A Cloud Conversation

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Who are we?

Born in the 1990's?

- ▶ You were born with a mobile device in your hand.

- ▶ You have in excess of 500 friends on Facebook.

- ▶ You only actually have ever met 10 of these friends, and it's likely that your best friend is virtual.

Who are we?

Born in the 1980's?

- ▶ You were born with mouse and game controller in your hand.

- ▶ You have 150 or so friends on Facebook of which many attended college with you, so you've met at least half of these friends.

- ▶ You have several very good virtual friends that you have never met.

Who are we?

Born in the 1970's?

- ▶ You were born with a game console in your hand.

- ▶ You have about 50 Facebook friends and find it a nice way to keep in touch with your family and friends.

- ▶ None of your friends are virtual, you have met and know them all personally.

Who are we?

Born in the 1960's?

- ► You were born with a baby rattle in your hand.

- ► You have 15 Facebook friends, all are either childhood friends or your immediate family and you've know them all since they were kids.

- ► You have no virtual friends.

Who are we?

Born before 1960?

- ▶ You were born with a stick in your hand.

- ▶ Facebook is a fad so you never joined up.
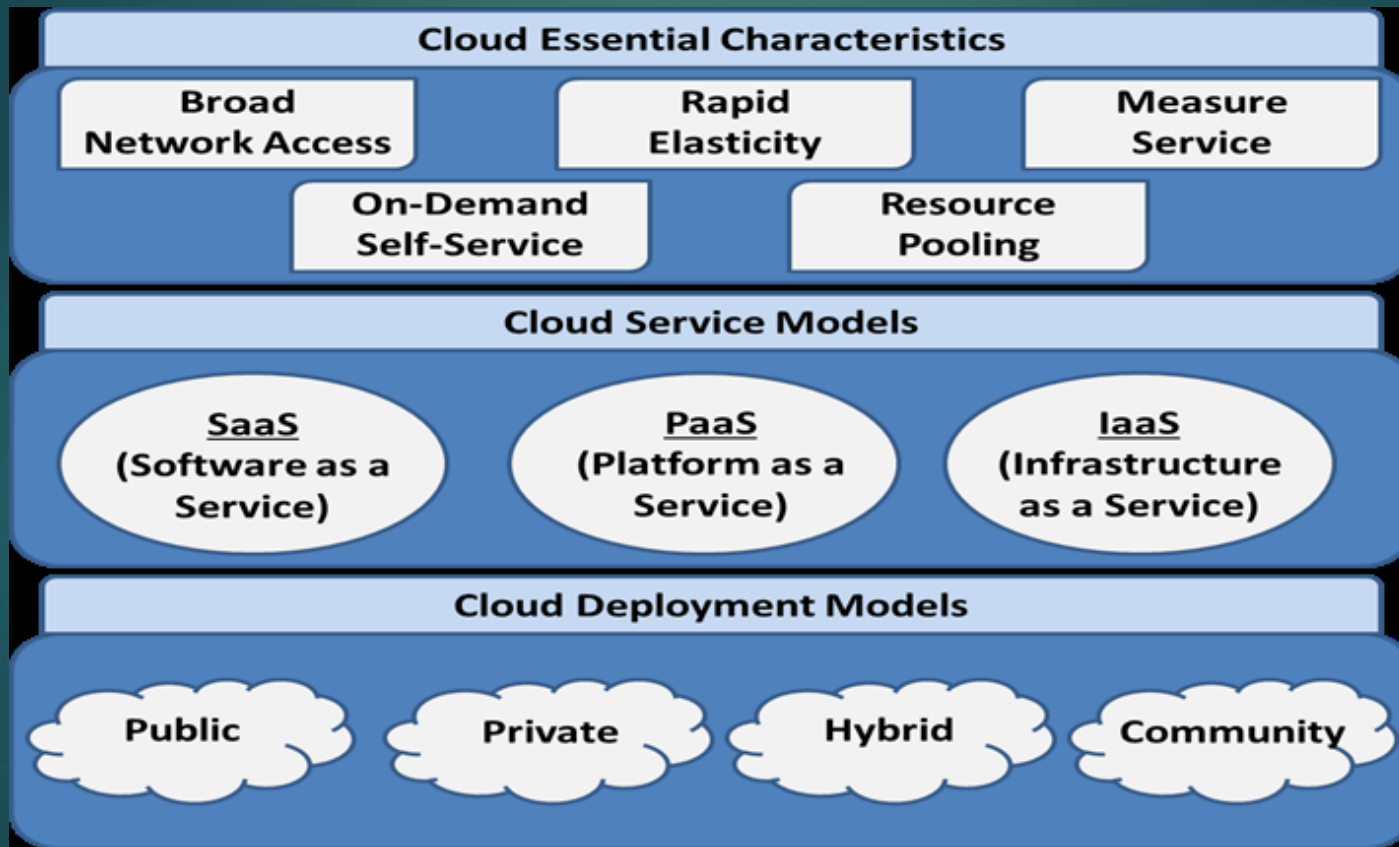
- ▶ You have no virtual friends.

