ICT security
in Lao PDR

National Authority for Science and Technology (NAST).

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Status of ICT in Laos

Total population		million
Rural population as a percentage of total	69	percent
GDP per capital	678	US$
Literacy rate	85	percent
Tele density	28	percent
Telephone lines per 100 inhabitants	2.59	
Cell phone subscribers per 100 inhabitants	25.4	
Computer per 100 inhabitants	1.7	
Internet users per 100 inhabitants	1.77	
Internet hosts per 10,000 inhabitants	0.022	percent
Internet cafes per 10,000 inhabitants	0.71	percent
Number of websites in Lao Languages	296	
Number of websites in English	660	

Information Security in Lao PDR

❖ Background of the Survey

Information security, as part of the national security, is becoming more and more important today. It is important because we are becoming a network-connected society.

Being one of the essential components of national infrastructure, the security of the national network is a key factor to ensure the nation's politics safety, economy safety and social stability. We must assure the safe operation of the national network

In order to give thrust to National Network Security development, NAST cooperates y, carried out a survey about Security Management of Information Technology using to design and create information technology electrical protection system.

What is National Information Security?

1

The networked world is now facing many threats, which we call "information security problems". In other words, information security problem is twinborn with the network construction. The importance of information security is the same as it of network.

2

What does the national information security really mean? We can simply say that information security includes data security and network security. For a nation, firstly we must assure that the network can operate very well. Secondly, all the risks can be controlled by our security measures. And at the same time, we must keep the data's confidentiality, integrality and availability.

3

In a word, the value of the national network is to enable us to communicate with each other, and the value of the security construction is to ensure that the network can operate safely, which is extremely important to the government network.

The Importance of National Information Security

----Why information security, or network security, is so important?

1 **2** **3**

National information security is national security.
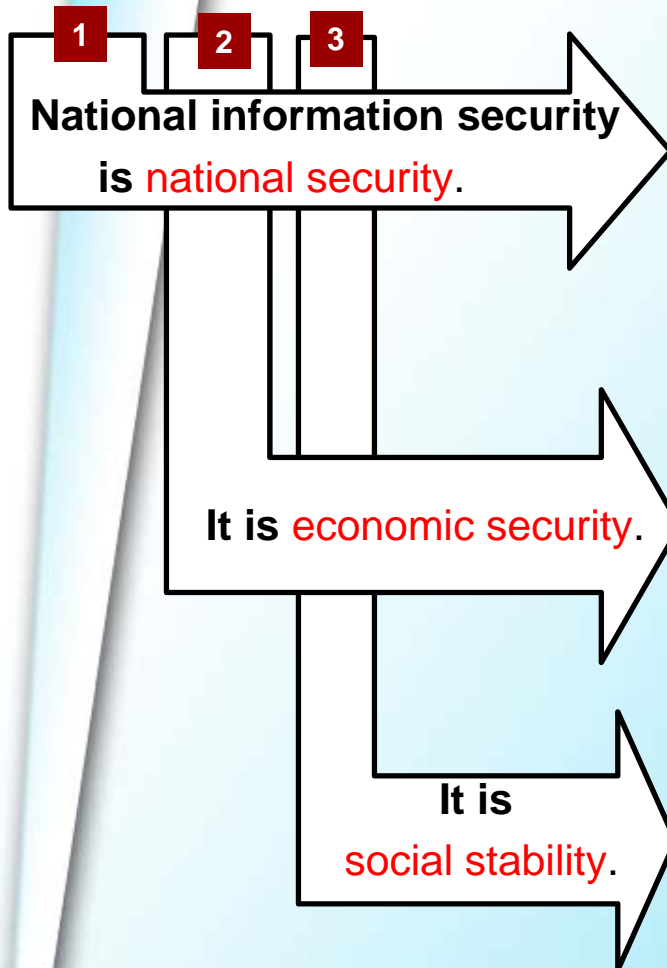
> The national network is the network infrastructure of Laos. For example, if the national network had something wrong, all the government departments couldn't communicate with each other via the network, and it would lower the efficiency of the government. Even worse, the network connects the whole world now, so if somebody or some country invades us through the network, such as collapse our network, steal important information, our national security is under aggression.

It is economic security.

