HEADQUARTERS OG6, PA

AC of S for CEIS, G6	
Deputy G6	
Ex-O	
Chief, AB	
Chief, SEIB	
Chief, PBB	
Chief, CMB	
Chief, MMB	
Chief, PRB	
Chief, SOB	
Asst Chief, PRB	
Asst Chief, MMB	
Chief Clerk	
Secretary	

MESSAGE FORM

(INSTRUCTION: FILL-UP BOXES INSIDE DOUBLE LINES ONLY)

PRECEDENCE ACTION/PRECEDENCE INFO
"PRIORITY"

FM: CG, PA

TO: All Unit Commanders
Attn: **G6/Signal Officer/IS Officer**

INTERNAL: All G-Staff, Personal, Special &
Tech Staff, C, AOC/SAGS/XA

INFO: **CSAFP**
Attn: J6

GROUP:	09 March 2016
SECURITY CLASSIFICATION:	**CONFIDENTIAL**
ORIGINATOR:	**6/CMB 0903-47-2016**

1. References:

    a. Command Guidance, and;
    b. VAPT and PANET Monitoring Result.

2. As per above references, forwarded is the Cybersecurity Bulletin Number 050 with topic regarding **The Basics of Cloud Computing.**

3. ITR, all concerned G6/Signal Officers/Information System Officer/NCOs are reminded to include this information as part of TI & E on all of its subordinate units as part of enhancing the Cybersecurity Awareness of the Philippine Army.

4. For information and widest dissemination.

DRAFTER'S NAME AND TITLE	PHONE NR:
LTC JOEY T FONTIVEROS (INF) PA Chief, CMB, OG6, PA	6630
RELEASER'S NAME AND TITLE	
COL VENER ODILON D MARIANO GSC (SC) PA AC OF S FOR CEIS, G6, PA	

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6/CMB   09 March 2016

CYBERSECURITY BULLETIN

Cybersecurity Bulletin: #50

THE BASICS OF CLOUD COMPUTING

What is the cloud?

Cloud computing is a subscription-based service where you can obtain networked storage space and computer resources. One way to think of cloud computing is to consider your experience with email. Your email client, if it is Yahoo!, Gmail, Hotmail, and so on, takes care of housing all of the hardware and software necessary to support your personal email account. When you want to access your email you open your web browser, go to the email client, and log in. The most important part of the equation is having internet access. Your email is not housed on your physical computer; you access it through an internet connection, and you can access it anywhere. If you are on a trip, at work, or down the street getting coffee, you can check your email as long as you have access to the internet.

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Your email is different than software installed on your computer, such as a word processing program. When you create a document using word processing software, that document stays on the device you used to make it unless you physically move it. An email client is similar to how cloud computing works. Except instead of accessing just your email, you can choose what information you have access to within the cloud.

How can you use the cloud?

The cloud makes it possible for you to access your information from anywhere at any time. While a traditional computer setup requires you to be in the same location as your data storage device, the cloud takes away that step. The cloud removes the need for you to be in the same physical location as the hardware that stores your data. Your cloud provider can both own and house the hardware and software necessary to run your home or business applications.

This is especially helpful for businesses that cannot afford the same amount of hardware and storage space as a bigger company. Small companies can store their information in the cloud, removing the cost of purchasing and storing memory devices. Additionally, because you only need to buy the amount of storage space you will use, a business can purchase more space or reduce their subscription as their business grows or as they find they need less storage space.

One requirement is that you need to have an internet connection in order to access the cloud. This means that if you want to look at a specific document you have housed in the cloud, you must first establish an internet connection either through a wireless or wired internet or a mobile broadband connection. The benefit is that you can access that same document from wherever you are with any device that can access the internet. These devices could be a desktop, laptop, tablet, or phone. This can also help your business to function more smoothly because anyone who can connect to the internet and your cloud can work on documents, access software, and store data. Imagine picking up your smartphone and downloading a .pdf document to review instead of having to stop by the office to print it or upload it to your laptop. This is the freedom that the cloud can provide for you or your organization.

Types of Cloud

There are different types of clouds that you can subscribe to depending on your needs. As a home user or small business owner, you will most likely use public cloud services.

