

Creating an Effective GIS Technology Strategy

The need for enterprise-level strategic planning to incorporate GIS into existing business systems is becoming increasingly important. This session will outline the fundamentals and considerations in developing a technology strategy as a foundation for building business solutions using ArcGIS technology.

<http://video.esri.com/watch/71/creating-an-effective-gis-technology-strategy>

Video Transcription

00:01 So this session is creating an effective GIS technology strategy, okay?

00:06 It is correct in the online agenda, and it's correct on the agenda I was given, but on the little one...

00:13 ...that comes with your badge, it appears to be incorrect.

00:18 Okay, so, well, good afternoon; I hope you're having a good conference.

00:21 My name is Andrew Hendrickson; I've spoken to some of you already this week.

00:26 I'm going to be presenting today on a technology strategy with my colleague Andrew Sakowicz.

00:31 He will do some work at the end of my presentation, in actually showing and demonstrating...

00:38 ...what I'm talking about preceding him.

00:40 Okay, so what am I going to be talking about?

00:43 This is kind of part 3 of a couple of presentations that I've done this week.

00:49 So my goal today is to characterize GIS in the enterprise, okay?

00:55 It's a kind of weave a story around a discovery process.

01:01 I want to do that by giving you an architectural vision for the ArcGIS platform.

01:07 ...in the context of some patterns. These are the same patterns we've been discussing in each of the previous sections.

01:13 Don't worry if you weren't in previous sections; I will explain them again.

01:18 There's an approach, okay, there's an approach that's roughly, you know, routed in an enterprise architecture framework.

01:25 And I will describe that today, much deeper than I've described it in previous sessions.

01:31 We will go through what business architecture means. What is information and technical architecture?

01:35 I'll talk about governance. And I'm going to talk about some tools too, alright?

01:39 So we're going to correlate in an information-gathering context, how can you apply information that you're building...

01:47 ...via this discovery process.

01:51 And of those tools, we've got a number of resources, we've got a solution planner tool that we're going to kind of show.

01:59 So the business enterprise, okay, I want to set some context, and another agenda I have today is to really...

02:06 ...to start to push different ways of thinking on you.

02:10 Those of us in a GIS domain, we haven't always interacted at a very high level with IT, although we may serve IT.

02:18 We may be part of IT, okay, but we may not be fully of and within.

02:23 I want to give you a way to drill in and to build some knowledge, to begin to communicate at that level.

02:30 Not denoting that one is of a higher evolution than another; that's not what I mean.

02:35 Alright, so what is the business enterprise? It consists of functional departments.

02:40 People and systems, right?

02:43 Stovepipes, does anybody have stovepipes in their organization where data is stored, right, different areas?

02:48 Do you think data repeats itself across those stovepipes? I'm seeing lots of heads go yes.

02:52 Okay, so we need to recognize this. So successful enterprises have a free flow of information.

02:58 That doesn't mean that you lose, you know, ownership of a particular dataset.

03:04 It doesn't mean that you're not the subject matter expert with regard to the way a certain dataset is utilized.

03:10 It just means that other organizations might need access to it in a different manner.

03:15 So I think this is a very important concept. The word enterprise, to me, is not a proxy for size, okay?

03:24 I don't, when I say enterprise, I don't mean you have to have a minimum of 300 people in an organization, or a minimum of 1,000.

03:30 That's not what I mean. It's more of a train of thought.

03:35 So an enterprise, to me, can be a group of six people serving a business workflow for some sort of organization.

03:44 So GIS, it has an extremely enormous amount of strategic and tactical value when it is embedded deeply, you know...

03:52 ...into systems within organizations.

03:55 Almost to the point where it is abstracted far enough that the end users don't know they're even using GIS.

04:01 In a business organization, okay, we still require a domain supporting this, but the end users...

04:07 ...primarily, they may not even know it's GIS.

04:10 So a lot of benefits occur by treating it in a manner that it can be supported to serve the business back in that way, right?

04:18 So what is it in the enterprise? I argue an architectural approach, it's a workflow-based architecture...

04:24 ...where geographic data and services are integrated, right, and shared access across an organization exists.

04:31 Or at least it's been agreed upon, okay?

04:34 I have to say this, there are some chairs up front, and mixed in.

04:40 Oh, and something else I forget every presentation. There is a survey; please fill it out at the end. Okay.

04:47 So facilities management, land records at...

04:49 You know, I don't really want to force myself on any particular vertical.

04:54 I believe that this type of process is necessary across any industry, okay, or any vertical market, right?

05:02 It's not specific to a utility or specific to, you know, a small government.

05:08 So the enterprise-wide use of a GIS in capability should be governed as part of IT, okay?

05:14 Who's part of their IT department in their organization?

05:18 Okay, I would call that maybe 50 percent of hands that went up.

05:23 That's up from years prior I would argue.

05:26 So there's an organizational concept to this aspect.

05:30 There's an infrastructural aspect to this.

05:33 So what is the infrastructure that we need to enable the ability to support the business

enterprise?

05:40 What I will argue is that we have started here in the past.

05:44 We've said, okay, I've got business with x amount of people in it; I need to get this size machine.

05:49 The refrigerator machine, right? I need a big, honking machine, right?

05:55 And we'll build something and the business will come to it.

05:56 I argue that that is not necessarily a good approach in this day and age.

06:01 We need to grow GIS throughout the organization, okay?

06:03 So the infrastructure will grow as well as needed if we do this correctly.

06:08 So managing your GIS as a platform instead of an application. Make sense? Alright, very different approach.

06:16 So tactical growth over time. Okay, what do I mean with this statement?

06:20 So broad access for your business enterprise to the data and to the geoprocessing.

06:25 So the GIS domain remains extremely relevant; you are the subject matter experts that can author geoprocessing...

06:32 ...that gets served out to the bigger business.

06:36 So this common infrastructure, to build out and deploy GIS, what do I mean by common infrastructure?

06:41 I'm really kind of looking at this from a funding perspective, to be honest with you.

06:45 Common in the sense that the business enterprise owns it.

06:50 But it's funded in the same manner across departments.

06:54 This is important, right, so economies of scale through organizational use.

07:00 Often the best technology to integrate disparate systems is GIS; by nature, GIS becomes integration technology.

07:08 I don't mean it's an enterprise service bus, okay, but it is integrating technology by virtue of what it is and what it does.

07:15 Takes datasets from multiple different places and puts them together, spatially enables them.

07:21 So I'm going to promote a lot today the notion of reusability, right, so build once, use many times.

07:29 Do we need multiple basemaps in an organization? No, we probably need one.

07:32 But we need the organizational components to talk to one another and figure out what that

basemap should look like.

07:38 Alright, so it's also very important to obtain a business sponsor, okay, at the proper level.

07:43 I will go into this in depth.

07:48 So a successful strategy requires a plan. Remember, our topic today is about strategy.

07:56 So a baseline needs to exist. What do I mean by baseline?

07:59 I don't mean baseline benchmark, per se. I mean a baseline for what exists.

08:04 What do you have today? What are you supporting today?

08:07 Both from an infrastructural standpoint and from a data standpoint and from a business process standpoint.

08:15 So I want you to be able to realize that it's okay to embark on a process of discovery.

08:22 And to do so, you should probably begin to think about promoting a series of events...

08:27 ...with the intent to investigate your current implementation of GIS.

08:31 This is a little different from a GIS grassroots organization, which we have had in the past.

08:36 That's not necessarily what I'm referring to. It could be handled through a center of excellence or something like that.

08:42 They don't really mean a GIS users' community; that's not what I'm referring to here.

08:48 So I want to promote, you know, assessment and requirements gathering sessions for you...

08:53 ...to validate the technology implementation that you have on-site as a baseline to begin with.

08:58 And from there, you can move ahead and begin to do gap analyses.

09:03 Doesn't this sound exciting? [Inaudible audience comment] Painful! Well, I'm going to help you, right?