> For instance, if the backbone network collapsed, all the service based on it would also be down. People couldn't use it to undertake any economic activities, such as trading, querying airlines and train schedule. On the other hand, if the bank data, tax data were modified by hacker, it would bring great economic loss.

It is social stability.

> The people's lives are more and more closely related to the network, if the network was down, it might arouse social instability. At the same time, the government couldn't use the network to know current conditions.

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Main Threats to National Information Security

There are various security threats to the National Network:

- Hacker intrusion

- Worms and viruses

- Illegal users randomly accessing National Networks

- Internal legal users misusing their authorities

- Information asset loss

- DoS / DDoS attack

- Illegal VoIP and P2P Bandwidth Abuse

Internet

Main Threats to National Information Security

There are various security threats to the National Network:

- Spam mail
- Mail spoofing
- MSN worm
- USB Threats
- Spyware

ABSOLUT HACKER.

Hacker

Internet

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Status Information Security in Lao PDR (con't)

❖ Survey Results

1. Basic Information of the Departments:

Basic Information of the Departments.xls

2. Network Infrastructure of the Departments:

Network Infrastructure of the Departments

3. Network Security Situation:

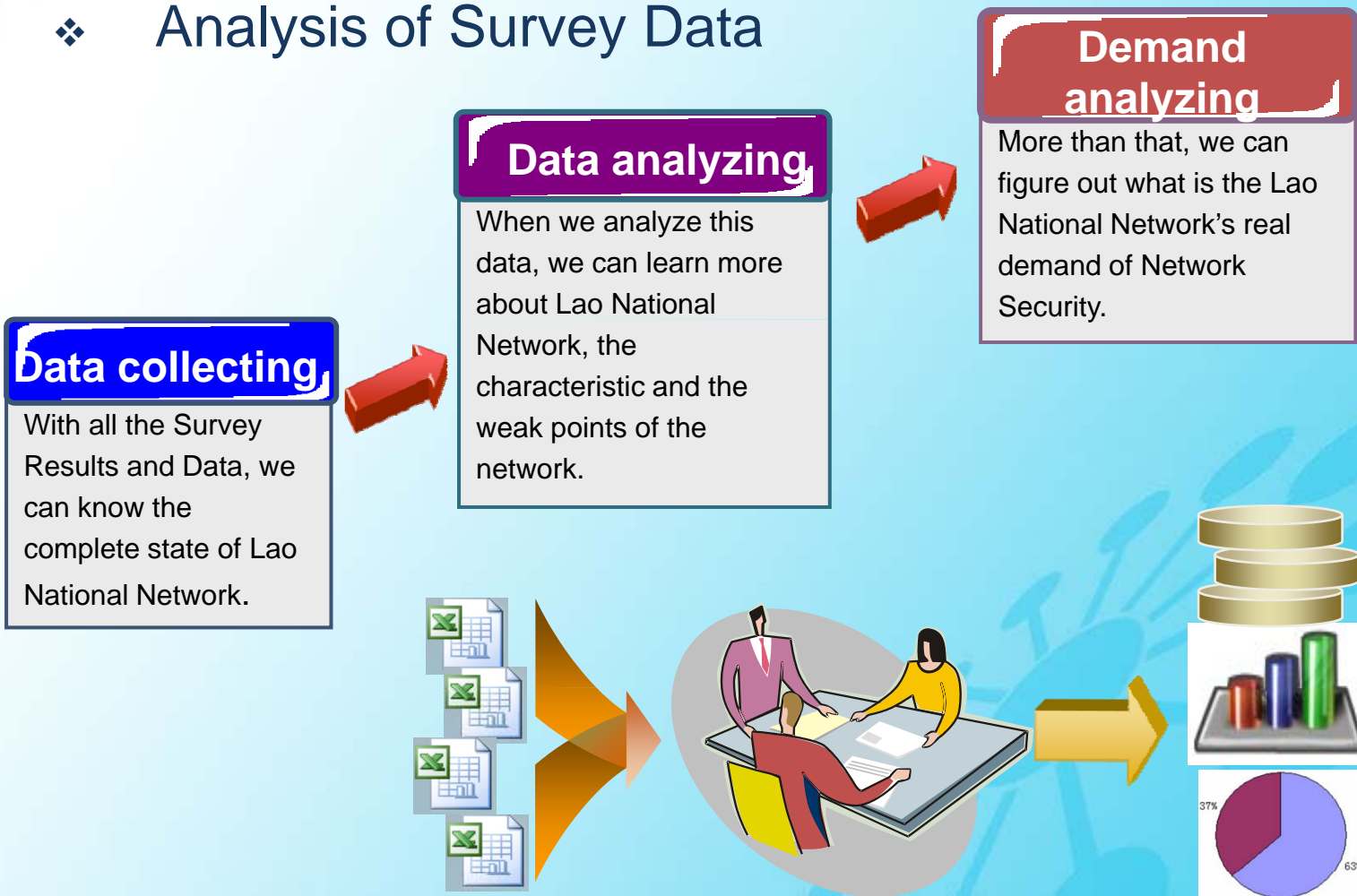Network Security Situation

4. Requirement of Network Security:

Requirement of Network Security.xls

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❖ Analysis of Survey Data

Data collecting

With all the Survey Results and Data, we can know the complete state of Lao National Network.

Data analyzing

When we analyze this data, we can learn more about Lao National Network, the characteristic and the weak points of the network.

Demand analyzing

More than that, we can figure out what is the Lao National Network's real demand of Network Security.

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1. Importance of Network Security
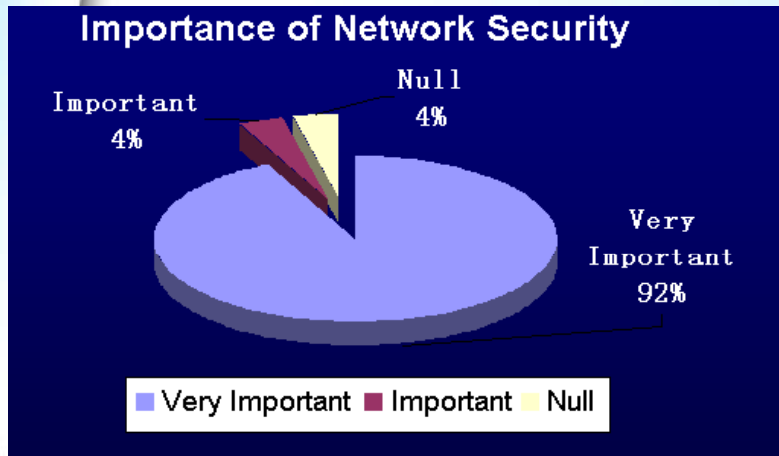
More than **92%** of the department considered Network Security as a "Very Important" characteristic, and others considered Network Security as "Important" or didn't answer this question.
Network Security had already been regarded as the first thing to be considered when we setup a network.
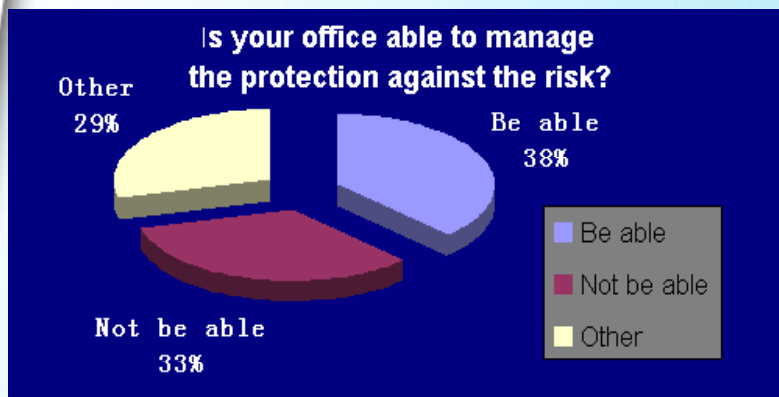
Only **1/3** of the departments think that their office is able to manage the protection against the risk. **2/3** of the department didn't have enough protection against the risk.
We are becoming a network-connected society, as the development and implementing of IT infrastructure, this problem should be considered seriously.

