Introduction to Portal for ArcGIS

Witt Mathot and Paul Ross demonstrate Portal for ArcGIS, a private, collaborative, geospatial content management system.

http://video.esri.com/watch/674/introduction-to-portal-for-arcgis

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Video Transcription

00:01 My name's Paul Ross and I'm here with Witt Mathot and we are going to be talking about the…

00:07 …introducing you to and giving you the road ahead for the ArcGIS, or a portal for ArcGIS.

00:13 Can you hear me okay? I can't tell of this is…everybody's good with…okay, great.

00:18 So what we're planning to do is provide that overview. We've got some PowerPoint slides of course.

00:24 I'm going to start out with talking about ArcGIS Online, 'cause really this is the same technology…

00:29 …except being able to bring it inside your network.

00:32 So I'll be talking a little bit about ArcGIS Online and the capabilities of ArcGIS Online…

00:36 …and we'll go into more about the portal and take a look at…

00:41 …I'm going to assume you're pretty familiar with ArcGIS Online, what's there…

00:44 …so when we do the demos you'll be able to have a really good idea of how the portal can be customized a bit…

00:51 …and also how, within an organization, or for an organization, it can be customized…

00:57 …and how you can bring data that's very specific to the problems…

01:01 …and the reasons you would want to put Portal inside your organization and use it for that, so that's what we'll do.

01:08 And then at the end we'll certainly leave some time for lots of questions and we'll go from there. Thanks.

01:16 So I wanted to start with ArcGIS Online and bring everybody pretty much up to the same spot with ArcGIS Online.

01:22 And ArcGIS Online is of course…it's an open data platform for maps and geographic information. And that's great.

01:31 It's a really good place for keeping maps and sharing maps and working with those…

01:36 ...and creating not only a place for GIS experts and professionals to go...

01:42 ...but it's also a great place for the rest of the organization to go...

01:45 ...or people who are part of groups and want to participate and collaborate online.

01:50 It's...anyone can go there and create great maps, mash them up with data that's...

01:57 ...that you provide and that you put up there, but also now with...

02:00 ...particularly with the things that we've brought to ArcGIS Online last week with our release, a lot more openness to that...

02:06 ...a lot of, you know, spreadsheet information or GPX files that can be brought from a trace from a GPS device.

02:12 So there's...and that's also our plan going forward. So the road ahead for that is to keep that open.

02:18 Build on things like WMS and KML and all those things that you can bring in there to mash up those maps...

02:24 ...keep going with that and creating a really open platform for everyone to be able to use and create those maps.

02:31 And those maps, I like to call them intelligent maps...

02:35 ...because they're way more than just a simple map on the screen that you can...that you can use.

02:41 It's really something that you can interact with and I'm sure you've seen multiple demonstrations this week...

02:47 ...where people have added all kinds of information to the pop-ups, time-enabled maps, particularly.

02:52 You know, a good example of a time-enabled map is the one that was done for the oil spill in the Gulf of Mexico.

02:58 If you think about that in the terms of an intelligent map, and what that time slider brought to that...

03:03 ...there's a lot of things you can do online that really add value to that.

03:09 The other part about the online experience, as well as this is shared with the portal, is that once you create these maps...

03:17 ...they can be used in many different ways and on many different devices.

03:20 So it's not just about creating your map online and looking at it in a browser.

03:26 But there's a lot of other things that you can do with it and it really opens that up.

03:29 So not only are we opening up what you can do within your organization with the Online or

Portal experience…

03:35 …but you can also open that up in terms of how they're used and how they're consumed.

03:39 And that can include things like mobile devices, the iOS devices, Apple iPhones and iPads and Android devices…

03:47 …but it also means being able to build applications on top of these maps.

03:52 So being able to build that cool, intelligent map online, and then being able to build an application around that…

03:58 …or using one of the templates that's online.

04:01 Or taking that and just copying the HTML code into a blog or a website and being able to use that.

04:08 And when they end up there, they're not a static map.

04:11 They're able to, you know, use all the intelligence that you've built into the map to do that.

04:16 The other piece of this is that it's a complete complement to software and things that you're already doing.

04:23 So if you've got the Desktop product, there are ways to share layer packages and there are ways to participate in this.

04:30 Server. All of the services there can be registered with both ArcGIS Online if you wish.

04:34 Or, since we're talking about the portal, you can take the services that you've put together with your Server products…

04:41 …and you can create easy ways for people to find that information and consume that information using the portal.

04:48 So essentially, within your organization you can support those communities, those groups…

04:53 …those projects that are going on with that data that you've got, and really think of it as creating…

04:58 …as almost a self-serve environment or an on-demand environment for the online component, and that's what the…

05:04 …not only ArcGIS Online is going to allow you to do, but also the Portal product…

05:09 …when you bring it inside your firewall, can do for you.

05:14 I did want to talk about how we've been evolving ArcGIS Online and as well as the portal…

05:20 …because they're really the same technologies. The Portal product builds on top of ArcGIS Online.

05:25 The technologies that we build into the Portal product are exactly the same as what we…we provide through Portal…

05:33 ...so when we do...you know, we started with adding lots of basemaps for people to...to build...

05:41 ...build and get started with their mapping and Desktop products.

05:44 But we also added that catalog and group-based sharing, and then applications of web viewers...

05:51 ...the concept of the web map...web map and being able to use that across the board.

05:56 And then with our release last week really adding to that in terms of, you know, the openness to that...

06:00 ...and we're going to continue to open that up and add more ways that you can...more layers that you can bring in...

06:06 ...more datasets that you can bring in to make it an even more valuable.

06:09 But the idea here is to leverage off of all the things that you've created with the ArcGIS products as well...

06:15 ...and then you can take that data within the organization and do even more with it.

06:19 So the next step in our road ahead is really with the portal...

06:23 ...as well as the organizational accounts or the subscriptions for organizations.

06:28 So between the two of those, we have a lot of good solutions and they do...

06:31 ...they are complementary, and then we'll be integrating that with 10.1.

06:36 The thing to realize though with this slide and thinking about it is, none of these things are standing still.

06:40 Either I have them kind of listed and aligned, but certainly basemaps is...

