

Building e-Government Infrastructure and Service in Taiwan

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Outline

- ❑ **Introduction to GSN**
- ❑ **GSN Services**
- ❑ **Security of GSN**
- ❑ **Security Services of ICST (a.k.a. TWNCERT)**

Introduction to GSN

□ Providing all government agencies Internet connection.

- ◆ Since July 1997, investment 200 millions NTD(6 millions US\$) **services charge** per year
- ◆ providing 4,100 agencies and 240,000 officers Internet services
- ◆ satisfying network security requirements for connected users

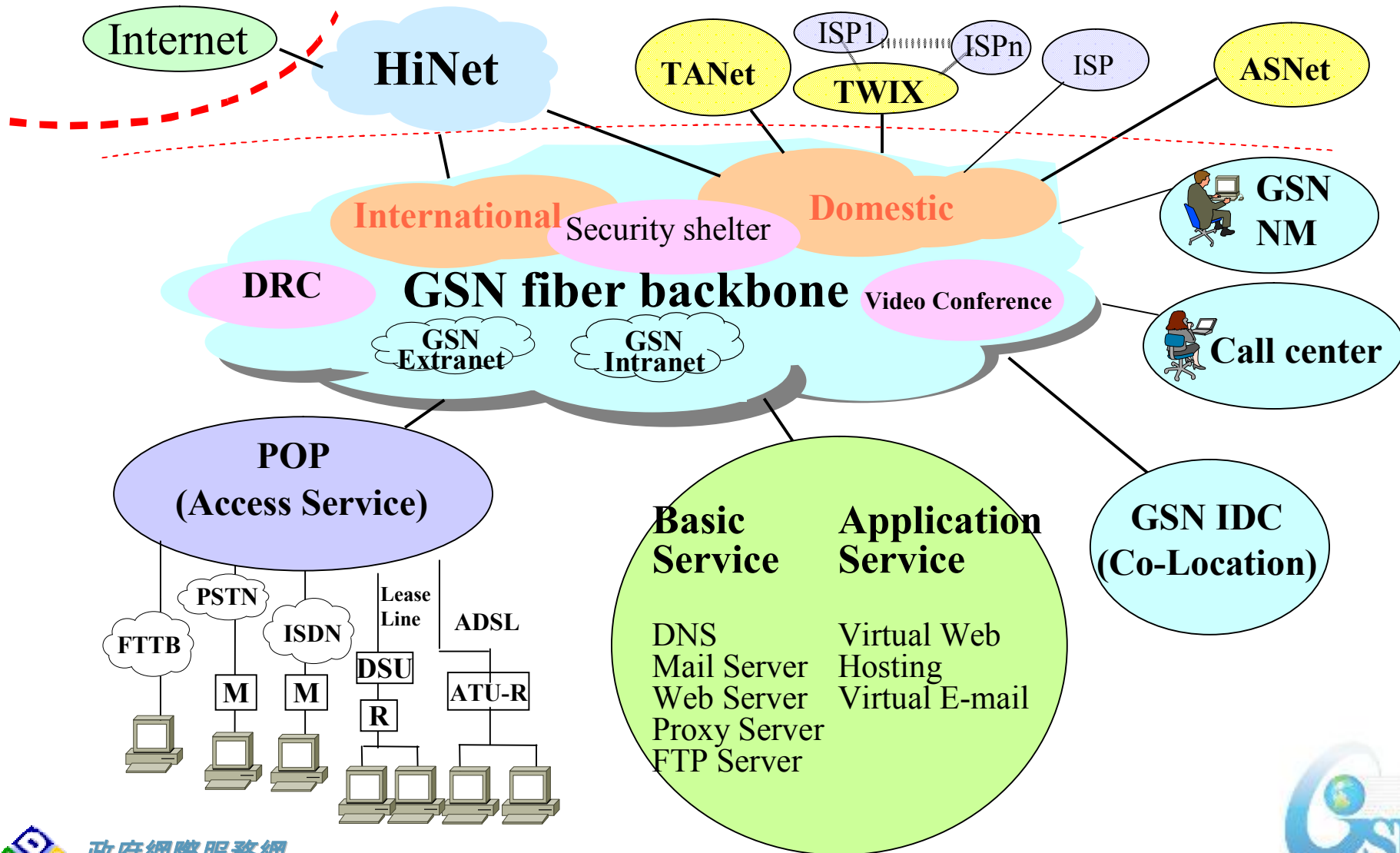
□ Operation of GSN

- ◆ outsourced to the Data Comm. Branch of Chunghwa Telecom Co. by RDEC
- ◆ Achieving the economic scale of procurement

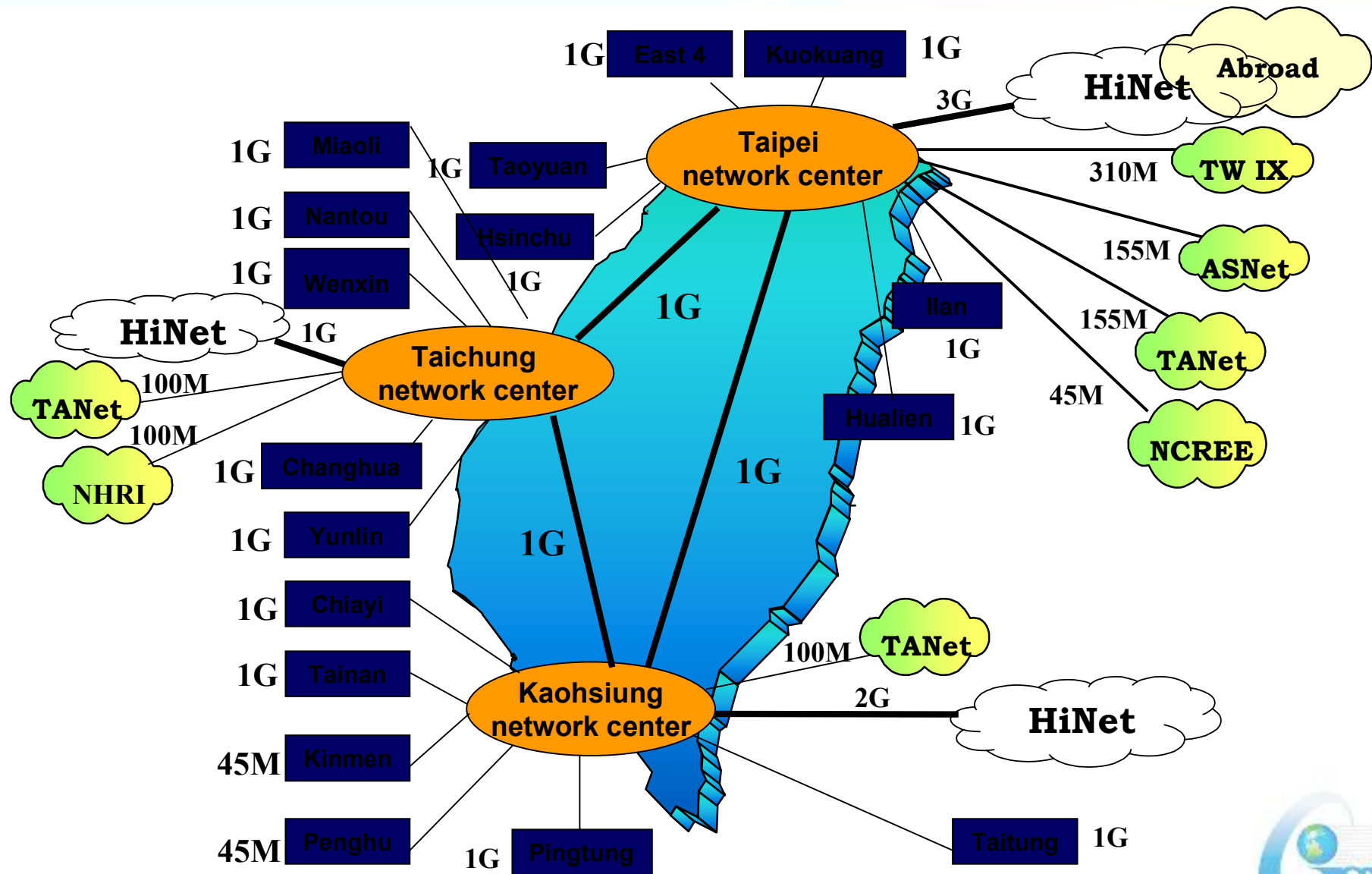
□ Applications of GSN

- ◆ access service: ADSL, leased lines ,FTTB, etc.
- ◆ basic services: e-mail, DNS, proxy etc.
- ◆ application services: Video conference, etc.
- ◆ network security services: IPS, VPN, anti-SPAM, etc.

