

*Army Vision: By 2028, a world-class Army that is a source of national pride.*

HEADQUARTERS  
PHILIPPINE ARMY  
**OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR  
COMMAND AND CONTROL COMMUNICATIONS, AND CYBER SYSTEMS, G6**  
Fort Andres Bonifacio, Metro Manila

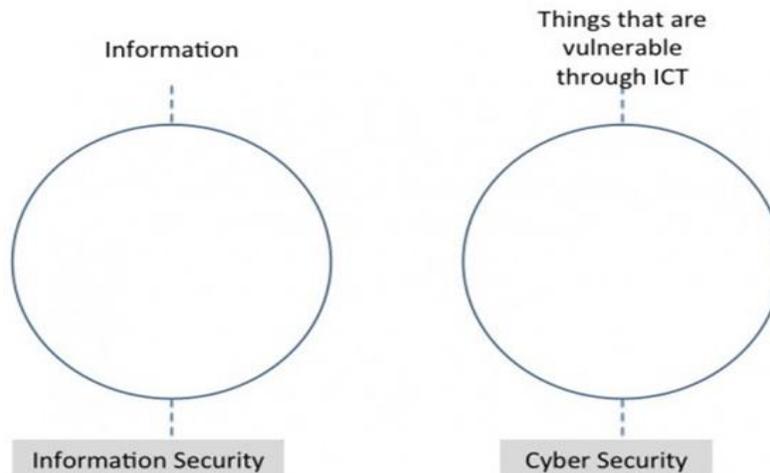
6/CMB

28 November 2016

**CYBERSECURITY BULLETIN**

**Cybersecurity Bulletin: #74**

**CYBERSECURITY VERSUS INFORMATION SECURITY**



Information security, cybersecurity, IT security, ICT security, data security – do they all mean the same thing?

No, they don't, although the terms are often, or should we say usually, used interchangeably. A new paper by von Solms and van Niekerk (2013) gives a good presentation as follows:

Information security is about the protection of information, regardless of whether it is stored digitally or not. ICT security is about the protection of information and communications technologies – i.e. hardware and software. The reason why ICT security and information security often are confused is probably because a lot of information is stored and transmitted using ICT. To protect such information, one must protect the technology that is used to store and transmit it.

IT security is the protection of information technologies. In practice there is no difference in ICT security and IT security.

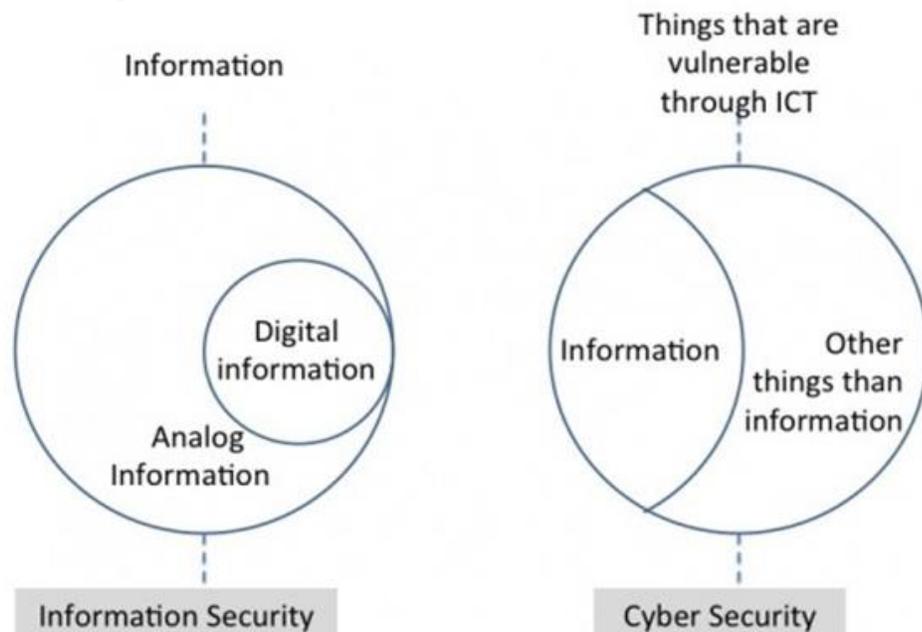
*Cybersecurity Bulletin #74*

*Army Core Purpose: Serving the people. Securing the land.*

*Army Vision: By 2028, a world-class Army that is a source of national pride.*

Data security is about securing data – which brings us to a discussion on what the difference could be between information and data. Data on its own carries no meaning. Data becomes information when it is interpreted in a context and given meaning. For example, “17101977” is data. If we know that this is a person’s birthdate, it has become information. Losing data does not need to be the end of the world if nobody but you can understand what the data means. If other people don’t have the key (the context) to interpret the data and give it meaning, it is useless to them. However, this fact does not help us to distinguish between computer security and information security. In many cases, other people may acquire the context which will give the data meaning, and sometimes data is stored with enough information to extract meaning (for example if it is stored as “Name: Petter Hansen. Date of Birth 17101977”). For all practical considerations, we can say that data security and information security are the same.

Cybersecurity is not so easy to understand. Is it about securing “cyber”? Cybersecurity is about securing things that are vulnerable through ICT. Let’s illustrate this using a Venn diagram.



