

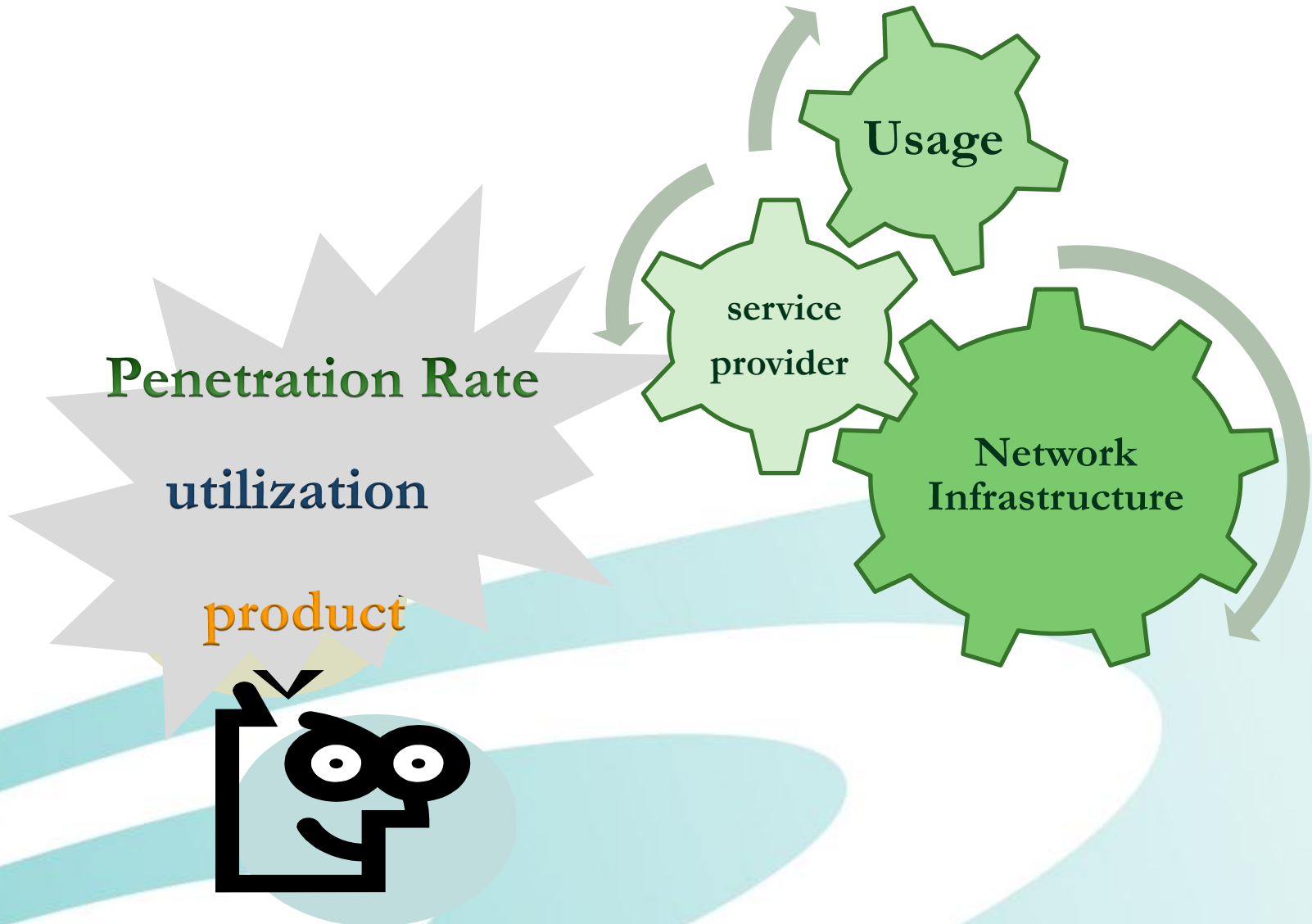


# Measurement of IPv6 Readiness in Taiwan

Taiwan Network Information Center  
TWNIC

- **Why do we conduct the IPv6 Readiness Measurement ?**
  - **To know the progress of IPv6 development and deployment**
  
