

< ICANN in Seoul - DNSSEC Session 2009/10/28 >

# DNSSEC Status & Plan in KR

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# Status

- Trial : safedns.kr
- Researches : Key and Signature Policy
- Test
  - ▣ DNSSEC Tools : dnssec-tools, opendnssec, zkt
  - .....
  - ▣ DNS S/W performance : NSD

# Plan

- “go.kr” signing in 2010
- “.kr” signing in 2011 or later
- should go side by side with new kr DNS deployment /upgrade

\*\* Since traffic burdens and limitation of budget, complete deployment won't be done in a short time.

# Trial with “safedns.kr”

- 2006 : Trial system implementation for technical verification
- 2007 : Trial service(safedns.kr) with NSEC
- 2008 : - (KASP researches)
- 2009 : Trial service improvement
  - KR DNSSEC KASP adoption
  - NSEC-> NSEC3 transform
  - DLV adoption(ISC DLV Registry Service)

# DLV Configuration



<b>Name</b>	safedns.kr (delete)
<b>Status</b>	✓ No problems were detected.
<b>DNSKEY Records</b>	2 (add)
<b>Created</b>	2009-02-26 08:58:01 UTC
<b>Last Update</b>	2009-02-26 08:58:01 UTC

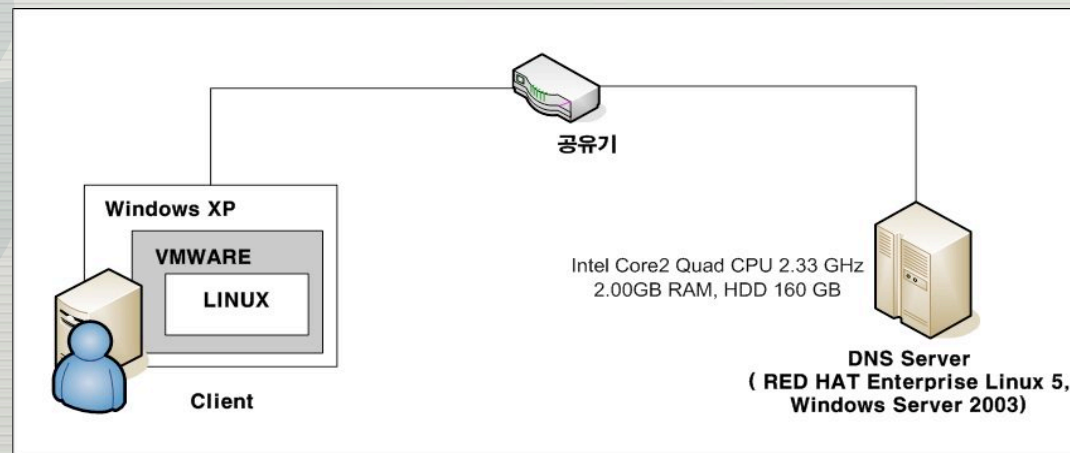
```
options {  
    version "unknown";  
    directory "/var/named";  
    dump-file "/var/named-log/cache_dump.db";  
    statistics-file "/var/named-log/named_stats.txt";  
    edns-udp-size 1460;  
    allow-query { any; };  
    dnssec-enable yes;  
    dnssec-validation yes;  
    dnssec-lookaside "." trust-anchor dlv.isc.org.;  
    listen-on-v6 { any; };  
};
```

# Researches on KASP

- 2008 : research for proper values on Key and Signature information & parameters
- 2009 : KR DNSSEC KASP standard establishment(Base on RFCs)
  - 2 KSK, 3 ZSK
  - lifetime, size, rollover
  - NSEC3, opt-out

