

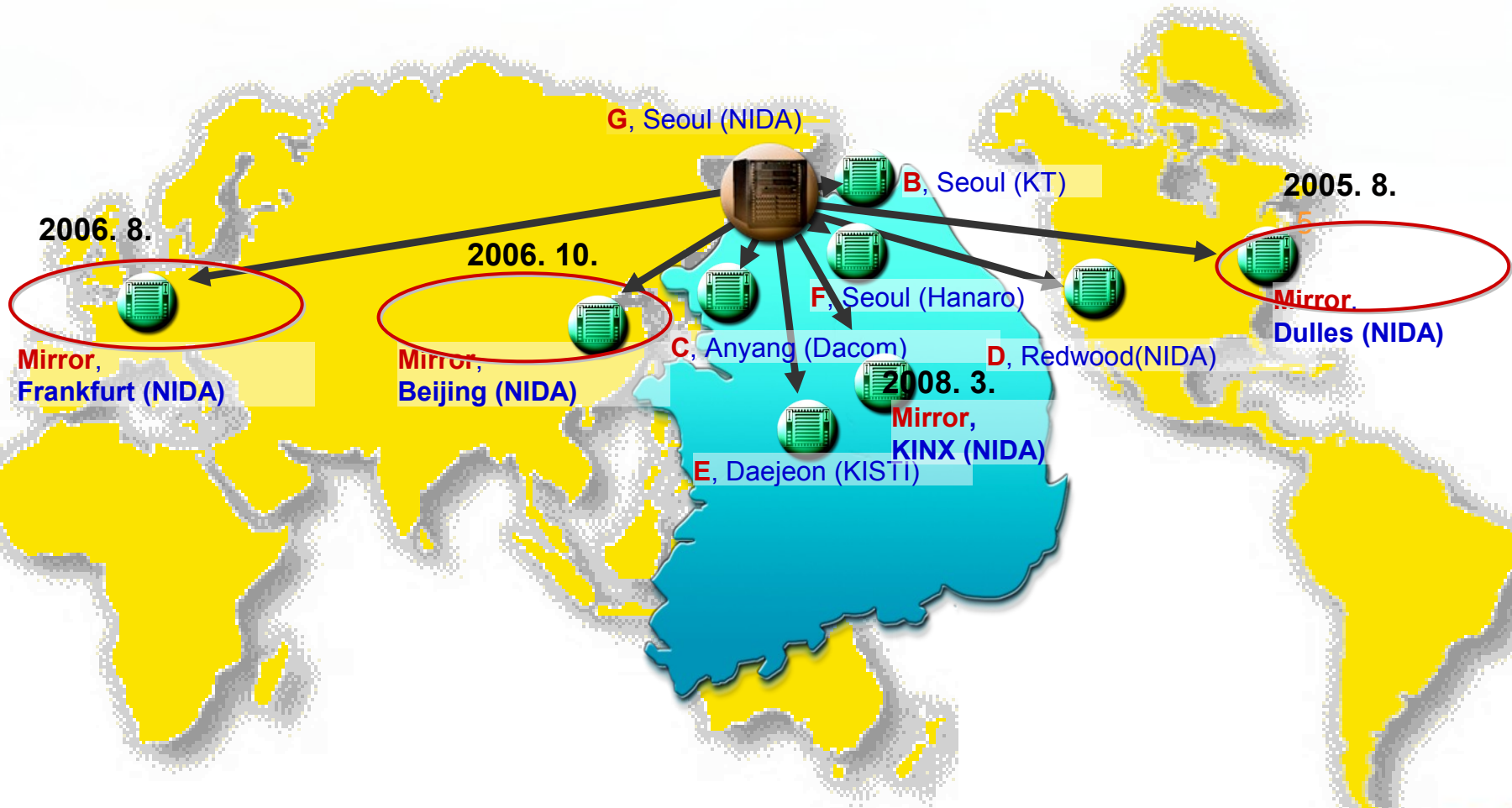
.kr DNS Monitoring System Overview

Young-Sun La