- **How do we conduct the IPv6 Readiness Measurement?**
  - *main consideration points ,*
    - *Representative*
    - *Measurable*
    - *Sustainable*

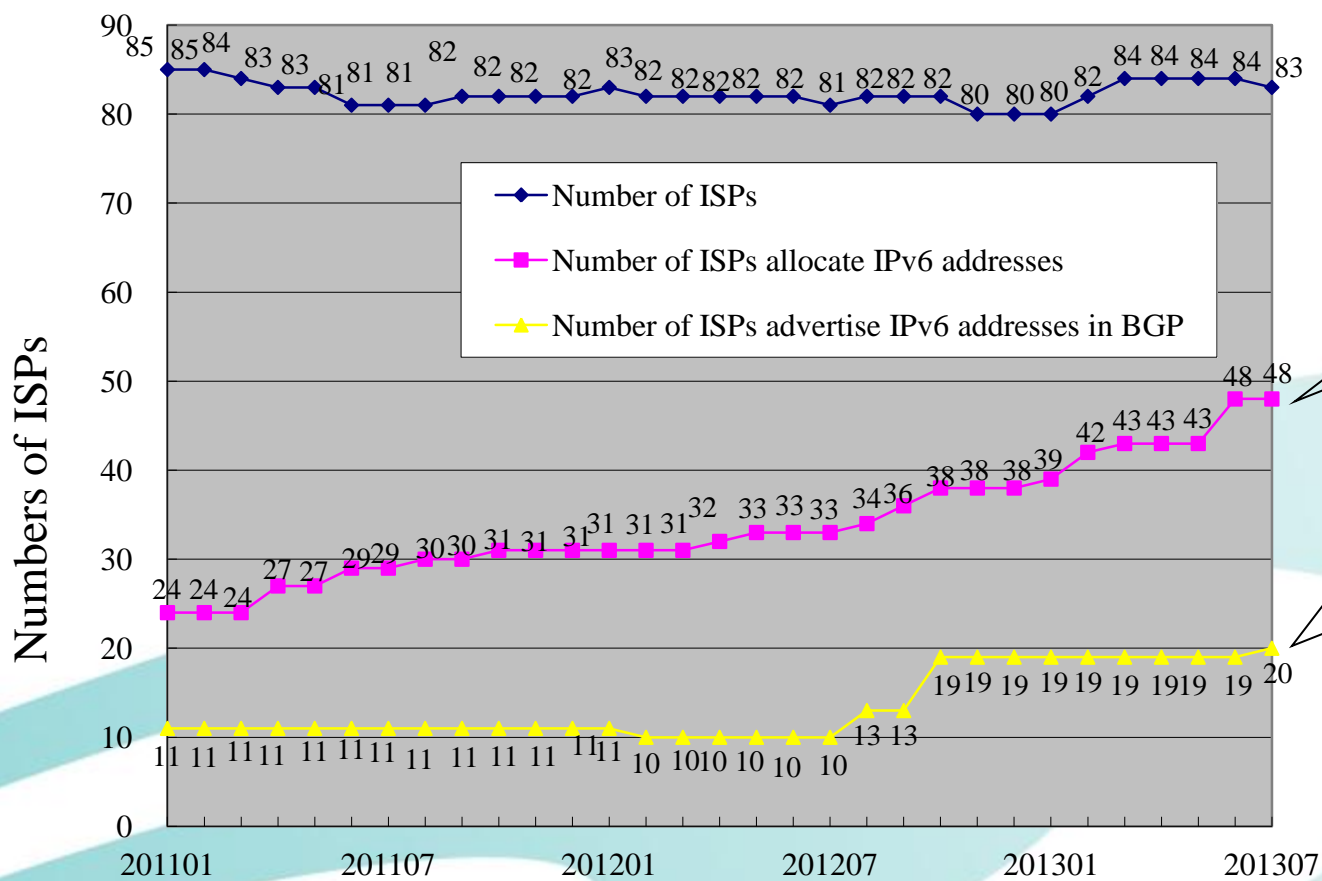
# Basic Concepts



# Framework of IPv6 readiness measurement

Views	Dimensions	Measurement Criteria
Penetration rate	Core Network	<ul style="list-style-type: none"> <li>■ Number of ISPs, which allocate IPv6 addresses, and advertise IPv6 BGP routes.</li> <li>■ IPv6 traffic (Mbps) in/out of Taiwan</li> </ul>
	Applications	<ul style="list-style-type: none"> <li>■ Numbers of IPv6 web servers 、 DNS servers 、 E-mail servers</li> </ul>
Usage ratio of users	Access Network	<ul style="list-style-type: none"> <li>■ Traffic in IPv6 Tunnel Broker</li> </ul>
	Users	<ul style="list-style-type: none"> <li>■ Web query</li> <li>■ DNS query</li> </ul>
The number of products	Vendors	<ul style="list-style-type: none"> <li>■ IPv6 Ready Logo Phase I &amp; Phase II</li> </ul>