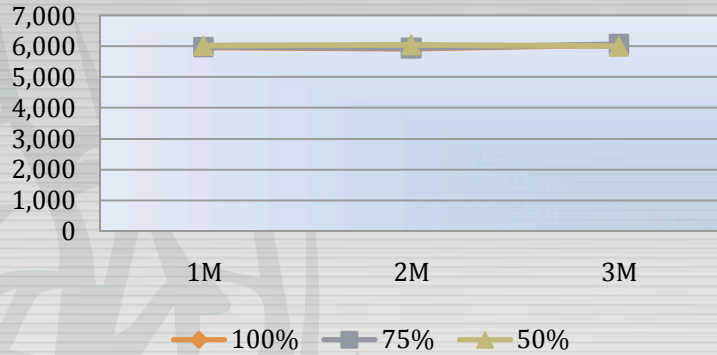
# More about test

- Test with tools
  - dnssec-zkt, dnssec-tools, opendnssec
  - linux, solaris
- DNS S/W test
  - QPS, CPU, MEMORY
  - NSD Test Environment and Method

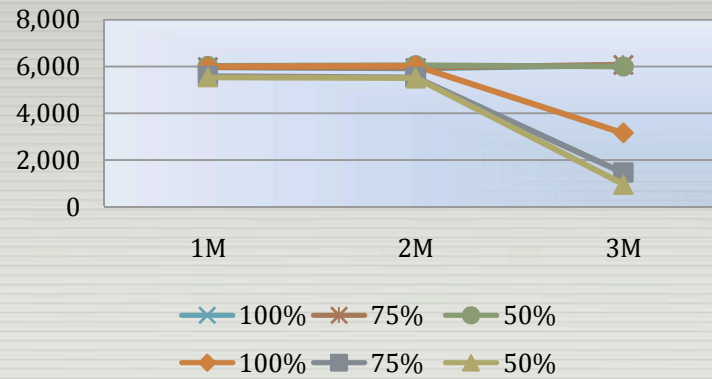


# NSD Test Result

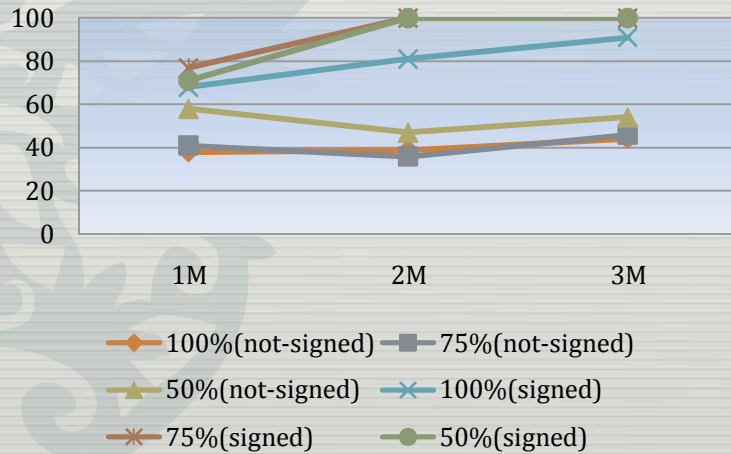
### NSD(Not-signed)



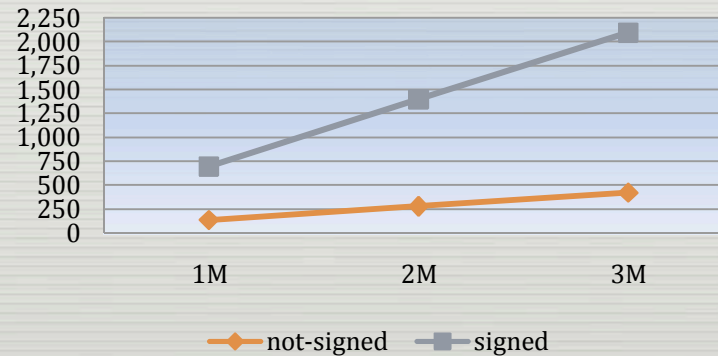
### NSD(signed)