rays@nida.or.kr

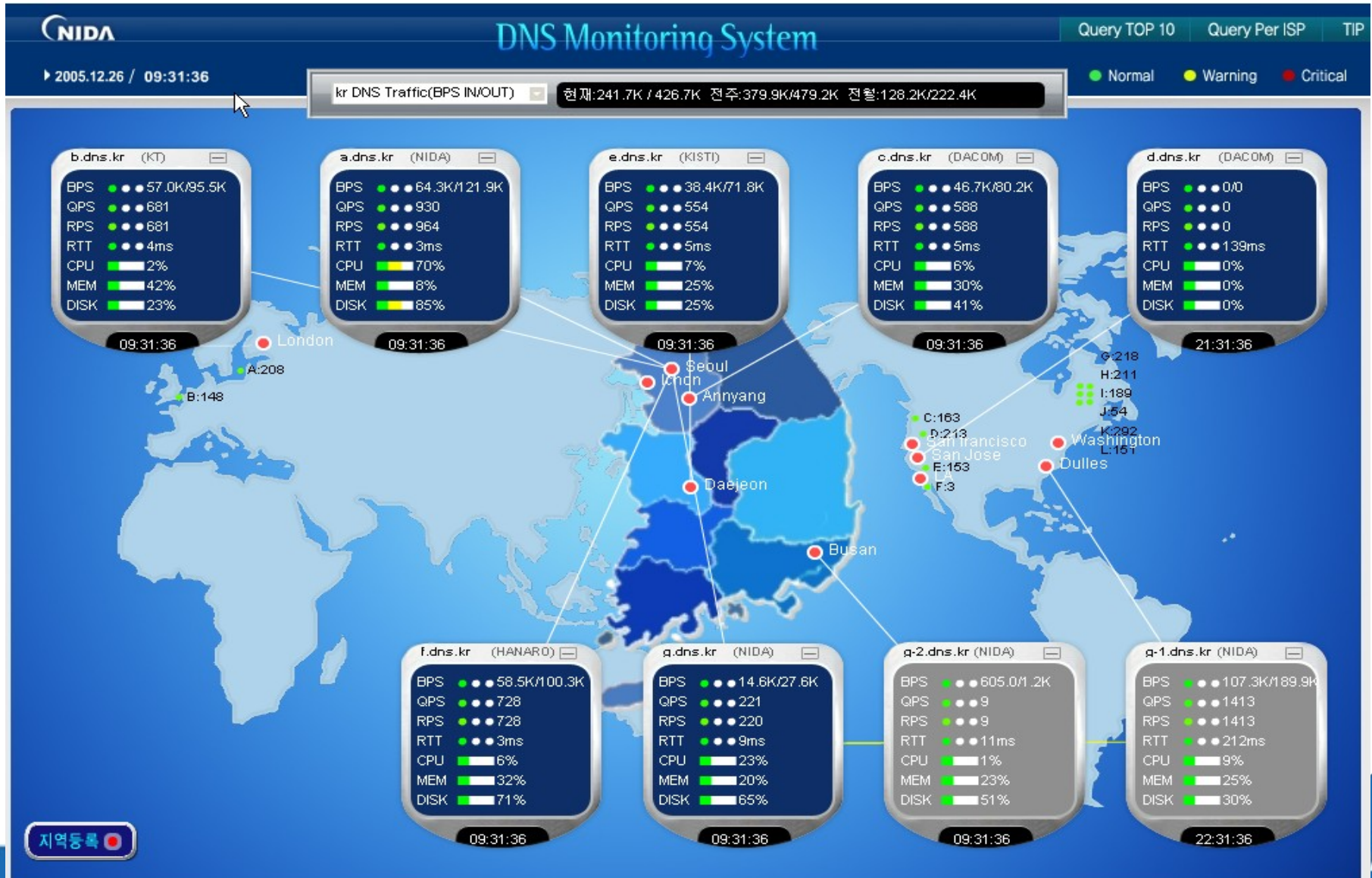
NIDA (National Internet Development Agency)