# 1. Number of ISPs, which allocate IPv6 addresses, and advertise IPv6 BGP routes

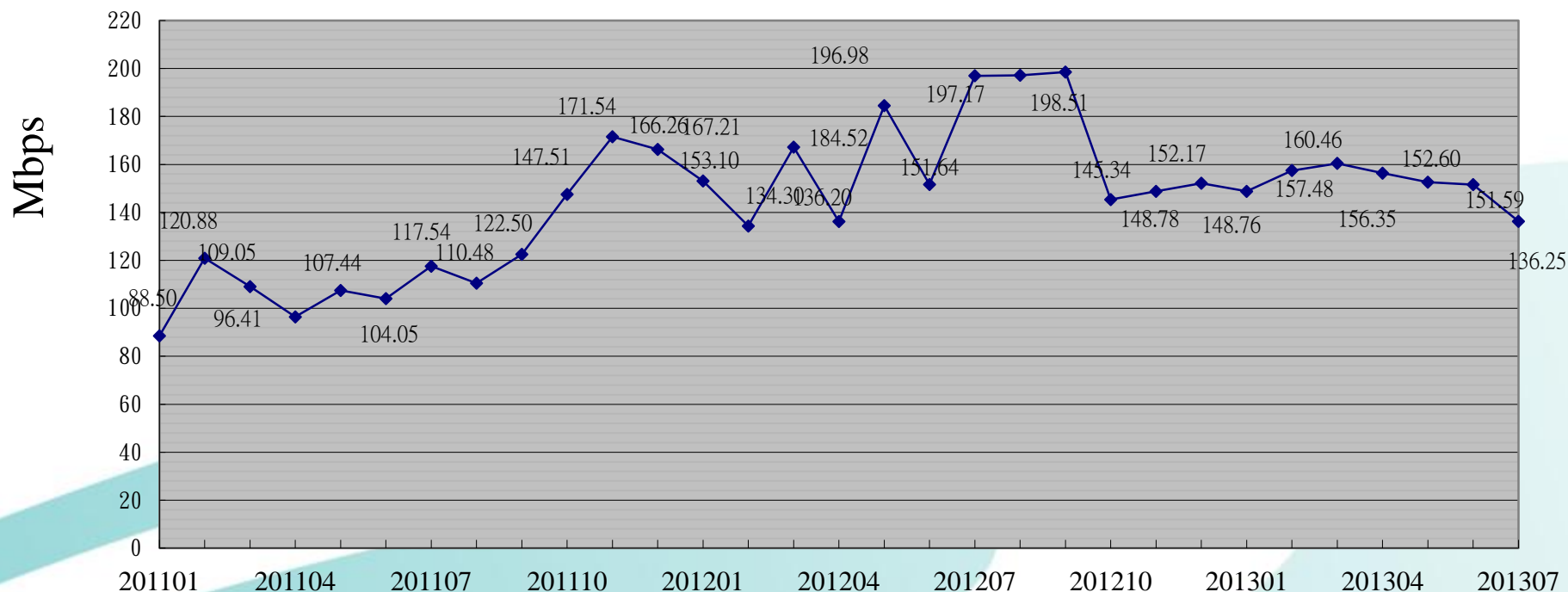


**57.83% of ISPs allocate IPv6 addresses in Taiwan**

**24.1% of ISPs advertise IPv6 