

# The Road Ahead - ArcGIS 10.1 Overview

Damian Spangrud highlights the new capabilities, analysis tools, and productivity improvements to ArcGIS 10.1.

[http://video.esri.com/watch/675/the-road-ahead-\\_dash\\_-arcgis-101-overview](http://video.esri.com/watch/675/the-road-ahead-_dash_-arcgis-101-overview)

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## Video Transcription

**00:01** My name's Damian Spangrud. I'm the product manager for ArcGIS here at Esri, which is still hard for me to say.

**00:08** I'm joined by a number of my colleagues scattered throughout, other product managers, associates who work with me...

**00:15** ...who will also be here to answer some questions as we go through.

**00:21** Okay. First off, let's talk a little bit about what this session is.

**00:24** This is an overview session.

**00:27** I cover bits in Desktop, bits in Server, bits in Mobile, bits in Online, across the whole system to tell you what's coming in 10.1.

**00:37** If you're looking for the devil of detail sessions, this isn't it.

**00:42** There's a detailed Desktop session following this. There was a Server one repeated this morning.

**00:48** There's some additional sessions.

**00:49** If you look online in Road Ahead, search for road ahead or search for 10.1, you'll find there's a number of demo theaters...

**00:56** ...and 20-minute sessions as well that cover very detailed aspect of what's coming in 10.1.

**01:02** But this will give you enough to be dangerous.

**01:06** Okay. Logistics, cell phones, personal communicators, tricorders, whatever you got, just turn them to mute.

**01:14** I know some of you really cannot...so you go into withdrawal if you're not checking e-mail every five minutes, that's okay.

**01:22** I know we have some social networking folks sitting over there on the floor recharging his batteries, Greg.

**01:30** It's fine. Keep going. Just turn them to mute so we don't have to hear the pop song ring tone that you have.

**01:37** I also know...I recognize a few faces from who were turned away from the first time we gave this session.

**01:43** Sorry about that. We really messed up and had it in the room next door here that fits a hundred people...

**01:48** ...and then we told you to go to the geolounge to watch it, and it didn't work.

**01:52** We really apologize for that. This is the repeat. There will be another repeat of this session on Friday morning.

**02:01** I want to say right now, for any session you attend this week, please fill out the online survey.

**02:07** It really helps us to plan what sessions to give and what presenters to assign to those sessions.

**02:13** We use this information a lot, and as one of the people coordinating the sessions, I really use it.

**02:18** So, I'm going to beg you not only to fill it out for me, because I always want feedback to how to improve...

**02:23** ...but also for any other sessions you attend.

**02:26** Okay, with that, let's get started.

**02:28** First, before we get to 10.1, I want to talk a little bit about some of the trends that are actually driving us and resulting in 10.1.

**02:39** Now first off, let's talk a little bit about, you know, where GIS has come from.

**02:44** For some of us, this evolution has happened in years; some of us this evolution has happened in weeks.

**02:52** Fundamentally, everybody starts using GIS primarily on the desktop.

**02:58** And then a few people start using it, and they realize they have to share their information, and they start working together.

**03:05** Then they actually realize that their business is sort of running on this thing...

**03:09** ...and they realize they have to treat it like a different part of their enterprise...

**03:12** ...backups, recovery, enterprise systems, communications, data storage, so that you can start to work together.

**03:19** But once you're in the enterprise, you actually need to be able to integrate to everything else.

**03:24** And over the years, there's been different technologies. The current mantra is on web service or services-oriented architecture.

**03:31** Before that, it was SQL. Before that it was RPC. Before that it was DDE.

**03:36** Who remembers DDE?

**03:38** Okay, we're all old.

**03:42** Before that was stuff that I don't remember.

**03:44** But it's about working together in that enterprise.

**03:48** Once you're in the enterprise, nowadays, that also means that you have to support...

**03:52** ...access to the enterprise information on a mobile device.

**03:57** And fundamentally also means that you're starting to leverage cloud resources.

**04:02** Everybody in here uses cloud resources right now.

**04:06** You've all done a search online, right?

**04:10** That's using the cloud.

**04:12** You don't have to make the cloud really complex to understand it.

**04:15** You ask the web to do something for you. You don't know which server gave you the answer. That's the cloud.

**04:20** Increasingly, once you reach the enterprise stage and you're pushing to mobile devices...

**04:24** ...you're starting to leverage pieces of the infrastructure you no longer own.

**04:30** And the big trend we're seeing is this idea of lightweight, that you don't need a full-scale rich desktop app...

**04:37** ...for everybody in the organization who wants to put dots on a map.

**04:41** You actually don't need it for a lot of things.

**04:43** You can give them a lightweight application.

**04:46** How many people use some sort of web mail, Yahoo mail, G-mail, whatever?

**04:52** How many of you read the instruction manual?

**04:56** That's the notion of a web app.

**04:59** A well-designed web application does not have a manual.

**05:02** You should be able to figure out how to use it intuitively.

**05:06** Obviously, that's not a do-everything application. It's very focused.

**05:11** What's been interesting in this evolution of GIS is, nothing's gone away.

**05:19** We've heard from the IT pundits that desktop as a platform for everything has been dead...I don't know.

**05:24** Every three years it seems like they tell us desktop's dead.

**05:28** Desktop's still not dead, but the role of desktop has fundamentally changed over the years, especially in the GIS world.

**05:35** It's moved from your desktops pretty much self-supporting each other...

**05:39** ...to your desktops are actually the key for passing information through this entire structure.

**05:44** That's what you folks as GIS professionals are authoring the authoritative information analysis...

**05:50** ...that's starting to be leveraged everywhere else.

**05:54** So the use over time has really been augmented, not replaced, and we continue to see that.

**05:59** I don't know what the next bubble is in this diagram, but I know there will be one.

**06:06** These rich web applications I talked about, you know, they're commonplace.

**06:10** We use them in all of our parts of our both professional and personal lives.

**06:15** And increasingly, we're starting to see them as part of our GIS professional lives, being able to pull this information together.

**06:22** They're what many of your constituents expect you to deliver.

**06:26** They're used to using these highly interactive, very intuitive applications right now.

**06:31** They just want your GIS stuff inside of it.

**06:34** That's the expectation.

**06:36** The expectation is moving beyond, Please give me an e-size printout, to Please give me a highly interactive web application...

**06:43** ...I can use on my lightweight device.

**06:47** But also, we've seen this trend where content has fundamentally changed how we do our work.

**06:53** How many people have been involved in GIS for more than 10 years? More than 20 years? More than 30 years?

**07:02** Okay, just a couple.

**07:05** Look back 10 years.

**07:07** How much of your job was actually about building the basemap that you had to actually put your day job on top of? Right?

**07:14** A lot of it. A lot of it was just getting this information together that actually wasn't part of your job...

**07:18** ...but unless you had it, the rest of your stuff didn't even make sense.

**07:22** Nowadays, that information is a dial tone.

**07:24** It's available, constant, everybody expects it.

**07:27** There's an expectation of people coming out of school nowadays that, of course there's content.

**07:33** What do you mean there's an unmapped section of the world?

**07:37** There still are. Okay?

**07:39** Just remember that. Or it hasn't been mapped in a really long time and was mapped poorly when it was done.

**07:47** But there is this expectation, and that's fundamentally different than how many of us came out of school 10, 15, 20 years ago...