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2. Distribution of terminals and servers

Big companies And carriers

With large number of terminals and servers in their network, they need Security Solutions to guarantee the network works normally, otherwise, not only the office network service, but also the services they provide to consumers bass on network will face many threats.
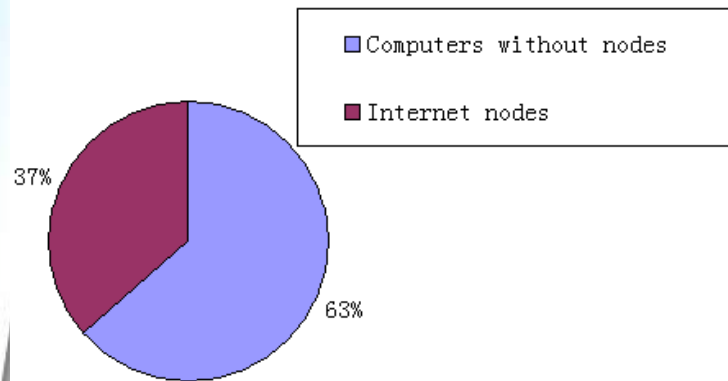
Government departments

There will be more services bass on network, and with the implementing e-Government programs in Laos, we can see a great development potential in network security.
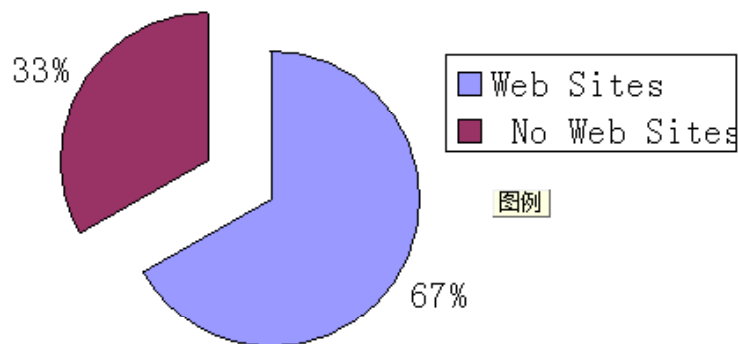
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State of Internet Application

Internet nodes/Computers in Vient

- Computers without nodes
- Internet nodes

37%

63%

Web Sites of Department

- Web Sites
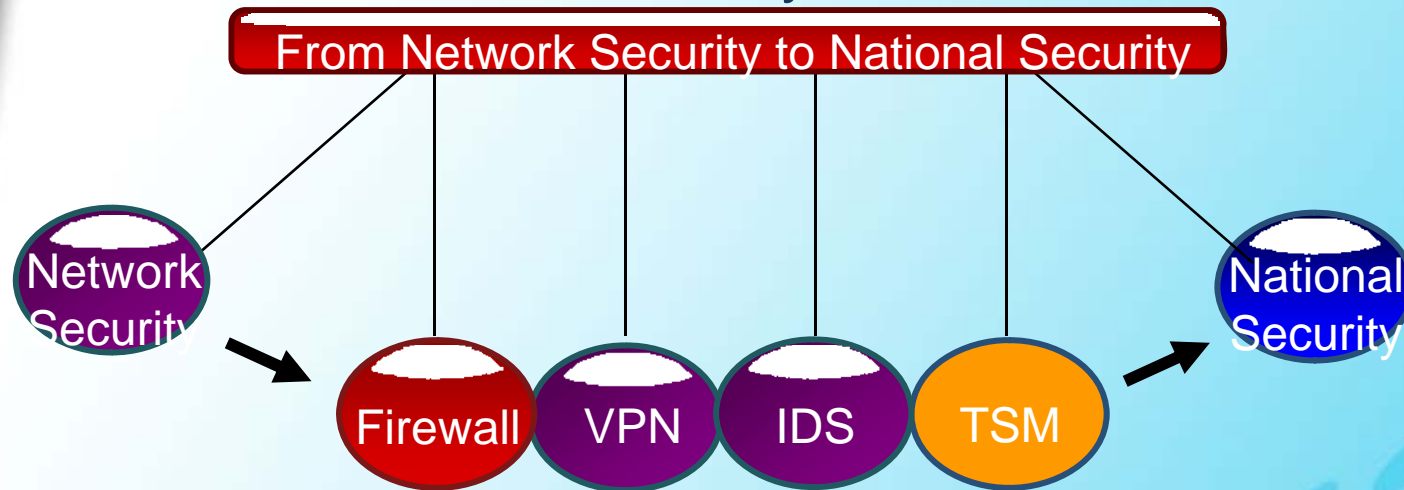- No Web Sites

图例

33%

67%

From the figures above: about **2/3** of the computers didn't have internet connection yet, and **2/3** of the departments didn't provide a web site for Public services yet.