BGP routes**

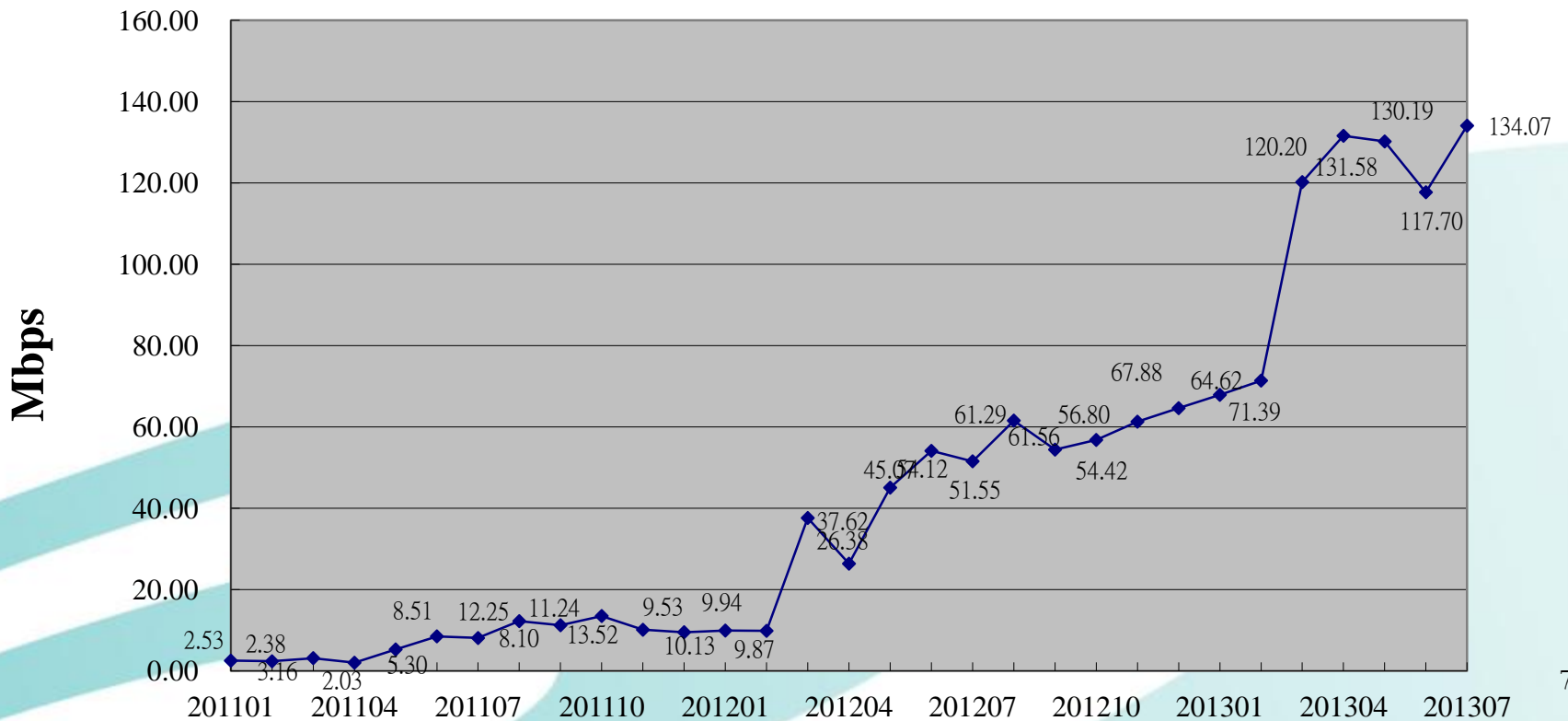
## 2. Total IPv6 traffic(Mbps) in/out of Taiwan

- The total IPv6 traffic in/out of Taiwan is measured at ASIX.
- The maximum for a month is *198.51 Mbps* .