06:44 ...you've probably seen presentations and all kinds of new basemaps being available.

06:47 And I already talked about the new features that we're adding to ArcGIS Online and arcgis.com and the viewers and things.

06:52 So those continue to evolve. They're not necessarily aligned like this. They're all moving forward at this point.

07:00 So in thinking about the ways that you can use ArcGIS Online, there's...we're going to be talking about the Portal today.

07:06 There's really two other ways. One is the way that's kind of been there for the past year, and that is a free account.

07:13 I can go there, I can share, I can consume the data that's there...

07:17 ...and I can do cool things with it on a lot of the devices and clients, and I can bring that back into Desktop.

07:22 I can use that everywhere. That's one way, and that will continue to be there.

07:28 The other piece that's coming soon is subscriptions, and that will be for organizations as well.

07:34 So we'd be able to host…host services…host map…mapping services out there in the cloud.

07:41 And the piece we're going to focus on today is bringing this technology within your…

07:44 …within your organization and why you might want to do that for your organization and bring it in…

07:49 …the technology in-house and with the Portal for ArcGIS. So there's really three ways.

07:53 They all share the same technologies. They all sell with the same feature set.

07:57 It's just different ways to implement this technology and take advantage of it.

08:02 Each one of those technologies builds on the whole concept of the intelligent map…

08:07 …and it's something to really make sure you've got your head around, and also, you know…

08:11 …experience it and try it and build those out there. Go to arcgis.com.

08:15 Go to the gallery and check out maybe something as simple as the ones, as things to do in San Diego at the conference here.

08:22 It'd give you a really good idea of how easy it is to build those maps…

08:25 …all the kinds of things that you can build into them, and that I had talked about before, you know…

08:29 …pop-ups with images in them or links to them and also the time abilities that most of them have…

08:36 …so those services and data that you can bring in and combine together to create that intelligent map.

08:42 It's not only for the online piece, but that's also for the Portal product.

08:49 So the Portal for ArcGIS is really that same technology.

08:53 It's got the same set of benefits that you have for an ArcGIS Online…

08:58 …that…more of the public experience that's out there.

09:00 You know, it's a catalog. You can create a catalog of your data, your authoritative data within your organization…

09:08 …create that web experience…very easy-to-use tools that are out there, viewers that anybody can use.

09:15 It's also powerful enough for GIS professionals to work with that system…

09:19 …but also easy enough for everybody in the organization…knowledge workers to be able to

take advantage of that as well.

09:26 It of course includes the APIs. So if you want to build custom applications around the maps that are in your portal.

09:33 So you build that cool web map, that intelligent map. You can build an application around that for your organization…

09:39 …build that into, you know, blogs that you've got internally or build that into websites you've got internally.

09:46 It's…it's open and will continue to move in that direction.

09:49 We've added a number of different services and we'll be…that you can use to put together with maps. I'll be adding to that.

09:58 The product also includes identity management, so with ArcGIS Online we use the Esri Global Account system.

10:05 However, with the Portal product, we've packaged one in there, and I'll give you some details on that in a few minutes.

10:10 It also includes the admin tools. So when you bring this in-house, you're going to need the same kind of tools…

10:15 …that we have to run the online product within your organization, and we've packaged those up. They're included with the product.

10:22 So, it's all about organizing your spatial information for your organization, putting it together…

10:30 …being able to enable people to make those rich maps within your organization…

10:34 …from the authoritative content that you provide into the portal, that you register with the portal.

10:40 And so people have that spot to go to for…or those maps, those basemaps that you want people to start making maps from…

10:47 …or that data that's particular to your organization…

10:49 …or the projects or things that you're working on, that people can bring to that.

10:54 And then they can of course, broadly share those within the organization, working together, collaborating, just like online.

11:03 So let's talk a little bit about when this is a solution versus online or versus the subscription accounts that are coming on.

11:13 Think of this as when you may have additional security demands…

11:17 You may not…there may be reasons not to put data out into the cloud.

11:21 There may be reasons where it's completely collaborative within your organization and you

really don't have a cloud option.

11:27 So there's a number of different types of customers have those kind of requirements around them.

11:32 You also may have a lot of integration that you want to do with enterprise applications.

11:39 Particularly, maybe around security or authentication, and you don't have that in the online option…

11:44 …you want to bring that in-house and be able to…to work with the Portal product…

11:49 …that's open to those kind of things and customization and bring that to that.

11:53 So there's other customization you might want to do as well.

11:57 Witt's going to show in a couple of minutes what the Portal can look like so that it's customized.

12:01 It's very different looking, or it can be very different looking than the online product…

12:06 …so it gives you some flexibility that you don't have even with…when we do do the subscriptions for organization.

12:12 You'll have some customization, but the Portal is going to give you much more.

12:16 Things to keep in mind though, is that bringing it in-house does require you to do the installations and, you know…

12:23 …the care and feeding and maintenance and operations around the infrastructure.

12:27 So you may already have that vehicle to be able to leverage those.

12:30 But those are kind of the reasons that…that drive people to look at the Portal.

12:34 You'd certainly be able to do…create your own carved-out space on ArcGIS Online with the subscription accounts…

12:40 …but with the Portal it's completely yours, and it's completely open to the way that you want to customize it and put it together.

12:49 So with that, let's take a look at the Portal.

12:51 Witt's going to give us a demo and kind of a run through and give you a better feel for…

12:57 …if you're familiar with ArcGIS Online. Now let's take that and look at how an organization might leverage that…

13:03 …considering it completely theirs, how they would put content and things together…

13:07 …how might they make it look that way, and also give you an idea of how people would start to use…

13:12 …search for things, find things, put them together, and create some maps that are very

focused, you know…

13:19 …about their organization, about the products and things that they need to do.

13:23 Thanks, Paul.

13:24 Can everybody hear me okay in the back? Yep. Alright. Great.

13:28 So Portal comes ready to use, out of the box with skin on the arcgis.com interface.

13:36 What we wanted to do today was sort of give you an idea of what Portal looks like…

13:39 …when it's fully implemented for an organization.

