

Practical Considerations for DNSSEC Automation

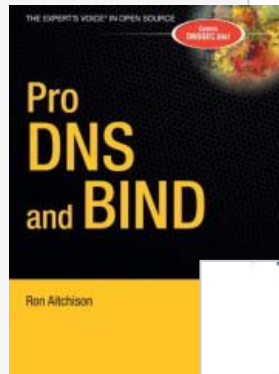
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Internetdagarna
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SECURE 64

SOFTWARE CORPORATION

DNSSEC Deployment Challenges



DNSSEC HOWTO

A Tutorial in English

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Published April 2003

Version 1.1.0

Guide de l'administration
système et réseau



Complexity

- Education, development, QA required

Security

- General purpose OS cannot protect keys
- Crypto cards are complicated
- Offline keys labor intensive

Auditability

- What zones are signed?
- What keys are about to expire?

Scalability

- Signing performance with large or numerous zones
- Offline key management
- Meeting update interval SLAs

NIST
National Institute of
Standards and Technology
Technology Administration
U.S. Department of Commerce

Special Publication 800-81
Sponsored by the
Department of Homeland Security

Secure Domain Name System (DNS) Deployment Guide

Recommendations of the National Institute
of Standards and Technology

Ramaswamy Chandramouli
Scott Rose

DNSSEC Key Management and Zone Signing

Olaf Kullmann, RIPE NCC

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Version 1.1.0



Early adopters invest 4-6+ man-months to deploy, ½ full time person to maintain



SECURE64

Secure64 DNS Signer



DNSSEC Made Simple and Secure **Simple**

- Automated key management, rollover, signing, re-signing

Secure

- Malware-immune OS
- FIPS 140-2 compliant (pending)
- Signing keys are never in the clear

Auditable

- Key and zone status reports, alerts

Scalable

- High performance signing algorithms
- Incremental zone signing

Secure64 DNS Signer makes it easy to deploy DNSSEC correctly and securely

Simple to Configure

```
SERVER:

# Default signing policy

Dnssec-automate: ON
Dnssec-notify: admin@mydomain.com
Dnssec-ksk: 1024 RSASHA1
Dnssec-ksk-rollover: 0 2 1 2,8 *
Dnssec-ksk-siglife 7D
Dnssec-zsk: 2048 RSASHA1
Dnssec-zsk-rollover: 0 1 1 **
Dnssec-zsk-siglife 7D
Dnssec-nsec-type: nsec3
Dnssec-nsec-settings: OPT-OUT 12 aabbccdd

ZONE:
Name: myzone.
File: myzonefile
Dnssec-nsec-type: nsec

...
Configuration file
```