**07:54** ...where we knew we had to build the content. That was the first step.

**07:59** And then we could start putting our operational overlay data and analysis on top of it.

**08:03** So this idea of content is key. People expect it, both provided from us or other services...

**08:10** ...or someone in your organization is actually tagged as, you're going to provide the basemap for this organization.

**08:16** Everybody else is going to use it and not mess with it.

**08:20** Within GIS, but also within the IT world as a whole, the notion of information sharing has become critical.

**08:28** You no longer give people projects and say, Here's this project; you know, it's probably going to take three years to complete...

**08:35** ...let me know how it goes.

**08:38** We chuckle, but that actually was pretty standard a few years back.

**08:43** In IT cycles, three years, one year, six months, you'd go dark, as the expression says.

**08:50** You just...that you leave them in the corner. You expect magic to happen.

**08:54** That's not expected anymore.

**08:55** What's expected is continual update of where you are, what's happening, and minor course corrections as you go.

**09:02** You see this in business analytics and executive dashboards where they're looking and seeing this information change...

**09:08** ...and just tweaking the course of the company or the organization slightly as you go.

**09:14** This same notion applies to GIS.

**09:17** Giving people a task to go and collect and put in 30 new subdivisions, tell me when you're done, isn't acceptable anymore.

**09:26** People want to see that information as it's collected.

**09:28** They want to understand it. They want to start to be able to provide feedback of that information.

**09:37** And imagery, you know, I've made the statement a few years back that this group of ArcGIS or Esri users...

**09:45** ...is the largest collection of geospatial imagery users in the world. And I firmly believe that.

**09:50** But primarily, we've been using imagery as dumb backgrounds, right?

**09:54** Pretty pictures you put behind the map, you draw some features on top of it.

**09:58** And that's becoming more and more critical.

**10:01** Higher resolution imagery, much more frequent imagery, be able to change your underlying data.

**10:06** But we're also starting to reach out and use all that other rich information that's inside of imagery...

**10:12** ...and starting to make operational decisions because we know just enough about imagery to be dangerous...

**10:17** ...and start to use some of those multiband, hyperspectral combinations and go, huh, why is that there? Let me go do some more work.

**10:25** So that's another big trend that we see.

**10:29** So, on to 10.1.

**10:32** For us, 10.1 is just a continuation of the 10.0 system.

**10:37** We do see ArcGIS as a system.

**10:40** It's got many parts, Desktop, Server, Mobile.

**10:43** But fundamentally, they are engineered to work together.

**10:48** And you can use these clients across the web, mobile, or desktop...

**10:51** ...against your information store and analytics that are being done in the enterprise, on your desktop...

**10:59** ...in the cloud, or, increasingly, on our own online system, which is one of our focuses for 10.1.

**11:07** 10.1, there's a lot of new capabilities.

**11:12** I'm not going to cover all of them today, otherwise, we'll be here for a few hours.

**11:18** But it's really built on top of 10. That's the key. This is not a whole, you know, change everything that you know.

**11:25** There are a number of key themes.

**11:27** Actually, back to this one, when. So before I get the question, beta in a couple of weeks, release first part of next year.

**11:37** Everybody who's a current customer, which is pretty much everybody who attends this conference, can get beta.

**11:43** Go to [betacommunity.esri.com](http://betacommunity.esri.com) and sign up. You can get beta.

**11:52** There are a number of key themes that we talk about when talking about what, you know, what 10.1 is, what it's about.

**11:58** It's about providing a new online platform for doing your work.

**12:02** It's going to change how you think about using online resources.

**12:05** It's more than just some data in the cloud anymore.

**12:08** It's about making sharing of your information easy.

**12:13** But it's also reinforced traditional GIS tools and tasks.

**12:18** You have a day job. You have a lot of things you need to do.

**12:21** There's things we can do to make that easier.

**12:24** But also support strengthening our server platform and architecture so you can do these things better.

**12:31** Expanding our mobile offerings and actually empowering developers with some new tools to build custom solutions.

**12:40** First, let's talk a little bit about ArcGIS Online.

**12:44** ArcGIS Online is evolving rapidly. Right?

**12:47** Many of you associate the words ArcGIS Online with some data.

**12:51** Oh, that's where I get those street maps and topo maps and imagery.

**12:55** Yes. It's also got some web viewers, and I can share packages and create groups. Yep, you can do that, too.

**13:02** Well, as of last week, ArcGIS Online expanded so that you can start to make maps from data.

**13:08** You can drag your CSV file into the web app and start to do thematic mapping against it.

**13:13** Well, that's interesting.

**13:14** Why that's really interesting is, you as the GIS professionals are going to build the base

service layers of your data...

**13:22** ...that everybody else in your organization can then go, Oh, yeah, show my dots on top of that.

**13:27** Because we do a lot of work as GIS folks where people walk into our office and say, Hey, could you map this for me?

**13:32** I need this on a map.

**13:35** And it'd be great if we could self-empower them to do it themselves...

**13:39** ...and eliminate the need for you to create those one-off, little special projects.

**13:42** There still will be. We know that.

**13:45** But, giving them the power to start asking some of these questions might take you to the next level of the spatial understanding.

**13:52** What's coming later this year is providing entire GIS infrastructure, hosting, and organizational subscriptions to Online...

**14:04** ...and then complete integration with 10.1.

**14:07** Well, what does this mean?

**14:09** So we know what we can do with this, right? We can upload, store data...

**14:13** ...but those last couple, we can complement our current infrastructure.

**14:18** With...with the new version of Online coming later this year, you'll be able to spin up your own services in the cloud.

**14:25** Think of it as a virtual server that you now have access to, and you can package up data from your desktop...

**14:31** ...send your map up to the cloud and have it spin up, and you control all the security and access for who can get to it.

**14:39** Your organization can actually set up their own organizational community online...

**14:45** ...where they're controlling, by permissions, what their members can do, who can publish, who can use...

**14:50** ...and who can administer all these resources that are now running in the cloud.

**14:56** Fundamentally for all of this is this concept of interactive maps.

**15:00** They're intelligent web maps.

**15:03** These maps are what take these multiple services and put them together and provide the intelligence for how to explore them.

**15:12** How do you edit them? What's the template look like? How do you identify them?

**15:17** What's the user experience when you look at it? Do you see graphs? Do you see a table? Do you see a list of numbers?

**15:22** What do you see? How do you use this information? How do you make this data come alive for people who want to use it?