With the implementing e-Government programs, we can see a great development potential in network security, same as network infrastructure.

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Status Information Security in Lao PDR (con't)

State of Network Security

From Network Security to National Security

Network Security → Firewall | VPN | IDS | TSM → National Security
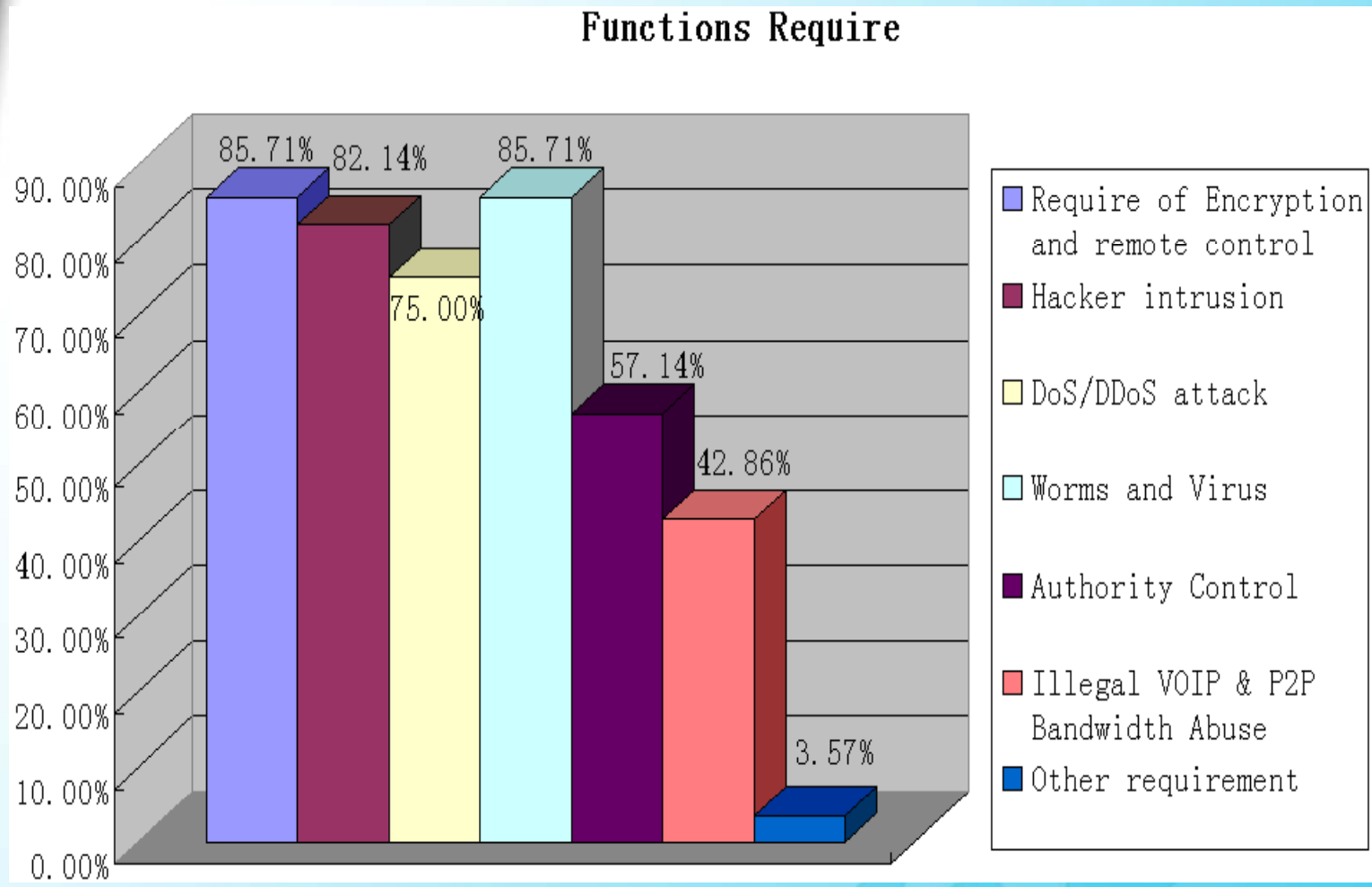
Most of the departments don't have enough facilities to guarantee their network security. More than **1/3** of the departments don't have firewall; nearly **90%** of the departments don't use IPSec or other encryption facilities; nearly **80%** of departments don't use Proxy; and only about **20%** of departments are using Anti-Virus or some other security systems to defend WORM, VIRUS and SPAM.