13:42 So Clancy Energy is a fictitious energy company, and as an organization they've decided that the…the content…

13:50 …the geospatial information and knowledge that they have in-house is really part of their competitive advantage…

13:55 …so they don't want to let that outside the firewall. That's too sensitive.

13:58 But they still want to be able to have the entire organization discover that, use that, and share that internally.

14:05 So for Clancy Energy, the Portal is really their storefront to their organization's maps…

14:14 …the services and information feeds that support those, other geographic GIS datasets…

14:20 …packages, shapefiles, et cetera, and applications and tools.

14:27 So as a user within Clancy Energy I can come here and I can search for things…

14:31 …I can discover across the organization all that type of information.

14:35 But I can also readily use it, and we'll jump into that in a minute…

14:38 …but as soon as I find something, I can start interacting with it.

14:41 If it's a web map, I can…I can start opening it, I can pan and zoom, and I can do more with it…

14:48 …and I'll take a look at what you can do there in a minute.

14:50 But I can also share and collaborate within the organization.

14:54 So Clancy Energy's decided to create some groups, some sort of official organizational groups, by type of information.

15:02 So assets and facilities, by specific project areas, like Prudhoe Bay for oil drilling…

15:10 …maybe competitive analysis, so they can use different maps to see where their competitors are…

15:16 …and do some analysis there; as well as by function, geophysics, solar energy, other projects,

like Teapot Dome, logistics.

15:25 And so these are places where users can go that are working on like things and access maps…

15:31 …that others have created, share, and benefit from each other's knowledge.

15:37 Let's just jump in and start…start using this. So let's take a scenario.

15:42 I'm production manager in the Teapot Dome oil field, and I have…I should…

15:51 Let me say it first. For those of you who are familiar with the arcgis.com interface…

15:55 …you'll know that when I open up the map, I see a topographic map of the United States.

16:01 And it's a global map, I can zoom around, but it's sort of focused there.

16:04 So one of the things that I've done at Clancy Energy here is said, Well, we're a global organization.

16:09 I want to start with the extent of the world and I want to start with imagery and labels.

16:14 So I've been able to configure my default map to look that way.

16:18 I've also changed the list of basemaps that are available to my organization.

16:22 And this can be a combination of basemaps that are hosted externally, so I have a few here…

16:28 …like the ocean basemap and imagery that are actually hosted by Esri, and I'm just using those.

16:33 Then I have some running on premises. So this geology map is actually running on premises.

16:37 It's a basemap that Clancy Energy actually maintains.

16:40 So it can be a combination, or it can run completely on premises if you want.

16:47 So again, back to the…back to the scenario. So I'm a production manager in Teapot Dome…

16:51 …and I have a spreadsheet that has all of the production data for the month of May.

16:58 I just open that up, and it has information on the wells, it has the location…

17:04 …it has the amount of resources, oil, water, and gas that came out of that.

17:08 And I'm not a GIS guy, but I can find my way around a map, so I want to see all that information on the map.

17:17 So I can drag and drop that onto my map, and I see all of the locations here.

17:23 This is all the data from my spreadsheet now visualized on the map. So I can zoom in and I can start interacting with these.

17:30 All the attributes that were in my spreadsheet are now available here as pop-ups.

17:36 And this is starting to get pretty useful. I can click around and I can see what's going on with these different locations.

17:42 But there's some other more other useful ways to bring that information to life.

17:46 So one thing I'm going to do is, I'm going to configure the pop-ups that I was just looking at.

17:50 I'm going to take out some of the information that's really not applicable to everybody and we'll do that.

17:59 And then the amount of oil, water, and gas that was produced there, I actually want to make that available as a pie chart…

18:05 …so people can get an idea of the relative production for each of those.

18:09 So I'm going to create a new pie chart for production by type, and we'll add oil, water, and gas.

18:19 So now when I start interacting with these, I have a simpler set of pop-ups instead of attributes…

18:24 …and I've got a pie chart that gives me an idea as to, you know, what the relative production of different resources are.

18:32 But when I look at these, I can't really differentiate one from the other.

18:34 I actually am interested in and really focusing on those…those wells that are producing the most oil.

18:41 So let's change the symbol. Oh, let's graduate them by size.

18:46 So I want the ones with the most oil to be bigger, and I can apply that…

18:53 …and now I can see visually which one of these are producing the most oil.

19:00 So now this is starting to get even more useful, not just to me as a production expert, but to a general user.

19:05 They can start to…to see, which, excuse me, which wells in which areas are producing the most oil…

19:11 …and drill into more information as to…as to how those wells are operating.

19:15 But I've just brought in some data, you know, from a spreadsheet.

19:20 There's also other information, other services, and other feeds that are already registered in the Portal…

19:25 …that other people have posted that I may also want to add to the map.

19:31 So I have another group that's actually doing real, you know, geology, geophysical work…

19:36 …and they've created a subsurface interpretation of this region. And they've served that out as a service.

19:43 I can discover that and I can add that to my map.

19:49 So I can adjust the transparency so I can start to see what's under it.

19:54 And now as I zoom in, I can actually start to look at where my big producers are relative to the subsurface, you know…

20:01 …and maybe I'm starting to see that there's areas where, you know, there's…

20:06 …there's wells that are potentially in a really good area that are underused, and this…

20:11 …this can actually start help driving where I'm going to be producing in the future…

20:14 …so I can make better decisions in using this data.

20:17 So this is all sort of in my world here. It's just a map that I've created. I want to share that back out to the organization.

20:23 So I'm going to go ahead and save it. I'm going to need to sign in first.

20:32 And I'm going to save this as May Production in Teapot Dome Production.

20:43 And so now I've saved this web map. This is going into the portal, and now I can come back another time and access it.

20:49 It's one of my maps. But I really want to make this available to the rest of the organization.

20:53 So I'm going to share it with Public, and when I do that, I can take this link now and I can blast this out as an e-mail.

21:00 So I can just copy and paste this link, put it in an e-mail, send it out to all my coworkers, and say, Hey, check out this map.

21:06 Look at this particular area where, you know, we have wells that are in a great region but they're not producing…

21:12 …and they get that e-mail, they click on the link, and it opens up the same map that I'm looking at.