**15:28** That's stored as part of an intelligent map.

**15:32** The geospatial infrastructure that's going to be there will allow you to actually package up your maps...

**15:37** ...send it up to the cloud, and create tiled map services, feature services.

**15:45** There's no expense.

**15:46** There's no hardware you're buying to be able to do this.

**15:51** So you could scale up your organization capacity.

**15:54** You can make them everywhere from just let me publish my map so people can see it...

**15:58** ...to let me publish my map and then let me publish this other layer where people can edit it.

**16:04** And you can control who has access, whether it's just people in your organization, a wider community...

**16:09** ...or anybody in the world so that they can go and actually start to edit information.

**16:16** They're editing your geodatabase now hosted in the cloud.

**16:20** And they can do that from their mobile device or from a web or from the desktop.

**16:26** And it provides this cataloging of information.

**16:32** Many organizations that I've encountered over the years are quite different in different parts of them.

**16:39** Some parts of the organization are extremely well organized.

**16:42** Other parts are less so.

**16:45** And that's fairly typical.

**16:47** You'll have fiefdoms within an organization and people who want to do it their way.

**16:52** But as an organization, how do you start to look at all of this information together?

**16:57** Well, this actually provides the gateway.

**16:59** It provides the portal where people can start to leverage and log their information here.

**17:04** And you can start to discover it.

**17:06** They don't have to build the ultimate unified system where everything is in one structured storage, one structured nomenclature...

**17:15** ...and everybody agrees by those rules, because that's really hard to do.

**17:18** A few of you have succeeded in that, and I congratulate you.

**17:22** The rest of you, that actually may never be possible in your organization.

**17:26** But, if you can get there, that's great.

**17:27** If you can't, start to leverage online.

**17:30** You can bring all these resources together but not actually have to physically move it and tell people how to live their lives.

**17:38** As an organization, you can actually personalize the look and feel.

**17:42** If you want the people in your organization, when they log in, to see the top maps for your organization...

**17:47** ...not just the top maps at ArcGIS Online, you can do that.

**17:52** If you want to tell them what your basemap is, you could do that.

**17:55** So you can really configure this as your information portal for your organization.

**18:00** And you can have it...access it from our web cloud, or for some of you who can't...

**18:05** ...you can install it and get it behind your own firewall to have the same capabilities.

**18:12** Now at 10.1, we're going to be able to publish these very easily from Desktop.

**18:18** So Desktop will actually have this connection to Online where it can send data up. I'll talk about these more in a moment.

**18:28** As part of the organizational site, you can create these secure groups...

**18:33** ...and the administrator could actually control the sharing policies, how the data can be shared and to whom.

**18:39** But the administrator also has the ability to control users. Right?

**18:43** What happens if Bob leaves the company? What happens to the data he uploads? Who owns it?

**18:48** How do you manage that? Which...do you know who uploaded what data?

**18:51** All of that information control is part of the system, because that operational stuff will bite you if it's not there.

**19:01** To empower this, we're adding this ability to share your maps, analysis, and other information.

**19:09** Now you can share to other GIS professionals using a package.

**19:13** We have map packages and layer packages right now inside of Desktop.

**19:18** Well, we've expanded them, and we've added a number of other packages.

**19:24** We've added a geoprocessing package, a tile service package, and a locator package.

**19:34** We also...so these packages can be sent out; they're files, right?

**19:39** I can give them to you, and you can just use them.

**19:41** You don't have to be an expert in how to use the tool, the map, the locator.

**19:45** You click on it and it starts up and is ready to use.

**19:49** You could also share these as services where you take those same packages, provide a little more additional information...

**19:58** ...and publish it up to your server or an online hosted server, and it spins it up automatically as a service.

**20:05** So you don't have to give your package to a GIS professional.

**20:09** You can give a service to anyone which means it gets embedded in web applications or it's used in desktops.

**20:20** Now sharing analysis is one of the really interesting aspects here, because it's something we've always been really, really bad at it.

**20:30** How many Workstation ArcInfo users do we have? Alright.

**20:36** In AML, dear to my heart, or in Avenue, which I know way too much of...

**20:46** ...it was very, very hard to pull together your analysis logic and the data and give it to somebody and say, Here, please use this.

**20:56** Geoprocessing at 10, you can do that, but you've got to be pretty smart to be able to get it to work well.

**21:03** And you still need to be able to tell them, Oh, yeah, you're going to need to go into your model and repair the paths and do it this way.

**21:09** What we've done for 10.1 is actually embed the idea of a geoprocessing package.

**21:15** So you can package up your analysis with or without the source data and give it to somebody and say, Just run it.

**21:24** They don't need to know how to repair paths, fix the model, do anything.

**21:28** They just use that.

**21:29** This is really going to transform how we do our work.

**21:32** Because within our organizations, we have a lot of people who are experts in one area...

**21:37** ...and they build great models and tools but it's very hard for them to share their knowledge...

**21:41** ...to other people in the organization without having to teach them.

**21:44** This is not about teaching.

**21:45** This is about them and packaging up their analysis and just giving it to somebody and say, Here, run this.

**21:55** Good pop music. Thank you.

**21:58** But it's also about sharing locators.

**22:02** Locators are these geocoders, place-names. Many of you build them with your own data.

**22:06** Giving them to other GIS professionals, it's hard, right? How do you give them the data? How do you give...

**22:11** We allow you to package that up. It's a single file. You give it to them. They unpack it, and it just works.

**22:16** That also allows us to send these up to your servers.

**22:20** You have a great locator on house number that you've built for your municipality.

**22:24** You can send that to your server, and now everybody in your organization can just use that locator...

**22:30** ...and not have to copy the data to everybody's different machines.

**22:37** Moving forward, what we're going to allow you to do is package this stuff up and send it up to the cloud.

**22:43** You can send it to a file and keep it locally.

**22:47** You can send it to a file and put the file online so people can find it and download it.

**22:52** You can share it as a service against your own server, so spin it up on my own local hardware or cloud-based hardware.

**23:02** Spin it up online.

**23:04** So I actually at 10.1 as a desktop user, you'll be able to go to ArcGIS Online from ArcMap and say, I want to share this map...

**23:13** ...share online, here's my account credentials, go.

**23:17** It will package your map up and say, Thank you, here's your URL. Your map is now live.

**23:24** Once that map is live, what can you do with it?

**23:26** You can access it for your mobile devices.

**23:28** You can access it from web browsers.

**23:30** You can access it from other desktops, and you get to control the security around that.

**23:35** That's going to enable a lot of sharing of information that's been very hard for you to get out

of your organizations.

**23:43** Okay. The on-sharing...we're just improving our traditional GIS tools.

**23:50** And this is everything from mapping and visualization which includes things like dynamic legends.

**23:57** Dynamic legends are pretty easy, easy to get, right?

**24:01** When you zoom in on a map, your legend should only show you features that are actually drawn on the map.

**24:07** I think we've all had the argument with people over our careers, well, this legend says there's a bridge on the map...

**24:12** ...where is it?

**24:14** Well, there is no bridge on this map.

**24:15** That legend is standard. It's...

**24:17** No, no. Show me where the bridge is.

**24:18** No, there's...okay, that goes away.

**24:22** You can actually set up the legend, we know optionally, because some people need to have the standard legend.

**24:27** But you can set up your legend optionally to grow and shrink depending on what features are actually drawn on the map...

**24:33** ...and it will set up number of columns and space and shrink and grow to fit into the space that you tell it.

**24:40** And for an interesting QA tool, you can turn on a count that tells you number of features that are on the map in each of the categories.