Platform Services

- Microsoft Enterprise Services (Exchange, AD, SIM, SQL Server, SharePoint, Server OS)

- Unix/Windows Hardware (IBM, Data Domain)

- SAN Hardware (IBM, Hitachi)

- Enterprise Services (scanning, printing, Fax, Crystal)

- Customer Care Center (Device support)

- GIS Service Bureau (Countywide GIS, Application development services, Enterprise GIS Services, Departmental GIS support services)
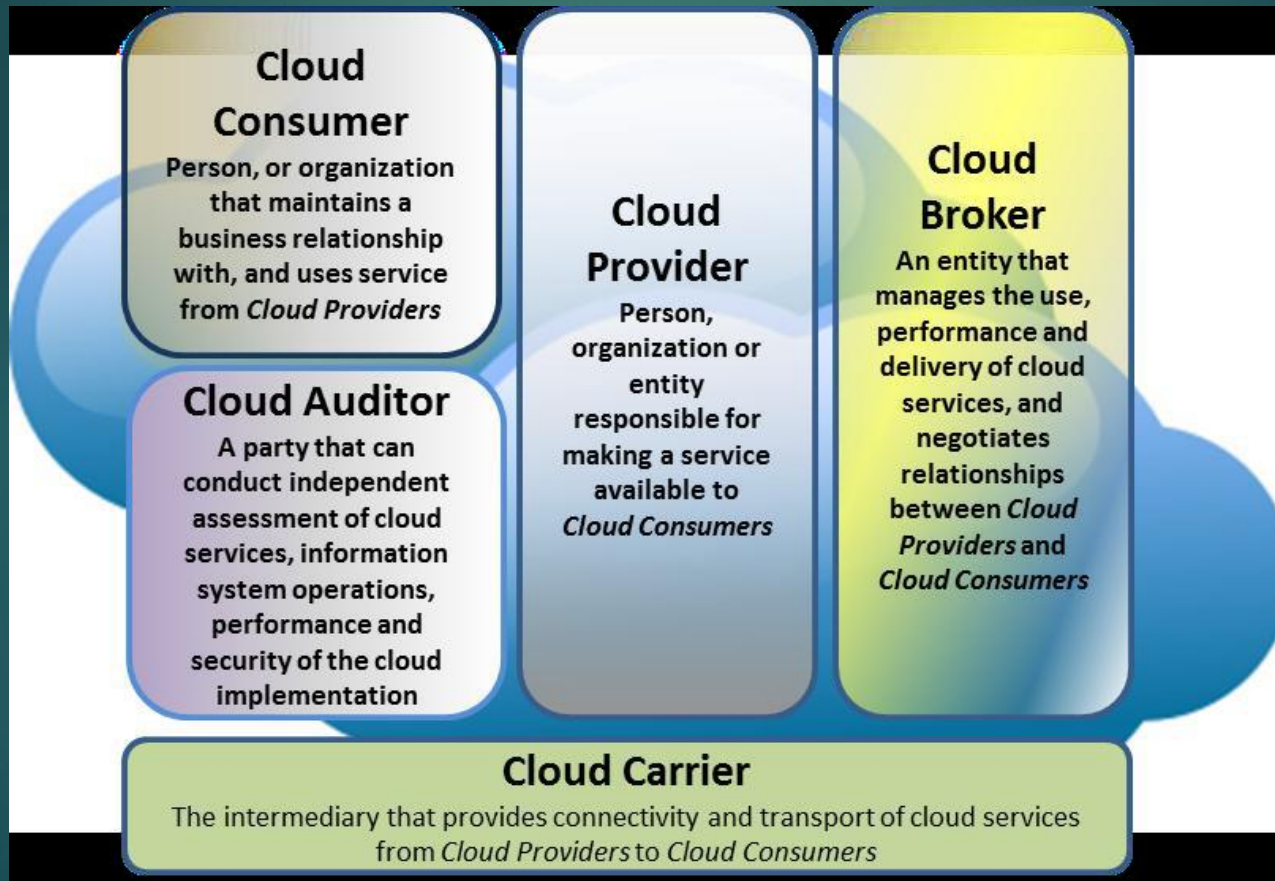
The NIST Cloud Model
National Institute of Standards and Technology, US Dept. of Commerce