GSN Services

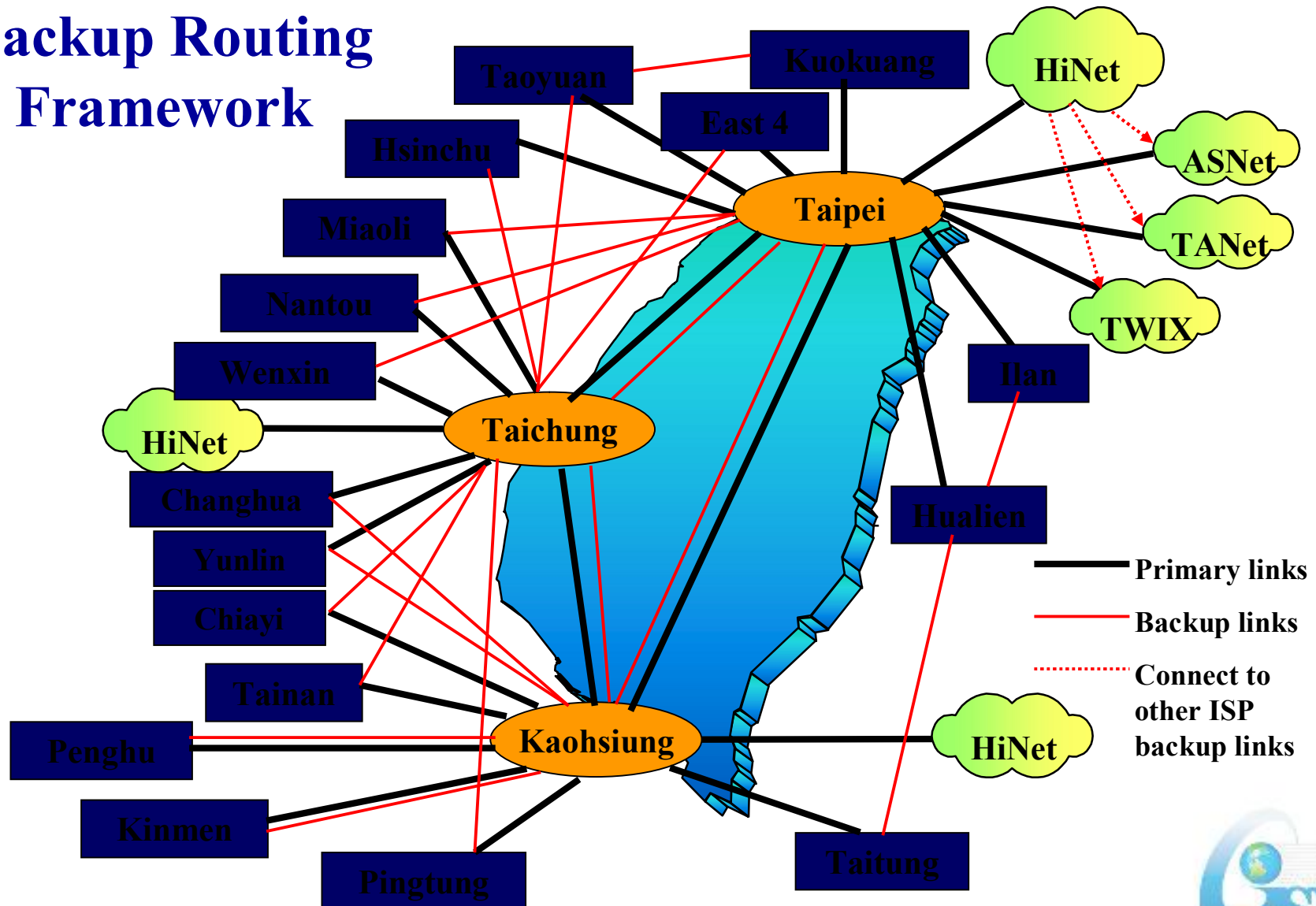


Primary Routing Framework



Backup Network

Backup Routing Framework



Network Access Type & Bandwidth

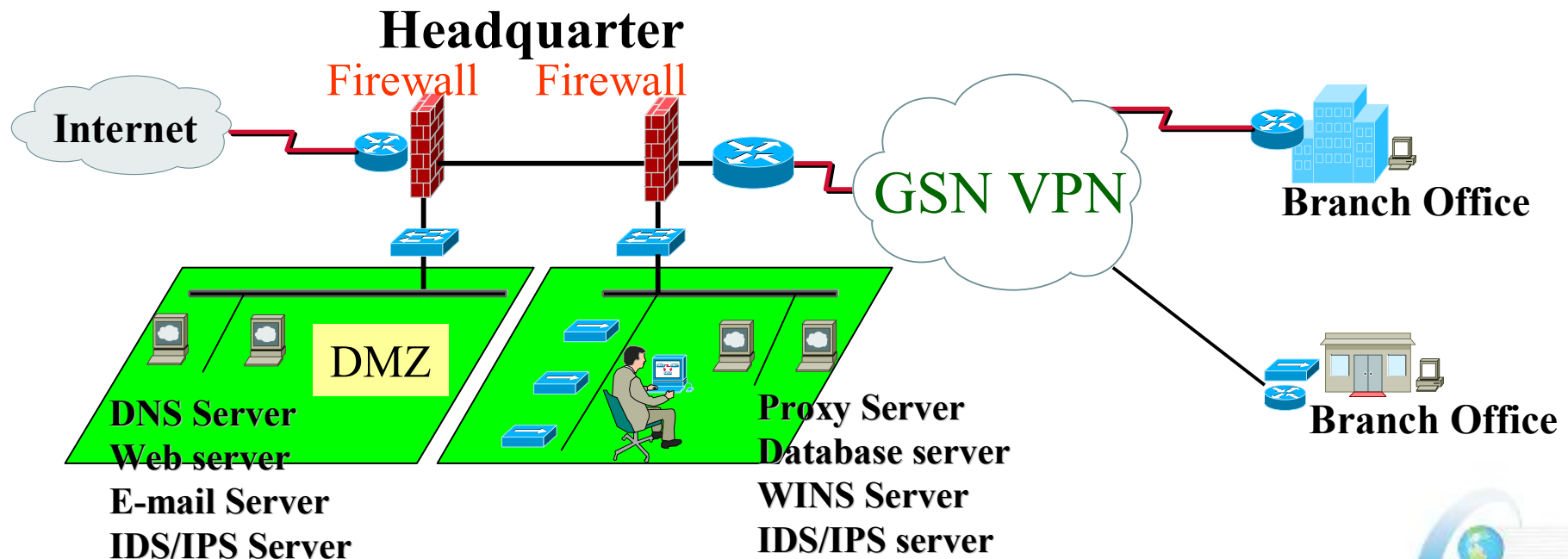
□ Wired Access

- ◆ PSTN (Public Switched Telephone Network) dial-up
 - ❖ Up to 56 Kbps
- ◆ ADSL (Asymmetrical Digital Subscriber Line)
 - ❖ 1M/64K, 512K/512K, 4M/1M
- ◆ FTTB (Fiber To The Building)
 - ❖ 2 Mbps ~ 100 Mbps
- ◆ Leased Line
 - ❖ 128 Kbps ~ 155 Mbps