.kr DNS Deployment Status



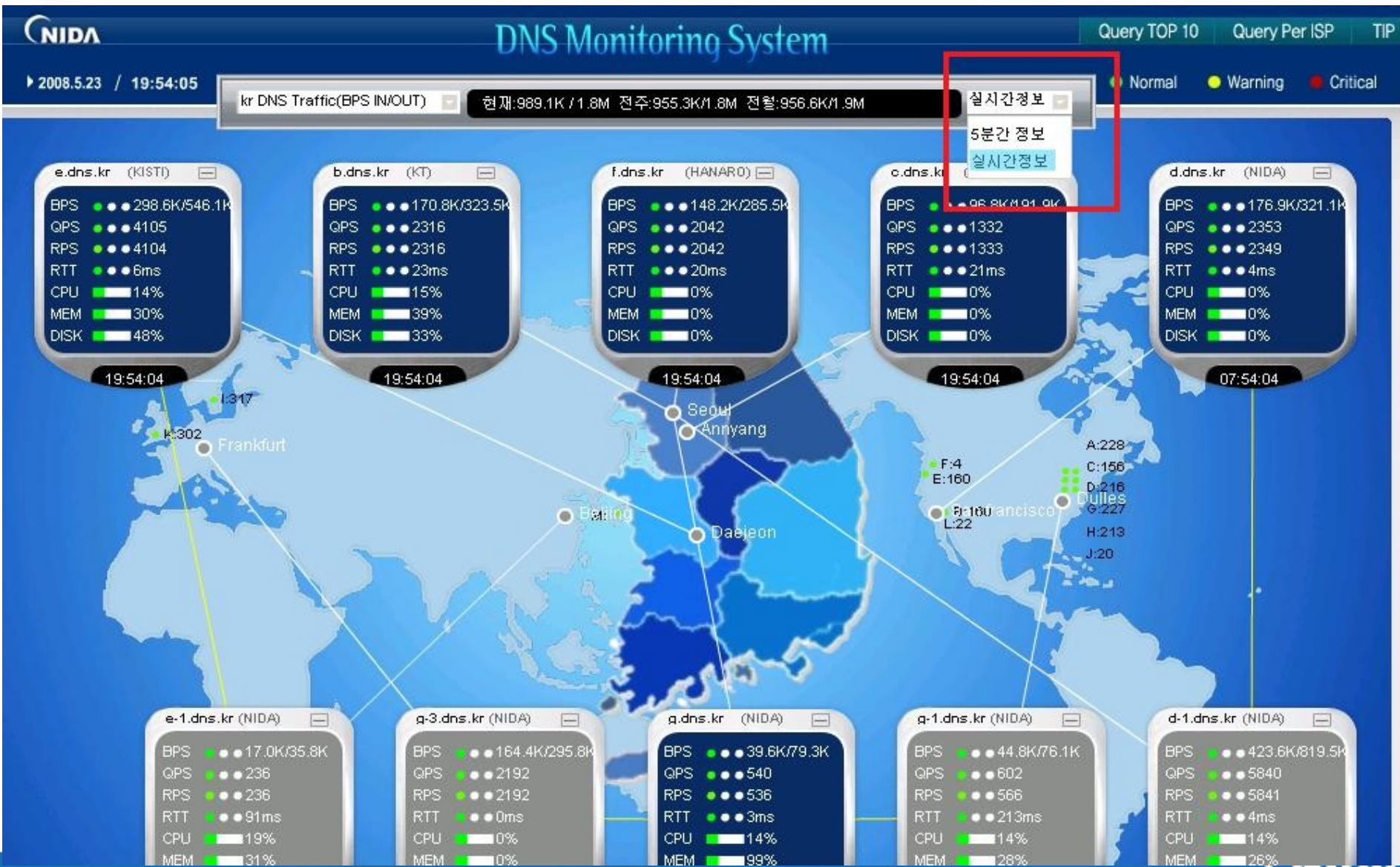
kr DNS Monitoring System

Main page



kr DNS Monitoring System

Main page (updated every 5 seconds)



kr DNS Monitoring System

Main page (kr query per nation)

kr Query Per Nation

Europ(102990)



N_america(251428)



Asia(400605)



Africa(6070)



S_America(4284)



National Top 10

순위	국 가	질의수
1	Korea	331830
2	United States	251428
3	China	28274
4	United Kingdom	22337
5	Germany	21575
6	Russian Federation	18227
7	France	17256
8	Japan	16052
9	Taiwan	10717
10	Italy	5820



What main page shows....

- 1) kr DNS Traffic, Performance , total value
- 2) kr DNS name server traffic, server resources, performances
- 3) Nameserver locations, and links to Display box
- 4) Showing AnyCast DNS
- 5) pop-up Window information
 - Source IP TOP10
 - ISP TOP 10
 - Every nation query status