**24:50** We put it there to really debug the system, because it was like, okay, is it working?

**24:54** Well, we found as a QA tool, it's really interesting, because if you're looking at a electrical network and it says...

**25:00** ...Well, you have 1,000 transformers on this map, and you go, I'm supposed to have six.

**25:06** Hmm. Let me dig into that a little more.

**25:08** And it's hard to see that otherwise.

**25:12** We've expanded Python scripting which we added at 10.

**25:15** We've expanded it so you can start to do your thematic mapping and apply classifications and thematics...

**25:20** ...iteratively over your maps to create map books and series and atlases.

**25:26** We've enabled a live time mode in the playback dialog.

**25:29** So if you have data coming in that's got recent time, near real time, it'll actually show up on the map.

**25:37** What's really interesting for a lot of people is this idea of generalizing your data.

**25:41** Generalization is really simple to understand. It's really hard to do.

**25:45** Generalization is the concept of taking detailed data and doing what our brain does when we take off in an airplane and look down, right.

**25:54** It's really detailed data. It's the earth.

**25:57** As we go up higher, our brain filters what we see so we can understand, Oh, yeah, that's a city, that's a road, oh, that's a canyon.

**26:05** We're not looking at individual trees anymore because our eyes can't see it.

**26:08** We're generalizing the information.

**26:11** Got to do that with GIS data, it's hard.

**26:15** We added a number of tools at 10.

**26:16** We've improved them with 10.1 and added some new tools including this idea where you can take an urban setting...

**26:22** ...of buildings and streets, and as you zoom out, transform it into built-up area.

**26:31** So you don't have to draw the buildings anymore.

**26:32** It looks better as you zoom out in scale.

**26:37** And a number of improvements to the layout in addition to the dynamic legends...

**26:40** ...including little things like, be able to have two units of measure on one scale bar.

**26:46** Okay, that took us probably longer than it should have.

**26:52** As well as magnetic north and true north, be able to...we fetch those from the tables...

**26:57** ...you say where it is, and it'll actually adjust the arrow for you.

**27:02** And we ship a lot of information with our software, coordinate systems.

**27:06** We ship, you know, over 2,000 different coordinate systems, projections that you can pick from.

**27:12** Finding the one you want is hard.

**27:16** At 10.1, you can search by keyword.

**27:18** So if you just want to see UTM, type in UTM.

**27:21** If you just want to see UTM zone 18 north, type in UTM zone 18 north, and it will filter it down for you.

**27:28** Now that's useful if you know what you're looking for.

**27:31** But a lot of us aren't that smart.

**27:33** So, I know where I want to be, right.

**27:35** I'm zoomed in to Bozeman, Montana.

**27:38** What projection should I use? Nobody from Montana answer the question.

**27:43** How do you figure it out?

**27:45** Well, you go back to that shapefile or coverage or geodatabase you have that has the UTM zones...

**27:51** ...and you look to figure out which UTM zone or state plane you should use, or you check the box in here now at 10.1 that says...

**27:58** ...Use spatial filter, only show me projections that are appropriate for me to use where I'm currently zoomed.

**28:04** That also works for transformations.

**28:07** Now, I'm scared to ask this question.

**28:10** How many people use the transformation dialog in ArcMap?

**28:15** Okay. How many of you think you're experts at it?

**28:18** Yeah, one guy in the back. Sorry. You're probably wrong.

**28:24** It's really complicated, right.

**28:25** Transforma...projection transformations are difficult, and we don't make it easy because right now at 10...

**28:32** ...the transformations you're shown are all possible transformation options regardless where you are in the world.

**28:38** So if you're zoomed in to the Gulf of Mexico and you're going from NAD83, WGS84...

**28:45** ...you got transformations listed that are valid in Alaska.

**28:50** At 10.1, those are filtered.

**28:51** Those only show you transformations that are valid for the place you currently are with the extent of your data.

**28:58** Added other improvements on symbology, be able to use transparent PNGs.

**29:02** You know, those really pretty iconic things, nontraditional cartographic icons, right, the web

icons.

**29:09** But people are expecting them more and more in cartographic products.

**29:13** And this idea of key-numbered labeling.

**29:17** This is, when you're labeling features and they're too dense together...

**29:22** ...what you see on street maps is they put little numbers next to them...

**29:25** ...and then they put the names of the streets over in some white space. We'll actually do that automatically for you using Maplex.

**29:33** Oh, and by the way, Maplex is included at all license levels.

**29:43** Yeah, I thought you'd like that one.

**29:45** So all license levels now include Maplex.

**29:48** You can create and use Maplex rules.

**29:54** We've improved our Desktop search.

**29:55** This is the ability to find information and, you know, added some fairly obvious things like spatial search...

**30:02** ...but also some nonobvious things like be able to filter your search by attributes of the data...

**30:09** ...like what projection it's in. How relevant is it for the spatial area you're looking at?

**30:15** What type of data is it?

**30:17** So you can start to filter your results.

**30:19** And this idea of favorites.

**30:21** So once you find data, you could actually add it to your Favorites gallery...

**30:24** ...so you don't have to keep going to that directory time and time again to find it again.

**30:28** It's just sitting there in Favorites.

**30:32** We have a number of improvements just in Python, improving how Python works, and this means automate...

**30:39** ...improving the performance on network analysis, improving the performance on data access and then...

**30:45** ...improving the ability for Python to be used to build your own tools and toolboxes...

**30:50** ...without having to resort out to default tools or other coding languages.

**30:56** And for those of you really interested in Python, we now allow you to build add-ons in Python.

**31:02** Add-ons is a concept we added at 10 where you can build a customization and give it to

somebody...

[31:08](#) ...and it doesn't require any install or registry settings.

[31:12](#) So you can use it in these lock-down environments because it doesn't require an install.

[31:19](#) You can now build these add-ons with Python.

[31:21](#) So as you take and build your great geoprocessing tool that you think is great...

[31:26](#) ...you can package it up and give it to somebody as an add-in, and it's a button on their UI. That's all they need to use.

[31:33](#) Now we did add a whole bunch of new tools and a lot in new parameters...

[31:36](#) ...so a lot of the tools that you know, we've added new parameters to them to give you additional options...

[31:42](#) ...on what you're currently able to do.

[31:44](#) I'm going to cover a few of the tools.

[31:47](#) This is supposed to be GPS. I didn't fix this from last time. Oops, I knew I had forgotten something.

[31:52](#) GPS To Layer takes a GPX file and converts it to a layer. Right.

[31:57](#) And very commonly you get them off your GPS units.

[32:00](#) We'll also be able to take your geotagged photos and be able to automatically suck in a directory of them...

[32:07](#) ...and create points with linkages to them.

[32:11](#) Improved our KML, just support for KML across the board in all of our clients...

[32:17](#) ...but also some new tools, tools to be able to tabulate the intersection of objects in numeric fashion...

[32:23](#) ...but also polygon neighbors.

[32:27](#) Now this...those of you from old school and my generation, PAT tables, right.

[32:35](#) You get to the same information now from the polygon neighbors function that tells you what the neighbors are.

[32:42](#) And those of you who don't know what a PAT table is, you're lucky.

[32:48](#) But we also improved analysis.