21:18 I can also embed this in a website if I want to get it out to an even broader area.

21:22 So let's say my division or my company actually has another website. It has nothing to do with GIS.

21:28 It has all sorts of other information on it, but this map I think is really, really interesting and I want everybody to see it.

21:35 So I can embed that, this map, into that website by just copying and pasting this HTML in…

21:42 …and as a web developer that's managing that other site, this is a really easy thing to do.

21:47 You may have seen demos of people doing this by dropping this into blogger, for example…

21:52 …and…you just copy and paste that HTML in, and then when somebody goes to access that

website…

21:58 …they get a fully interactive map, the pop-ups that I offered, the symbology…

22:02 …everything will be there and they can actually interact with it in that website.

22:06 And then if they want to sort of drill in more and do more work, they can open that map back up in this application.

22:13 But maybe I actually want to focus in on something even more specific…

22:16 …and potentially bring some more enhanced visualization and analysis capabilities to bear in a focused way.

22:23 So I can…as you make a focused web application using this map.

22:27 So Portal comes with a number of web application templates…

22:31 …which make it very easy to just embed this…this map in an application that does a specific thing.

22:40 So one of those, I'll just bring up here, is what we call a side-by-side map.

22:45 So this lets me compare three maps visually side by side.

22:49 So you all have probably had this experience where you're starting to layer information on top of each other…

22:53 …and you're adjusting transparencies and symbology, and at the end of the day, you have just too much information…

22:58 …and it comes to a point where you actually want to see them next to each other.

23:03 So let me search for other production data, and I've found some historical data for oil production in 1979.

23:10 So I'm going to drag that into my map here, synchronize on location and scale…

23:17 …and now I have a specific application that lets me compare my current production to historic production.

23:22 I can bring in a third map and, you know, bring more information in.

23:26 And then I can save this back out as an application without having to develop anything…

23:31 …and make it available through the portal.

23:33 So now somebody can search, discover historic production in Teapot Dome…

23:39 …and see a very focused application without having to do all this on their own.

23:42 So this is really sort of another way to make that same information available for different things within the organization.

23:52 So the web maps that I'm working with here are…are being saved in Portal…

23:58 …but the cool thing is that, and we've seen a little bit of this in the application…

24:01 …but regardless of what I open the map up in, what application, I'm always looking at the same map.

24:08 If the underlying data for that map changes, the map will change in all of the places that it's embedded and used.

24:14 And that's not just these web applications, so this…so Portal and ArcGIS Online are integrated into the ArcGIS system.

24:22 So as a Desktop user, I can interact with my portal and find that same map.

24:30 So for those of you that are familiar with ArcGIS Desktop, you can sign in and use ArcGIS Online.

24:36 Here I'm looking at a beta version of 10.1, and the capabilities that I'm showing here will be available…

24:40 …in a service pack to 10 as well, but I can actually switch it from using ArcGIS Online to using another portal.

24:49 So I'm going to manage my portal connections, and I'm going to connect to my Clancy Energy Geoweb.

25:01 So I've signed in to Clancy and now I can actually search.

25:04 I'll just note that this is beta so there're still a few places that reflects ArcGIS Online instead of Clancy Energy…

25:10 …but I am connected to Clancy Energy.

25:12 So I can now search for production and my May Production in Teapot Dome map…

25:18 …I can discover within Desktop, open, and I'm going to be looking at the exact same map that I was looking at on the web.

25:26 And the latest release of the iPhone as well, that you can download from the app store…

25:32 …has a setting where you can point it to another portal.

25:35 So, just like all of the applications are integrated with ArcGIS Online…

25:40 …all of the applications are also integrated with ArcGIS Portal…

25:44 …and so you can be looking at the same map anywhere from whatever device you're working with.

26:18 One second here.

26:28 Yeah, that's okay. It'll only take a second to come back.

26:58 So one of the important things to think about there is that with what Witt was showing was…

27:04 …how we took the functionality of ArcGIS Online and all the things you can do there…

27:10 …like search and access, and we've really made those about the organization, right?

27:15 So…so the information that…not only the information that he used, but the workflows that he used…

27:20 …were very much focused on organizational problems or organizational workflows…

27:24 …and the way people will work and the information that they'll want to get at.

27:27 So the access and the search that was there was all based upon information…

27:31 …that within the portal that he's put together for this demonstration, he's very easily defined that information…

27:37 …put it together, make some cool web maps, and do some great things with it.

27:41 The functionality of uploading and styling that information, we only just barely touched upon some of the styles you can use…

27:48 …and things you can do with that data that you bring into it…

27:51 …but certainly all that functionality is available to knowledge workers and other people…

27:56 …who are using your portal just like they would use online, but it's inside the organization.

28:03 He interacted with the map that he created on the Desktop product, but we could also, as Witt said…

28:08 …with the new version of the iOS piece, we could point that device to our portal…

28:15 …and enable people in the field or mobile folks to get at this information on those devices that are connected to ArcGIS as well.

28:22 So that opens up quite a bit of…quite a bit of information to folks out in the field or mobile workers or people anywhere…

28:31 …and so that whole idea of creating that map and being able to do multiple things with it, gets very powerful very quickly.

28:39 And the thing about Portal is that you can kind of get your arms around that and it's not the public website.

28:44 It's not out there. It's all yours, and you're managing that. Certainly those people can interact with those.

28:51 The embedding is also extremely powerful, and that's not only embedding into websites, like Witt was going to do with…

28:58 …with cutting and pasting the HTML, but you can also build applications around this.

29:02 So think how powerful it would be to build a viewer application that people didn't have to go in and necessarily…

29:10 …you know, use the map viewer that we've got.

29:12 You can create one or you can create an application around that using any of the templates…

29:16 …and very easily create a very simple application or very complex application…

29:21 …for people to use that data that's up there in those maps that are created.

29:25 It enables the groups and collaboration of people around projects and around their work.

29:31 And it of course, one of the things to remember is that, with the Portal product you're making this all about your information.

29:37 What's authoritative content to you, and that you want people to start to build from and to start making those maps from?