GSN Virtual Private Network

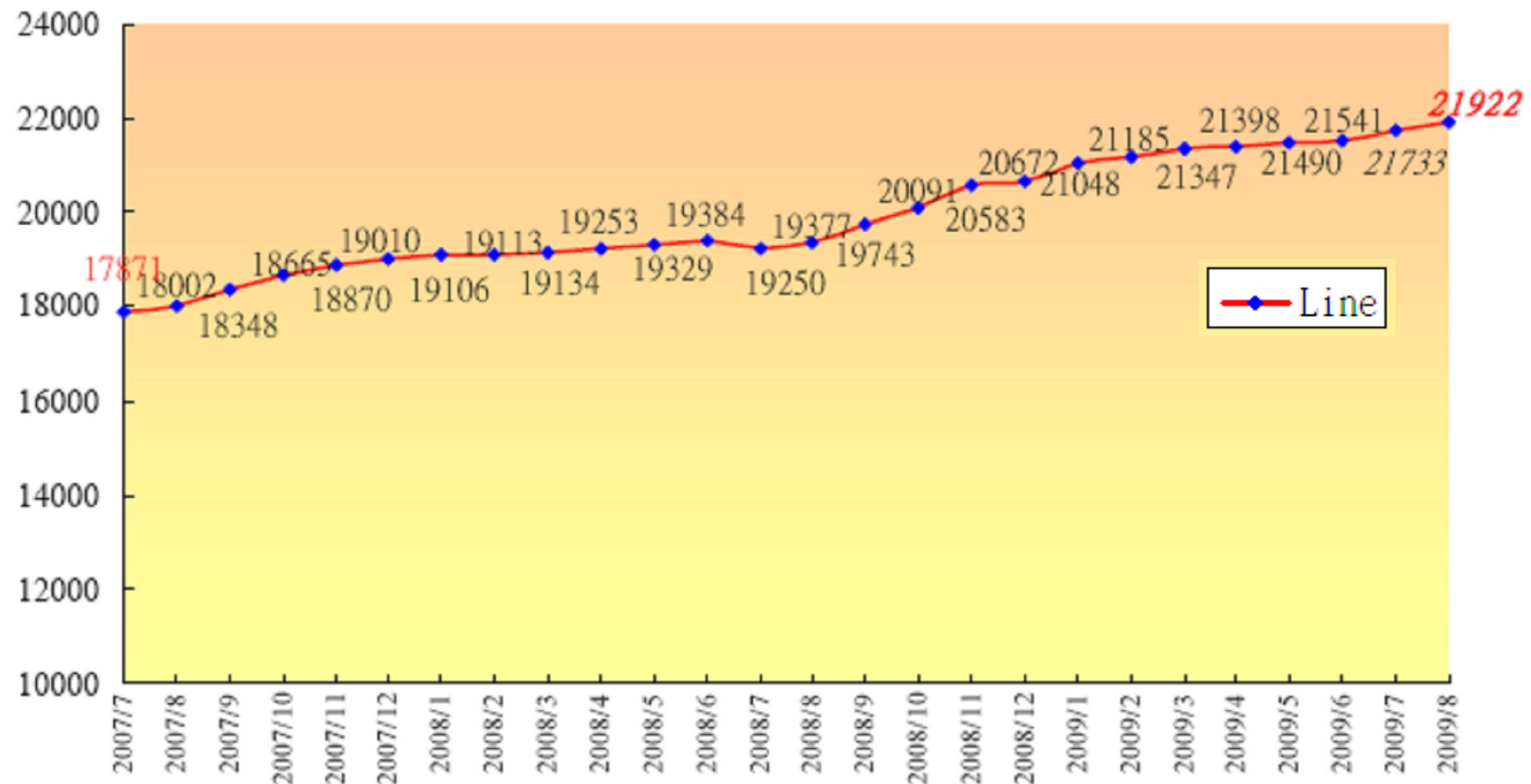
GSN VPN Architecture

- ◆ Scalability : Provider-Based IP VPN
- ◆ Flexibility : Access By Leased Line, ADSL, FTTB
- ◆ Benefit and Security



Growth of GSN Access Service

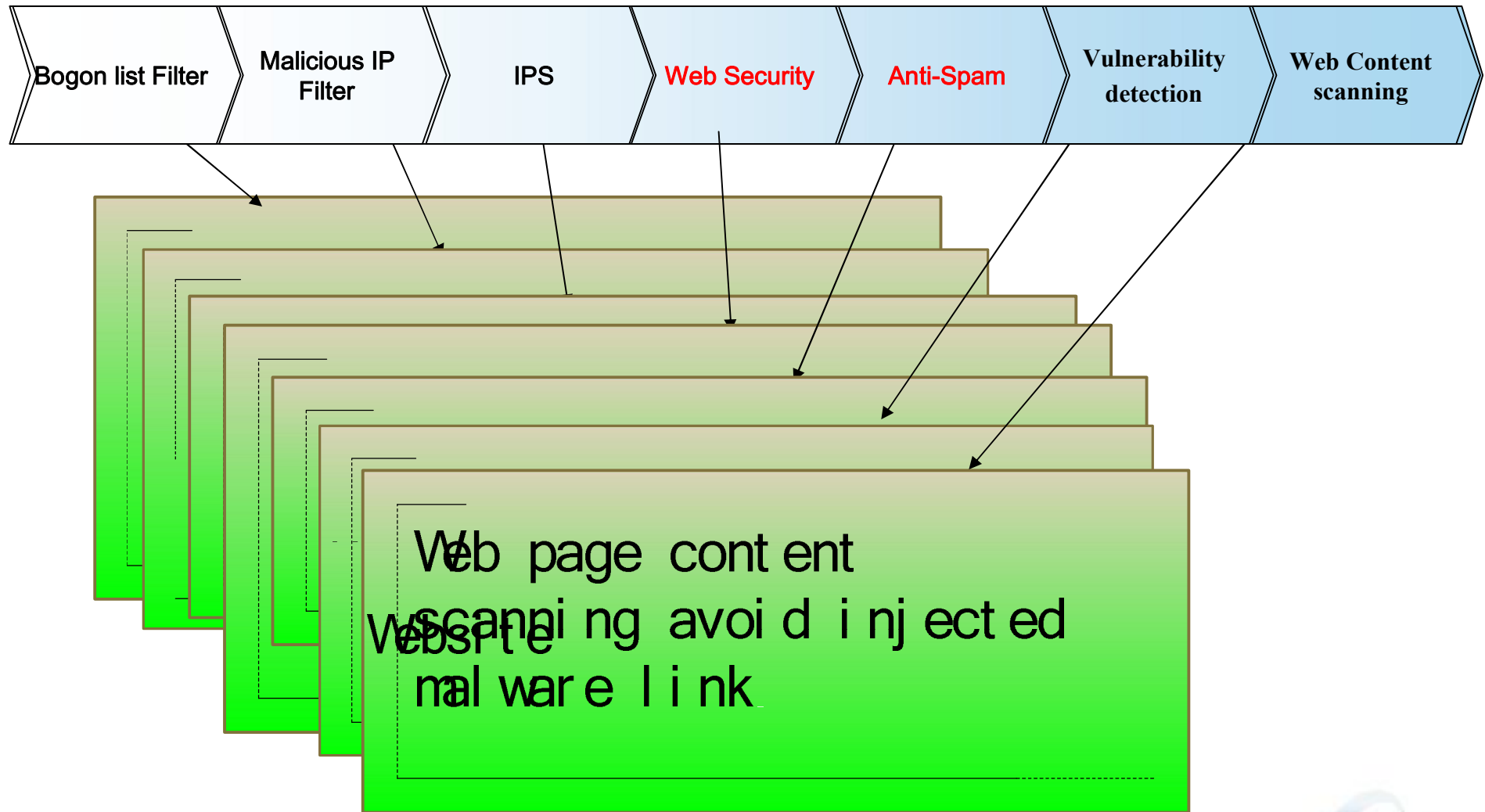
◆ Leased Line+ADSL+FTTB (2009/08)