[32:49](#) I mean, fundamentally for us, pretty picture maps come as a result of analysis.

[32:54](#) That's the core thing.

[32:57](#) Some really interesting things that we've done in analysis.

**33:00** One is this idea of spatial scale.

**33:03** It's sort of a guess right now.

**33:08** When you run your analysis, well, you know, what scale should I do this analysis at?

**33:13** Is it...should I find the spatial hot spots at 1 to 25,000 or 1 to 30,000 or 1 to 50,000?

**33:19** Because, you know, you know they're not there at 1 to 100,000, and you know they're not there at 1 to 5,000...

**33:24** ...because it's too little or too big.

**33:27** But is there cluster somewhere in there?

**33:29** And right now, we iterate through it and try it; No, I don't think that's right. Try it; No.

**33:34** At 10.1, we give you a tool.

**33:36** It runs tests at varying scales and comes back with a spatial autocorrelation.

**33:42** It comes back and says, You know, there seems to be autocorrelation at this scale...

**33:45** ...and does not seem to be autocorrelation at this scale.

**33:48** You can start to figure out whether or not all the analysis we've been doing for years is actually done at the right scale.

**33:53** Don't tell your boss.

**33:56** We've also added the ability for geodetic buffers.

**33:58** Most of you will not care at all about geodetic buffers because you've been buffering in the projection...

**34:04** ...that you're supposed to be buffering in right now, right?

**34:07** Nobody in their right mind's going to be buffering in decimal degrees. Right?

**34:13** If you're saying, I do that all the time, we'll talk later.

**34:17** Geodetic buffers actually use the geodetic distance along the feature regardless of projection.

**34:24** Extremely accurate but may not make sense when you're trying to measure distance in that projection...

**34:29** ...because distance was measured different in different projections and all that stuff.

**34:34** Space-time clustering. Two different things here, time clustering and spatial clustering, and both can be combined.

**34:44** Clustering allows you to give it a set of data, set of attributes, and it will process it and say...

**34:50** ...It looks like you have groups of data that here, here, and here that are naturally clustered together...

**34:56** ...either in space, time, or space-time combination.

**35:02** Really interesting. Start to get a handle on your disparate data and figure out, is there a pattern here you can't see.

**35:10** Other one that's...we've been doing for years and many of us have been doing wrong, myself included, is areal interpolation.

**35:17** Being able to take values from one areal unit such as, let's say, census tract...

**35:25** ...and assign it to a different areal unit that does not match the boundaries like ZIP Code.

**35:32** Okay. If one is population, how do you get population at ZIP Code level?

**35:36** You can't directly proportion it. That would be a bad idea. Right?

**35:40** What we do here is what we think is probably the most accurate interpolation of areal values between mapping units that's available.

**35:51** So we model a continuous surface of values based on the surrounding values...

**35:55** ...assuming there's always a trend on where the people will live, and you can play with the trend and whatnot...

**36:01** ...and then reassign it at the other scale.

**36:04** Some of us have been doing this sort of with Spatial Analyst, kind of hacking around for a few years.

**36:08** This actually is a very easy tool because it's a very common problem.

**36:13** Empirical Bayesian kriging, biggest words in the slide deck.

**36:18** It just means simple kriging.

**36:20** Kriging by default is hard, has a whole bunch of parameters, and it's easy to get wrong.

**36:24** Bayesian kriging actually is much more flexible in its results and much more flexible with the datasets...

**36:31** ...and, in general, gives you a better result for interpolating values.

**36:35** Now a few people are going to mug me afterward for making that comment, but, okay.

**36:40** 3D. We've added 3D volumes and 3D shadow analysis.

**36:44** So you can start to look at where the shadows fall from the building structures that you have.

**36:48** This is useful in planning and analysis, you know, new building here...

**36:52** ...who's going to be complaining because they don't see the sun anymore.

**36:55** Also really interesting when you look at, you know, northern cold cities.

**36:59** I used to live in them. Ice kind of sticks around for a while.

**37:03** Where does it stick around? It sticks around in the shadows, and you can actually model that...

**37:07** ...and figure out where to deploy the resources to best get rid of the ice.

**37:12** Did a number of improvements in geodatabases including things like improving admin tools...

**37:18** ...actually, just giving you some admin tools.

**37:20** We took the old Geodatabase toolset, incorporated that as a core-supported tool...

**37:25** ...and built a geoprocessing toolbox full of tools for you to automate your administration of your geodatabase.

**37:32** So you can see all the users connected, all the sessions open, all the locks open...

**37:38** ...and you can choose which ones to kill directly as the administrator.

**37:42** So you can unlock those people who left the session running all night long.

**37:47** But we also allow you to update the schema; little thing, big impact.

**37:52** You can now rename a field, right.

**37:54** You can delete something while it's in use.

**38:00** This one's really interesting. We had this idea of native SQL access.

**38:05** A lot of you have data coming from other databases that are not geodatabase-enabled, or you can't geodatabase enable.

**38:13** Your database administrator says, There's no way you're putting that thing on my database.

**38:18** We now allow you to directly connect to those external databases.

**38:23** We've allowed that for a while, right? It's called query layers at 10.

**38:27** Well, at 10.1, you can actually edit it as well, and we expose it as a REST-based service out of ArcGIS Server...

**38:35** ...so you can actually edit the data from any of your clients.

**38:40** And if you have spatial data stored in those databases, you can directly edit that spatial data as well.

**38:47** So you don't need...if you have simple feature geometry stored in SQL Server, Oracle, whatnot...

**38:53** ...you can actually edit those directly now using this interface.

**39:01** The last thing actually cuts kind of across geodatabases and from the editor is the idea of feature edit tracking.

**39:09** So, when somebody edits a feature, if you turn this on, you record who last edited the feature

and put that in the database.

**39:17** It's a low-level feature of the geodatabase, so it doesn't matter if they edit in ArcMap, on a web client, or in a mobile client.

**39:24** You still record who did the last edit and who created that feature.

**39:31** Now imagery continues to be the focus for us, and some of this is, you know, pretty focused, and some of it's pretty broad.

**39:38** The really useful stuff for most of you is automatic image enhancement...

**39:43** ...the ability that when you add an image, it should just look good by default.

**39:49** You should never see the black image problem that we've had in the past where you had an image...

**39:53** ...and it's just this black mess and you go in and start playing with the histograms to get it so you can see it.

**40:00** We, by default, will be applying automatic enhancements to make the image look right.

**40:05** And as part of this, we're actually reading the other metadata that comes with the imagery nowadays...

**40:11** ...that tells us, oh, it's an 11-bit IKONOS image because we know how to deal with those images different than if they were a...

**40:18** ...you know, a TIFF file on disk from an aerial platform.

**40:23** As part of that, we have this other idea of raster products.

**40:27** Raster products is the notion that, many of these aerial platforms...

**40:30** ...when you get the image, you get multiple images, one for every band...

**40:34** ...and then you get this little file that's meta information that says, oh, by the way...

**40:38** ...if you'd like a natural color image, combine image 1, 2, and 4.

**40:43** If you like a pan-sharpened image, use 1 and 5, right.

**40:49** They tell you all this in this metafile that comes with your rasters nowadays, your imagery.

**40:54** We actually read that metafile, and we expose all of those combinations as what looked to you like virtual images.

