

Cloud Computing Meets USDA's Business Needs

How do you deploy interactive maps to 43 million customers with no GIS staff and current IT resources that are dedicated to other mission critical projects? Jonathan Alboum, CIO Food and Nutrition Service, USDA, and his team demonstrate the power of using ArcGIS in the cloud while using the SNAP Locator application, one of the largest store locators on the web and the first USDA application hosted in the cloud.

<http://video.esri.com/watch/161/cloud-computing-meets-usdas-business-needs>

Video Transcription

00:01 We do want to share with you an interesting success case from the U.S. Department of Agriculture on how they use...

00:06 ...GIS in cloud computing to meet some of their business needs.

00:09 Please welcome the CIO from the USDA Food and Nutrition Service, Jonathan Alboum, and his colleagues.

00:19 Thank you, John.

00:20 It's a pleasure to be here to speak about cloud computing.

00:23 I'd like to begin with a few questions.

00:26 How do you deploy interactive maps to 43 million customers when you have no GIS staff...

00:31 ...and current IT resources are dedicated to other mission priorities?

00:36 How do you deploy a map server when power management controls are so tight...

00:39 ...that you can't stand up one machine without taking down another?

00:43 How can you accomplish all of this in less than two months and on a limited budget?

00:47 Well, we did it with a great team including my colleague Jonathan Bennett and a little help from ArcGIS in the Amazon cloud.

00:55 My name is Jonathan Alboum, and I'm the chief information officer at the Food and Nutrition Service.

00:59 FNS is an agency within USDA, and we have a great mission.

01:03 Simply stated, we help needy people eat better.

01:06 And we do this through a variety of nutrition assistance programs including the school lunch and breakfast program...

01:12 ...the special nutrition program for Women, Infants, and Children, otherwise known as WIC and SNAP...

01:18 ...the Supplemental Nutrition Assistance Program, which you probably know by its old name, Food Stamps.

01:24 I'd like to give you a little more information about SNAP.

01:27 Presently, there are more than 43 million people receiving SNAP benefits which is...

01:31 ...more than 6 million people receiving them at this point last year.

01:35 SNAP beneficiaries can redeem their benefits at any of 216,000 authorized retailers...

01:41 ...which results in more than 7 million electronic transactions a day.

01:45 These increased program demands require that the agency think creatively about how to support SNAP recipients...

01:51 ...and the state agency workers that serve them.

01:54 One of the things we realized we needed was a user-friendly map to help our customers and policy makers...

02:00 ...identify nearby SNAP retailers to better evaluate access to benefits.

02:05 The result was a SNAP retailer locator which you're about to see demoed.

02:09 It's one of the largest store locators on the Internet and was the USDA's first geospatial application to be hosted in the Amazon cloud.

02:17 Like all projects, we had challenges and we needed to manage risk.

02:21 FNS is not a GIS shop, and we had a very tight time frame for delivery.

02:25 The secretary of agriculture, Tom Vilsack, wanted to highlight the locator at the 2010 National Nutrition Conference.

02:32 And there was also a lot of initial uncertainty as to the number of people that were going to be using the tool...

02:38 ...given the 43 million people on the program and the thousands of state eligibility workers.

02:43 We needed scalability, but with a tight budget, we only wanted to pay for the extra capacity when we really needed it.

02:49 That made the cloud a clear choice.

02:51 By working with our partners, we quickly scoped initial requirements and we were in production in a matter of weeks.

02:57 Our implementation was very smooth.

02:59 After the application was created, it was staged in a cloud-based test environment...

03:03 ...where FNS performed extensive UAT before we pushed it live.

03:08 The agency also achieved great cost savings by going to the cloud.

03:11 We saved money and resources that we would have spent to purchase, deploy, and support new software and servers.

03:18 We estimated that it would have cost about \$300,000 to build, host, and maintain a similar environment internally.

03:26 By going to the cloud, we did it in a fraction of the cost.

03:30 Site usage has grown by 93 percent since we launched in July, and we're averaging more than 20,000 visitors a month.

03:37 We're currently enhancing the locator with the addition of a Spanish language option, driving directions to retailers...

03:43 ...and the ability to download retailers by state.

03:46 And by publishing our data through a consumable web service available on our site at data.gov...

03:53 ...we're going to be making retailer data available for integration with other applications across government and industry.

04:00 One of the things that we're really proud of at FNS is the fact that we've been able to extend this work into other areas of the agency...

04:07 ...and support a very important initiative that you may have heard of, Let's Move.

04:12 The Let's Move campaign was started by First Lady Michelle Obama last February...

04:15 ...and has the ambitious goal of solving the challenge of childhood obesity within a generation.

04:20 As Let's Move is about to celebrate its first anniversary, FNS is excited to launch the Healthy Access Locator...

04:27 ...to highlight the many schools that have taken an active role in combating childhood obesity...

04:31 ...by introducing healthier school menus and including more physical activity during the school day.

04:37 We've incorporated additional data layers, including some data from the CDC, to be able to see how well we're doing...

04:44 ...and where we can do better due to high rates of child obesity.

04:47 Visually, we can see this.

04:50 We can search nationally or by city, state, or ZIP Code.

04:53 We can break down our search even more and look just at elementary schools, for example.

04:58 This gives us the ability to study this data from a really localized perspective.

05:04 Another unexpected benefit of GIS in the cloud was improved collaboration and coordination across USDA agencies.

05:10 USDA's economic research service informs public and private decision makers on issues involving food, farming...

05:17 ...natural resources, and role development.

05:20 Last year, my colleague Vince Breneman and his team turned to the Amazon cloud...

05:23 ...as part of their launch of a really cool GIS application, Your Food Environment Atlas.

05:29 The atlas looks at food environment factors such as store/restaurant proximity, food prices, and nutrition assistance programs, like SNAP.

05:38 Ultimately, the atlas helps to visualize food environment indicators...

05:42 ...and provide a spatial overview of a community's ability to access healthy food.

05:47 For ERS, going to the cloud was about managing risk.

05:51 Unlike FNS, they actually had staff and infrastructure to stand up their own map servers and applications.

05:57 However, the Food Environment Atlas was launched in parallel with Let's Move, and the response was tremendous.

06:03 Given the media's attention and rough usage estimates, ERS augmented their data center with the cloud for scalability and redundancy.

06:12 The cloud provided insurance that ERS could rapidly scale to handle traffic spikes and confidently deliver the food atlas application.

06:21 Cloud-based GIS proved valuable because ERS also needed a sandbox...

06:26 ...where they could quickly and easily develop new capabilities at a low cost.

06:30 Given the benefits, GIS in the cloud has become a significant part of their strategy...

06:34 ...and new applications will be deployed there going forward.

06:37 In fact, just this morning, ERS released new atlas functionality to the cloud.

06:42 And Secretary Vilsack will discuss these expanded capabilities at today's conference of mayors' meetings.

06:48 So you can see, everyone at USDA's excited about what we've accomplished with these tools.

06:54 FNS and ERS are extremely proud of how we're working together.

06:58 We're not just sharing data, but ideas and experiences about GIS in the cloud.

07:03 We're leveraging our collective geospatial resources to do more with less.

07:07 Further, these tools align really well with the administration's goals for cloud computing, open government, and transparency.

07:14 We've made information available on demand that was previously inaccessible.

07:19 And in doing so, we're advancing the USDA mission and providing a great service to our state partners...

07:23 ...program recipients, and the American taxpayer.