### CPU Possession rate



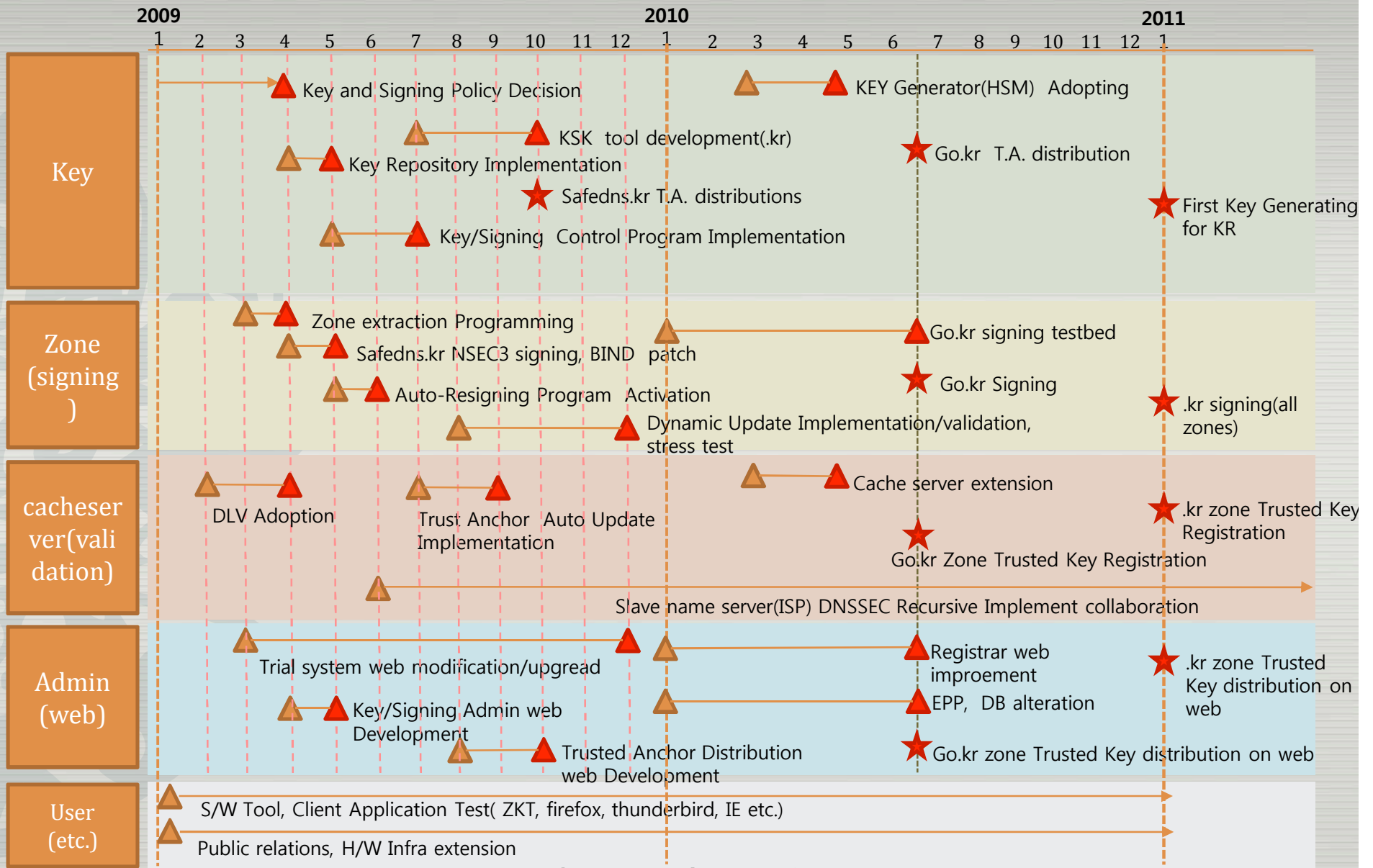
### MEMORY Use



Domain Amount	Zone size	Signed zone size	nsd.db
1M	32 MB	631 MB	455 MB
2M	70 MB	1.2 GB	923 MB
3M	109 MB	1.9 GB < Zone size >	1.4 GB



# More about plan



# More about plan

- Education/Publicity campaign
- Cooperation with ISP and KR Registrar(\*)
- Keep testing with tools, Administration(\*)
  - opendnssec, dnssec-tools, zkt, etc.
  - Performance test with various S/W
  - Independent tool development for KR if it needed
- Zone Signing effect analysis
  - traffic increase(\*)

\* : Concerns



# THANKS

“Benefit all mankind”  
홍익인간(弘益人間)  
(National ideal envisioned on the founding of Korea)