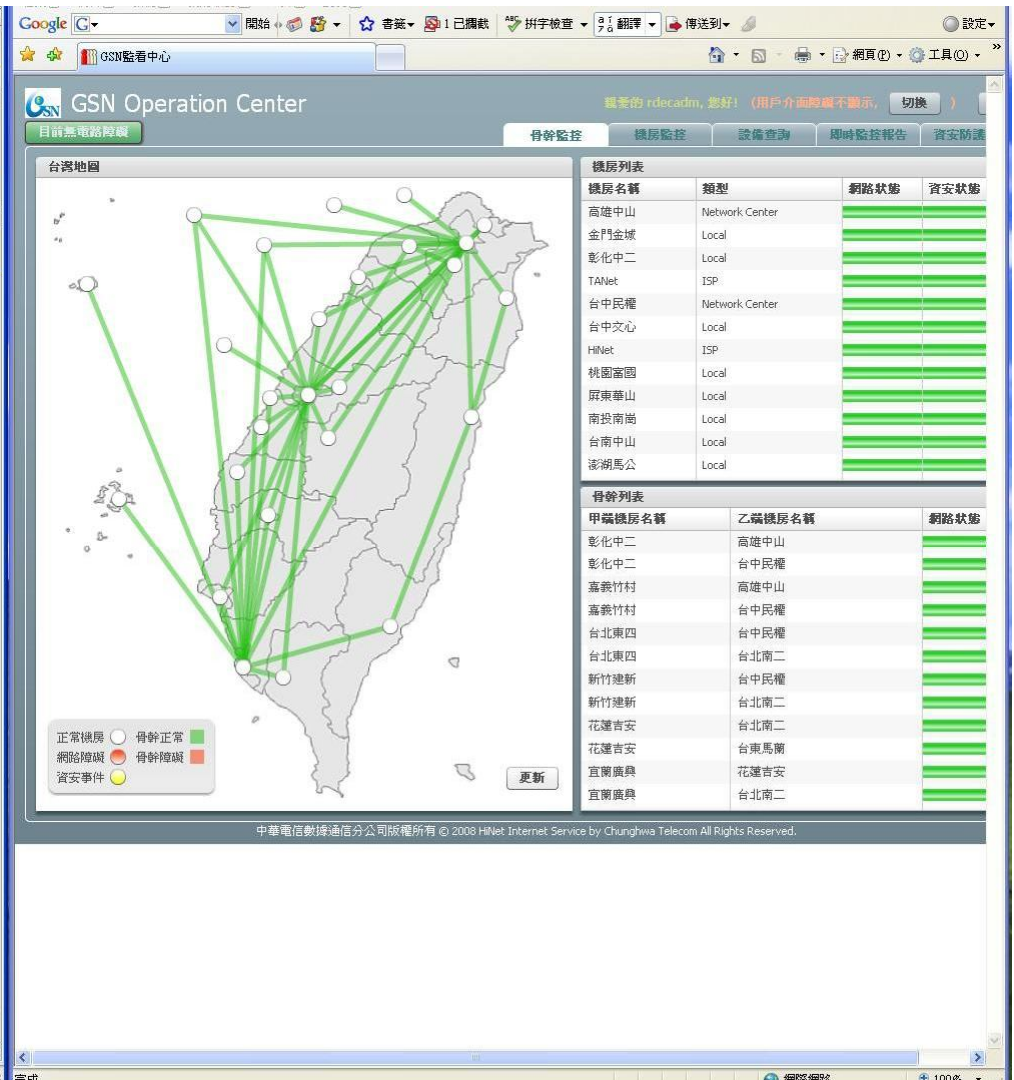
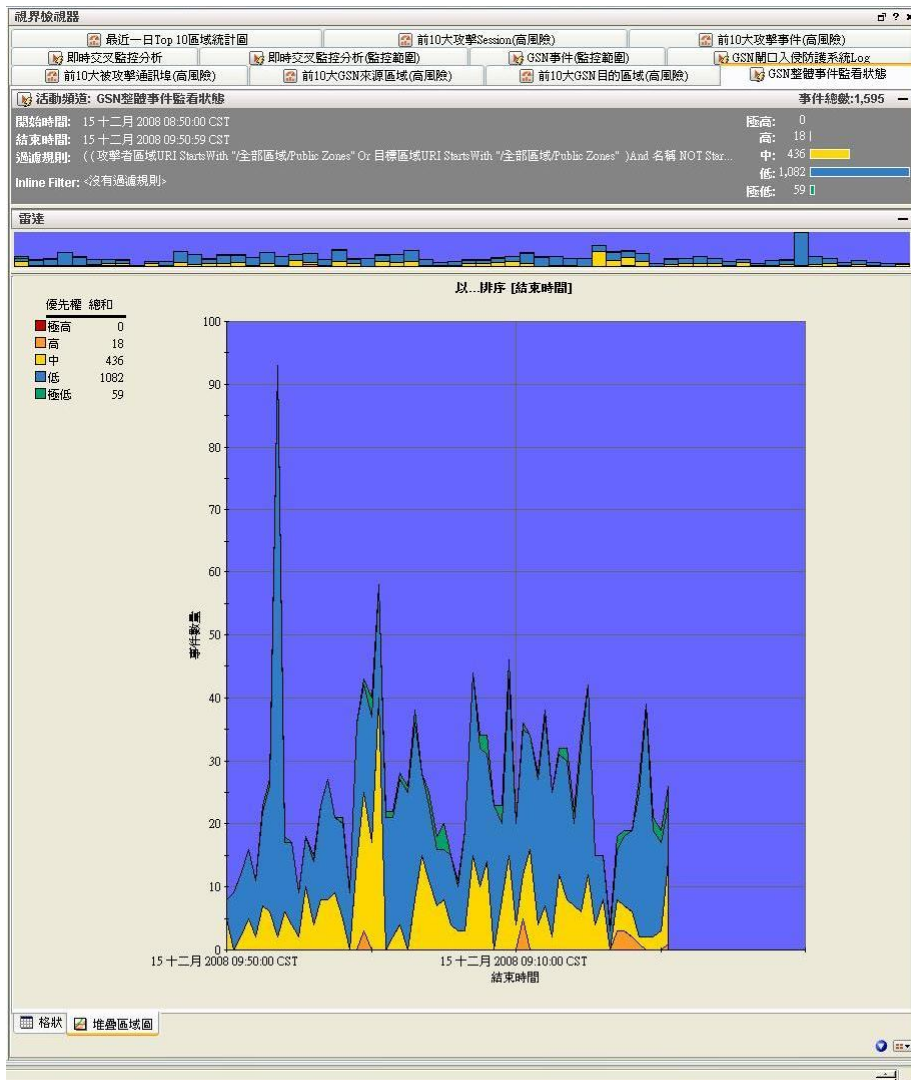
GSN Backbone Security Solutions

- ❑ **Intrusion Prevention System**
 1. **GSN Gateway IPS**
 2. **GSN ADSL IPS**
- ❑ **Anti Spam Detecting and Tagging System**
- ❑ **Domain and IP Filtering**
- ❑ **Port Filtering**
- ❑ **P2P Packets Blocking**
- ❑ **Web Security Mechanism**