09:13 And realize it is painful, but it's more painful to commit to it than it is once you embark.

09:19 Because I'll be honest, realization of what's really going on is quite rewarding.

09:25 And one of the concepts that I like to talk about is architecture, okay?

09:30 This quote, I think, is very interesting.

09:31 So "computer architecture, like other architecture, is the art of determining the needs of the user of a structure...

09:37 ...and then designing to meet those needs as effectively as possible within economic and technological constraints."

09:44 Right? Architecture's the glue to me in my approach, okay? Why do I share this quote with you?

09:50 If you could read it, if I was a better PowerPoint slide maker, you would see that here the date says 1962.

09:59 And it comes from a gentleman who worked in a department called the Machine Organization Department.

10:05 This isn't a new concept. We're just going to apply it to the maturity of the technology today.

10:14 So I need to do something kind of interesting for a second here.

10:25 [Audio] Some people like to climb mountains. I like to build planes, in the air.

10:35 I grew up wanting to be on a plane, wanting to be at this height.

10:39 Sometimes the temperature up at altitude will reach 60 below. It's brisk; it's refreshing.

10:45 You never know what you're going to come across up here. Canadian geese, mallards, owls.

10:52 These people back here, that's why I come to work. That's why I build airplanes in the sky.

10:57 We're not just building a plane here; we're building a dream.

11:02 I love this job.

11:06 I don't get a lot of thanks up here, but I look over there and I see that little kid, that look in his eyes...

11:11 ...that's all the thanks I need. [End audio]

11:19 Okay, I had to actually hold that up because I don't have an audio feed coming out.

11:26 I use that, because in a sense, we've been doing that for years, okay?

11:32 Anybody feel like you've ever built a plane while it's flying in the air?

11:36 That's a lot of hands, okay? We don't have to do that, and it is scary.

11:43 So let's embark on a path of discovery and just pretend that you might be able to do it today, okay?

11:48 And I'm going to feed you some steps and some process, alright?

11:50 So the need for discovery, the who, the what, the where, the why, the when.

11:54 The questions and the answers. So now what?

12:02 Execution of any plan requires buy-in, right? Understand where you are, okay?

12:08 Understand where you're going, identify barriers to progress, and develop the strategy.

12:16 Seems, obvious, right? It's not easy to do, but your leadership needs to buy in to this.

12:22 At least your direct leadership, because you need to spend time on this.

12:26 And if we don't see value in it, then you won't be able to achieve it.

12:31 So let's dig in.

12:36 This is a process; these are the steps that I use when I work with clients to develop an architecture.

12:43 Which is ultimately turned into an implementation schedule, which is ultimately implemented.

12:49 I begin with a platform vision for ArcGIS and for GIS in general; I will show that to you.

12:57 Number 2, my second step. Once I've laid out the vision, I start to dig into business architecture.

13:06 Then I dig into information architecture, and technology architecture as well.

13:12 Second, do you see how I'm starting from the top down?

13:17 To the left, you see this little influencer that I have noted here as SLA.

13:23 For those of us who weren't in a previous session with me, you know, service-level agreement...

13:28 ...okay, what is the expected uptime on a particular business process.

13:33 Or also the SLA can exist on what? It might exist on the hardware, okay?

13:40 Or the database, or the SAN, right? Or all the above, right?

13:45 But what happens if the SAN SLA doesn't match the business process workflow expectations?

13:50 We see this a lot, okay, where we're expecting to have a web map available 24/7 but we've only got DBAs...

13:57 ...that can move around table spaces between 8:00 and 5:00.

14:02 I'm seeing genuine laughing out there right now.

14:04 But, you know, this is organic growth; this just happens, okay?

14:09 It's not right or wrong, so, you know, this is this notion of evolution again, okay?

14:14 As we're architecting a new system, let's ask those questions first.

14:18 So we know if I'm told that my web map needs to be up 24/7...

14:22 ...then I'd better have some redundancy in my application server, right?

14:27 And maybe I don't want a direct connection going back to my database; maybe I want to decouple them.

14:31 We'll talk more about this later.

14:33 Now I explode out the technical architecture; why do I explode that one out and not the rest?

14:37 Because by the time I get to this point, and we start talking about platforms, here's where I'm able to go back to the business...

14:44 Okay? ...and confirm what I heard for the business architecture.

14:48 I need to confirm this, right? This is what I think I heard; am I correct?

14:54 Because now I have the baseline; I know what exists.

14:59 Probing on opposing views is really fun; you can cause arguments.

15:07 But at the end we're all friends, really, so, you know, but by probing on opposing views, you get to do just that.

15:14 You know, this projector's in front of me, but I see it differently than you do.

15:17 And you have a different perspective than I do, and you have a different perspective.

15:20 But it's still a projector, right, so that's what I mean by probing on opposing views, right?

15:26 Then from there I create a conceptual architecture and a service abstraction.

15:31 So if I've chosen to integrate with other business systems with web services, which is a contemporary way to do it today...

15:39you know, I want to tell the business, well this is my API.

15:43 And today if you've deployed ArcGIS Server, you have a published API based on an IT standard that's RESTful.

15:50 Or based on SOAP or OGC. You can already communicate with IT folk much better than you could in the past, right?

15:56 This is a standard type of technology.

15:59 Alright, so here, you know, we need to go back and review that conceptual architecture and document the gaps.

16:06 What do I call a solution for my clients?

16:09 I call a solution a combination of core or partner technology from Esri, data, professional services.

16:18 And we have to remember that, in terms of services, there's a big difference between integration, implementation, and configuration.

16:26 They're orders of magnitude different, okay?

16:28 So that's what I mean below that, so when I'm thinking about a solution...

16:32 ...my solution for my customers, internal customers or external customers, you know, is there migrations involved?

16:38 Is there implementation, is there the effect of change management, that just, that can disrupt me, okay?

16:43 And what are the best practices that I have to employ when I'm considering IT best practices

and behaviors?

16:49 So I want to influence the planning within the IT domain.

16:53 So building that trusted partnership, I mentioned this earlier.

16:56 I want my production DBAs to trust my SDE DBAs.

17:01 They should realize that they're one and the same person; they're not separate.

17:08 So that promotion of that team approach and discerning the handoff for where and when this...

17:12 ...thing that we're talking about should be built. So here, I'm going to dig in, alright? I told you I'd dig in.

17:18 So use the ArcGIS platform vision when you do this, okay?

17:26 Might argue that this is not an architectural diagram.

17:30 Well, let me show you how it is an architectural diagram, 'cause there's different types of architectural diagrams.

17:36 So all the way to the left, you see asset management, or sometimes I refer to it as data management.

17:42 The collection and organizing of information or spatial assets.

17:45 You're storing them in what we call a geodatabase.

17:48 Or a database, you know, with a spatial data type, right, it's in a database.

17:53 So the ability to store something in one place and reuse it many times.

17:57 As you move to the right, right?

18:04 So, you know, planning and analysis, taking information, data, and transforming it into actionable information.

18:10 Let's correlate this with the concept of geoprocessing, okay?

18:14 I'm going to be very servercentric in this conversation 'cause we don't have a lot of time...

18:18 ...but the geoprocessing framework and building a model and deploying it via ArcGIS Server in this case.

18:23 Field mobility, getting information into and out of the field, whether it's with ArcGIS Mobile, right, or ...

18:30 ...an iPhone or something, but, communicating back and forth from the field.

18:34 And then the last one is operational awareness.

18:37 Taking information and visualizing it and mashing it up together, putting it into a web viewer.

18:42 I think this is architectural. Why?

18:44 Because the technology performs differently, depending upon the pattern of usage.

18:50 We've worked with a lot of clients over the past few years regarding these patterns.

18:55 And in each and every case, our technical workflows that are orchestrated behind the business process...

19:01 ...fall into one of these patterns of usage, okay?