Situation is unacceptable, especially to the government departments who are responsible for the nation's politics safety, economy safety and social stability.

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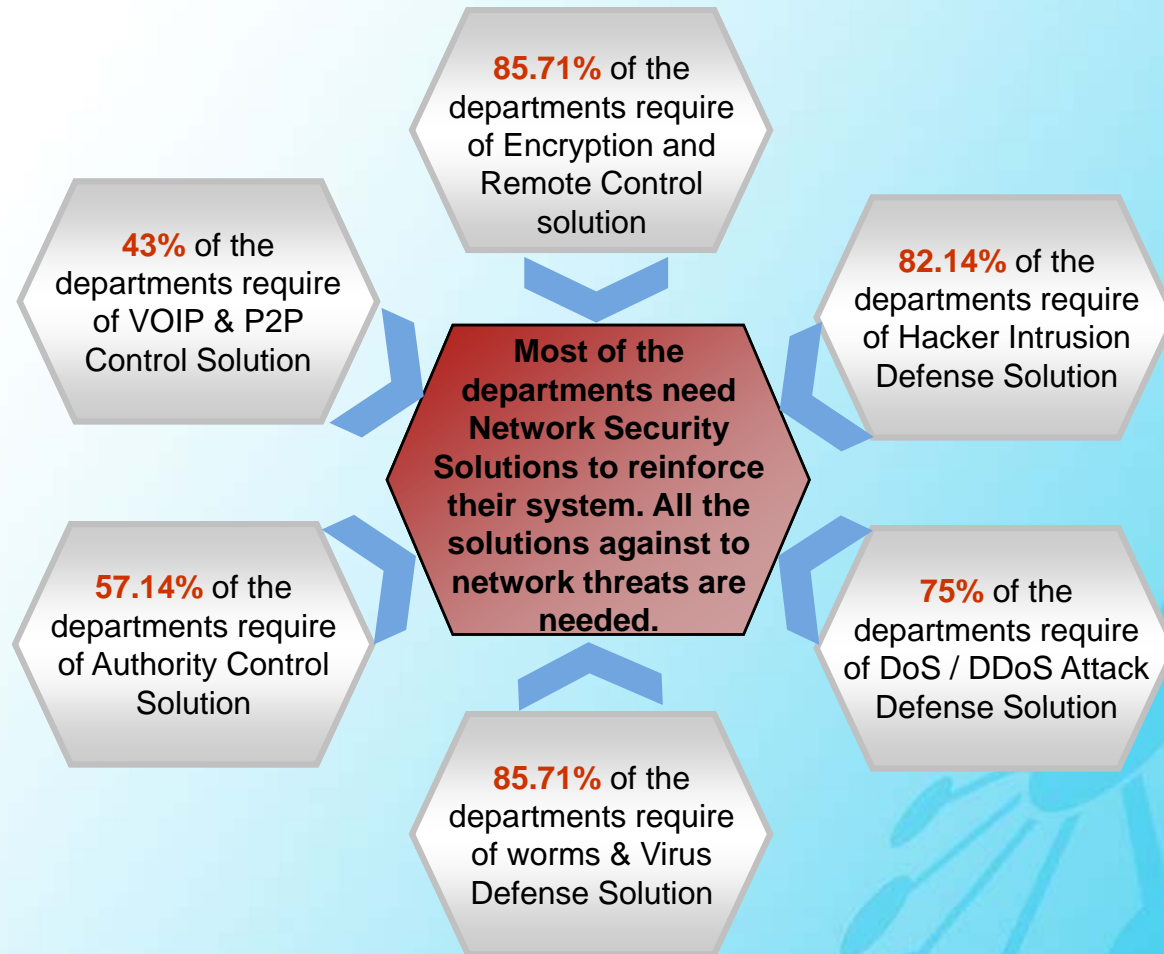# Status Information Security in Lao PDR (con't)

Which characteristic of security system is required?

Functions Require

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Thank you

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