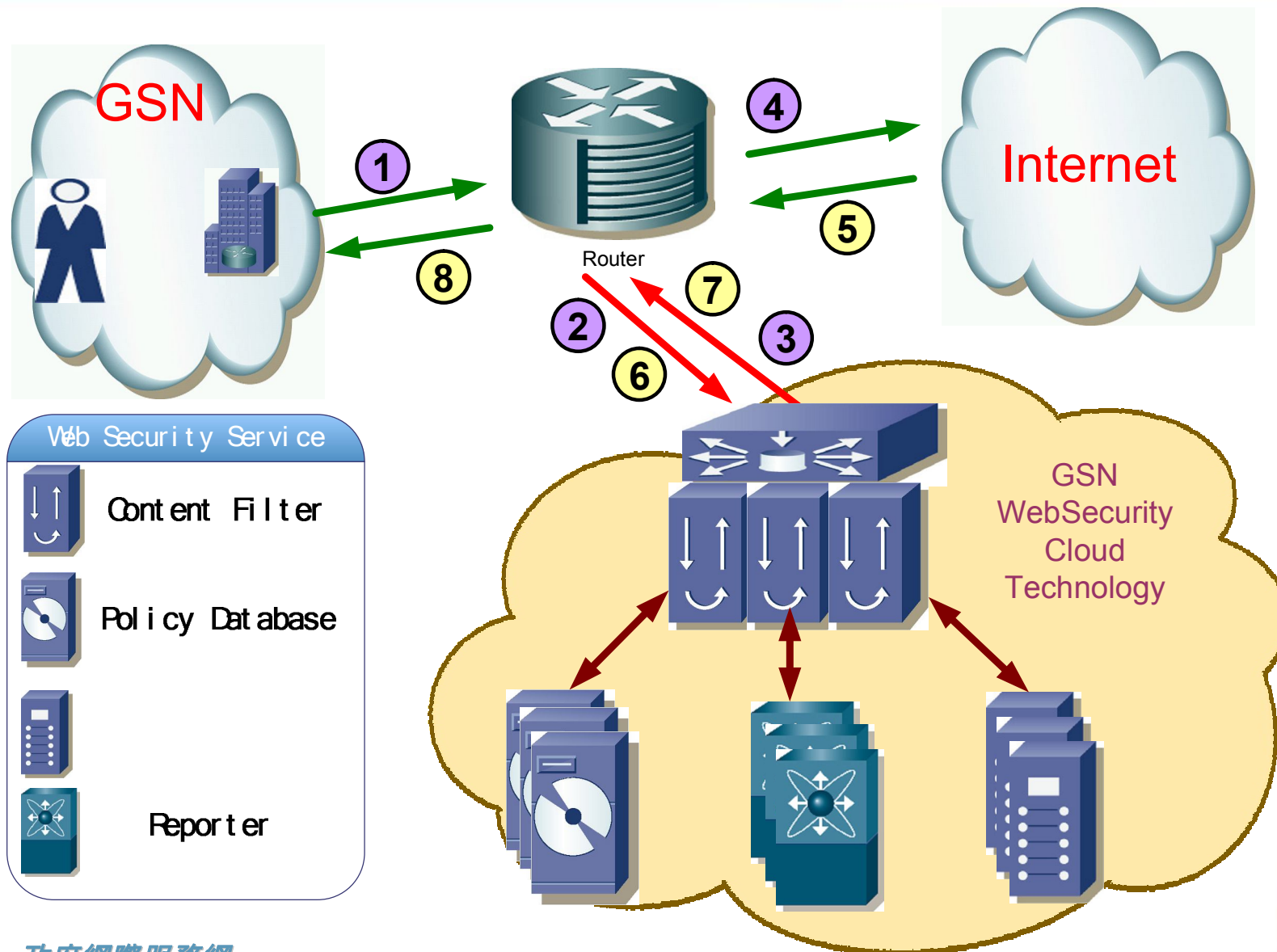
GSN network security



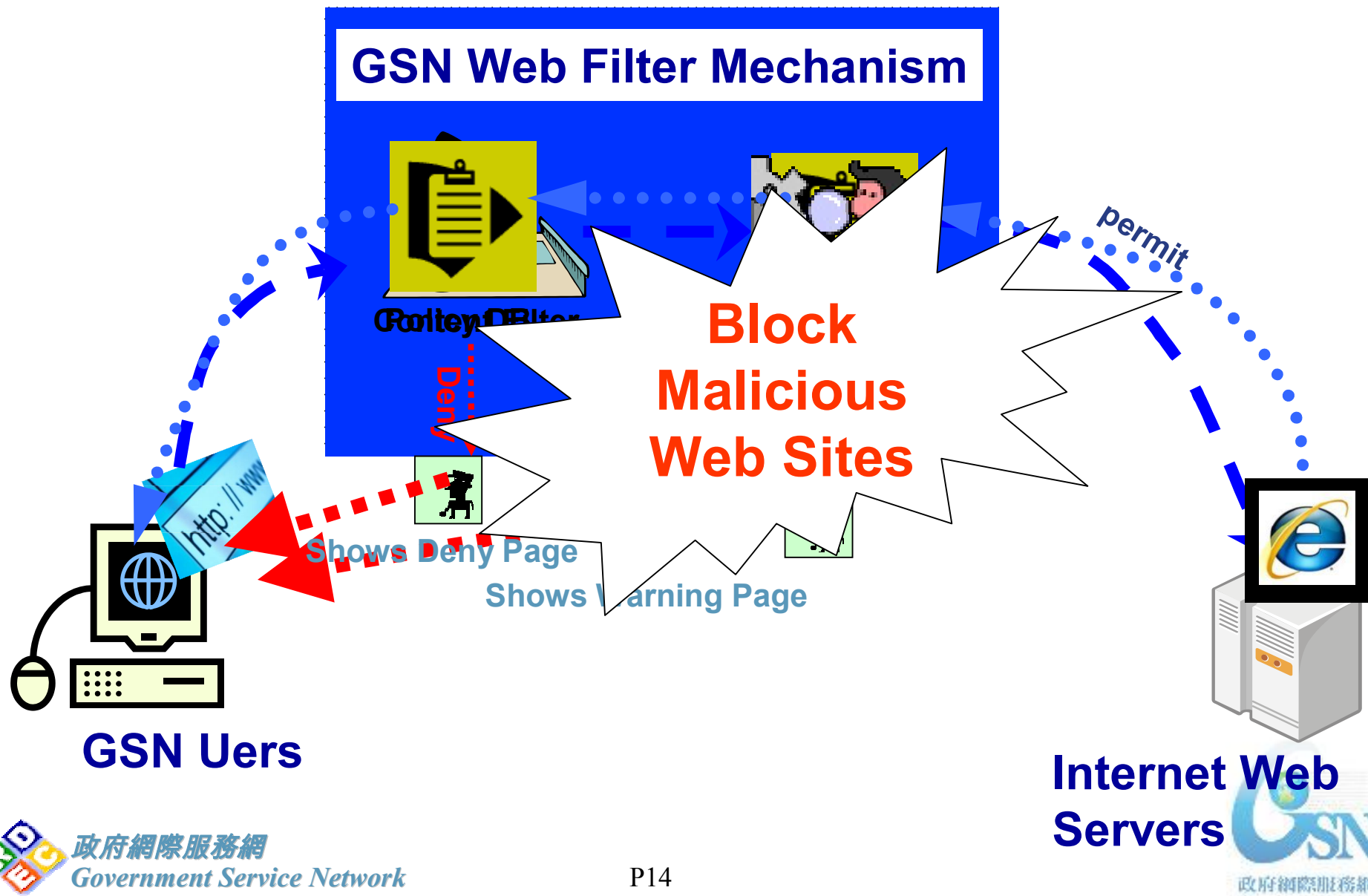
GSN Backbone Network Real-time Monitor System



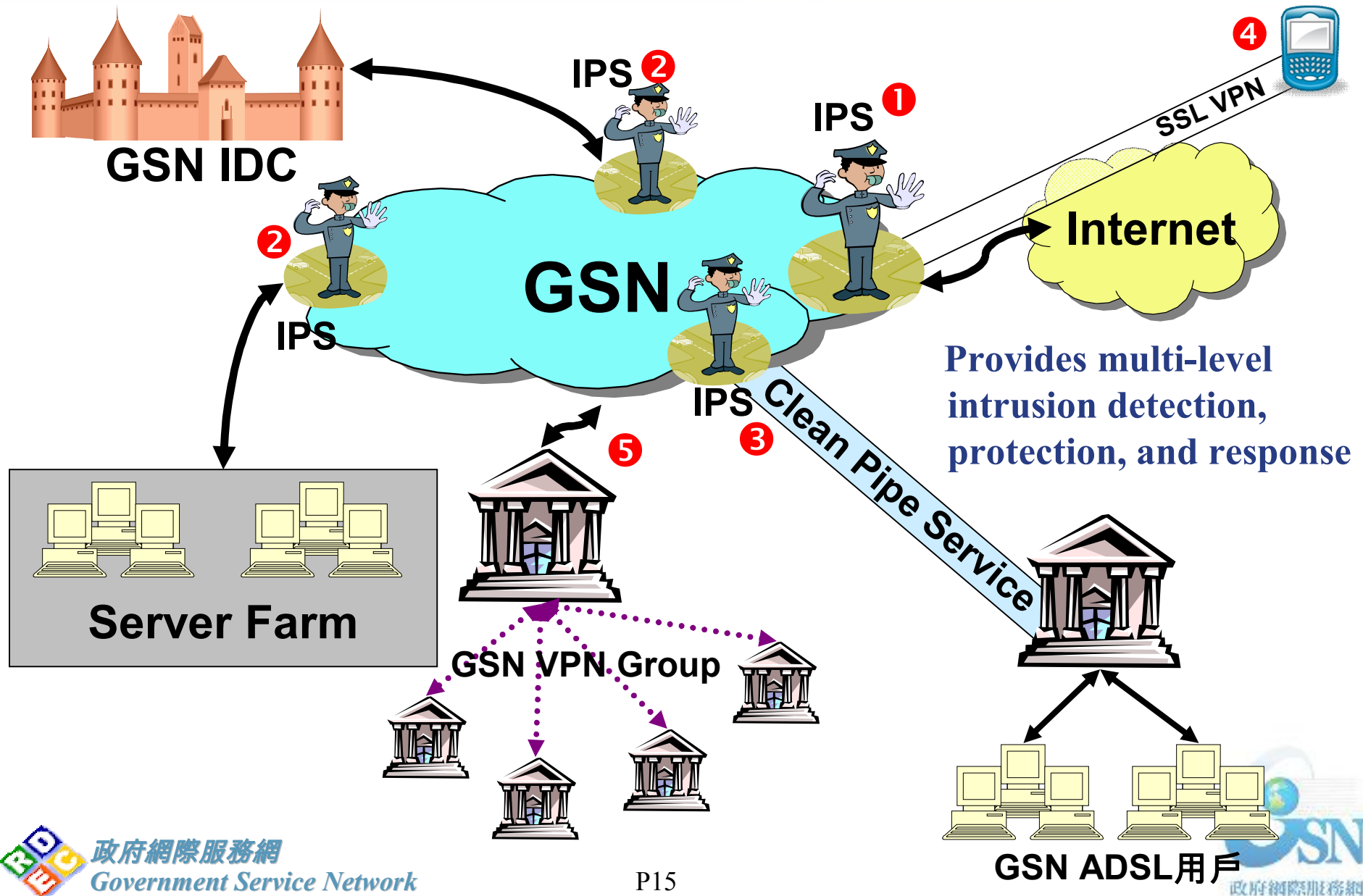
Web Security Infrastructure



Web Security Mechanism



GSN Security Arch.



ISO 27001 Certificate



Certificate of Registration

INFORMATION SECURITY MANAGEMENT SYSTEM - ISO/IEC 27001:2005

This is to certify that:

Chunghwa Telecom Co., Ltd.
Data Communication Branch
No.21, Section 1, Hsin-Yi Road
Taipei
Taiwan

Holds Certificate No: **IS 503513**

and operates an Information Security Management System which complies with the requirements of ISO/IEC 27001:2005 (CNS 27001) for the following scope:

The provision of operation and maintenance of Chunghwa Telecom Security Operation Center, Government Service Network Taipei backbone network, and Government Service Network Internet Data Centers at Taichung WUN-SIN and Taipei GUO-GUANG. This is in accordance with the Statement of Applicability CHTD-SOC.1.01-ISMS.03V30, version 3.0, dated 20 May 2008.