The left set contains all the information in the world. We can split this into two sets - digital information and non-digital (analog) information. Digital information is information that is stored and transferred via ICT while analog information is not stored or transferred via ICT. There is still much that is not stored digitally, such as old books, handwritten notes and information you have been given verbally.

To the right is the set of things that are vulnerable through ICT. Software can physically damage a powerplant that has a control system with a software component. We can open a water lock in a hydroelectric power plant, raise the temperature in the cooling system of a nuclear power plant, double the injection dose of an insulin machine, change traffic lights, unlock and start modern cars, increase the

*Cybersecurity Bulletin #74*

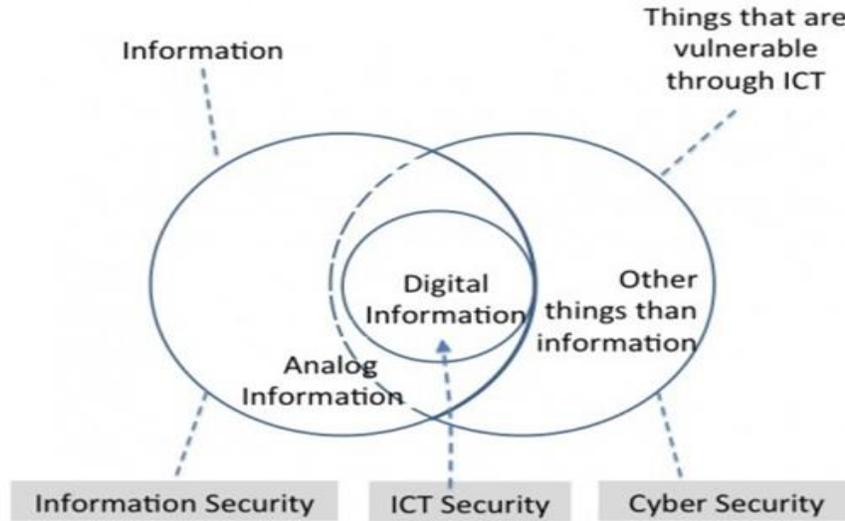
*Army Core Purpose: Serving the people. Securing the land.*

*Army Vision: By 2028, a world-class Army that is a source of national pride.*

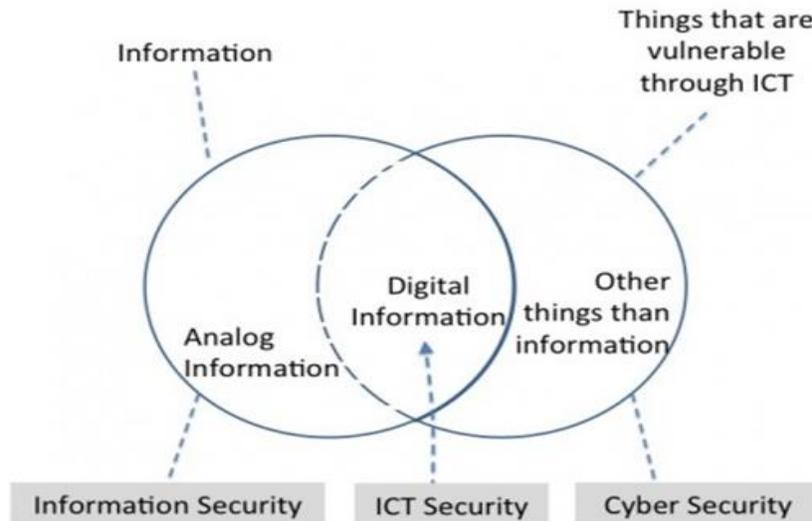
frequency of a pacemaker, remove power to major cities and turn on the sprinklers in a library.

For comparison it is useful to divide this set into the set of information that is vulnerable through ICT (both physically and digitally represented) and the set of non-information that is vulnerable through ICT (such as energy networks, medical appliances, cars and traffic lights).

The two main sets overlap, as shown below. We have now illustrated the relationship between ICT security, cybersecurity and information security (and it is assumed here that ICT security is synonymous with IT security).



Also remember that information that is not digital can also be vulnerable through ICT, such as books in a library if the sprinkler system can be controlled via ICT. For practical reasons, we will assume that this set is small, and simplify the figure as follows:



*Army Vision: By 2028, a world-class Army that is a source of national pride.*

The right set includes absolutely everything and everyone that can be accessed through cyberspace. It includes nature, animals and people. An example is if someone sends untreated septic into the city's drinking water. Another example, which

can be found in von Solms and van Niekerk (2013), is cyber bullying – bullying using computers, mobile phones, social networks, etc. One could argue that everything in this world, in theory, is vulnerable through ICT. However, the defining characteristic of cybersecurity is that what is to be protected should be protected because of the security challenges posed by the use of ICT.

There are many definitions that differ from the descriptions above. But many attempts at definitions describe how the concepts are used, even when they are used without insight, reflection or rigor. The result is that the concepts in practice become interchangeable and therefore mean the same.

**Reference:**

**This was cross posted from:**

<https://ccis.no/cyber-security-versus-information-security/>

**DO YOU WANT TO KNOW MORE? TALK TO US.**

**POC:**

**a. LTC JOEY T FONTIVEROS (SC) PA** – Chief, Cyberspace Management Branch, OG6, PA at Landline Telephone Nr: 02-845-9555 Local 6630 and Mobile Telephone Nr: 0917-6281057. Email: fontiverosjt@army.mil.ph.