**41:00** It'll say pan sharpened. GeoEye pan sharpened. Oh, yeah, that's the one I want.

**41:05** You could do that right now in 10, but you have to add two images and then use the tool to say pan sharpen this, do this combination.

**41:13** We just do it all for you now.

**41:15** The other one that's really interesting is this mensuration. It's height measurement.

**41:22** If you have the camera information from the image, the sensor, the sensor model, you have a terrain...

**41:28** ...we can measure the height. We can measure the height of the building. We can measure the shadows...

**41:32** ...and give you an approximate height because of that.

**41:38** Well, easier georeferencing.

**41:39** This is also kind of a throwback to the workstation days.

**41:43** Georeferencing in ArcMap has been very hard from the beginning, right?

**41:47** You take one image, put a point in, flip your screen, look at the other image, put a point in.

**41:52** We pulled up...we pulled back the concept of having multiple windows.

**41:56** So you have one window on one image, one window on another, one window on another...

**41:59** ...and be able to just put in your tie points between them and click Go and get the georeferencing.

**42:04** So that's going to be a big improvement if you do georeferencing.

**42:08** And some additional formats and models including the community sensor model.

**42:13** Those of you who use mosaic datasets, they're really, really powerful, but we haven't given you a lot of tools to be able to debug them.

**42:20** Like somebody deleted some images from your disk, which ones are gone? Which parts are broken?

**42:25** You moved it from one machine to another. Did it all come across fine?

**42:29** So we give you a bunch of tools now to analyze that, and we've updated the REST interface for all of this on Server...

**42:35** ...so that from Server, you can actually manage these image mosaics...

**42:38** ...update them so you can add a new tile to your image from a web browser, and you can download, update this information.

**42:47** You can actually do that high-accurate measurement, the mensuration, directly from a web browser as well.

**42:54** Really interesting area for us is lidar.

**42:58** Right now, I'd venture a portion of you have lidar datasets that you actively use.

**43:05** Give it three to five years, I'd venture every one of you is using lidar in some respect.

**43:10** So it's something even if you're not using right now, you need to get your...start to get your head around it.

**43:14** Lidar is a data collection technique using, you know, traditionally laser, getting reflected points back.

**43:23** So you get little points at highly accurate measurements.

**43:27** It's massive.

**43:29** Hundreds of thousands is tiny in this world. Millions is easy, and many people are in the billions of points being collected.

**43:38** You're not treating this like normal data. It would be a bad idea.

**43:44** So what we're doing is we're using what we learned from working with imagery and building these dynamic mosaics...

**43:50** ...where you don't...we don't have to suck all many gigabytes, terabytes image into a system.

**43:54** We just dynamically put them together.

**43:56** We're doing that same thing for lidar data.

**43:58** Lidar data is traditionally delivered in LAS file format.

**44:01** You put your LAS files in a directory and say, Build me a lidar dataset, and it just references those...

**44:06** ...and you can look at it in raster, in terrain, or as a point cloud dynamically.

**44:12** You can do analysis off it. You can do visualization off it.

**44:15** It's really, really powerful.

**44:17** You can even use point clouds that are not typical terrestrial lidar, you know, down scanning but side scanning...

**44:18** That's actually terrestrial side scanning when you've seen a few of the demo trucks driving around here...

**44:24** ...like you see here in the red building on the pictures.

**44:32** ...with the big spinning mirrors in the back that they're sensing from.

**44:36** This is going to be really interesting.

**44:41** Then a number of tools for working in 3D and virtual cities, which means little things like say...

**44:47** ...I'm working on a city so don't let me by mistake go under the ground.

**44:53** Have you ever tried to work in 3D? It's sort of easy...

**44:56** If you try to get close to the ground, it's easy to go under the ground so we allow you to turn that off.

**45:01** Focus on performance, but also these targeted tools like shadow and visibility and skyline...

**45:07** ...that allow you to better model a cityscape.

**45:11** Many people are starting to use 3D on these larger scale, smaller area things like campuses and buildings...

**45:20** ...to be able to model the campus in 3D, be able to model evacuation routes in a building and connectivity.

**45:27** So your route...routing algorithm works through that.

**45:29** We give you better tools that work at building and maintaining this data.

**45:37** Many of you have heard on Monday, we announced a new acquisition.

**45:41** We're buying a little company in Switzerland called Procedural.

**45:44** They have a product called CityEngine. It's pretty cool.

**45:48** It's not...first I'll say right now, it's not part of 10.1.

**45:52** We'll have a...we'll have a stand-alone product later this year, and then over time, it's going to be integrated into the ArcGIS family.

**46:00** What it allows you to do is take your traditional GIS data, like a line, a polygon, or a point, and apply a set of rules to it.

**46:09** Those rules tell it how it's drawn. These models here in this interactive animation that's playing...

**46:15** ...there's nothing in those datasets other than a lot, the parcel lines.

**46:23** What's put on top of it is, oh, yeah, in this lot, draw a building of this type with this sort of offset, this sort of quality...

**46:29** ...this sort of degradation, go.

**46:31** And it generates the 3D content.

**46:35** It's really impressive.

**46:36** It was actually these guys made a name for themselves from that visualization end.

**46:41** Their stuff was used in the Cars 2 movie to build the cityscapes that are used if you've got kids like me or...

**46:47** ...your excuse of having kids to go see it. It's pretty cool.

**46:48** Because, like people expect web applications, actually, people expect 3D visualizations to look like real life.

**46:51** But the buildings are highly detailed.

**46:53** And you can control that level of detail.

**46:55** Now, why is this interesting to GIS folks?

**47:05** And if you had the ability to take a planned subdivision and set up a few rules and generate a 3D content of that planned subdivision...

**47:14** ...it really helps people understand what you're talking about versus, oh, yeah, we're just putting...don't worry...

**47:19** ...we're just putting 450 houses in this area.

**47:22** Okay, what does that look like? Oh, my God, right?

**47:26** It's a very big visualization tool. So it's coming.

**47:30** Now 10.1 Server?

**47:33** Server's about taking all these GIS capabilities that you've been using for years on your desktop, exposing them as web services...

**47:41** ...and serving those out to lots of different people.

**47:45** Now 10.1 for Server, we did a lot of work.

**47:49** We actually did a major rearchitecting of entire thing of Server.

**47:56** So some things, like DCOM, don't exist anymore.

**48:02** Yeah, there's some...if you know what DCOM is, you're clapping.

**48:04** If you don't know what DCOM is, don't worry.

**48:08** What it is, is we rearchitected Server to be much more scalable, much more flexible in its deployment.

**48:15** The configuration and deployment of Server has been challenging for pretty much everybody. Face it.

**48:21** Now, literally, it is very simple to set up and configure.

**48:25** It's very simple to scale. You can set it up to autogrow in your clusters, to grow out or shrink down, and be elastic in nature.