For and on behalf of BSI Management Systems Taiwan:

Managing Director BSI Taiwan, Dr. Yi Min Gao

Originally registered: **03/05/2006**

Latest Issue: **08/06/2008**

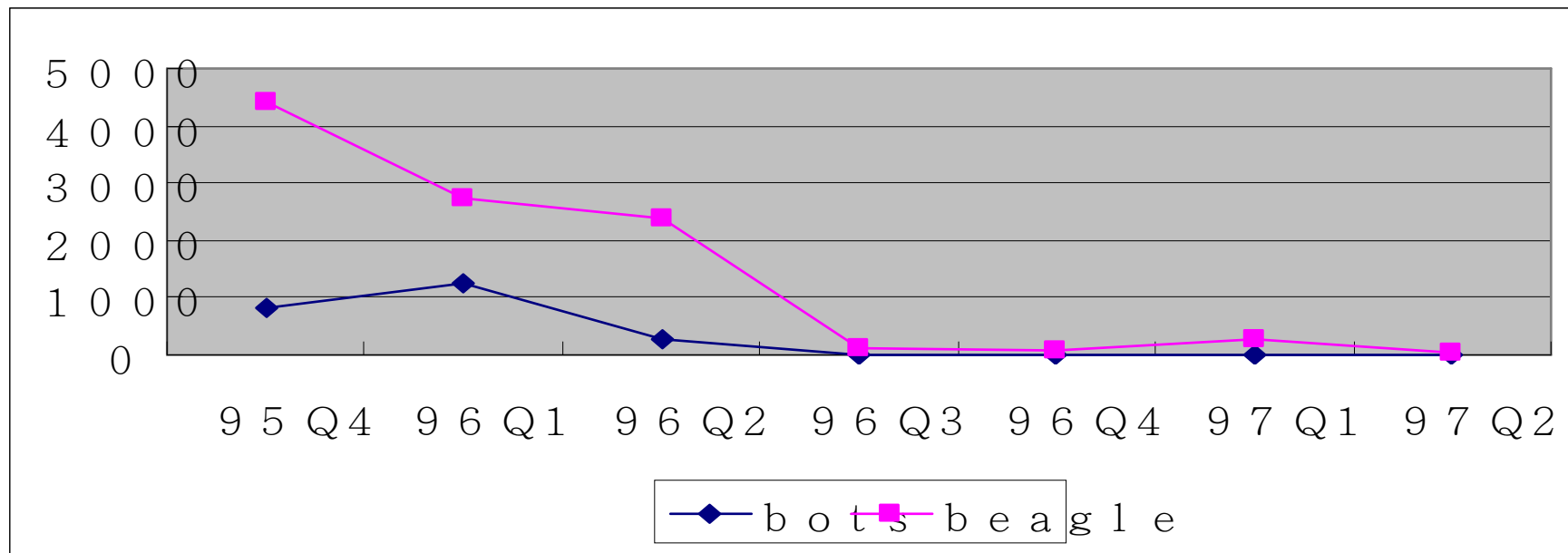
Expiry Date: **02/05/2009**



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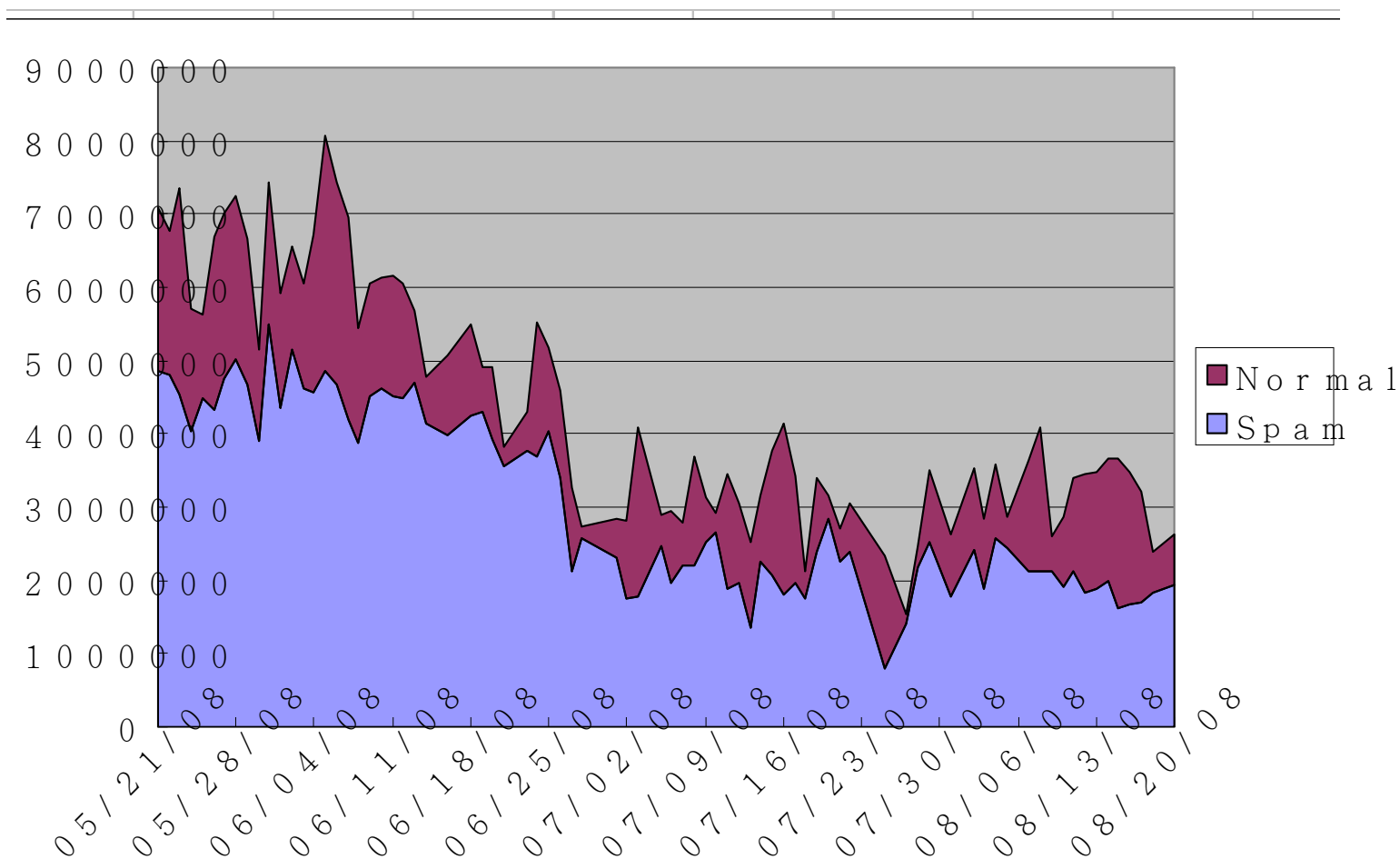
GSN IPS effectiveness



GSN users attacked by Beagle and bots PC number

1. GSN using gateway IPS decrease the Beagle attack frequency from 4,408 times one quarter become 35 times one quarter
2. Bot attack frequency from 1,246 times one quarter become 2 times one quarter