29:47 Witt used quite a few…few of the pieces of data that you can use to put together…

29:53 …but I wanted to kind of highlight a couple of other ones.

29:57 Just like ArcGIS Online, you can use WMS services, and we'll be expanding other OGC pieces as well as we go forward.

30:05 That's not only online, but those'll find their way into the…to the Portal product at the same time.

30:10 He could have used KML, CSV he showed, and GPX files, as well as shapefiles can be brought in there.

30:17 He used the viewer that's part of the website, but he also could have used Explorer Online…

30:24 …which allows you to bring shapefiles into the map as well.

30:28 Within the system you can share web maps. That's kind of the obvious. You can share all those other pieces too.

30:33 People can…once you register any of those data types, people can go up and find them.

30:37 We can also support kind of a desktop-to-desktop type of scenario as well.

30:42 So for GIS professionals using that type of software, we can share layer packages back and forth.

30:50 There's a whole application side of this too. So that application that Witt put together using one of the templates…

30:55 …we could have registered that within the system too, within the applications area, as well as the maps…

31:02 …and people could find that and we could use that to really promote applications…

31:06 ...not only the ones that we create with the system, but links to any other application that we want to put on there too.

31:11 So we can promote applications within this as well as tools.

31:15 And the thing too...with 10.1, additional tools you'll be able to share and things in there are analytic models.

31:22 So you'll be able to package up an analytic model along with some data and be able to share that within the Portal product.

31:27 You'll be able to do that online as well, but it's particularly interesting within organizations within the portal.

31:35 So let's get a little bit more specific about what's included with the product, what's included with...

31:40 ...with ArcGIS Portal, so that you have a really good idea of...of what's in there and some decisions was...

31:46 ...you start to think about portal and how you put it together for your organization. Kind of what...what's there?

31:51 And overall, think of it as it's basically all there, all the functionality that's online.

31:57 You...there isn't anything that's excluded from that, the viewers and pieces.

32:01 And I'll talk about each one of those in a second. But it also includes the administrative tools.

32:06 So things we use to manage ArcGIS Online are included in with the product.

32:11 Those application templates are all there.

32:13 So as we grow those or put more in those, like the one with the three panes, or additional ones that we put in there...

32:19 ...will certainly be made available in the Portal product as well.

32:23 Now the remainder of the things are either optional or not included...

32:27 ...but basically they're only there because it depends on how you implement this.

32:32 If you implement this and you really don't have any kind of Internet connectivity...

32:37 ...you really don't have access to the Esri-hosted maps, things like the Bing maps, or user-contributed items.

32:46 If you did have Internet connectivity, there's no reason with your portal...

32:50 ...that you can't register any of those and get out what's ArcGIS Online.

32:54 We'll talk about a couple of implementation patterns and how to make that work in a bit here...

32:59 ...but those are only optional because it depends on whether you have access outside or not.

33:04 If you have access to the Internet and you can get at those things, you can certainly register items...

33:09 ...other things that you find there, as well as you can get at the Resource Centers.

33:13 So those are in...it's just kind of a...things to think about with the Portal.

33:20 So as you start to think about and get your head around the Portal and what you can do within your organization...

33:25 ...you need to think of it kind of in three parts. And those three parts are the product itself...

33:31 ...kind of what we've been focusing on, but there's also the content part of that.

33:35 So as I think about my organization, yes, I can set up the Portal.

33:38 I can set up the software. But what kind of data do I want to enable the Portal with?

33:44 Who are all the people that are going to be using it?

33:46 We'll talk about each of the pieces that you'll need in terms of the content, to make that really successful.

33:53 And then of course, implementation. So how do you go about getting it installed?

33:57 How do we get all this content registered and how do I start to train people up and get it implemented and get it going?

34:03 So these are the three kind of...the three areas we'll be focusing the rest of the presentation on.

34:07 So we'll start with the product, and there's really six pieces to the product.

34:11 They show them kind of as puzzle pieces that all fit together here, and we'll break that down in terms...

34:16 ...of what each one is and what each brings to the...to the product in the overall piece.

34:21 But let's take a look at how it might fit in your network first.

34:24 So we have the Portal product on the left-hand side there and all the pieces with that...

34:28 ...and there's a couple of things that are connected to it on the outside.

34:32 Works well with your existing ArcGIS servers, of course. You've got services running there.

34:38 You want to bring those into the Portal. You want to register those or some of those for people to easily use and find.

34:44 So that's how the...the ArcGIS Server, and that can be any of the services that are on ArcGIS Server.

34:49 Those can all be brought into the Portal.

34:52 On the far left side there is the Optional Data Appliance, and I talked a second ago about how if you have…

34:57 …if you don't have Internet connectivity, if you still want to get at those basemaps, the Portal is a nice complement…

35:03 …or complementary product with the ArcGIS Data Appliance.

35:07 The Data Appliance, Witt'll go over exactly what's in there…

35:10 …but essentially it's all those basemaps that we have online delivered as an appliance.

35:15 So you can bring that type of a piece to the overall configuration as well.

35:20 And then finally, the piece on the outside there, is of course, your content.

35:23 All the things that you've got within your organization that you want to get registered…

35:27 …working with the Portal so that you can go out through your customer network…

35:31 …your network, getting at the desktop, the browsers, the smartphones, the iPads…

35:35 …and all the other tablets that are there. So that's kind of how it fits in with your network.

35:42 So let's kind of break it down into each of those pieces and talk a little bit more about each of the pieces…

35:48 …or each of the components of the Portal product. First, what you get is the…the website.

35:56 So we call it arcgis.com, but that whole website and the ability to do some customization through parameterization…

36:03 …or some programming is included with the product. So you get that piece. You can customize it to a degree.

36:10 You can do all kinds of work on top of that and you can make it look like your own.

36:13 You can make it look like other websites that you've got within your organization.

36:17 That's really where people begin. That's where they go.

36:20 If you want to make it look like it's yours, want to make it user friendly to your…and customize it around that.

36:25 The other piece of this that I've included in here, in this slide, is the viewer and ArcGIS Online.

36:31 So that viewer that Witt used when he went to make a map and put things together, that's of course included with it.