Cloud Actors

Cloud Consumer
Person, or organization that maintains a business relationship with, and uses service from *Cloud Providers*

Cloud Auditor
A party that can conduct independent assessment of cloud services, information system operations, performance and security of the cloud implementation

Cloud Provider
Person, organization or entity responsible for making a service available to *Cloud Consumers*

Cloud Broker
An entity that manages the use, performance and delivery of cloud services, and negotiates relationships between *Cloud Providers* and *Cloud Consumers*

Cloud Carrier
The intermediary that provides connectivity and transport of cloud services from *Cloud Providers* to *Cloud Consumers*

Cloud Services (SaaS)

► Given the right circumstances, Software as a Service (SaaS) provides a faster and more cost-effective alternative for enterprises to achieve their business objectives.

► IT decision makers that want to consider SaaS must first assess the appropriateness of this model for their enterprise.

► SaaS is not appropriate for every enterprise.

► Understand the basics of the technology

Courtesy: InfoTech Research Group

SaaS Advantages

- Very fast time to market.

- In most cases, SaaS delivers lower TCO and higher ROI.

- Enterprises can dedicate their scarce IT resources to corporate initiatives that add more business value.

- Try the solution before investing in it.

- Benefit from functionality enhancements and application upgrades at no additional cost or effort.

- Scalable and highly configurable.

Courtesy: InfoTech Research Group

SaaS Disadvantages

▶ Customization is either not possible or very expensive. Companies need to assess if their requirements can be met with the configuration options of the SaaS solution.

▶ Integration with other applications is more challenging.

▶ There have been reliability problems with some SaaS products.

▶ Since data is stored at the vendor's site, data security and privacy can be an issue.

▶ Requires a larger bandwidth than the traditional on-premises model.

SaaS Assessment

▶ Based on your high level TCO analysis, does the on-demand alternative offer lower TCO than the on-premises model?

▶ Do you lack IT infrastructure, resources and skills to implement and maintain a commercial enterprise application?

▶ Are there other IT resources that have higher priority than the project being evaluated?

▶ Is the uptime level from SaaS solutions (usually 95% or higher) acceptable for your enterprise?

▶ Do you believe - at this point - that your requirements can be met by standard configuration options versus customizations?

SaaS Assessment

▶ Are you willing to adjust your business processes to those embedded in the SaaS application?

▶ From what you know at this point, do you have complex integration requirements (i.e. interfaces with other systems)?

▶ Are you comfortable with the notion of keeping the data at a remote hosting facility, outside of your control?

▶ Do you have the expertise or are you willing to develop the expertise to manage service providers? Has your organization been successful at it?

▶ Are you okay with the budget for this application coming from your operating budget rather than from your capital budget?