GSN AntiSpam effect

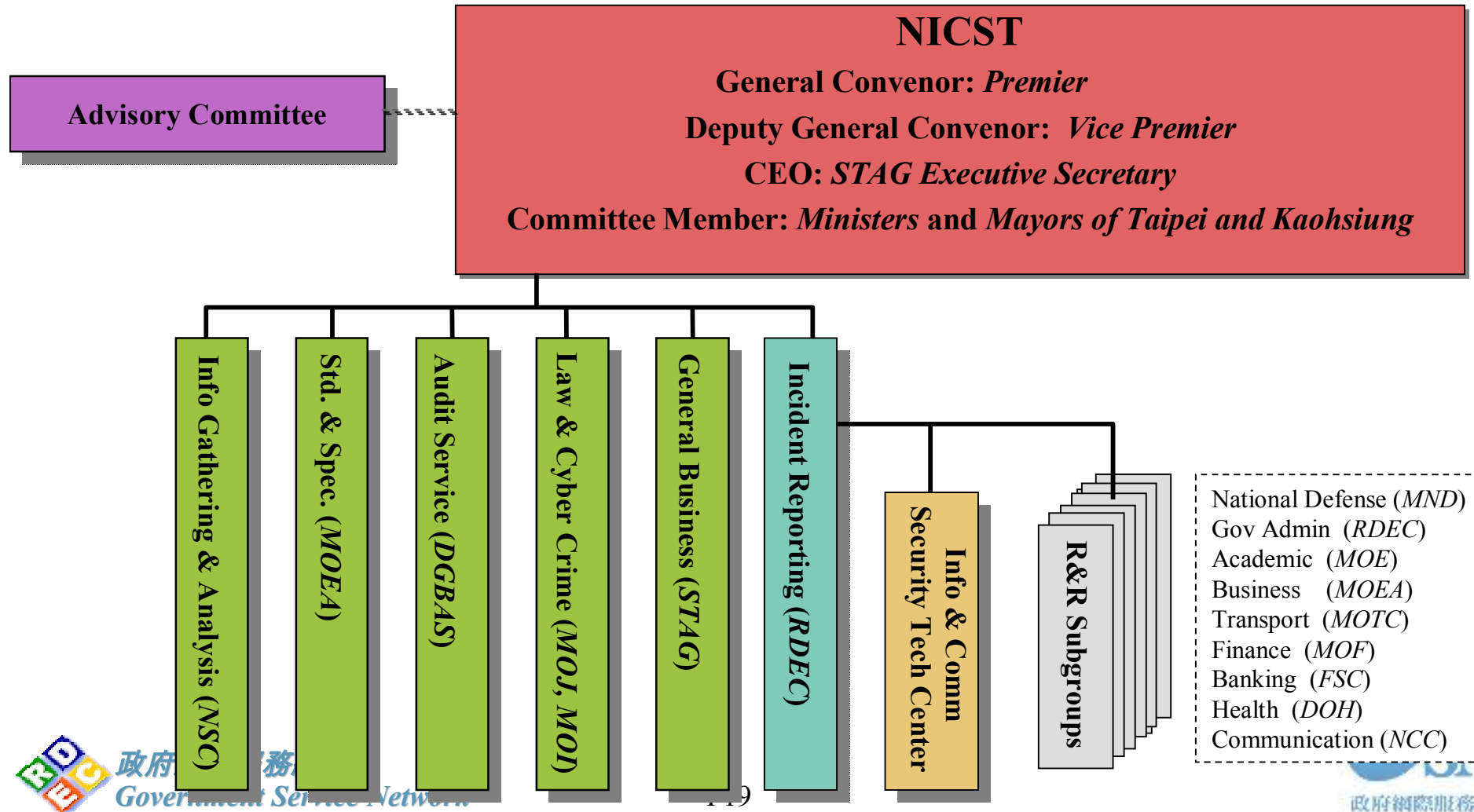


- Spam mail over 240,000,000 70% ◦
- Normal Mail about 96,000,000 30% ◦
- 2008/5/21~2008/8/20

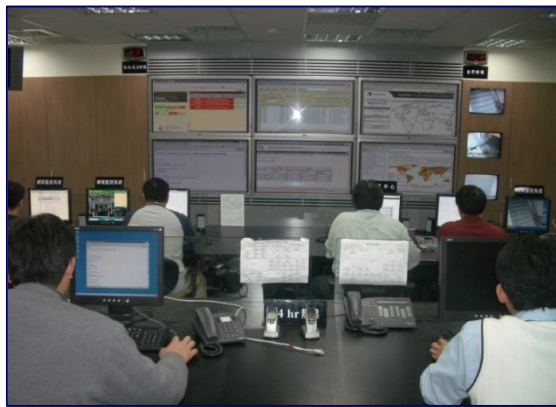
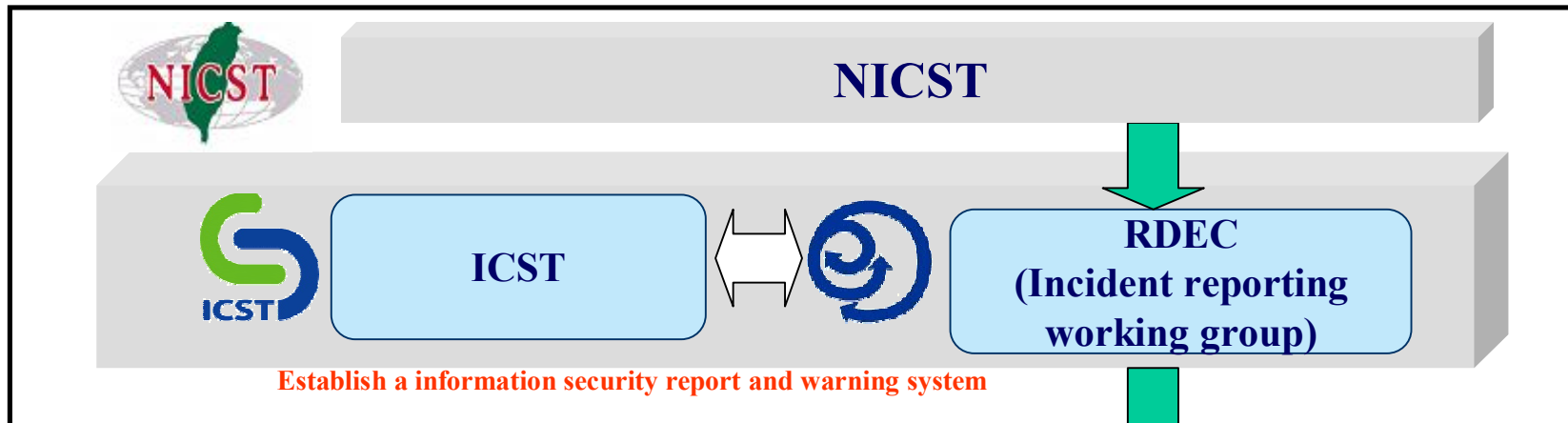
National Information & Communication Security Taskforce

In order to promote information security policy,
the Executive Yuan established the NICST in January 2001.

Starting in 2005, the RDEC is in charge of Incident reporting



Incident Reporting Working Group



Provide 24/7 Surveillance service to sensitive institutions

Reporting, Warning, Responding, Training

- Handle information security incidents and emergency response
- Provide pre-incident security protection
- Provide advanced warning and responding during the incident
- Provide post-incident recovery and forensics
- Provide information security training and promotion

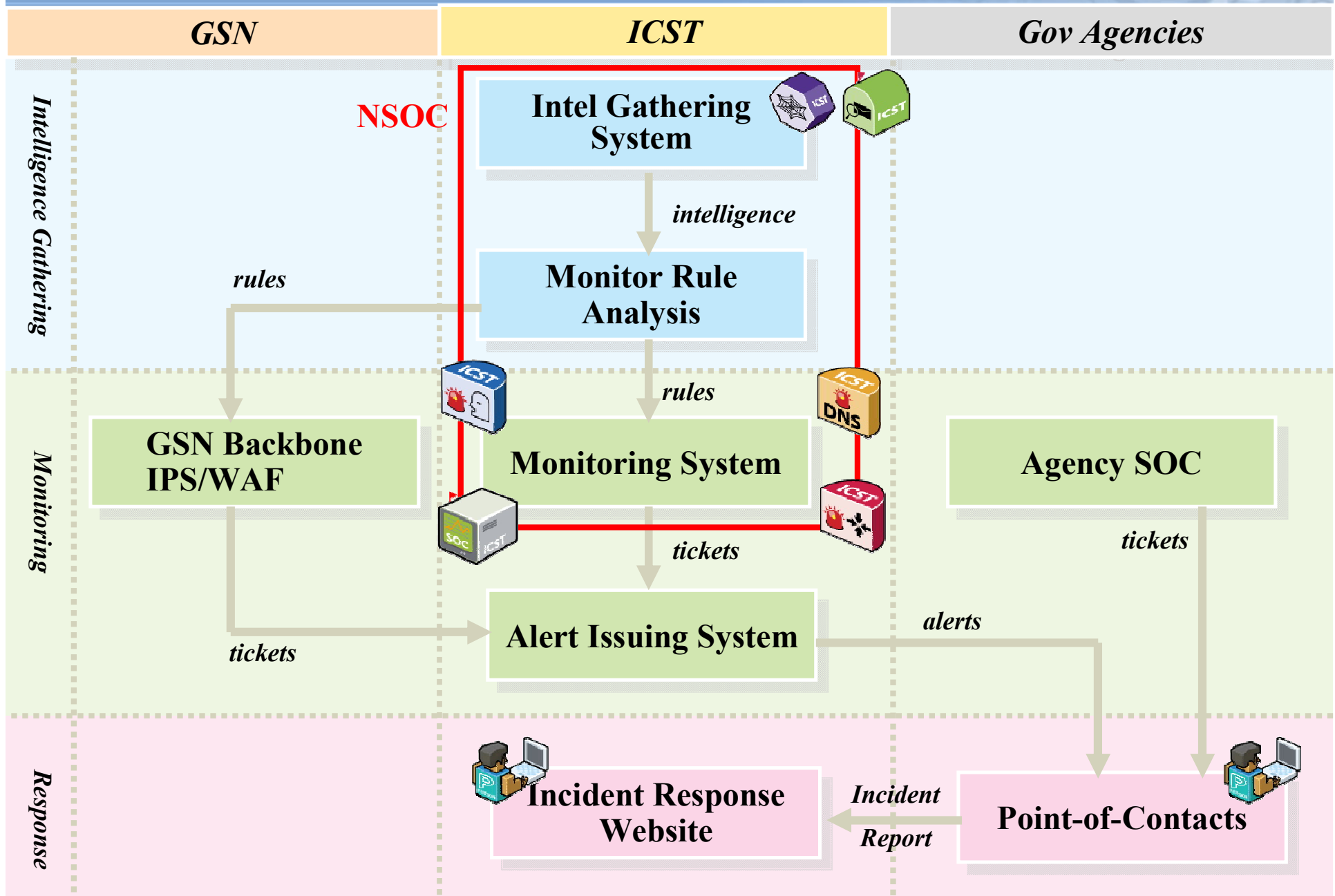
Assist the government in maintaining Information security