19:04 So by identifying your technical workflows and applying them to each one of these buckets...

19:10 ...we can do neat things like realize, hey, wow, I have 2,000 users in operational awareness...

19:15 ...and I only have 12 people editing data.

19:18 Maybe I shouldn't design a system for 12 people that 2,000 people are going to hit, right?

19:25 Because the SLA is different for this pattern of usage versus the data management pattern of usage.

19:33 I'll come back to this. You need to communicate to the business; you need to write. You don't have to write a lot.

19:42 I know you can't read this; it's okay. I'll describe what it is, alright?

19:46 This is just simply a summary of a proposal to do an assessment within an organization...

19:52 ...from an enterprise architectural perspective. So what I'm doing is I'm elaborating to the business...

19:57 ...and I'm saying, "These are my goals; I want to talk to the business stakeholders," okay?

20:02 I have 1 through n goals to accomplish, right? I want to validate a current deployment.

20:08 I want to identify short-term prescriptions so I can just put to sleep, you know, problems that keep bubbling up all the time...

20:15 ...so that we can move on to a proper architecture.

20:17 And there might be other goals that are tailored individually to each of your organizations, okay?

20:21 Deliverables, tell 'em, tell the business what you're going to give 'em.

20:24 You're going to get an architecture diagram, you're going to get a proposal, you're going to get, you know...

20:28 ...some sort of ROI prediction based upon what I'm learning from the business.

20:35 So, inform, invite, interact with your stakeholders. Figure out how they're measured.

20:42 Conduct formal sessions. What's on the screen right now is an actual agenda.

20:49 Some of you folks that I've worked with on-site are seeing this and going, wow, this is what he used with me.

20:53 Yeah, it's the same thing I used with you, right?

20:57 This is an agenda, and it lists out very specifically by task what I want to do.

21:02 And what the required resource is that should be in the room with me.

21:06 And I ask relevant questions for the business, right?

21:09 A lot of times, my business owners or business stakeholders, they don't know what Arc Arc Arc Arc is, right?

21:19 So we need to start thinking more about a solution across your enterprise than a feature/function/product standpoint per se.

21:27 We need you to remain product focused, right, within your domain.

21:32 But when you're communicating with the business, let's just figure out what we need to do to solve the problem.

21:40 So a target landscape for IT. I will read these, 'cause they're...these screens are really small.

21:45 I don't know why I got these mini screens in this room.

21:49 What is this trying to show? Coming across from left to right over here, I've got a timeline.

21:54 And then going down, I've got level of detail increasing, okay?

21:58 On the top, this cube is trying to show an architectural approach...

22:02 ...so the first abstraction is the four patterns, those four patterns that I just showed you.

22:07 We need to align those with your business strategy and with your workflow.

22:12 One step down, specific architectural areas. So a nice example is a utility.

22:18 One utility might have a transmission and distribution going on within the same utility.

22:24 Well, these are two different architectural domains and two different implementations of GIS technology.

22:29 Maybe even two different types of GIS, okay?

22:32 Let's identify it. As I keep going down, here's where I like to think about identifying existing capabilities...

22:37 ...so I know which capabilities I have to build or rebuild to serve the greater good of the business enterprise.

22:45 So you'll start to see things repeating as you do your investigative work.

22:50 A good example is the basemap which I mentioned; another example is maybe geocoding.

22:55 Does geocoding really need to occur in every department with a different soundex and a different streets table?

23:01 Or can we have one and architect it correctly so the business can hit it, right?

23:06 That's kind of what I'm referring to with this.

23:10 Let's talk about the overall timeline of a project very quickly.

23:15 I recognize that this is not easy to do, and this takes some time.

23:19 So what this timeline is trying to show, let's start all the way on the bottom left, and it says "as is."

23:27 On the bottom right, it says "to be."

23:30 And this abstraction here on the bottom, I label it as concrete.

23:34 On the top, I label that abstraction as abstract, okay?

23:38 As I walk across, this is just a different way of showing that process that I laid out earlier.

23:44 I need an as is and to be gap analysis so I could do a detailed diagram. That's the first two boxes.

23:49 As I cross over the timeline, I'm entering into the abstract.

23:54 So let's start to talk about capturing themes for what we want the system to do.

23:59 Do they match those business process workflows that we discussed?

24:04 So this cheesy cloud and this lightning bolt thing here are not meant to denote anything cloud as we've been talking about all week.

24:12 This is just meant to show stormy weather, 'cause this is where it gets a little hairy in organizations sometimes, okay?

24:18 You've got to go back and forth; you've got to synthesize everybody's opposing views.

24:22 So as we come back into reality, or the concrete world, we need a solution design.

24:27 This is where it shakes itself out, then you refine it.

24:30 Your solution architecture should never be final. It's always in draft form.

24:36 So that's why some of the folks that we've worked with, you'll see that our diagrams always say draft, okay?

24:42 Because it should never be finished. And ultimately hitting that to-be state.

24:50 Let's talk about a tool that we use internally, solution maps.

24:55 Solution maps is where we actually lay out a problem.

25:00 As you're in these meetings and you're discussing the refinement of what you need to do, map

out what the problems are.

25:07 Map it out. Because then you can map out what is the cause and get agreement from within your organization.

25:14 Getting buy-in and sign-off on what the problem actually is, is important, because there may be a negative business impact.

25:26 And then propose a solution to the greater group, the greater group. The group. The V-team that you've created.

25:34 How do we solve this problem? And what is the positive business outcome?

25:40 This speaks tremendously to business owners and to decision makers, okay?

25:46 The intention, and those of you that are actually photographing this slide...

25:50 ...the intention is not the made-up problem that I put on there.

25:52 It's the process that I'm trying to show you; it's part of the strategy. This is a tactic.

25:58 So let's get back to that.

26:00 Let's dig in a little further and start talking a little bit about the three levels of abstraction that I introduced to you.

26:09 Anybody in here has been through an enterprise architecture training or course or investigation?

26:14 Okay, a couple folks. This will be very familiar to you. This is a value chain.

26:19 This is from something that's called TOGAF, okay, and I've adapted it to the needs for Esri.

26:28 I've adapted that framework to a methodology and strategy that works for us.

26:34 And then I work with clients, and I customize it even further.

26:38 My message is, take your own framework in, use something, and customize it to work for you.

26:46 Some are taxonomic, right, and some are pure framework.

26:49 Zachman's kind of a taxonomy. So a lot of times, if you've heard of Zachman, it works very well with TOGAF, right, together.

26:56 They're not necessarily two separate things. So this is boiled up.

27:00 And let me give you what I've boiled out of this that I think is important in working with the ArcGIS platform.

27:07 I think it's extremely important to define your enterprise value streams.

27:12 So as you're discussing a workflow, ask what are the relationships to external entities.

27:23 When the data is managed here and it leaves this particular organization and it's moved

somewhere else...

27:31 ...who is responsible for it and when does ownership begin and end?

27:36 The tough thing here is you've managed spatial data for years in your domain.

27:40 And you're used to being the subject matter experts. That doesn't mean you own the data.

27:45 That 's two different things, okay?

27:47 Another good example's from the utility space, managing an electric network.

27:53 The data needs to be made available to the technology in a different manner for visualization than it does for detailed editing.

28:02 So let's figure out at what point does the ownership begin and end and change the format and optimize it for viewing, okay?

28:09 So the information still sits within the domain for editing, but as it moves over to, say, IT for web maps, it's optimized.

28:18 This allows us to do that. So what are the events that trigger that instantiation?

28:24 So business architecture, like other types of architecture, is composed of processes, functions, workflows, and events.

28:30 Which will be influenced by your corporate strategy. You need to be part of the enterprise.

28:35 As we said on Monday, you know, you're either in or out, right?

28:41 There isn't a gray area, right? You're either in the enterprise or you're not, especially when it comes to funding.

28:51 We'll come back to funding and the stuff as well.