**48:33** It is native 64 bit only at 10.1. We will not support 32-bit operating systems in Server at 10.1.

**48:44** Now you haven't been able to buy a 32-bit server in, yeah, five-plus years.

**48:50** But, I will mention this, you probably...if you use Server right now...

**48:55** ...you probably have some developers or test machines that probably are running 32 bit...

**49:00** ...because they happen to be cheap. They're sort of the flow-down machine, keep in the

corner.

**49:04** So you'll need to be aware of that before you go to 10.1.

**49:07** I know 64 bit gives us tremendous improvements in memory management and also with that, with the rearchitecting...

**49:14** ...and other changes, we got tremendous improvements in speed across the system.

**49:19** But with the rearchitecting also, it's all a web services, REST-based interface, which means you could administer it from REST...

**49:26** ...you can configure it from REST, and you can directly use all of your standard web security for access.

**49:32** You don't have to use this weird DCOM stuff.

**49:36** But we also added some new capabilities.

**49:38** Capabilities like being able to print a web map, being able to build a web application, actually get a PDF out of the thing.

**49:45** Even though it's bringing together multiple services and it's got graphics drawn on top of it, we'll be able to print those.

**49:53** We've also added some additional standard support.

**49:56** We have a host of standards which we support now.

**49:58** We've added WMTS, which is a new web tiled service and WPS, which is the web processing service.

**50:08** And for the last thing that will kill IMS, is on-the-fly symbology.

**50:16** It's the only thing we're missing at this point.

**50:18** IMS had the ability...you could manipulate the AXL from the client and send it back to tell to draw...draw my data differently.

**50:26** We haven't been able to do that in Server easily.

**50:29** There are some of you who've figured out ways around it. It hasn't been overly scalable for it.

**50:33** At 10.1, we focused on that explicitly.

**50:36** You can have one service and dynamically have people alter how they get their maps from it...

**50:41** ...change the symbology, change which layers it's using dynamically.

**50:46** It meets and exceeds everything IMS used to do.

**50:49** That, honestly, was the last thing left.

**50:52** We've beat IMS in performance and scalability and everything else at this point. That was the

last thing left for it.

**50:58** So, if you've been holding off because that's been your one feature you needed, eh, time to move.

**51:05** We also made it easier to publish this stuff to the cloud.

**51:09** Our new architecture makes it much easier to do clustering and elastic computing...

**51:13** ...so you can scale out the system without having to manually install and register and configure...

**51:19** ...each individual node before you can use it.

**51:24** As with 10, we continue to support Amazon and have grown that support and made it stronger.

**51:29** We're also introducing Microsoft as your support.

**51:32** So, just like Amazon, you could...if you'd like to put your ArcGIS Server in the cloud...

**51:36** ...you could now use Amazon or you could use Azure, we don't care.

**51:40** They're both platforms that you can use from the cloud infrastructure.

**51:44** But what we've seen is this trend for a lot of people have private clouds.

**51:48** Which just mean, you're not using Amazon or Azure. You're using IBM or you're using something else.

**51:55** Generally, these use virtual machine images, VMs, as the...the notion for how you pass the services around...

**52:02** ...the building block for the program.

**52:05** And we documented and improved our support for that...

**52:08** ...to be able to better support people who are deploying it in private cloud infrastructures.

**52:14** Now I'm going to switch gears here for a moment and talk about a new product.

**52:21** None of you have this.

**52:24** It's called the ArcGIS Runtime.

**52:27** The ArcGIS Runtime is for developers.

**52:38** What it does is, it provides a new way that, with its SDKs, provides a new way for developers to build lightweight...

**52:49** ...as in small footprint, applications that run very fast that leverage your GIS data and your analysis.

**52:59** And it can run as a native 64-bit application on your desktop.

**53:04** It will also still run as a native 32. We'll ship both.

**53:08** It runs on Windows or Linux, and it supports WPF, Java, or Qt as the development environments.

**53:23** The main problem...the main thing this does, it makes it very easy to build these applications...

**53:27** ...that are very lightweight and fast but also very easy to deploy.

**53:31** There's no registry settings involved at all.

**53:35** You know, ArcGIS Desktop or ArcGIS Engine right now, there's about 20,000 registry settings that you need to set that get set on install.

**53:44** You need to be admin to install those products.

**53:46** There's no way around it.

**53:48** Runtime literally can run off of a memory stick for the applications you build off it.

**53:55** So it makes deployment very easy.

**53:56** It's also version independent.

**53:58** So if you build an app on 10.1 and somebody else comes along later and builds one on 10.2 or 11 or whatever else next...

**54:04** ...they don't step on each other.

**54:07** It also takes advantage of all the improvements in hardware, so multiple CPUs, multiple cores, this leverages those.

**54:15** And there's a very high performance display engine behind it.

**54:20** This supports both a connected and disconnected environment.

**54:24** So, you can...don't have to be connected to the net to use it, or if you are connected, you can leverage web services.

**54:31** So, it does not do everything that ArcMap or ArcGIS Engine right now does, because, otherwise, it'd be the same size...

**54:41** ...and kind of defeat that lightweight purpose.

**54:43** But it does do most of the basic draw your map, edit your map, and run a geoprocessing tool.

**54:51** Most of what you're going to need, it's going to be able to do.

**54:53** Now how you do that, remember those packages I talked about earlier, map packages, layer packages, geoprocessing packages...

**55:02** ...those are what you use inside the Runtime.

**55:05** You code the app, and if you'd like it to draw a map, you say, Please load this package.

**55:11** That package defines all your symbology, all the rules, everything you have to do...

**55:15** ...because you really don't want to have to code how to draw a red, dashed line.

**55:21** You already have a tool to build a really nice red, dashed line with multiple hashes, whatever you need, inside of Desktop.

**55:27** You can create a package, and that defines it.

**55:31** So this is going to be a new product. How do you get it?

**55:34** The developer kit will be part of the EDN library, and then when you want to deploy your app...

**55:39** ...you buy deployments in packs of deployments.

**55:43** Before somebody asks how much does it cost, I can't say. It's too early.

**55:49** We are still...we kind of know what it's going to cost, but we're not...we can't quite get there yet.

**55:54** We'll get there later this year.

**55:58** Now this notion of Runtime is actually pretty key...

**56:01** ...because we can start to use this same notion beyond just building custom desktop applications.

**56:10** We are going to use this Runtime over time behind all of our mobile devices.

**56:18** So this Runtime will allow us to add GIS capabilities that run on board on an Android device, on a Windows Phone device...

**56:28** ...on a Windows mobile device and, you know, eventually on an iOS device.

**56:33** Well, what does that mean?

**56:34** Well, that means that your devices just get easier.

**56:37** We're adding a lot of functionality like waypoint navigation and be able to edit the existing geometry...

**56:43** ...be able to collect features, be able to support presentations.

**56:48** So how many people have an iPad?

**56:51** How many people want an iPad?

**56:55** They're incredibly powerful tools. I steal my wife's all the time.

**57:01** The presentation abilities that we have in Explorer Online right now can now start to be leveraged directly on the iPad.