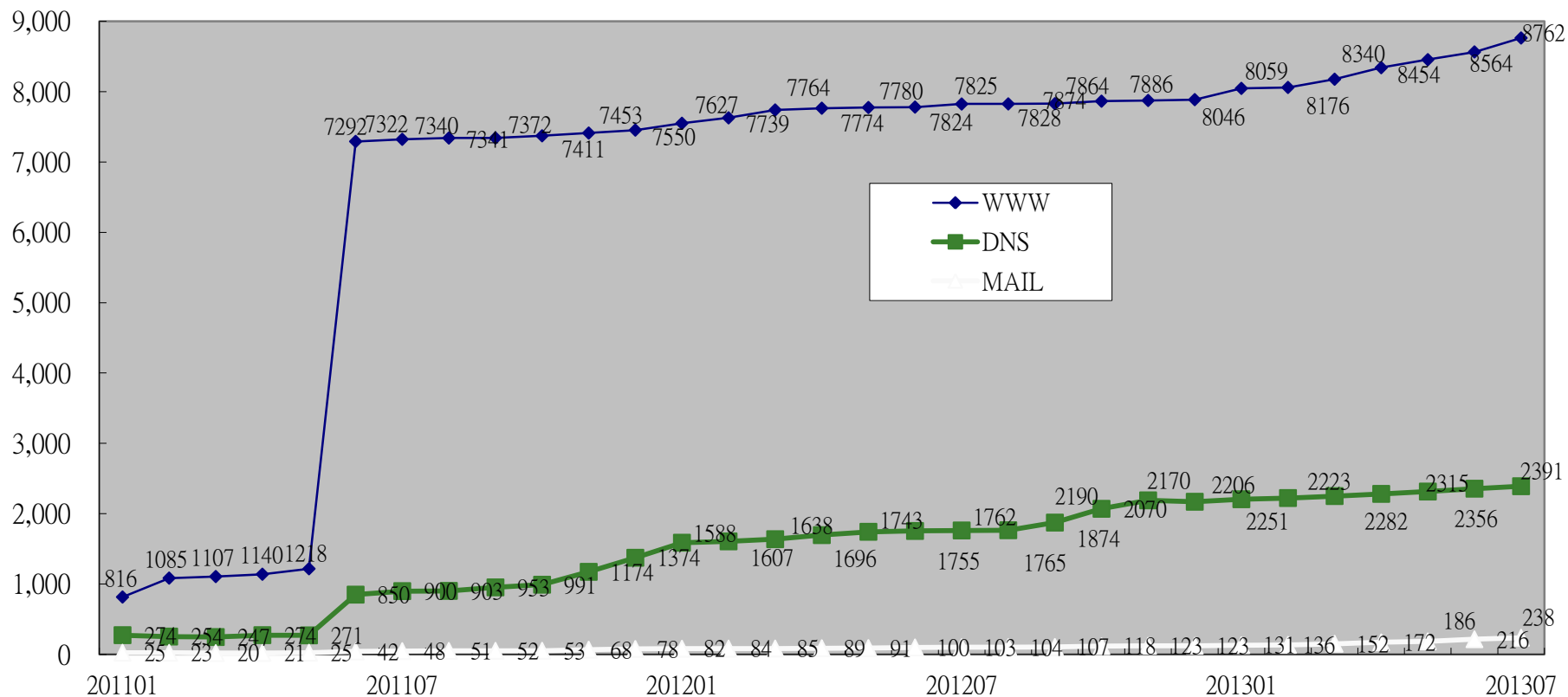
### 3. Traffic in IPv6 Tunnel Broker

- 10 IPv6 Tunnel brokers located in 5 major commercial ISPs are provided by TWNIC to measure the connection service for native IPv4 end users via IPv6 tunnel broker.
- The peak is **134.07** Mbps in July 2013.  
(ISPs: CHT, TFN, So-net, APOL, Sparq)