28:54 So you will have this influenced by your corporate strategy; it's developed and managed through organizations...

29:00 ...and organizational communication and realized through your technical architecture.

29:04 What does it represent? What satisfies your customers, okay?

29:08 How do you compete? How do you sustain operations in some cases? Care for organization and employees.

29:16 We want employees to be happy, right, or they'll leave and go somewhere else.

29:20 Then we have to retrain.

29:24 What are the benefits? It helps with viewing the enterprise through the eyes of the customer.

29:29 Let's get up into the organization and figure out how people are being measured.

29:33 How do they genuinely feel, okay, about it?

29:38 So what are the integrating, connecting components that are necessary? Improving communication.

29:45 And, I think this is such an important concept, accepting the evolution of technology.

29:50 I know ArcIMS was a really good map server, right? I know you guys spent a long time getting it to be fast.

29:59 I know. I loved AXL too. But now, we've got ArcGIS Server; it's better. But it's not a one-to-one move.

30:09 We've got to rearchitecture ArcIMS systems to perform well within ArcGIS Server, and perform better, I should say.

30:18 So accepting the evolution of technology is very important.

30:25 So understanding the processes, functions, and workflows is very important.

30:28 What are the data and information requirements, okay?

30:31 What are the GIS functions that are available via a standard API or maybe something you have to customize to augment a workflow?

30:37 This is the type of thing that business stakeholders would be interested in.

30:41 So where can we spatially enable a workflow that is traditionally managed elsewhere?

30:47 What are the components of a workflow that we can spatially enable?

30:50 This is what you want to feed back; you want to try to probe and figure out where these exist.

30:56 And what are the organizational requirements, wow, that's a big task. I know that, but it's necessary, okay?

31:02 You know, to determine the design patterns. This is very important. This is where we figure out if we need high availability.

31:10 Not in a system architecture diagram. That comes later.

31:14 This where I realize whether I need HA or I need redundancy, okay, or I need, you know, active/passive.

31:20 All that stuff is determined here, right? So some topics, okay?

31:27 The functions and processes. You know, identify key business areas. Try to relate the GIS to a strategic plan.

31:34 Do you need a GIS strategic plan, or do you need GIS to be part of your strategic plan?

31:40 Alright, there's no right or wrong; I'm just giving you something to think about.

31:46 Should you even use the word GIS in your strategic plan, right? Maybe you just use, I don't know, something else.

31:54 Okay, so operations, right? What are the external systems you have to work with?

31:59 What are the procedures and operations? What is the budgetary process?

32:07 Staff and roles of an organization, wow. As you're building something, can you actually support it?

32:15 So as you're working through this business architecture, you need to be thinking, wow, my boss wants this thing up 24/7.

32:22 That means I get five minutes a year of downtime. Can I achieve that with ArcSDE?

32:28 Everyone be quiet. Yes, you can. You absolutely can. But you have to architect it properly, right?

32:34 And then do I have the person that can support that thing when it goes down at two a.m.?

32:39 Okay, that's what I'm referring to.

32:41 Okay, information architecture, okay, helps us map your enterprise business systems. Correlates with workflows.

32:50 So specify which part of the workflows are supported by a particular application today, alright.

32:57 This is a fun one; this is the greatest one ever, is defining who owns the data and who manages the data. It's fun.

33:05 Sometimes I feel like I have a dart, you know, what's that called, a dart board, on my shirt when I do this.

33:13 Eventually, like I said, you become friends again with your colleagues.

33:17 Okay, so like business architecture, your information architecture is composed of processes, functions, and workflows.

33:23 And events too, okay, which are influenced by the corporate strategy, okay...

33:27 ...that are developed and maintained by an organization and realized through a technical architecture.

33:31 So this is another neat one. This represents the fuel that your enterprise must produce to do what?

33:36 To satisfy your customers, to be measured effectively, to get a raise. No. Yeah, actually.

33:43 You know, to retain upward mobility within an organization.

33:49 To integrate with other interfaces and to create actionable information.

33:55 Didn't I say I create actionable information on those four patterns? Remember that?

33:59 You see how this stuff aligns with those four patterns time and time again?

34:03 Okay, this is an effective way, as you're talking through this with internal clients or external

clients or customers...

34:09 ...whatever you're calling them, stakeholders. If you can begin to lump these things into those four buckets...

34:14 ...and communicate them back to the business enterprise, you're talking about GIS without even mentioning a product.

34:23 Which oftentimes will confuse your funding agent.

34:30 Okay, so it helps with what? Exposing the owner and consumer of data streams.

34:37 You know, promoting and regulating the agreement on interfaces, wow, that's another tough one, right?

34:43 So not only are you, in the previous section, identifying who owns it and when you can move it around.

34:49 But how do you regulate the two different interfaces that exist for exchanging the information?

34:59 This seems simple, but improve documentation and support. I have personal experience with this.

35:05 I mean, as you actually document your information dataflows, you can feed them back to the business...

35:10 ...and show 'em how crazy they are. Can you believe we're doing this? Really? We're doing it that way?

35:18 And why is this eye-opening though, folks? Because they've been supporting business for a long time, and it works, right?

35:26 So again, it's that evolution thing. Accepting the evolution of technology.

35:30 So what I like to see and what I do, alright, and what we all should be doing in this room, is using the Geographic Approach...

35:37 ...as a form of BI, right, business intelligence. This is functionality that we can feed back to an organization...

35:45 ...a business, an entity, an academic institution, a state, a county, municipality, a store, you know, all the above.

35:55 So understanding the processes, functions, and workflows is very important, okay?

36:01 What are the data and information requirements required to solve the challenges that you heard about...

36:06when you were discussing the business architecture?

36:11 What GIS data, what spatial data, maybe is a better way of putting it, is required, you know, to enhance a particular workflow?

36:18 You're the subject matter experts in geospatial, right?

36:21 So as you're listening through this decision maker during the meeting that we're going to have...

36:26 ...'cause remember, we're talking about a strategy; this isn't totally abstract, right?

36:30 What information, you know, do you, or are you aware of, are you a steward of, that you can enhance a particular workflow with?

36:39 'Cause this will allow us to orchestrate those business functions, okay...

36:42 ...and maybe even replace business process and improve it, right?

36:47 We've seen tremendous, you know, improvements on returns on investment by, you know, spatially enabling workflows.

36:54 You heard Jack mention it the other day, right?

36:58 Has anybody actually experienced a return on investment that's pretty nice by spatially enabling a workflow?

37:05 That's very low, right? I would expect many more hands than that, okay?

37:11 So let's continue to think through this, okay, and how can we prove this out?

37:15 And I feel like maybe the response on that question was low because you don't, you just simply don't know.

37:23 Because we've grown organically. You're probably thinking, Wow, I'm sure I do good for the business, right?

37:30 But someday you may get asked to show how good you do for the business. It's a different angle on this.

37:35 Okay, so choose where we can spatially enable information traditionally managed elsewhere.

37:41 And these things are repeating, see, these things are kind of repeating in different viewpoints...

37:45 ...across the different abstractions of architecture here?

37:47 So influences the design patterns again, you know, that the technical architecture will portray.

37:53 Okay, so some topics here; they're the same. These are repeating themselves again.

38:01 Business functions and processes that are key business areas, relationships to the GIS strategic plan, or the strategic plan.

38:09 Operations and organizational. So here, I'm going to talk about technical architecture for a minute.

38:15 So this aligns technologies with business needs. What do I mean by that?

38:21 Well, we might be as high level as some sort of high level denoting, you know, in terms of a tiered architecture...

38:28 ...like an application server or web server, maybe we're talking about an operating system...

38:32 ...or a scripting environment, whatever.

38:35 So let's define the technologies that are required to support that automation environment, okay?

38:39 And identify technologies that are critical to the implementation, okay, for this new applications environment.