**57:09** So you can sit there and give the presentation and talk about basically your geographic slide show...

**57:14** ...and teach people about your data using this device.

**57:17** It's very intuitive for them to use.

**57:22** And little things like dateline support so you can actually, you know, pan across the dateline...

**57:28** ...and not have to back up and go around the other side of the world.

**57:31** There's a few of you who've been yelling at that for some time.

**57:36** But probably the big thing that's coming is the ability to work offline.

**57:43** Scattered \_\_\_\_\_ [Unintelligible] of applause, David.

**57:47** So the ability to take your data, provision it to the device and then turn off the connectivity or walk away from the connectivity...

**57:57** ...and then when you need to again, you get connectivity and you can sync your data edits back up.

**58:01** You continue to use the data you have in your device, and you can continue to be able to edit that data...

**58:06** ...and then you'll be able to sync it when you get back.

**58:09** Now this is something coming in the mobile devices, and there's a bunch of tools we're going to have to provide with that.

**58:14** How do you provision data to get it to this device?

**58:17** Some devices will be connected, you know, in downtown San Diego here...

**58:22** ...actually I get pretty spotty connections in some of those urban valleys, right?

**58:26** How do I make sure I have just enough data to walk through that block and still connect data?

**58:31** Other devices will be disconnected from pretty much the moment they leave the trailer...

**58:35** ...where they're being provisioned on the fire line to the field and will always be disconnected until they come back to the trailer.

**58:41** How do you provision that data to them?

**58:43** Those are tools that we will be providing.

**58:47** Okay. I just covered a little tiny bit of what's coming in 10.1. There's a whole bunch more.

**58:55** You need to go to the other sessions. You need to go down to the island and see the demos.

**58:59** That's how you're going to get a feel for it.

**59:00** How many people did not see the plenary on Monday?

**59:04** Okay. Those videos are online. I'm going to give you some homework.

**59:08** You need to go watch them.

**59:09** Those of you who even saw it, I'd give you homework.

**59:11** Send the videos to your compatriots at work. Have them watch them.

**59:14** We did a bunch of demos on 10.1.

**59:18** Now those of you who are trying to sneak out before...because you think, oh, he's almost done with the slides.

**59:24** You might want to look at this slide.

**59:27** When is it coming? Talked about that. Right?

**59:32** Beta very, very soon.

**59:34** Release early next year.

**59:36** How do you get to sign up? Sign up at the beta community.

**59:40** But some things go away.

**59:43** We will not ship Workstation ArcInfo at 10.1, for the first time in our history as a company.

**59:52** Your version 10 Workstation ArcInfo will continue to work.

**59:56** We've done the engineering changes to it over the last two releases so that 10 and 10.1 have no dependencies on each other.

**1:00:04** So 10 Workstation can continue being used as is.

**1:00:09** We really haven't made updates to that in five-plus years.

**1:00:13** It is what it is.

**1:00:16** We will not ship IMS at 10.1.

**1:00:20** Between the changes to Server and the age of the technology and the security issues around it...

**1:00:26** ...we can no longer update and maintain IMS.

**1:00:31** We will only ship a 64-bit version of Server. I covered that earlier.

**1:00:36** So you'd better figure out where you're running a 32-bit version of Server.

**1:00:39** Typically, it's not going to be in your production machines.

**1:00:41** Although I will caution you, I have found a few...I just want to say odd IT environments...

**1:00:48** ...where they actually put...took a 64-bit server and uninstalled the OS and put 32-bit OS on it...

**1:00:56** ...because they thought, well, I'm running 32-bit apps, I should have a 32-bit OS.

**1:01:01** Yeah, you're going to want to fix that.

**1:01:04** We're also moving forward on SQL Server, and we have to stay standard with where Microsoft is on their support.

**1:01:10** You know, there's some databases we just have to let go with.

**1:01:15** And we're also moving forward on Visual Studio.

**1:01:16** We're pretty...being pretty aggressive on Visual Studio to stay on the latest so we're at 2010 and higher.

**1:01:24** And how many people use VBA? I always hate asking that question.

**1:01:30** Okay. We told you last year at this time that 10 would be it.

**1:01:35** And actually, we made you at 10, you have to get a separate license; free, but you had to get a separate license...

**1:01:40** ...even to be able to use VBA.

**1:01:43** At 10.1, you will no longer be able to create VBA scripts.

**1:01:49** We have given you a little bit of a reprieve, because you can still run existing VBA scripts.

**1:01:57** Okay, think about that. Do you really want to run scripts when you can't debug them or fix them?

**1:02:03** Can you guess what we're trying to make you do?

**1:02:07** So VBA as a scripting language was great 10 years ago.

**1:02:13** Its pattern doesn't work anymore.

**1:02:15** Between the add-ons, which I talked about which were released at 10, which are available in .NET, Java, we're now Python.

**1:02:22** We're just normal scripting...or, frankly, core tools. There are some VBA scripts that are just core functionality at this point.

**1:02:30** We haven't had a lot of push back. These work.

**1:02:34** Do not underestimate the amount of work.

**1:02:36** There is no, and if somebody tells you, I have a tool that will convert your VBA to blah, they're lying.

**1:02:45** It doesn't exist.

**1:02:46** You...and if it does, you know, invest.

**1:02:53** So these are some important points I want to make sure you're aware of.

**1:02:55** There's a deprecation document on our support site.

**1:02:58** If you search for ArcGIS and deprecation, we keep this document update with...

**1:03:03** ...the devil of details of we're dropping support for this database, this version.

**1:03:08** We're dropping support for this, this, this.

**1:03:10** We publish, as soon as we know internally, we publish to that document.

**1:03:15** Our staff find out when I publish to that document.

**1:03:17** It's the same time you find out.

**1:03:19** So it's very important for you, you know, just periodically check that document.

**1:03:23** We also post on the...the blogs online and the support site and make sure that people know that we've updated it as well.

**1:03:30** But if you have never looked at that document, I would recommend search on ArcGIS and deprecation...

**1:03:35** ...and you'll find the 10 to 10.1 deprecation document out there.

**1:03:39** We try to get it out there very, very early.

**1:03:42** Okay. With that, before you disappear, remember to put in the evals, and we'll open it up for questions.

**1:03:52** Okay, yeah.

**1:03:53** [Audience question] Does ArcIMS 10 continue to work in the 10.1 environment?

**1:03:57** Does IMS 10 continue to work in a 10.1 environment? Yes.

**1:04:04** Yeah. [Audience question] The ArcGIS Online stuff with the organizational setup, is that a fee-based service or is that?

**1:04:10** The question is, is the ArcGIS Online with the organizational a fee-based service or is that free?

**1:04:15** That's a fee-based service. Don't know on the fees yet. Can't talk about that. Yeah.

**1:04:21** You know, when you said direct connect to other databases \_\_\_\_\_ (Inaudible)...

**1:04:28** ...that means that I can actually access any time an SDE \_\_\_\_\_ (Inaudible).

**1:04:32** ...in Oracle or SQL Server, and they don't have to have any SDE there, you didn't believe me, and that's okay.

**1:04:33** The question is, just clarification, when I said that you could connect from your ArcGIS directly to your spatial databases...

**1:04:49** It is true. You do not need to have SDE to connect to and work with any of that spatial data.

**1:04:57** Okay, we'll be up here if there's any questions, and thank you very much for coming.

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