36:37 That's built into the website. But the other part that's in there is Explorer Online.

36:42 Explorer Online's a little bit more powerful, a little bit more functionality…

36:46 ...in terms of what somebody can do with it, but that's included in there.

36:50 How you name that and what you call that, you can certainly call that something else or you can...

36:54 ...if it's too powerful or too much technology for some folks, you can also exclude that, but it's included in with the product.

37:01 So things like you see, when people put together online presentations, that are those live presentations...

37:06 ...that's all included in Explorer, and that's all in with the Portal product.

37:14 I talked about this a little bit earlier, but the APIs for building applications around these web maps...

37:21 ...and around the Portal that you would implement, are included with the product.

37:24 So you get those to be able to create those internal applications with JavaScript, Flex...

37:31 ...Silverlight, you get those as part of the product.

37:34 You can build stand-alone applications with that, you can build them into web apps...

37:38 ...you can actually take this out and use the mobile APIs as well.

37:40 So, lot's of things you can do. So it's not...the Portal isn't limited to just what you see that we can do with the viewers.

37:47 You can create those maps and those viewers, build those intelligent maps...

37:51 ...and then use those within applications that you would build on top of that, because that's all part of the product.

37:59 Now the administrative tools are what we use to...and they are the core of what we've put together for the product as well...

38:06 ...so things that you need to maintain the databases or the users behind that...great tools for administering users...

38:14 ...managing the data, and we'll show those in the next demo, and how that looks like and how easy they are to use.

38:20 Comes as a console, so it's ready to use.

38:24 You can use the console to manage this system or there's an API that uses REST to get at that console of information...

38:32 ...and build that perhaps into another console, or some other way of doing this, or build an application around that.

38:36 The choice is yours. You can use kind of what comes out of the box...

38:39 ...but you can also build your own administrative workflows around that.

38:45 Now this is an…an important piece, and this is the Identity Store.

38:48 Obviously, when we have ArcGIS Online, we have the user accounts that we store within the Esri Global Account system…

38:57 …and that doesn't work in terms of when we deliver this as a product for the portal.

39:01 So what we've done is, we have built in a component to the system delivered out of the box that has one.

39:08 But it's also a component that you can switch out, that you can use other identity systems with it…

39:15 …with some customization, with some services work you can actually do that.

39:18 So we've built it in as a component because we had to separate that from the one that we use on the web…

39:24 …so that you can use one internally, but it can also be customized around your organization.

39:28 And Witt will show you an example of that in a second.

39:32 And finally, the sharing services. So this is the software behind it.

39:36 This is the, you know, the group management and participating in groups, the catalogs…

39:41 …the searches, all that piece, so all the software behind the website and things like that.

39:46 Now, the interesting part is, yes, of course, that website consumes those types of sharing services…

39:53 …but it can also be accessed with an API through REST, and you can build applications around that.

39:59 So you've got the Portal, but you don't necessarily have to expose it using the website or using the viewers that we've got.

40:05 You can use these to build your own customized piece or build this into another enterprise application.

40:12 So let's take a look at those. We'll take a look at some of the pieces I just talked about…

40:16 …and get a little bit more detail around those.

40:23 Do you need the power?

40:25 I think I'm okay.

40:28 Yeah.

40:30 Thanks, Paul.

40:33 So, earlier we looked at the website and web applications quite a bit…

40:37 ...so as Paul said, I just want to touch on a few of the other product components.

40:43 So for the administration, I'm going to log back into the website.

40:46 I logged out from my earlier session, and I'm going to log in as Geoweb admin...

40:51 ...which is a...an account that was created and nominated as an administrator account.

40:58 So when I log in as this admin, I'm brought to an administration page...

41:02 ...and that's available if I were to go back to another area of the site...

41:05 ...I could always get back here by clicking on the Administration link.

41:09 And so here I can actually start managing users within the system.

41:13 I can invite users via e-mail, so I want to make this aware...

41:18 ...make everybody aware of this and give them an easy way to just, you know, sign back in.

41:23 I can broadcast out to a list of e-mail addresses.

41:28 And then once they're in the system, I can...I can actually manage them.

41:33 So we have this notion of a role within the system. Somebody can be a user, a publisher, or an administrator.

41:41 If somebody's a user, they can log in, they can join groups, they can create web maps, save web maps, and start to collaborate...

41:50 ...but they can't actually publish new services, new datasets, new packages. That would be a publisher.

41:57 So as an administrator, I can...I can control, you know, the level of capability that every user has.

42:04 But I can also do other things. I can manage the groups and the content within the system.

42:09 So let's say Paul has to leave the organization and when he leaves the organization...

42:14 ...he does so really quickly and he forgets to basically get rid of all his groups and contacts.

42:19 And so he's gone, and now this user Paul is stuck owning this content...

42:24 ...and I need to actually transfer that to somebody else so that that can continue to be used.

42:29 So I can come in and I can manage Paul's content. So now I'm an administrator actually looking at Paul's contents...

42:37 ...and I can select all this content and I can move this to a new user.

42:48 I can also manage the groups. So I'm going to take a look at all of the groups that Paul owns.

42:54 He owns one on solar energy, and I can change the owner of this to another user within the system.

43:07 So really the sort of things that you'd expect from a content management system, you know…

43:11 …this is maybe not day-to-day activity, but there's a lot of content management…

43:15 …that needs to go into keeping this thing working properly.

43:19 The management of users, things like deleting an inappropriate content, or comment, I'm sorry…

43:25 …maybe unsharing things that were shared inappropriately, all sorts of things, the things that come up…

43:33 …the things that we do with arcgis.com, a content administrator would need to do within the system…

43:38 …and they can use this administration console to do it.

43:42 Also, sitting behind this, both the administration and the main website, is the sharing API, or a REST API.

43:52 This is a REST API, much like the ArcGIS Server REST API…

43:56 …but it's there to support the searching, the sharing, the groups, management of content…

44:03 …all the capabilities that I have within the applications, it's using the REST API behind the scenes.

44:08 So this is being used both by the website as well as by ArcMap by the iPhone…

44:12 …and this is basically how all of the clients interact with the Portal technology.