38:45 Supporting company-wide connectivity, promoting and creating standardization for the integration of data, right...

38:54 ...and implementing integrated patterns ahead of it. What does it help with?

38:59 Meeting business and system requirements and objectives, enabling a flexible partitioning of systems, right...

39:05 ...reducing costs, maintenance, and evolution.

39:08 Increasing reuse and integration across your business enterprise.

39:13 So some topics. What is the landscape, hardware, software, security, standards?

39:18 Okay, the data landscape influences the technical architecture.

39:22 There's an application landscape that exists, an integration landscape.

39:27 Remember, I said I boiled up the TOGAF approach? This is an area where some serious boiling occurred, you know.

39:34 These areas within the framework are very dense, okay?

39:38 And I do want to mention something really quick that I'm very, I don't know, pragmatic maybe, that, you know...

39:44 ...I recognize in my work that sometimes I can't strictly adhere to a framework, 'cause if I did, I'd never get anything done.

39:51 I just wanted to make that comment. Alright, so hopefully this is fairly decent to see from the back.

39:58 But what is this trying to show?

39:59 This is kind of a conceptual, integrated architecture, that I'm describing everything we've talked about to this moment.

40:06 Where on the left-hand side, that's a corporate strategy that's interacting with business functions.

40:10 And business knowledge exists at the bottom.

40:12 There's processes and organizational flow between this, and all the way to the right...

40:17 ...at the top level is technical architecture and security, network, and hardware platforms, okay?

40:24 In there, there's databases, that's kind of irrelevant; what I'm trying to show is that there is a flow, right, amongst organizations...

40:33 ...that interacts both from a business perspective and from a technical perspective.

40:37 This may vary depending upon organizations, but it's always kind of the same.

40:41 At the bottom, you see influencers, budgets, standards, and governance.

40:48 So here, we're going to keep going around the value chain. I'm going to talk about the political landscape and IT governance.

40:57 Why do I consider this so important? One, another thing that I've done with some clients and done for myself...

41:03 ...is the first thing that I do is I build a chart, right, an organizational chart, that's titled Ability to Disrupt, okay?

41:14 And I ask the business, "Is this what I'm hearing?" Number one resource that has the ability to disrupt.

41:20 And you list it across and you rank 'em, and you shuffle 'em around.

41:23 But this is important, right? Why do I talk about this during governance? Because governance is important.

41:29 You can have projects fully halted, or fully promoted; let's look at the glass as half full.

41:36 They could be fully behind it if they feel like they own it, okay?

41:40 So what is governance? It's a subset discipline of corporate governance focused on IT.

41:46 Systems and their performance and risk management.

41:49 Specifies the decision rights and accountability framework, okay, to encourage desirable behaviors.

41:55 It's a fancy of saying that if your apps go down, you're going to get in trouble.

41:59 That's good; I need to know what the business requires of me, okay?

42:02 Evaluation and direction of plans for the use of IT to support the organization and monitoring, right, to achieve the business plan.

42:13 So, putting it all together, this is coming back to the same strategy diagram again.

42:23 Let's put it all together, let's kind of try to summarize it a little bit.

42:29 This is a pretty neat diagram. Think about this as an organizational structure, this being, I guess it does denote lower or higher.

42:37 But not from an evolutionary perspective, right?

42:40 But here, we've been really well as a GIS domain, or a departmental operation.

42:45 Sometimes we used to touch up into here, or maybe we were managed out of this level within an organization.

42:51 I'm going to just tell you that to do some of the things I've talked about today...

42:54 ...you might have to go a notch higher within an organization.

43:00 And that's okay, alright, don't be scared of the IT folks; in the end, IT folks want to end up doing GIS anyway.

43:12 Okay, that's my message on that slide, so presentation back to the business.

43:17 You're going to have to take everything you've learned and assemble some sort of concept or proposal...

43:24 ...and present it back to your business. We want to show that these strategies are driven by business strategies.

43:33 We're not just doing something 'cause we want to, right?

43:36 We're not just virtualizing because we think virtualization is cool

43:40 We're virtualizing it because it's serving the business in some way, shape, or form.

43:45 So value is defined directly as saving, making, or obtaining money; demonstrate that.

43:51 Next year, when we have this session and you all come back, I want to see more hands...

43:56 ...that says you've been able to demonstrate a return on investment with your GIS, okay?

44:00 'Cause it will make you more successful.

44:04 So technology and GIS as partner in business areas, not an adversary or a servant.

44:12 Communicate value proposition in no less or no more than 15 minutes.

44:17 I'm sorry, no less than 15 minutes, no more than 30 minutes.

44:21 Doesn't mean you have to do it like that, but I'm saying if you can't get your message across in a few minutes, that's not good.

44:28 I've been talking more than 30 minutes, right?

44:31 In any case, I mean in terms of presenting this back, you should be able to do it quickly, okay?

44:38 And choose the presenter very carefully; it might not be you.

44:44 Even though you feel like it should be. Maybe you're just not good at convincing, right?

44:50 Maybe you're just not a good presenter. It's okay.

44:54 So understand system needs. Gather information and requirements in the context of those patterns.

44:59 This is awful to read in the back, I'm sorry; I have very small screens, I'll describe them to you.

45:04 What this is showing, starting on the left with asset management, I'm gathering requirements in the context of the pattern.

45:09 So I'm asking the business, or I'm just deriving, I know that I need 30 web editors.

45:17 I've got eight desktop editors, two different types of editing.

45:21 As I move across to planning and analysis, I've got four folk that are doing hard-core geoprocessing.

45:28 I've got about 50 ArcGIS Mobile clients, and then in the end, 30 browser clients, okay?

45:34 Based upon this abstraction and gathering these results, and some internal tests that you should be performing...

45:41 ...or maybe benchmarks that you derive from our website, you can come up with a very simple multiplier...

45:48 ...for figuring out how much horsepower you need to serve each one of these patterns.

45:54 But let's not be mistaken here; without real tests, you're not going to get real results.

45:59 You're going to get approximations based upon tests done elsewhere.

46:04 So information gathering in the context of the patterns is very important, but it's also important to realize...

46:10 ...that you need to correlate this with benchmarks. And this slide is simply showing that.

46:17 Based on certain tests...I'm going to move the slide really quickly; no, I'm just kidding. You get the presentation anyway.

46:23 But based upon some simple tests that we did in Redlands, I can derive a number of cores.

46:29 And this is a conceptual architecture; this is not a system architecture design.

46:33 This is a thumbprint, okay, this is what we think we need, right?

46:37 This is valuable going back to the business, right, and not that expensive.

46:42 I can also promote the notion of business continuity in this manner.

46:47 I heard that this workflow needs to be supported 24/7...

46:51 ...so I'm pretty sure I need redundancy in my production boxes as well as on my staging system.

46:56 And I sure as heck need a development environment.

46:59 So I'm kind of bringing it all together a little bit; I know that this is a lot of information.

47:03 But this is important to gather your requirements in the context of the platform vision, 'cause you can scale the system by pattern.

47:11 But you don't want to hog-tie yourself, you know, by stringing your web viewers to your data management purveyors.

47:23 So we're going to talk about some tools very briefly, okay.

47:27 I consider everything I just talked to you about a bunch of tools.

47:32 So doing discovery in the context of the four patterns of GIS business behavior, to me...

47:37 ...you're talking to the business decision makers at the same time you can go back and talk to your ArcSDE administrator.

47:44 You need to do that, right, when you're executing a strategy.

47:48 Okay, so define the workflows.

47:50 It's very important, you know, and it's of the utmost importance to define your measure of success.

47:55 That's why I list it as a tool. You need to know what you're going for here, at all times.

47:59 Where is the line in the sand, okay? There are tools; there's a capacity planning tool lite, I call it, that's available on our website.

48:06 Andrew can talk about that. You need to have your own test harnesses that are repeatable.