## 4. The number of IPv6 web servers, DNS servers, Email servers

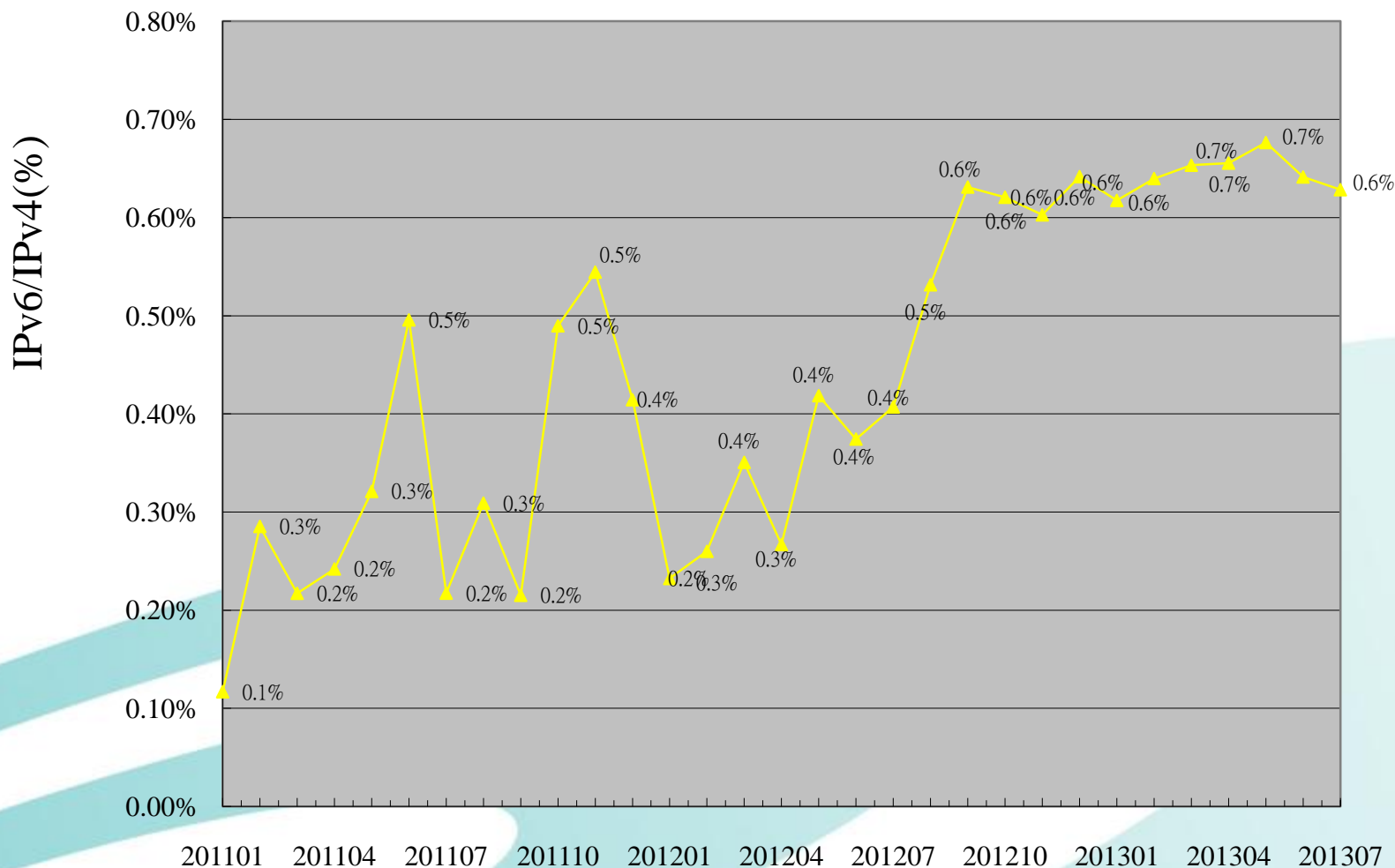
- According to the current data from the IPv6 Taiwan directory and .tw registry database, there are **8,762** IPv6 web servers, **2,391** IPv6 DNS servers, and **238** IPv6 Email servers in Taiwan.