1. Public Cloud - A public cloud can be accessed by any subscriber with an internet connection and access to the cloud space.
2. Private Cloud - A private cloud is established for a specific group or organization and limits access to just that group.
3. Community Cloud - A community cloud is shared among two or more organizations that have similar cloud requirements.
4. Hybrid Cloud - A hybrid cloud is essentially a combination of at least two clouds, where the clouds included are a mixture of public, private, or community.

Choosing a Cloud Provider

Each provider serves a specific function, giving users more or less control over their cloud depending on the type. When you choose a provider, compare your needs to the cloud services available. Your cloud needs will vary depending on how you intend to use the space and resources associated with the cloud. If it will be for personal home use, you will need a different cloud type and provider than if you will be using the cloud for business. Keep in mind that your cloud provider will be pay-as-you-go, meaning that if your technological needs change at any point you can purchase more storage space (or less for that matter) from your cloud provider.

There are three types of cloud providers that you can subscribe to: **Software as a Service (SaaS), Platform as a Service (PaaS),** and **Infrastructure as a Service (IaaS).** These three types differ in the amount of control that you have over your information, and conversely, how much you can expect your provider to do for you. Briefly, here is what you can expect from each type:

1. **Software as a Service** - A **SaaS** provider gives subscribers access to both resources and applications. **SaaS** makes it unnecessary for you to have a physical copy of software to install on your devices. **SaaS** also makes it easier to have the same software on all of your devices at once by accessing it on the cloud. In a **SaaS** agreement, you have the least control over the cloud.

2. **Platform as a Service** - A **PaaS** system goes a level above the Software as a Service setup. A **PaaS** provider gives subscribers access to the components that they require to develop and operate applications over the internet.

3. **Infrastructure as a Service** - An **IaaS** agreement, as the name states, deals primarily with computational infrastructure. In an **IaaS** agreement, the subscriber completely outsources the storage and resources, such as hardware and software, that they need.

Security

The information housed on the cloud is often seen as valuable to individuals with malicious intent. There is a lot of personal information and potentially secure data that people store on their computers, and this information is now being transferred to the cloud. This makes it critical for you to understand the security measures that your cloud provider has in place, and it is equally important to take personal precautions to secure your data.

The first thing you must look into is the security measures that your cloud provider already has in place. These vary from provider to provider and among the various types of clouds. What encryption methods do the providers have in place? What methods of protection do they have in place for the actual hardware that your data will be stored on? Will they have backups of my data? Do they have firewalls set up? If you have a community cloud, what barriers are in place to keep your information separate from other companies? Many

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cloud providers have standard terms and conditions that may answer these questions, but the home user will probably have little negotiation room in their cloud contract. A small business user may have slightly more room to discuss the terms of their contract with the provider and will be able to ask these questions during that time. There are many questions that you can ask, but it is important to choose a cloud provider that considers the security of your data as a major concern.

Conclusions

To summarize, the cloud provides many options for the everyday computer user as well as large and small businesses. It opens up the world of computing to a broader range of uses and increases the ease of use by giving access through any internet connection. However, with this increased ease also come drawbacks. You have less control over who has access to your information and little to no knowledge of where it is stored. You also must be aware of the security risks of having data stored on the cloud. The cloud is a big target for malicious individuals and may have disadvantages because it can be accessed through an unsecured internet connection.

If you are considering using the cloud, be certain that you identify what information you will be putting out in the cloud, who will have access to that information, and what you will need to make sure it is protected. Additionally, know your options in terms of what type of cloud will be best for your needs, what type of provider will be most useful to you, and what the reputation and responsibilities of the providers you are considering are before you sign up.

References:

This was cross posted from:
https://www.us-cert.gov/sites/default/files/publications/CloudComputingHuthCebula.pdf

DO YOU WANT TO KNOW MORE? TALK TO US.

POCs:
a. **LTC JOEY T FONTIVEROS (INF) PA** – Chief, Cyberspace Management Branch, OG6, PA at Landline Telephone Nr: 02-845-9555 Local 6630 and Mobile Telephone Nr: 0917-628-1057. Email: fontiverosjt@army.mil.ph.

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