1-line automation

Optional parameters
to override defaults

Can be applied system-wide
or zone by zone

DNSSEC can be deployed in days, not months

Compatible With Current Infrastructure

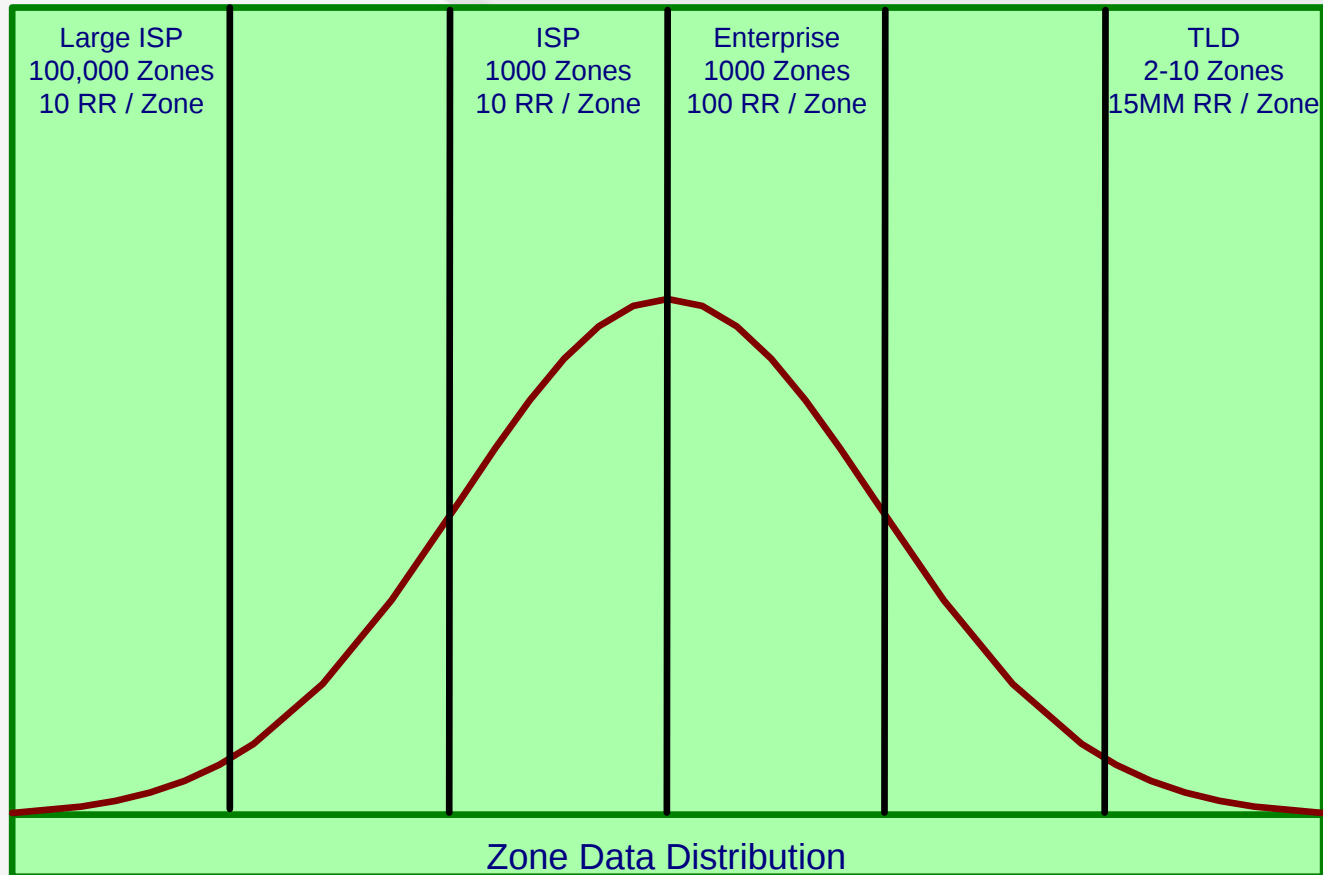


SCP, AXFR, IXFR
(incremental signing)



Secure64 DNS Signer

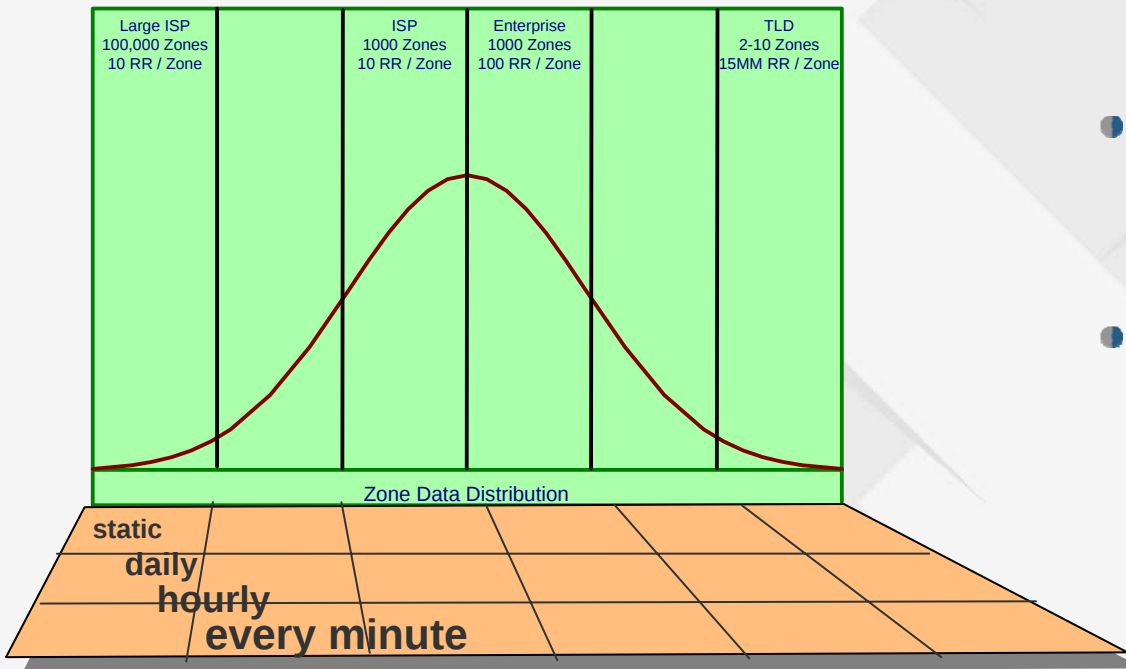
The Design Challenge: Who Is The End User?



Design for the extremes and the normal cases will take care of themselves



Designing for Dynamic Data



- ISP's & TLD's:
 - New customers mean new delegations
- Enterprise:
 - Active Directory & DHCP
- Example:
 - TLD with millions of RR's
 - Updates every minute

The "need for speed"



Thank You!

For more information

Visit our website

www.secure64.com

View our videos

Search for Secure64 on YouTube

“Protecting your Business with
DNSSEC”

“DNSSEC Deployment Options”

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