Courtesy: InfoTech Research Group

Influence of Time and Number of Users in the TCO
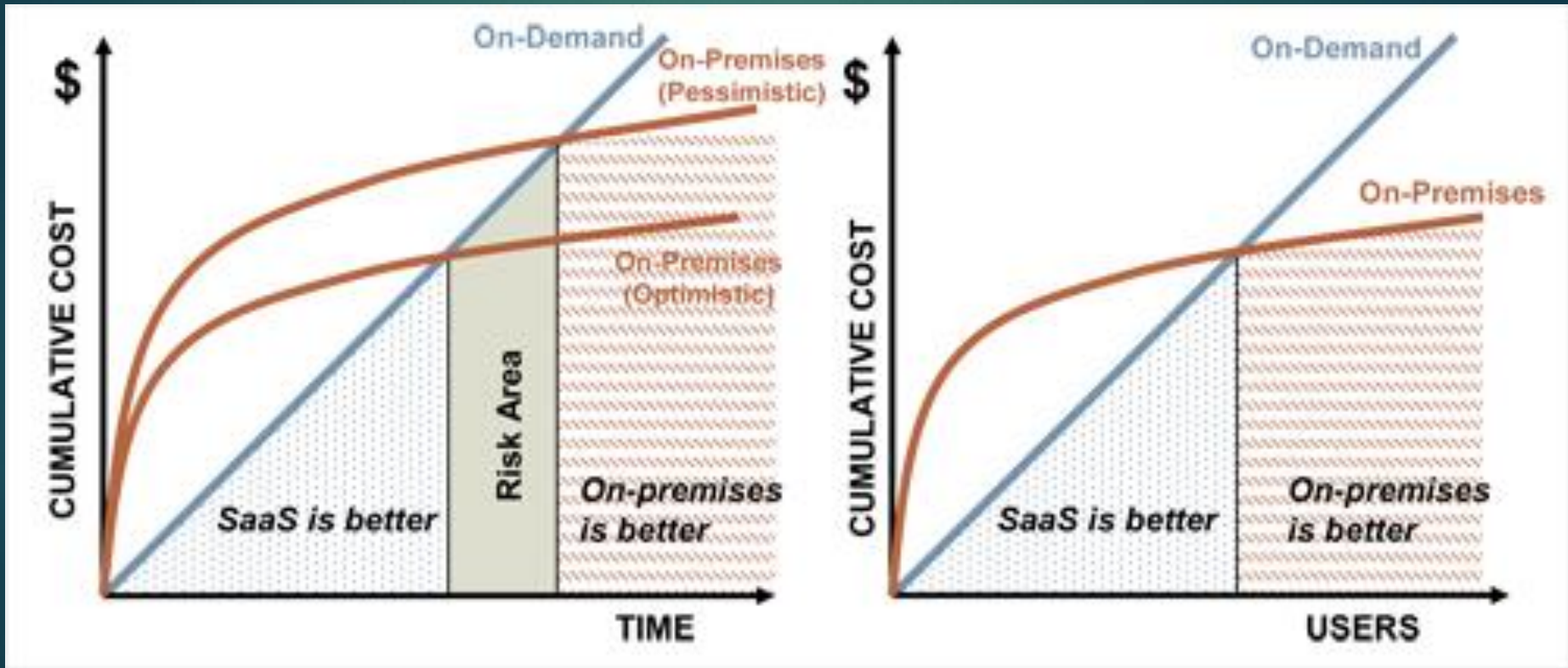
A SaaS Analysis (TCO & Value)

	Office Standard 2016 Lic. Only	Office Standard 2016 Lic/SA	Office 365 (Office Pro Plus)
3 yr Cost	$ 1,200,000.00	$ 2,300,000.00	$ 1,600,000.00
6 yr Cost	$ 1,200,000.00	$ 3,400,000.00	$ 3,200,000.00
Offset the Roll out			
Buy what you need			
We Own the license			
Security Patches			
New Feature Patches			
Upgrades			
SharePoint Integration			

A SaaS Analysis (TCO & Value)

|	Office Standard 2016 Lic. Only	Office Standard 2016 Lic/SA	Office 365
Unify Integration			
Employee Copies			
Multiple copies for multiple devices			
OneDrive			
Cloud e-mail Archive			
Business Analytics			
Training Credits			
Roaming Use License (Citrix/VDI)			
Lync			

A SaaS Advantage

Enterprises can dedicate their scarce IT resources to corporate initiatives that add more business value.

Be Strategic in Your GIS

What Does it Mean For GIS to Be Strategic?

► To transcend singularly focused business tasks or transactions

► Bring knowledge and intelligence, not just data, to bear on decision making and operations