48:11 Every time you release software, I did this earlier and I got a pen thrown at me, but you don't want to go like this and go...

48:16 ...I hope it works, right? You should know, every time I do a software release, I'm going to run this test...

48:24 ...and build a heartbeat over time and say, okay, why did the performance dip here? Wow, it went up here.

48:30 'Cause it goes up every time you get a new version of ArcGIS, right?

48:37 We have a Resource Center, okay? There's a ton of information on it. Andrew will speak a little bit about that too.

48:45 And we've got something that we're definitely excited to talk about...

48:48 ...which is this thing that we're referring to as solution designer.

48:52 This is a new concept. So I'm not sure, I have no idea how I'm doing on time.

48:56 So... You stop now. That's perfect. Okay.

49:01 So we're going to talk a little bit about that, and we'll come back and do Q&A at the end okay?

49:06 [Inaudible]

49:08 No, you're not going to be able to sit over there, dude.

49:12 [Inaudible]

49:19 Thank you, Andrew. You do realize that my name is Andrew too. And we both have beards.

49:25 This is not a requirement for a solution architect.

49:30 Okay, so briefly, so Andy touched on a lot of helpful topics at the strategic level.

49:39 My part of the presentation, a brief presentation, will be how to link this high-level concept into tangible deliverables.

49:48 So for example, what are the resources that we have available to develop [a] strategic plan?

49:53 And then how to use the strategic plan to actually develop the enterprise architecture.

49:58 Then how to use the enterprise architecture to buy the hardware, buy the software, and hire resources, and deploy...

50:03 ...and how to make it happen. So that's the part. So the first, the Resource Center.

50:11 We have an enterprise GIS, and we post information related to enterprise, architecture, security, performance.

50:24 We're working on deployment section; so [there] will be a lot of things like how to deploy NAS and SAN and networks.

50:33 So I encourage you to use this tool as a research tool, to learn about our technology before you commit to any technology...

50:43 ...or before you finalize your strategic plan, it's probably a good place for you to browse to get some information.

50:51 And all the information is at a high level; it's very easy to digest.

50:59 The next thing that I'm going to talk [about] is, I'd like to show you this new tool and where is it coming from...

51:10 ...and what type of resources we are leveraging.

51:16 But the most important thing, how is this tool related to everything that Andrew said.

51:22 So we want to make sure that this tool allows you to capture the current and the target state, just like Andy said...

51:35 ...that allows you to map the technologies to the business processes.

51:40 And it also follows the standard key architecture domains, business architecture, data architecture, technology.

51:48 So what are the benefits of using this tool? What are we trying to accomplish?

51:57 We're going back to the title of our presentation, effective. You can do it without the tool, absolutely.

52:03 But to make it effective, we need to have [a] consistent approach; we need to have ability to share and reuse.

52:10 And if you have 50 Excel spreadsheets and 30 Word documents, it becomes challenging to say, okay, this is our current state...

52:21 ...and this is our target 1, and this is target 2, and this is staging, and this is development.

52:26 And suddenly we need an application to manage our document library.

52:31 So hopefully, you will find that this direction is very helpful.

52:36 We provide consistent diagrams, tables, and including capacity planning.

52:44 Sorry.

52:45 So again, this is just a summary of what are the key features.

52:56 How do we use this tool? How do we envision to use this tool?

53:00 This is not going to be the white page where we start from scratch, no.

53:05 The idea is that we will develop templates, the starting points for you that will reflect, match your industry.

53:15 So for example, you might be a global company. So let me just go to the tool, for example.

53:23 So you're a global company, and you say, okay, I need to map all my offices throughout the world.

53:30 So the tool allows you to do, and of course, you can imagine you can drill down into all these points.

53:38 We'll get to this in a second.

53:41 So we will take our best guess on what is the middle-of-the-road pipeline architecture.

53:53 We'll cover perhaps 70 percent, 80 percent, but you're better off with that.

53:57 So you're using this and then you follow all the steps that Andy identified.

54:05 So we need to identify Esri's solution pattern that was defined in our strategy.

54:13 And again, we're going back to the same patterns.

54:16 If you follow these patterns, you probably will easily map these business processes to technology.

54:26 So we allowed this; we need to go a little bit lower and then we need to go into business architecture...

54:33 ...and when Andy was talking about workflows...so how is the replication mapped to business processes?

54:43 Perhaps one of your business processes is, I want to publish our internal data on the public website.

54:51 So we need to have some sort of replication and editing and zooming, and that's how you capture [it].

54:58 Now we're going a little bit, drilling down; we need to actually select an application type.

55:04 So for example, here, we determine that that will be a web application, and because of our standards...

55:12 ...we're tapping into infrastructure architecture a little bit, we were selecting a Silverlight web client.

55:20 That's what we...

55:21 And then below, as you see, we envision these are the core services that will be required to meet these business processes.

55:33 Moving down, now it's time to buy the hardware and configure the hardware.

55:37 So we need to know all the network connectivity that we have.

55:41 We need to select the right hardware, and you can all map that.

55:47 As I said, it might be potentially a lot of data input, but with the templates, they will be quite effective.

55:57 And finally, you can use our predictive models for scalability and capacity.

56:04 So perhaps you have a growth, 20 percent annually, and you want to predict, so that will be available to you as well.

56:12 And at the end, we will produce standard reports. There will be standard Word and standard Visio.

56:20 So let me just very briefly demo what can you do with this tool.

56:30 So you definitely want to define the application, and in these applications, we design each tier.

56:40 So we're really following the application architecture, which as you see...

56:44 ...it's composed of the client browser and we have web services and we have GIS services.

56:49 So let's just click on one and let's see what's behind this; how do we configure.

56:54 So this is where the mapping of the software happens. We'll give you our drop-down.

57:00 This is where your strategic application architecture touches with our technology. You map it. You just map that.

57:11 That pretty much is the same concept throughout. If you need to define the user workflow so it's...

57:22 ...for example, for operational awareness in Amsterdam, we envision that it will be only two map services.

57:34 There will be one map and one image. This is what users will be using. So what is behind?

57:39 Well, now we need to identify how many users, who will be using that?

57:46 Right here, I have a thousand users total, but I only envision 10 percent of them will be concurrent.

57:53 So these are kind of technical concepts, but they're very important to get the capacity right.

57:57 Because if you're a global company and all the information that you have is, well, we have 10,000 of employees...

58:03 ...we have no idea how they will be using this. Well, our capacity could range from one server to a thousand.

58:11 So we need to narrow this down. And you see where I'm going with this.

58:16 There is a lot of detailed information about the networks to calculate the latency.

58:22 So this tool can be used by solution architects but also by engineers who will go and do the installation and tuning.

58:36 So we're very excited about this; it's still very early beta, but I hope it's coming soon.

58:45 Yeah, thanks, I'll take [inaudible]. So thank you, Andrew.

58:52 I don't know if you guys realize what you just saw, but I don't know, I couldn't be more excited about this.

59:00 What we're effectively going to be able to do is remove the unknown.

59:05 If you do your discovery and you put the input into this tool, which I don't want to say it's a dumb tool, do I?

59:13 If you want to insult me, yes.

59:17 But the tool is dumb unless you give it good input. Does that make sense? Okay?

59:21 So if you give it bad input, is it dumb? No, that's not what I mean.

59:25 I just mean it doesn't presume that you don't know what you're doing and that you haven't done your discovery.

59:29 It actually forces you to realize that you need to go to the business and ask the right questions.

59:35 It's very exciting to me to be able to see right there, through drop-down menus...

59:40 ...that I can actually put in my workflow starting with the patterns.

59:45 Now where do I...I realize in the process of discovery that I need a fully cached...

59:49 ...or half blended, you know, cache web map and half dynamic.

59:54 In the business architecture, right, because you're asking the stakeholder...

59:59 ...How often does that data need to be made available to the end user?

1:00:03 Well, if the answer is once a day, do I need a direct connection to ArcSDE in real time?