kr DNS Monitoring System

with sub pages

NIDA DNS Monitoring System

TRAFFIC | SERVER | PERFORMANCE | QUERY | TROUBLE | REPORTING | ADMIN

DNS MAP LOGOUT NOTICE

DNS Traffic

BPS

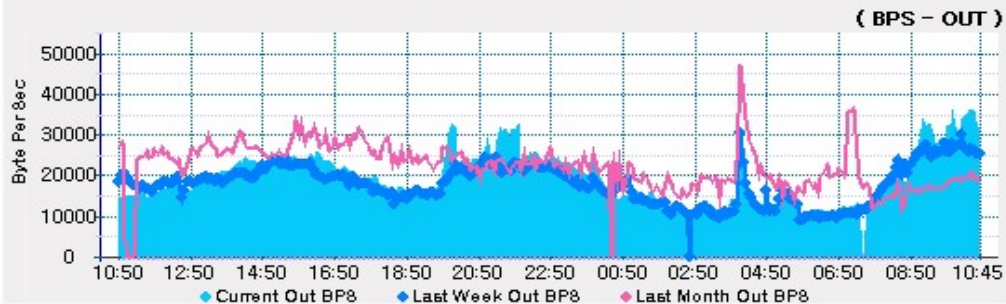
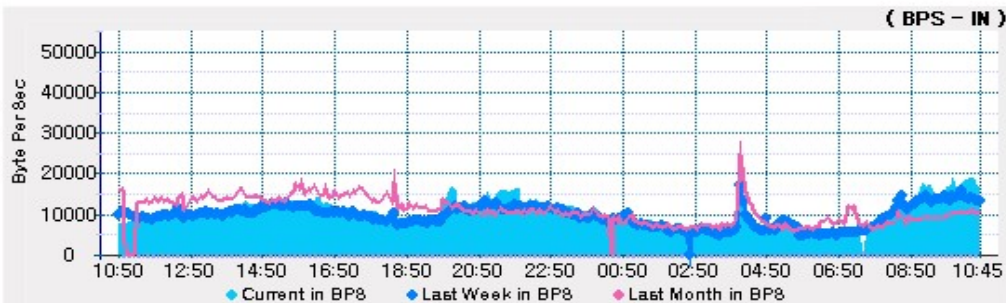
PPS

Traffic

네임서버 : g.dns.kr

검색 >

BPS



구분	In Bound				Out Bound				TOTAL
	MIN	MAX	AVG	CUR	MIN	MAX	AVG	CUR	

kr.DNS Status

kr 네임서버	트래픽	질의	성능
a,dns.kr	●	●	●
b,dns.kr	●	●	●
c,dns.kr	●	●	●
d,dns.kr	●	●	●
e,dns.kr	●	●	●
f,dns.kr	●	●	●
g,dns.kr	●	●	●
g-2,dns.kr	●	●	●
g-1,dns.kr	●	●	●

ROOT DNS Status

DNS명	지역	분당	부산	서울
A,ROOT	워싱턴	209	204	208
B,ROOT	LA	163	212	147
C,ROOT	워싱턴	293	366	164
D,ROOT	워싱턴	234	254	213
E,ROOT	샌프란시스코	153	214	153
F,ROOT	서초	19	72	4
G,ROOT	워싱턴	231	275	266
H,ROOT	워싱턴	211	266	218
I,ROOT	스톡홀름	326	269	189
J,ROOT	서초	129	333	321



What they (sub pages) show...