► To provide understanding of the past, the present and the future

► To drive policy formulation and implementation
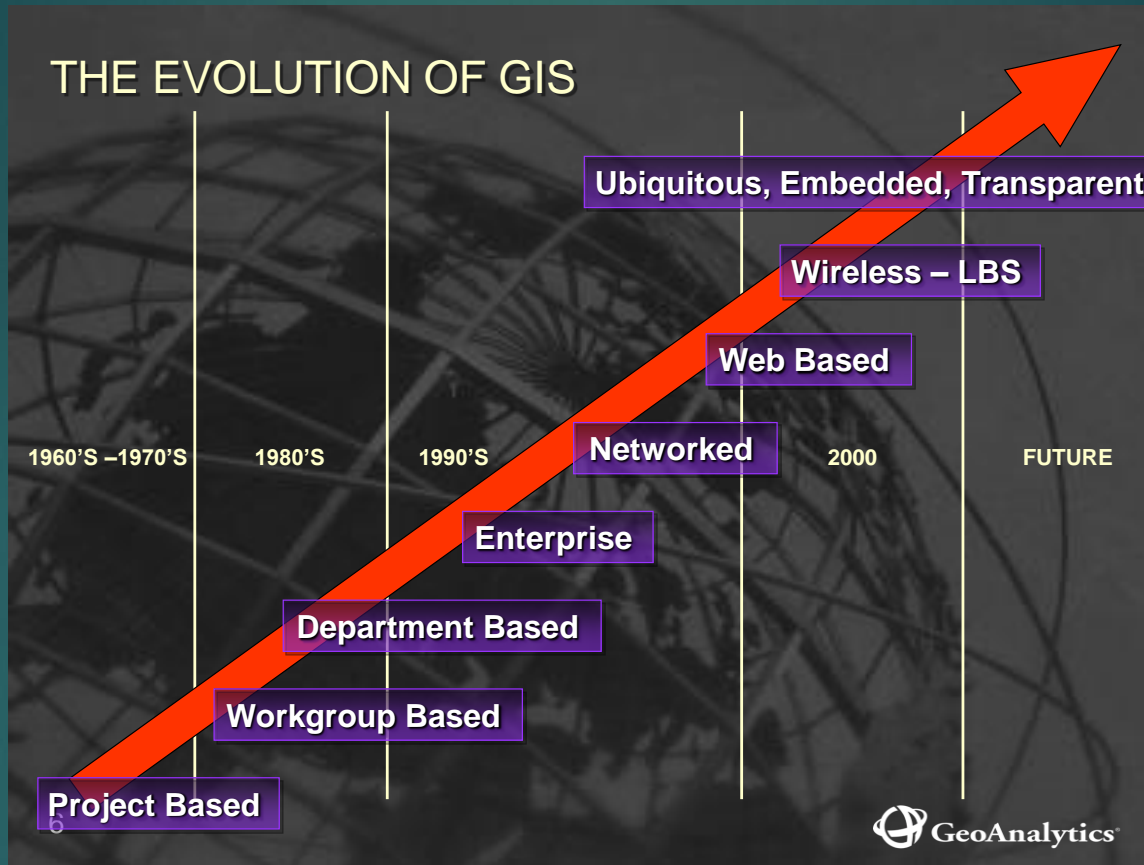
Where is your organization?

Where is Palm Beach County?

Palm Beach County's SaaS Assessment

▶ GIS is highly integrated into County business applications. (permitting, crime, property, emergency management, community services, E911, fire and police, public safety, water utilities, code enforcement, etc.)

▶ Infrastructure investment has been made.

▶ GIS resources exist and are available.

▶ Use of GIS data is ubiquitous.

▶ A Mature Enterprise GIS system.

▶ SaaS Assessment score: 2

Palm Beach County GIS Cloud

- **Provider** versus **Consumer?**
- We choose to be a Cloud **Provider**
  - Host data, Provide map services, Provide Consulting, Develop applications
- Provide a secure and stable business environment
- Provide GIS resources and expertise
- Provide GIS Applications and support
- Provide GIS Infrastructure and Network

PBC Strategic Decision to Build

- Built on Oracle & Web technology.

- Teams build apps across departments against known data sources.

- No silos, so data can be integrated with other software.

- Provides unfettered access and analysis of data across departments.

- Provide quick response to new business needs.

PBC Strategic Decision to Build

- One "company" is building the software for all the different types of data

- Apps are reused and republished

- There are policy challenges to analyzing and mining the data, but we can do it

- In a political environment, non-IT decision-makers determine how the money will be spent

- Mitigate risk by building yourself

Cloud Trends

- Vendors are allowing leasing and on premise to sweeten the pot

- Lease vs Buy

- GIS Cloud vendors

- Public and Private Clouds

  - They <u>will</u> go after those government certifications

- Hybrid Cloud Implementation

In Summary

- Enterprise GIS Maturity assessment.
- Understand you are competing for IT Resources.
- Strategic use of SaaS/COTS.
- Integrate GIS into business processes.
- Information is key to IT Decision makers.

Questions?

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