1:00:07 No, I can replicate that information across to my application server and store it there for a week at a time.

1:00:15 Now we give you the ability, once you figure this out, to actually choose these, okay?

1:00:19 And it will spit out a proper architectural diagram and capacity recommendation.

1:00:25 I think this is very significant, and it's almost a paradigm change for us.

1:00:29 We've never had a tool like this. Now, I'm not sure what we're thinking about in terms of deployment yet.

1:00:34 But as you learn the tests that are included within it, you can use the tool to actually navigate through different scenarios...

1:00:48 ...for your deployment options.

1:00:50 So as you're learning from your business what's required to meet the business needs, you can iterate with this.

1:01:00 So I think the application technologically was built in Silverlight, right?

1:01:04 Actually, it's WPF. WPF, okay.

1:01:07 So this is something that we potentially will make available via the web at some point.

1:01:13 So I kind of wanted to review what we covered today, and then we'll take some questions, okay?

1:01:20 So I started today by characterizing GIS in the enterprise, and how to grow it, right?

1:01:27 Gave you an architectural vision with those four patterns. I talked excessively about patterns in practice, time and time again.

1:01:36 From the beginning of our conversation today all the way up through Andrew's demo.

1:01:40 We reviewed at length this discovery process, or approach.

1:01:46 You're going to have a different one; this happens to be the one that we're using, okay?

1:01:50 But I think recognition that you need to do that is quite important.

1:01:55 So what tools are out there? We talked about our resource center; we talked about the solution planner.

1:02:04 So an important thing to leave you with before Q&A is to recognize that the system has changed; the game has changed.

1:02:15 The ArcGIS Server environment today is very different than it was a couple years ago; it's pervasive, right?

1:02:21 It's available in the cloud. You have these other options now to expand out capabilities temporarily and bring them back...

1:02:28 ...to add value to your on-premises deployment.

1:02:32 So it's pervasive whether it's a local install or just somewhere within the enterprise or out in the Amazon cloud today.

1:02:39 So if you've got a massive amount of geoprocessing that you only do once a year, should you really pay for hardware...

1:02:44 ...and provision it and support it on-site to just do that processing that only happens once a year?

1:02:51 Maybe not. Maybe you have to because you're not allowed to do things outside of your DMZ, but...

1:02:58 You know, these are things that we need to think about, but for visualization, for the creation of data, collaboration, discovery...

1:03:05 ...management and analyzing of your spatial data, whether it be on the web, a mobile client, or on the desktop...

1:03:12 ...ArcGIS is pervasive, okay. It's a complete system. It's mature, it's IT class technology, it's enterprise class technology.

1:03:22 We should treat it that way, okay?

1:03:28 So I want to say thank you. We'll take some questions; I think it would be great to get some feedback.

1:03:36 I'll stick around as long as I need to, okay, so have any questions? Yes.

1:03:41 [Audience question] Do you know when the system designer will be available?

1:03:43 See, I knew that would be the first one. Do I know when the system designer will be available?

1:03:52 ASAP, right. No, we don't. Next question, yes, yes, Liza.

1:04:06 [Inaudible audience question]

1:04:18 No, you...Here you go.

1:04:22 No, you only capture, the only dynamic thing is capacity planning. I meant this as a joke.

1:04:30 We have some idea when this tool will be available...

1:04:33 ...and I hope that within a month it will be ready for power user group's evaluation.

1:04:41 And when it passes the test, then we'll make a decision what to do with this.

1:04:45 So I don't see this as a next year thing, no, a month, two or three.

1:04:51 Distribution of that is something that we need to determine, but technically, I think that it will be ready within a couple of months.

1:05:05 ...it's not an operations tool, it's a planning tool, that you can include your own tests in it as part of the templates.

1:05:16 So again, to promote you all doing tests on-site on your own network, the inclusion of these tests would give you results...

1:05:25 ...based on your own environment. This is also a game changer, so to say. Yes.

1:05:34 [Audience question] So, in this designer, you have four patterns.

1:05:38 Yes. [Inaudible audience question]

1:05:45 Correct.

1:05:47 [Audience question] So, two questions. One, will it combine some results [inaudible]?

1:05:54 And second, you had mentioned about capacity planning. Is that the same as the capacity planning you currently have?

1:05:59 I think an important concept, too, that was a great question, is that although you're not going to manage or...

1:06:03 Okay, so the question; I'll repeat the question first, make sure I get it right.

1:06:07 The question is, If you're choosing by pattern, will the tool be smart enough, I guess...

1:06:11 ...to either combine or not combine them by pattern?

1:06:16 And is this tool a replacement or in addition to current capacity planning recommendations that we do today?

1:06:23 So, do you want to start? Sure.

1:06:27 I envision that we will start with a business process. So the business process, for example, will map to our pattern.

1:06:35 So it will be category of the business process or it will be the category.

1:06:39 And then, this will be mapped to applications, so it's one to many.

1:06:45 Operational awareness can have ArcMap and Silverlight, and you will have an ability to link it.

1:06:55 Yeah, that's, and just to add to that, one of the best practices that we're promoting by use of this tool and the patterns...

1:07:02 ...is that sometimes, or oftentimes, you shouldn't be combining the patterns from a CPU or computational perspective anyway.

1:07:10 As a best practice; doesn't mean that you can't do it by loading up a certain machine.

1:07:15 It's just that the usage patterns are so different, it's not a best practice, okay?

1:07:22 And the second question. To answer the second question, at this point, there are no plans of replacement.

1:07:30 I believe that there is a market for both tools. The other tool comes with a related book and classes.

1:07:37 And many people are familiar with this, so I think that it has a valuable place.

1:07:43 However, the type of, the scale of our users is growing, so if we want to do the global company like Shell or Rio Tinto, BHP...

1:07:55 ...with dozens of offices with hundreds of servers, doing this in a spreadsheet becomes challenging.

1:08:02 So I should say that all the modeling tests are coming from our benchmarks.

1:08:10 And we build models that are consumed by this tool and anybody else from Esri.

1:08:16 So whether you're using Excel to read the results or this tool, the numbers should be the same.

1:08:27 But this tool gives you flexibility to consume your own custom model, so there will be instruction on how to do this.

1:08:39 Because for us, what we're recommending is conduct a benchmark of your system and use this information to predict the scalability.

1:08:52 That would be the ideal. Thanks.

1:08:55 Thanks. That concept of evolution, I think applies here too.

1:09:00 It's just that technology's kind of changed, the customer base has changed.

1:09:03 We need to look at things a little differently. Yeah. There's other hands before, all the way in the back?

1:09:10 [Inaudible audience questions]

1:09:34 Did you catch all that?

1:09:35 Yes. So the first question was, Is it just hard coded for Esri GIS? And we have lookup tables that list our software.

1:09:45 But there will be an admin tool that allows you to insert any type of software you would like to capture.

1:09:54 So it has the flexibility of being an enterprise. And the same with capacity.

1:10:02 These models don't have to be just about the map, zoom and pan.

1:10:07 They could be about SharePoint or e-mails or any non-Esri, just as long as you follow the principle of how we consume these models.

1:10:18 So absolutely, this can grow. I guess Andy and I were making baby steps.

1:10:24 Let us first succeed within [the] Esri domain and perhaps one day we will add the enterprise to the system designer.

1:10:34 I mean, we worked very hard to get it done to show it this year in the state that it's in.

1:10:41 You know, I don't want to be a buzz kill, in a way, but the 45 minutes or an hour of stuff I talked about...

1:10:51 ...you have to do it, or the tool's useless. The tool isn't the silver bullet; it's a tool.

1:10:58 It's part of the strategy that Andrew and I laid out. Did you notice we showed it last?

1:11:04 Why did we show it last? Because it's not useful unless you've gathered all of this information, okay?

1:11:10 You can't start with the tool. So even if we made it available today, how would it work for you?