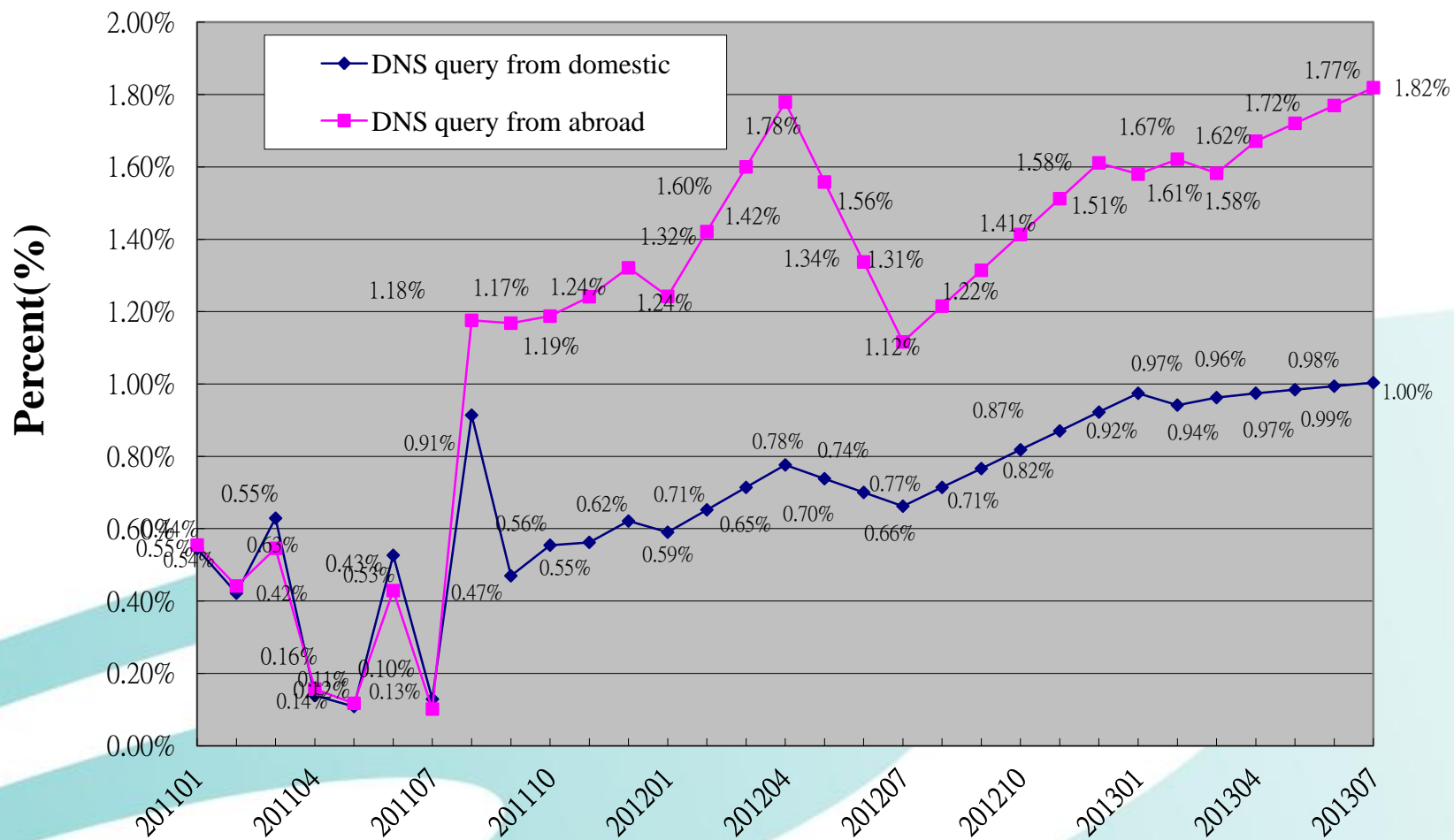
## 5. Web query

- The percentage of queries by end users connecting seven registrar's websites over IPv6.