44:19 So it has a sort of an HTML front end, sort of a services directory, much like the ArcGIS Server Services directory…

44:28 …and so I can search here for production, and I find the Teapot Dome in May…

44:33 …same…same capabilities that I saw through the website, but here I can actually get the response back in JSON.

44:41 Though what you'd expect from a REST API, this is something we're working to get fully documented…

44:46 …and have an SDK for…so that you can actually take…take that SDK and start building the capabilities for searching…

44:54 …and saving and accessing groups, for example, into your custom applications within your organization.

45:00 So you could look for, at the DevSummit next year, sessions that go into how to use that SDK.

45:07 Last thing I wanted to show was the identity management, something Paul alluded to earlier…

45:12 …and I sort of glossed over this a couple times.

45:15 You noticed me sign in twice, and I'm not signing in to the Esri Global Account.

45:22 Here I've actually…I integrated the Clancy Energy Geoweb with an LDAP server.

45:28 So this is actually wired up to an LDAP server, so when I log in as wmathot…

45:34 …it's actually authenticating me against an LDAP behind the scenes, and my e-mail address, full name, my profile…

45:40 …if you will, from LDAP is reflected in the portal. So you don't have to manage two sets of accounts.

45:47 And so then I'm not actually creating accounts within the Portal.

45:50 I'm creating my accounts within LDAP and I can just register my LDAP account in here…

45:55 …when I want to start interacting with things and become a user or publisher within the system.

46:00 This is a case where an organization already had a user store and identity management system that I wanted to integrate with…

46:08 …but what comes out of the box is the capability to just start creating users.

46:11 And you provide that full name, e-mail address information, and once you do that…

46:16 …you're in there, and yeah, you can start doing things…

46:19 …and an administrator can promote you up to a publisher or another administrator.

46:24 So you really have that capability to get started out of the box or switch it over to your enterprise identity management system.

46:38 So Paul talked earlier about there being really three parts or three considerations for implementing ArcGIS Portal.

46:44 One is the product, and that's effectively what we just walked…walked through.

46:49 The next is content. So Portal doesn't actually come with content.

46:57 But there's really three types of content that really…we see from our experience with ArcGIS Online…

47:02 …that are really, really important to making a Portal implementation successful.

47:07 I think two are obvious and one's maybe not so obvious. So basemaps are definitely a requirement for Portal.

47:15 You can use our online basemaps as I said earlier, or you can use basemaps that are hosted on premises, or a combination.

47:22 Basemaps are really necessary to support, you know, the integration of content, providing a good…

47:29 ...seamless coverage basemap to see all of your operational content on top of.

47:35 There's also user-contributed content. So the May production data that I dragged onto the map...

47:40 ...or maybe the subsurface interpretation.

47:43 The things that users within the organization are doing that have high value...

47:47 ...and want to be shared back with the rest of the organization to integrate.

47:52 The one that's maybe not so obvious is what we call here, foundation content.

47:58 Couple people like to call this dial-tone services.

48:00 There's another thing that we talk about here. But this is really the, sort of the...the...the reusable...

48:08 ...the highly reusable, highly valuable sort of authoritative operational content that you have within your organization.

48:15 So for Clancy Energy, this could be a map of all their...their...their windmills, or a map of all their facilities, a map of all the pipelines.

48:27 And these are really these operational layers that...there's really an authoritative data source within Clancy Energy.

48:33 It's not just some user, you know, generating a pipeline shapefile and dragging it onto the map.

48:38 This is really their corporate pipeline information, and users within the organization...

48:44 ...are going to expect that to be online and available all the time.

48:48 And at Esri, within ArcGIS Online, we actually put a lot of effort into making sure...

48:53 ...that we have good foundational content in there.

48:56 An example would be, you know, the demographic maps...

48:58 ...so the Tapestry maps and those sorts of things that you can find in ArcGIS Online.

49:03 They're just useful in a lot of different contexts, and that's something as an organization...

49:08 ...definitely need to think about sort of curating and making available to the rest of the...rest of the users.

49:15 Paul talked a little bit about the Data Appliance. We're not going to go into it in detail here...

49:19 ...but this is...this is an option if you want to bring all of the basemaps on premises.

49:24 You like the ArcGIS Online basemaps, but you really want that all running in-house.

49:28 This is really the solution and this is something that's available today. So it's a hardware

appliance.

49:34 It can optionally come with ArcGIS Server, so it's really plug and play.

49:38 Or if you have a server already, you can just get the data on an as device effectively.

49:44 And it has the imagery. It has the streets.

49:46 It has the topographic data, and it has some other, you know…

49:50 …reference data and some other of these dial-tone services on there as well.

49:55 So this might be an option if you're really interested in the basemaps specifically.

50:00 So the third consideration for Portal is really implementation.

50:05 You've got the product, you have content. Now you need to bring this to life on your network.

50:09 So what are some of the things you want to think about there?

50:12 Well, one is the…the hardware and operating systems that it runs on.

50:17 So in terms of supporting operating systems, it runs on both Windows and Linux.

50:21 In both cases, it does require a 64-bit operating system and infrastructure.

50:26 We support Windows 2008 and R2 as well, and then a couple of different flavors of Linux here, Red Hat and SUSE.

50:36 In terms of the infrastructure required to run Portal, it's fairly lightweight and fairly efficient…

50:44 …so a machine with four cores and four gigabytes of RAM, just to give you an idea…

50:49 …can support about a hundred concurrent users. So this is people actually using the site at the same time.

50:57 It does run in a virtualized environment.

50:59 So you can run it on VMs and you can scale it out as you go. So you can run it on a single machine.

51:07 You can distribute it, so you can take the web and application business logic components and separate that from the database.

51:13 And you can also set it up in a high-availability configuration, where you have…

51:17 …you know, load balancers load balancing the web servers or database replication.

51:22 And this is really what we do with ArcGIS Online. So in terms of the sort of the proof in the pudding that this works is…

51:29 …this is actually how we architect ArcGIS Online, which is really, as Paul said, the same technology.

51:35 For ArcGIS Online, we have two database instances that are replicating with each other…

51:39 …and then five web servers with load balancing in front.

