TAKING ADVANTAGE OF THE CLOUD!
The History of the NCTCOG Cooperative Data Project and How the Cloud Saved our Bacon

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What We Will Discuss

1. History of the NCTCOG Cooperative Data Project
2. Survey Results: How are participants using the data?
   1. Deciding on the Cloud
   2. Survey Results: How was the cloud delivery?
3. What’s Next?
History of the NCTCOG Cooperative Data Project
North Central Texas Council of Governments (NCTCOG)
Regional Spatial Data Cooperative Program

Cooperative purchase of High Resolution Orthophotography, LiDAR, Contours, Planimetrics & More!
The 2015 Project
Survey Results:
How are participants using the data?
Who Responded?

- 20 out of 67 2015 participants responded to survey request
- Primarily public sector
- Good cross-section of entity type and size
Types of Remote Sensing Data Purchased

- Orthophotography, Lidar, Contours & Planimetrics: 2
- Orthophotography, Lidar & Contours: 2
- Orthophotography & Planimetrics: 2
- Orthophotography & Lidar: 1
- Orthophotography: 13
City of Hurst - Citizen Engagement App
City of Cedar Hill - Hillshade Analysis
City of Denton - Tree Canopy Study

Existing UTC by Percent

- Total Unsuitable UTC %: 19%
- PPA Impervious %: 7%
- PPA Veg %: 44%
- UTC %: 31%
Deciding on the Cloud
Copying Data - Batch by Batch

- Took an enormous amount of time
- Batch DVD burner/labelers are just fun (not!)
- Drives & cables everywhere
- Larger deliveries would take multiple drives (especially before the advent of the terabyte drive)
- Very easy to make mistakes
Hand Delivery & Snail Mail
Redelivery
Where We Are Technologically
Where We Are Going
Online Basemaps, Open Data Portal
Vector Data Hosting
Software as a Service (SaaS) In The Cloud

Move to host applications “in the cloud”

Advantages:
• Immediate release of new functionality
• No need for installation on each computer
• Easier to maintain

Disadvantages:
• Need to take browser versions into account. Older browsers may not support functionality.
• Need to take device into account. Phone? Tablet? Desktop computer?
Platform as a Service
Amazon web Service (AWS) Download

- Relatively easy to use
- Scaleable
- Command line driven
- Each entity given individualized access
Survey Results:
How was the cloud delivery?
Cloud Success Rate

90%
Cloud Delivery Time

- No Response: 2
- Under an Hour: 6
- Several Hours: 9
- A Day or More: 3
Here’s what the participants said:

- “Overall experience very good. The only minor issue that I notice was on the instructions downloading the data from the cloud.”
- “It was good, however for less technical professionals a more streamlined, click this button to download might be better.”
- “For a smaller entity it doesn't really matter much, but for others a faster download would be nice.”
- “It could be a little more straightforward, but I'm not really complaining. I think the delivery solution was great and to the extent that we used it, it worked well. We have bigger problems on our side (with IT).”
The Takeaway

● Much, much faster! Cut delivery time from weeks to days
● Saved NCTCOG money - both in terms of man hours, gas and shipping and purchasing physical drives
● Made the participants happy. They got their data faster, had control of the process and learned a new technology.
What’s Next?
Delivery
This is what Shelley wants!
New interface with drop down menu - simplify the steps into just a few clicks

Ability to download multiple products - not just raster based (LiDAR, contours, etc.) & formats

More user-friendly

Streamlined communication for passing along information and trouble-shooting
Cloud Delivery Priorities - Woolpert

- Data is secure
- Load functionality must be easy to use
- Clients download only their data
- Client has his/her own login
- Client can download data via the web
- Download raster data by tile
- Efficient upload process so PMs can upload data
- Desktop client for bulk downloads
- Hosting the data as a Web Mapping Service through the cloud.
Ortho Imagery Download Instructions

This document is intended to be a comprehensive walkthrough of setting up the Amazon Web Services (AWS) Command Line Interface (CLI), authenticating to the AWS Simple Storage Service (S3), and downloading one or more imagery datasets to your local computer.

Preparing to download imagery

Before you can download your imagery dataset from the Amazon Cloud there are a few quick steps that you must perform in order to prepare your computer to talk to the Amazon Simple Storage Service (S3).

Installing the Amazon AWS Client tool

In order for your computer to communicate with S3, you need to download and install the AWS CLI provided by Amazon at the following link: https://aws.amazon.com/cli/

AWS Command Line Interface

The AWS Command Line Interface (CLI) is a tool used to manage your AWS services. With just a few tools installed on your computer, you can connect to your AWS services through your web browser.

1. Getting Started
2. CLI Reference
3. Individual Projects
4. Community Forum

Everything you need to install the CLI can be found on this page.

Configuring the Amazon CLI

Once you have the CLI installed, you must configure it using the Access Key ID and Secret Access Key provided to you in a separate email. An example access key set is as follows:

User Name | Access Key ID | Secret Access Key
----------|---------------|-------------------

To configure the CLI, please follow the steps below:

1. Open up the command prompt on your PC.

2. Enter the following command: "aws configure"

3. When prompted for your AWS Access Key ID enter: <the shorter of the two keys>

4. When prompted for your AWS Access Key enter: <the longer of the two keys>

5. Leave the next two prompts blank. <just press enter>.

Once you’ve successfully authenticated you can enter the following command to get a directory listing: "aws s3 ls". Please do this now to ensure you are properly authenticated.

You should see list of buckets, one of which is labeled "nctcog". If you don’t, please contact Jon Downey.

Getting ready to download your dataset

As part of your deliverable you should receive the following two files (at a minimum) in a separate email:

- s3download.bat
- files.txt

The set of files you receive will be dependent on your deliverable. You will receive a pair of files for each deliverable to be downloaded. The names may be different.

These two files are exclusively for your use and should not be shared with others within your organization or with other organizations who wish to have access to your data.

Before you get started downloading your imagery you need to create a folder on your computer to store your imagery in. Just make sure your folder has enough storage space to store all of your data. Once you have your new folder created, place the files you received (above) inside of that folder. For example, we created our "imagery" folder in the "d:\temp\imagery" location on our hard drive and placed our s3download.bat and files.txt files inside it.

If you are receiving more than one deliverable, you can make sub-directories to keep your deliverables organized. Just make sure to put a single pair of file in each sub-directory.
Receive Email from Woolpert

Thu 11/3/2016 9:51 AM
Cardwell, Marianne
Electronic Data Delivery

To: bhorder@kogeov.com
Cc: Park, Kent; Horakoto, Chris

Message
Download Instructions.pdf (993 KB)

Hi Bill,
Download Data via FTP
Take-Aways

- No Login Required
- Use Existing FTP Software
- More User Friendly and Familiar to ALL Users
- Can transfer any type of data to any number of clients - Orthos, Lidar, Planimetrics, Contours
Contact

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