1:11:18 You've got some discovery to do, right? That's, I think, the message we're also trying to deliver with this tool...

1:11:25 ...is that it requires good input to give you good output, okay? Yeah.

1:11:29 [Inaudible audience question]

1:11:36 It's not public. No. No. If it was public, if this thing was fully released, we would have a whole session on it.

1:11:43 It's kind of just an add-on to the end of this to...

1:11:44 [Inaudible audience question]

1:11:48 Yeah. No, fair enough. Okay, so let me say this then.

1:11:51 So Andrew talked about the resource center and that spot where GIS in the enterprise exists.

1:11:58 We're also actively going to begin blogging after our enterprise SIG this morning.

1:12:03 This will become a community. We will make an announcement on the blog.

1:12:08 And I'm sorry I don't know the URL off the top of my head for the blog, but you can track it down fairly easily, alright?

1:12:14 Is that fair enough? Okay. And Andrew's got something to add too.

1:12:20 I just want to answer your second question; I think you just did.

1:12:25 This tool is not available yet publicly, and I feel that we'll be ready for beta release within a month, perhaps two.

1:12:36 And at that point, we will contact interested users on how to distribute this tool. So...

1:12:46 Yeah, my vision is the blog. We could ask for your card and we'll be glad to take it and derive some sort of list.

1:12:52 But I think the blog is probably the most contemporary way to do this.

1:12:57 And also I would ask, hey, maybe this is a fair thing to bring up now, as we blog about it, blog back.

1:13:03 Let's get going on how this works, how this is working for you, okay.

1:13:07 Let's not create a black box or a practice wrapped around a tool.

1:13:11 Let's create a practice wrapped around best practices of enterprise architecture. Yeah.

1:13:20 [Audience question] Andy, I...well, anyone. I have another question about the planning and analysis usage pattern.

1:13:29 Since, as in management [inaudible] management, and planning and analysis would be, the way I see it...

1:13:36 ...[inaudible] decision methods, decision support tools, geoprocessing stuff.

1:13:42 But the situational awareness would be the web [inaudible]. Typically, I had thought of providing or empowering...

1:13:53 ...my decision makers also through a web enterprise, but the processing is maybe a heavier processing than here...

1:14:02 Correct, yes. [Audience question] ...web. So if we all just separate web stuff and geoprocessing...

1:14:10 ...and that would be separate from [inaudible], would you see that as desktop served or web delivered?

1:14:22 Okay, desktop authored, right? And web delivered as a feature class that's optimized for web delivery.

1:14:30 There may be a case. So the question, I'm sorry.

1:14:32 The question, oh geez, I hope I can repeat this after a long day of talking.

1:14:38 She basically was talking about the four patterns of usage that are brought up or the architecture vision.

1:14:44 And how I talked about separating the use of the technology by pattern.

1:14:50 So her question is, Do I see the planning and analysis pattern as being a place where you serve data back to the business...

1:15:03 ...or for web delivery, right? Right. And the operational awareness pattern purely for web delivery.

1:15:10 I think, if I may just give you my quick interpretation, if I'm right then, I have a sense that your question was...

1:15:21 ...Is operational awareness associated exclusively with web and planning and analysis with the geoprocessing?

1:15:33 I doubt that that's what we're saying.

1:15:34 We're not saying, you can have another web viewer of your geoprocessing results...

1:15:41 ...but this is not [a] core business process.

1:15:45 So it's a supplemental technology that you can use to validate your operational awareness.

1:15:53 So I don't think that there are hard lines between technologies; it's more about...

1:15:59 ...what are the key business processes [that] are served by these patterns.

1:16:04 Yeah, thanks. And I think also, I mean, there may be a case where we need to go from...

1:16:09 ...an operational awareness type application directly back to our server and perform geoprocessing.

1:16:15 What I've seen time and time again, though, is that as I do the investigation back to the business...

1:16:19 ...we really don't need to do that.

1:16:20 We can preprocess the geoprocessing and store it in an optimized web format.

1:16:25 It doesn't truly have to happen in real time.

1:16:27 But if it does, and in some cases it does, then we build the architecture to reflect that.

1:16:34 And we would likely have a separate geoprocessor, geoprocessing server, that exists for the web pattern.

1:16:42 I think that's a summary for what you're asking. There may be a reason that we have to do on-demand geoprocessing.

1:16:50 The Drive Time tool, I mean, something like this, okay, I recognize that.

1:16:53 The lines are still very clear to me in that case, that I have a web mapping application...

1:17:00 ...that if I'm going out to do geoprocessing, I'm not going to do it on top of my data editing environment, right?

1:17:06 I'm going to keep them separate; I want to scale them separately.

1:17:08 What if everybody really loves that geoprocessing on day 2, I quadruple my user base?

1:17:13 This has happened to me, so I need to scale that separately from my data management problem, the actual operational awareness.

1:17:20 [Inaudible audience question]

1:17:23 This presentation will be available on, you know, I've said DVD all week.

1:17:28 We put out a DVD with all the Conference Proceedings on it, and then somebody said...

1:17:32 ...I heard you're going to do online distribution.

1:17:34 I'm going to say DVD, and it ships within a couple months. [Inaudible comment] I'm sorry?

1:17:37 [Audience comment] It's both. Is it both this year?

1:17:39 Okay. So, yeah, you'll just search for this time slot in the Conference Proceedings, and you'll have it.

1:17:48 Other questions? Yes.

1:17:51 [Inaudible audience question] Yes.

1:17:56 [Audience question] You've got a complex business. It could take months before we could actually [inaudible]. Yes.

1:18:05 But there's value being lost. How would I maybe [inaudible]?

1:18:16 Okay, the question is, we've got a complex business, and as we do this investigative work for business architecture...

1:18:22 ...and information architecture, and everything I talked about today, business goes on, right?

1:18:26 And what are the shortcomings that we're encountering by not doing actually on either side of that, right?

1:18:32 By not being able to serve the business because you're doing investigative work, right...

1:18:37 ...or not being able to better serve the business by doing that investigative work.

1:18:43 I think you've got to think about that timeline that I talked about earlier.

1:18:48 Remember the timeline with the storm and the clouds?

1:18:50 And you need to figure out what goes into the beginning of that and what's at the end.

1:18:54 And time and time again, I see people putting too much into the left-hand side.

1:18:58 And they can't get through this before the organization changes or they lose funding or they've just got other things to do.

1:19:03 You need to limit what goes into this, okay? And when you're going back to the business, maybe you're just going for...

1:19:09 I'll go for the geocoder first, and I'll take that geocoder as a project through this process.

1:19:15 Does that make sense? It's really difficult to do that because you're serving the business.

1:19:24 But if you do a good job at the end, that presentation that I talked about...

1:19:27 ...by presenting back to the business what you want to do, they will give you the time.

1:19:32 Sometimes it's in the form of a contractor; sometimes it's in the form of an added resource.

1:19:36 Really, I'm not saying that I'm going to, because of listening to me, you're going to get Accenture, but you might get some help.

1:19:45 [Inaudible audience question] Yes. Sure.

1:20:06 He's asking about what kind of deliverables exist for information architecture specifically.

1:20:10 But there are hundreds of deliverables that can exist as part of this process...

1:20:17 ...because it's part of an enterprise architectural framework.

1:20:20 What I would say to you is do some investigation into the framework itself and just pick the artifacts you're interested in.

1:20:26 Like a data application matrix is really useful to me; I like that.

1:20:29 Maybe it's not useful to you; I'm not sure. That chart that I talked about, ability to disrupt, to me, that's important.

1:20:36 Maybe to you, you don't need to know. Maybe you already know who's going to disrupt you, I don't know.

1:20:40 So there isn't one specific answer for that, alright?

1:20:43 But we can communicate more, I can point you to a website. Just go to TOGAF and take a look at the artifacts.

1:20:48 Scary. Boil it up.