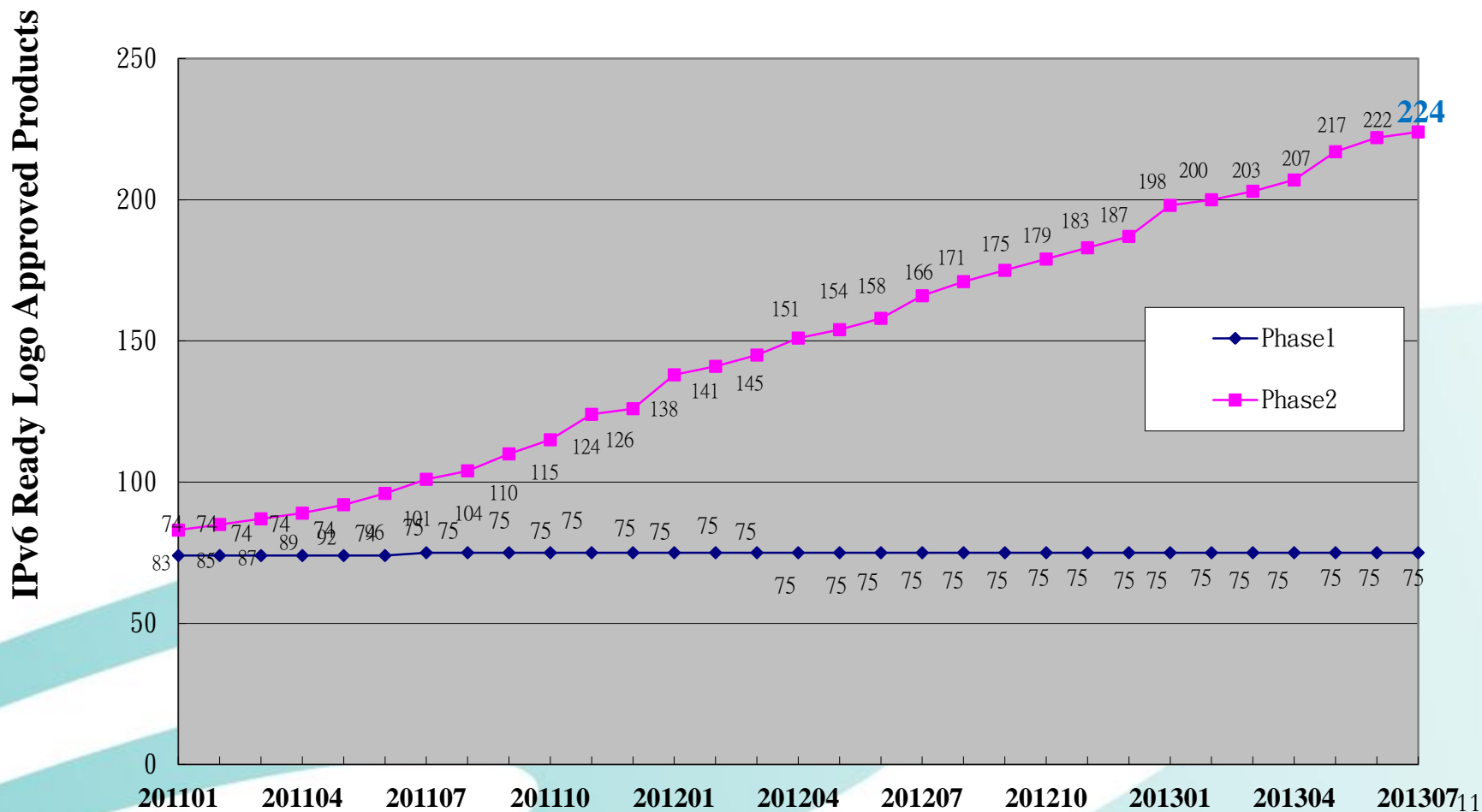
## 6. DNS query

- The percentage of DNS queries from cache servers connecting 11 .tw DNS servers



# 7. Numbers of product

- IPv6 Ready Logo Phase I & Phase II



# Framework of IPv6 readiness measurement

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# Conclusions

- The current status of IPv6 readiness measurement allow us to understand the IPv6 development in Taiwan and will become important references for continuously improving the strategy on the IPv6 development.
- Due to the inaccessibility of the real traffic and DNS queries from end users , there still exit some limitations of the measurement.
- We will cooperate with ISPs to get more data .

# Thank you !