.

59:33 If you want to have like...the license administrator or the License Manager on the same machine, and then there's also the...

59:39 [Inaudible audience question]

59:55 It doesn't...it's a...it's very similar to Desktop.

59:58 The question is, the ArcGIS Engine runtime setup...how do you configure concurrent use?

1:00:05 The ArcGIS Administrator wizard that I showed you earlier, that doesn't pop up but there's a link to it...

1:00:09 ...and you can define it the same way.

1:00:11 The...I didn't point it out, but on the middle it says ArcGIS Engine and it was all grayed out.

1:00:16 If I had Engine installed, that would be available and then I could choose concurrent use...

1:00:19 ...and define the License Manager and single use and choose Authorize Now, authorize it as a single use product.

1:00:26 [Inaudible audience question]

1:00:51 Like an Engine license?

1:00:52 [Inaudible audience question]

1:00:55 I believe so.

1:00:57 But you have to go to the session on Thursday to find out for sure.

1:01:00 They can answer all of...

1:01:02 Or yeah, or stop by the island.

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