51:42 And that's how we provide, sort of an…the "always on" capability with ArcGIS Online.

51:48 There's a couple of different patterns, we'll call them, for implementing Portal.

51:53 One is what we call sort of the private…private cloud implementation, in which everything is running on premises.

52:00 You really don't want to rely on any external services…

52:02 …so you want to bring everything within the firewall and have no external dependencies.

52:07 So in this case, your Portal is running on premises, the basemaps are running on premises…

52:12 …the content is running on premises, and you're not going out to the Internet for anything.

52:17 And this environment is supported. You can run completely disconnected from the Internet.

52:23 There's also what we typically refer to as a hybrid model, sort of like a hybrid cloud…

52:28 …in which case you have a Portal running on premises so that you can search and share content across your organization…

52:36 …that never actually leaves your firewall, but still connect to and rely on some external services.

52:42 Those might be external basemaps. Those might be external content services, like for example…

52:48 …you know, live weather data from NOAA that's provided as a service.

52:51 You may actually find value in that, and you're not going to try to manage all the weather data in-house…

52:55 …so you rely on their external service.

52:59 And then you may also want to connect back to the resource centers, which is also an option.

53:04 So these are two different patterns and it really boils down to how much of the capabilities…

53:07 …you want to bring within your network, and these are both…both supported patterns.

53:14 And lastly here with implementation, we wanted to give you an idea of what are some of the common implementation activities…

53:19 …that would actually go on to bring Portal to life within your organization. These aren't all required.

53:24 Some of them, like installing it, is obviously required, but some of them are optional.

53:29 So when you're initially rolling it out, you want to think about making sure you have the right

infrastructure in place.

53:34 Installing and configuring the software. Skinning the website to meet your organization's standards.

53:42 Potentially integrating it with your own LDAP or active directory security infrastructure.

53:48 Maybe you have a catalog right now that already has a bunch of content registered in it…

53:53 …and you want to migrate that catalog to Portal, or potentially you want to integrate the two.

53:59 You actually want to synchronize some of the content that's in this catalog, or content management system…

54:05 …and make that available within Portal so people can discover, mash that up, and share in that context.

54:11 Those are things that you can do and something you'll want to think about as part of the initial rollout.

54:15 And then, of course, putting the content into the system. So that's…that's key. I mentioned Portal doesn't come with the content.

54:23 You would really be bringing your organization's content to the Portal. So that also needs to be done.

54:30 And in terms of keeping Portal up and running, sort of sustaining it within your organization…

54:37 …you'll want to be thinking about building these basemaps potentially and definitely the foundational content.

54:45 So that's really key to making this successful, I think.

54:50 Also building applications and tools. So, Portal has these web applications in it.

54:56 There's the Map Viewer, there's Explorer Online, and then there's the web application templates. They're fairly generic.

55:03 Maybe you actually have a very targeted function that you need to perform and you want a, you know…

55:09 …simple, sort of an app for that, like a simple application, very targeted at that user base.

55:14 So you may want to think about just using the web APIs for authoring, or for building that application…

55:20 …and then registering it in Portal as sort of an out-of-the-box web application, or registering it as a template.

55:26 So as a user authors their map, it's readily available to share in that app…

55:31 …so that a user that comes to the system can open it up, ready to use with specific content as defined by that other user.

55:39 And then of course, operations and maintenance.

55:40 So this is both the content management that we talked about with the admin tools…

55:44 …as well as just maintaining the system database backups, that sort of thing.

55:51 So in terms of availability, when can you get your hands on Portal?

55:54 The product release will be in August, so right around the corner.

55:58 And the initial release will require a jump-start package, so that's really for us to help you get it installed, help you skin it…

56:07 …get the content loaded, do some technology transfer and training.

56:11 One of the reasons for that is that the installers aren't quite ready yet for Portal.

56:15 They're in the works, but we didn't want to hold the product release up for the installers.

56:19 The installers will be available later this year and so it will be available in a completely, sort of self-service install mode.

56:26 So I'd say if you're really interested, you can get started right away.

56:31 If you're really looking for the content to the basemaps, then that's available now.

56:35 The Data Appliance is available and has been available, and I think there's a…over by the Online GIS…

56:42 …if you're interested in the basemaps, you can come over there, and I think they have an example set up on display.

56:48 And then if…maybe your data's not so sensitive that you need to have it all running within the firewall…

56:56 …you kind of like this idea of not having to host your own software on your infrastructure…

57:01 …like to move to software-as-a-service [SaaS] kind of model…

57:04 …then I would definitely consider the new ArcGIS Online subscriptions that were announced at the Plenary.

57:11 These are going to be going into beta in August and so there's an opportunity to get in on that beta program and start using this.

57:17 And so you'll have really the same capabilities that we showed with Portal, but in a hosted fashion delivered to you as a service.

57:28 Want to just wrap it up?

57:31 So before we get to questions, which we have a good amount of time for…

57:36 …I wanted to point you to a couple of areas, or a couple of places you can get more information…

57:40 ...both about ArcGIS Online, about the Portal, and whatever else we've talked to you about.

57:47 We've got a whole...a lot of people here who can help.

57:51 First, I guess, the easiest way is to go on ArcGIS Online and get started.

57:55 If you don't have an account, get an account and try it out and feel it for yourself.

57:59 I don't think there's anything quite like just trying it to get a good feel for it.

58:04 Downstairs, demo theaters.

58:06 There's a whole schedule of both Portal, ArcGIS Online, and a number of other topics that are related to this.

58:11 So go to those and see more in-depth demos than we've been able to show here today.

58:17 The other technical workshops. There's one tomorrow on ArcGIS Online.

58:21 Actually there's several going on, on ArcGIS Online.

58:24 So what you see there, you can certainly transport the idea of using that technology for the Portal as well.

58:31 And watch for that beta for the organizational subscriptions, if you'd like to participate in that, and that's coming up fast.

58:38 The best way to do that is to go to betacommunity.esri.com, register, and watch for the piece that'll pop up...

58:44 ...and it'll tell you that that's now available and that you want to participate.

58:47 Just click on there and I'll get a message and we'll get you going on that.

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