about 7,500 government agencies, and 15,000 information security contacts

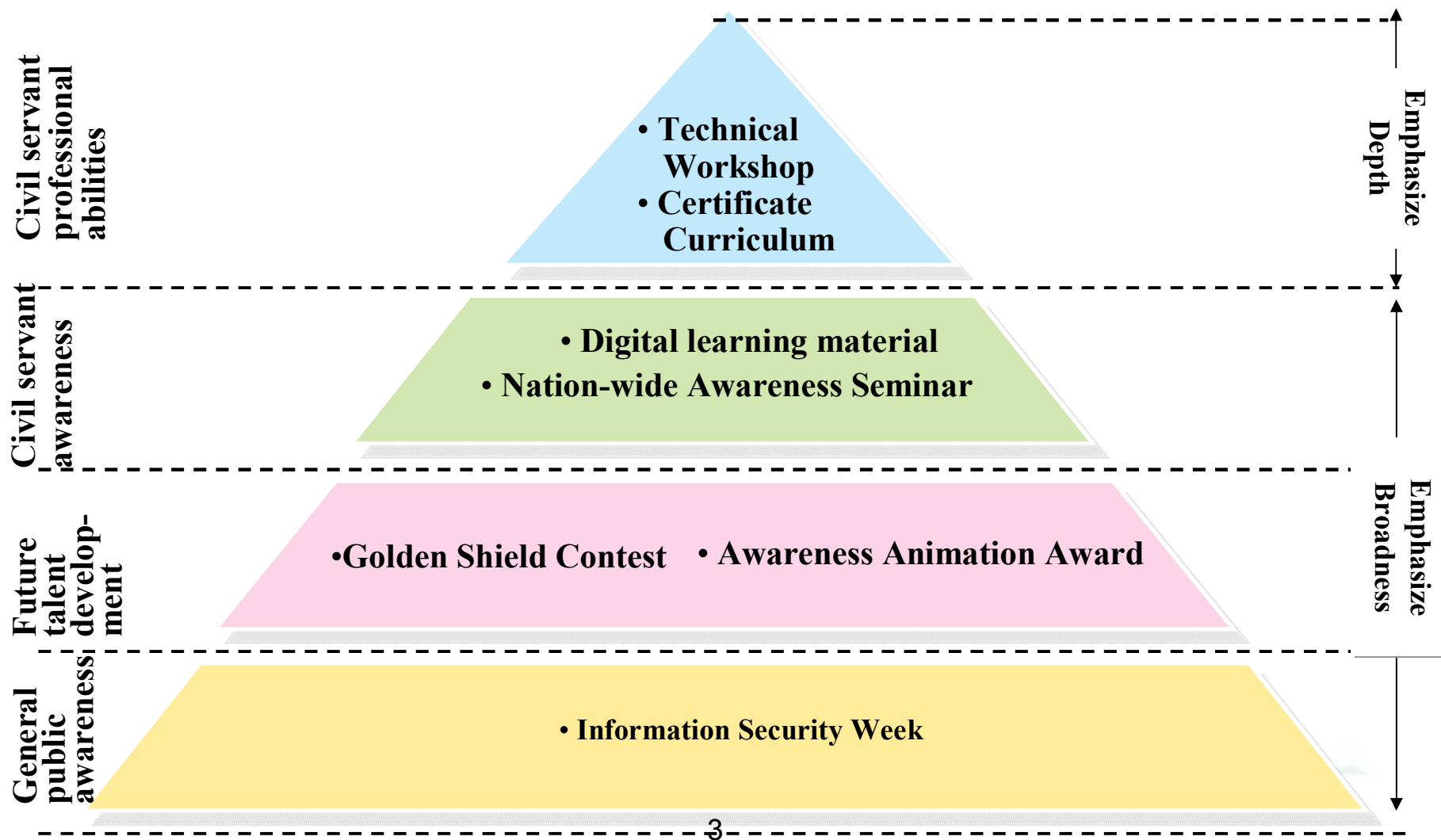
Major Missions of ICST

- ❑ Internet Threat Monitoring and Incident Response
- ❑ Improve InfoSec Knowledge and Competence
- ❑ Improve InfoSec Management and System Security

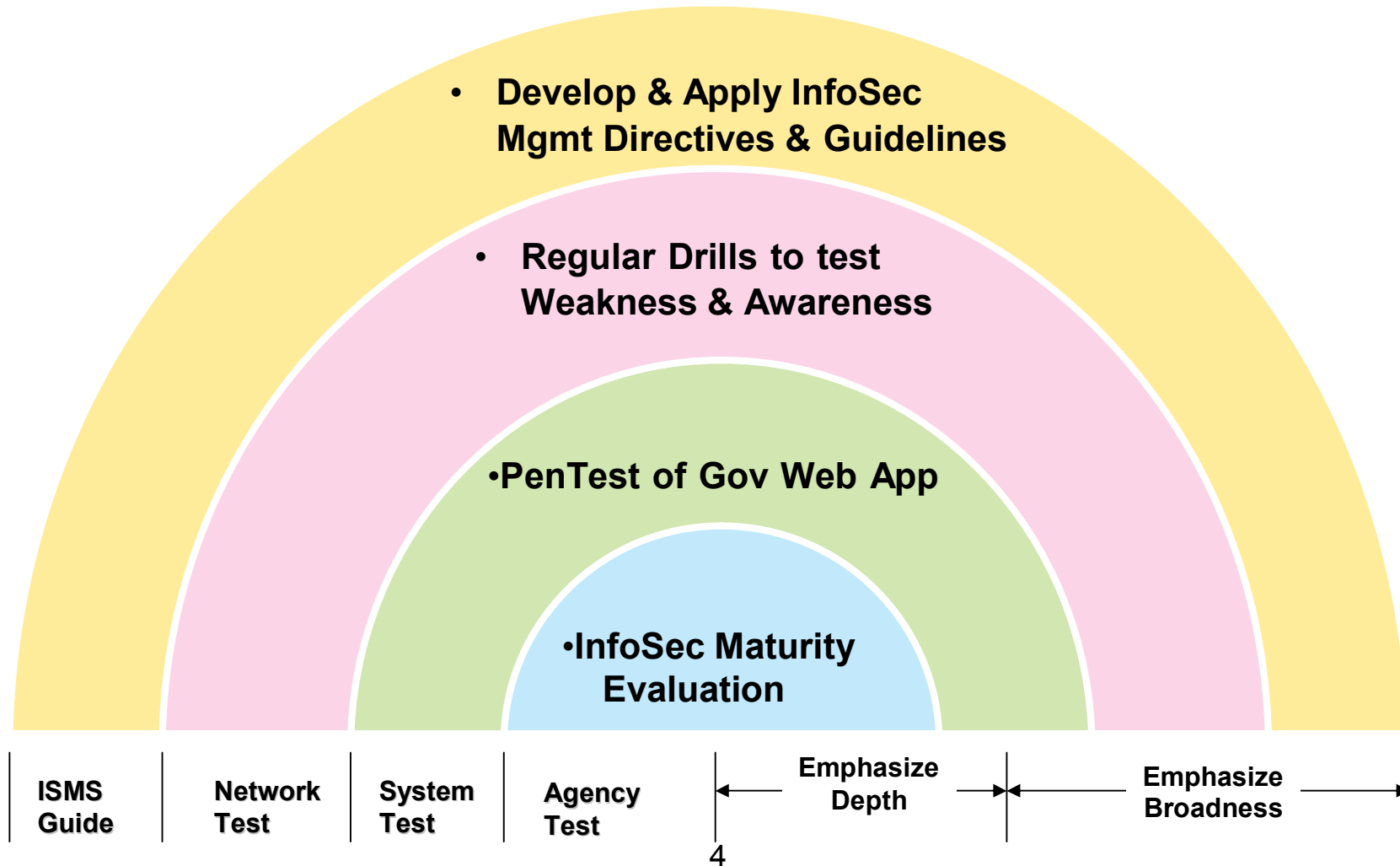
Internet Threat Monitoring and Incident Response



Improve InfoSec Knowledge and Competence



Improvement of InfoSec Mgmt & System Security



Improvement of E-mail Security Awareness

<i>Year</i> <i>Drill Result</i>	<i>2007</i>	<i>2008</i>
Percentage of personnel opening test e-mails	<i>24.17%</i>	<i>22.16%</i>
Percentage of personnel click links on test e-mails	<i>16.29%</i>	<i>12.82%</i>
Notification before Drill	<i>Yes</i>	<i>No</i>

- Note :**
- 1. Objects of the Drill were government agencies and local governments**
 - 2. This approach won “Best Practices Contest 2008: Protect” hosted by FIRST & CERT/CC**

<http://www.first.org/conference/2008/contest.html>

Thank You!