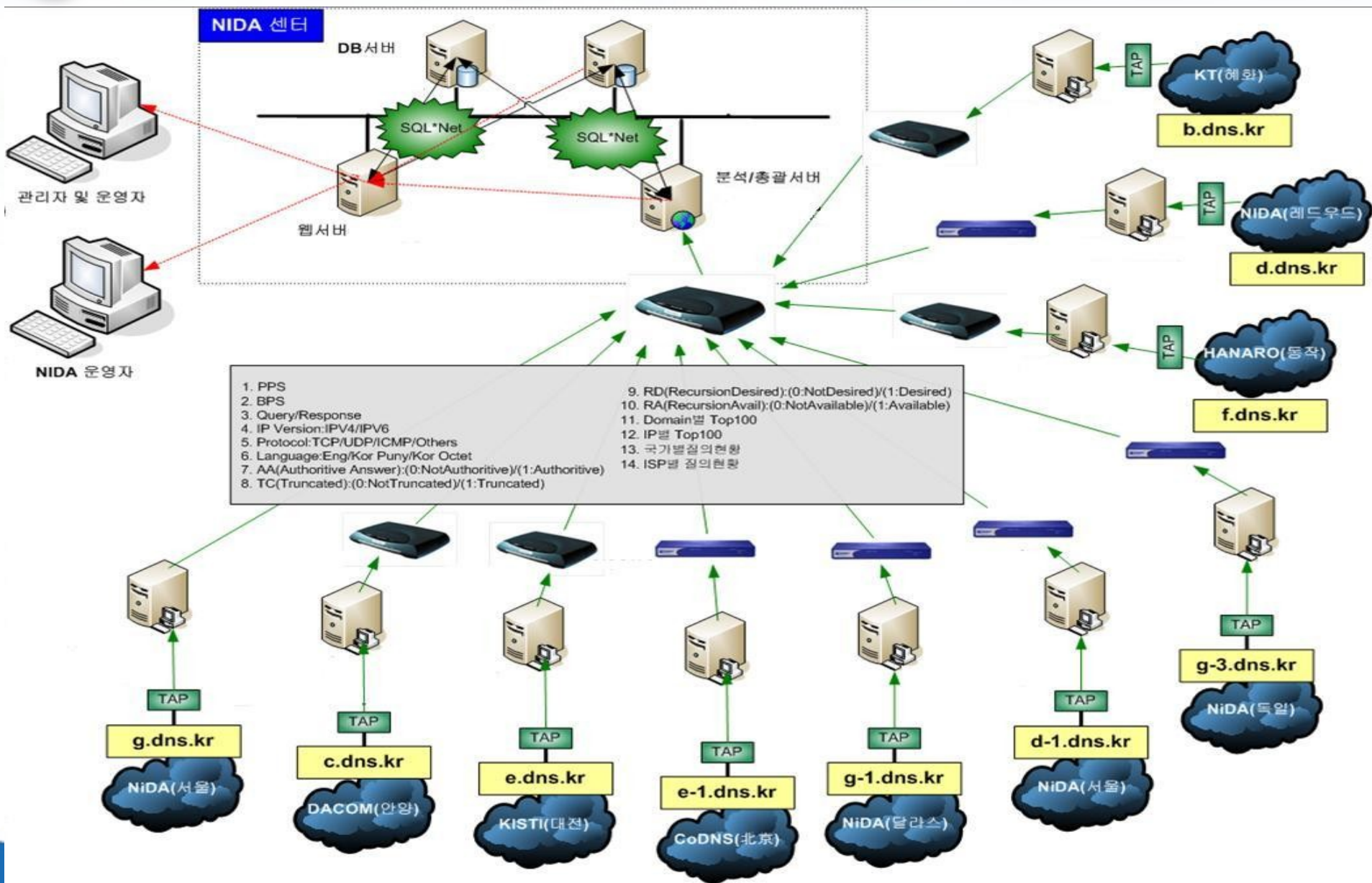
- Network traffic, server resources, DNS performance, every servers' query statistics
- each .kr DNS optional information
 - today, last week, last month, current
 - MAX, MIN, AVG values

category of collecting information

classify	category	Collecting method
Network traffic	BPS(Byte Per Second) PPS(Packet Per Second)	Packet analysis
Server resources	CPU, DISK, Memory	System command
DNS performance/ DNS query amount	QPS(Query Per Second) RPS(Response Per Second)	Packet analysis
DNS performance/ DNS contact speed	RTT(Round Trip time) Route Hop Count	DIG
DNS query/ DNS query target	Source IP TOP100 Target Domain TOP100	Packet analysis
DNS query/ DNS query Type	Query Type	Packet analysis
DNS query/ DNS query distribution	Query per nation Query per ISP	Packet analysis

kr DNS Monitoring System

H/W components



S/W components

- DB server : Solaris(OS), oracle
- Web server : Tomcat, Redhat(OS), OZ Report(chart, graphic), flash, java, jsp
- analysis/admin server : Solaris(OS)
- back-up server : Redhat(OS), oracle

Rooms for improvement

- operation rate improvement
 - improve process, data transfer and administration
 - reduction of daemons, reduction of load
- consideration apply standard S/W (open source)
 - packet analysis tool : DNSCAP
 - graphic/chart : Java. PHP

Rooms for improvement

- we need to statistics IPv6 query per nations, and ISP
=> IPv6 address deployment plan
- we need to more security
 - passive management : SMS delivery, alarm
 - active management : IP Blocking

Rooms for improvement

- Conversion (Web1.0 -> Web2.0)

Ajax(Asynchronous Javascript And XML)

> merits

- without page movement. quick display conversion
- don't need to wait server's handling, asynchronous request is possible.
- can reduce receive data amount. make the client handles it (delegation)

> demerits

- some browser couldn't support Ajax.
- Http client's function is limited.
- security problem (communication without page movement)
- supported Char-set are limited.
- Debugging is hard, 'cause editing is with script.

Thank You

The background is a vibrant blue with a fine grid pattern. A thick, dark blue ribbon-like shape curves from the top left towards the bottom right. In the bottom left corner, there is a glowing globe showing the outlines of continents. The globe is surrounded by concentric circles of binary code (0s and 1s). In the bottom right corner, there are several glowing, semi-transparent spheres and lines, suggesting a network or data flow. The overall aesthetic is clean, modern, and technological.