

# ICANN DNS OPERATIONS

MEHMET AKCIN - MENOG 4

# DNS GROUP

- NEW TECHNICAL/OPERATIONAL DNS GROUP WITHIN ICANN
- JOE ABLEY, MEHMET AKCIN, NELSON
- L.ROOT-SERVERS.NET
- DNSSEC AND ROOT SIGNING

- **CURRENT L-ROOT  
ANYCASTED IN MIAMI AND LOS  
ANGELES**
- **4 GBPS TRANSIT CONNECTION  
3.1 GBPS PEERING POINT  
PRESENCE IN NOTA, LAIIX,  
PACIFICWAVE, EQUINIX LAX WITH  
NEARLY 70~ PEERS.**
- **IPV4 AND IPV6 ENABELD**

## L-ROOT

- GLOBAL NODE TO GO LIVE IN PRAG, CZECH REPUBLIC IN 20
- NEW GLOBAL NODE DESIGN
  - REMOVAL OF LOAD BALANCER
  - IPV4 AND IPV6 DUAL STACK EACH NODE
  - EXPANDING DNS ANSWERING

## L-ROOT

- FINALIZING THE L-LOCAL DESIGN
- 100-150KQPS CAPACITY
- BGP PEERING AND SUPPORT TO 100K ROUTES PER LOCAL NODE.
- IPV6 READY
- LOOKING FOR SPONSORS WHO

- **.INT REGISTRY OPERATIONS**
- **BUILDING A DEDICATED  
INFRASTRUCTURE TO SUPPORT  
CCTLD OPERATIONS GLOBALLY**
- **SECONDARY NAMESERVER  
HOSTING,**
  - **EITHER IN OUR  
INFRASTRUCTURE**

# DNSSEC

- WHAT IS DNS?
- SO IS DNS INSECURE?
- WHAT IS DNSSEC?
- HOW TO DEPLOY IT IN ROOT ZONE
- HOW ARE WE PREPARING

# WHAT IS DNS?

- IT'S BASICALLY THE ADDRESS BOOK OF INTERNET.
- WOULD INTERNET RUN WITHOUT DNS?
- HOW DOES DNS IMPACT EVERYDAY LIFE OF INTERNET?
- WHY WOULD SOMEONE TRY TO



SO DNS IS INSECURE?

- YES!

- HOW CAN <sup>SO</sup>DNS BE INSECURE?  
BE COMPROMISED?
- FORGERY, WILL MAKE YOU GO TO A PLACE WHERE YOU DIDN'T INTENDED TO GO.
- POISONING, MAY CAUSE YOUR RECURSIVE DNS SERVER TO HAVE VALID BUT INCORRECT INFO.

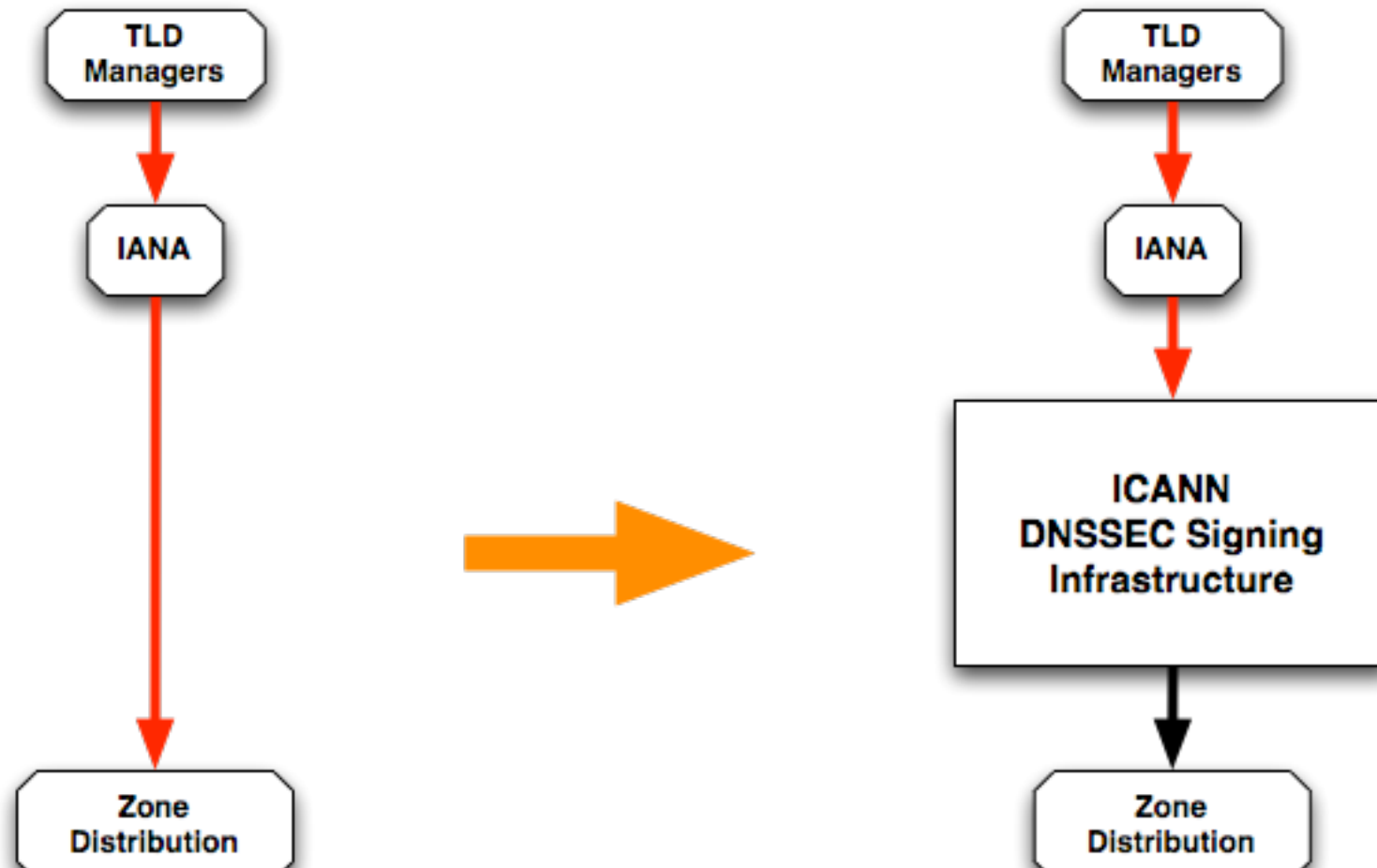
# DNSSEC

- IS DNSSEC THE ANSWER? - YES
- DIGITAL SIGNATURES TO ENSURE THE INTEGRITY OF THE DATA
- PUBLIC KEY, UNIQUE PRIVATE KEY.
- WHAT IF IT'S COMPROMISED ?

## WHAT DNSSEC IS NOT?

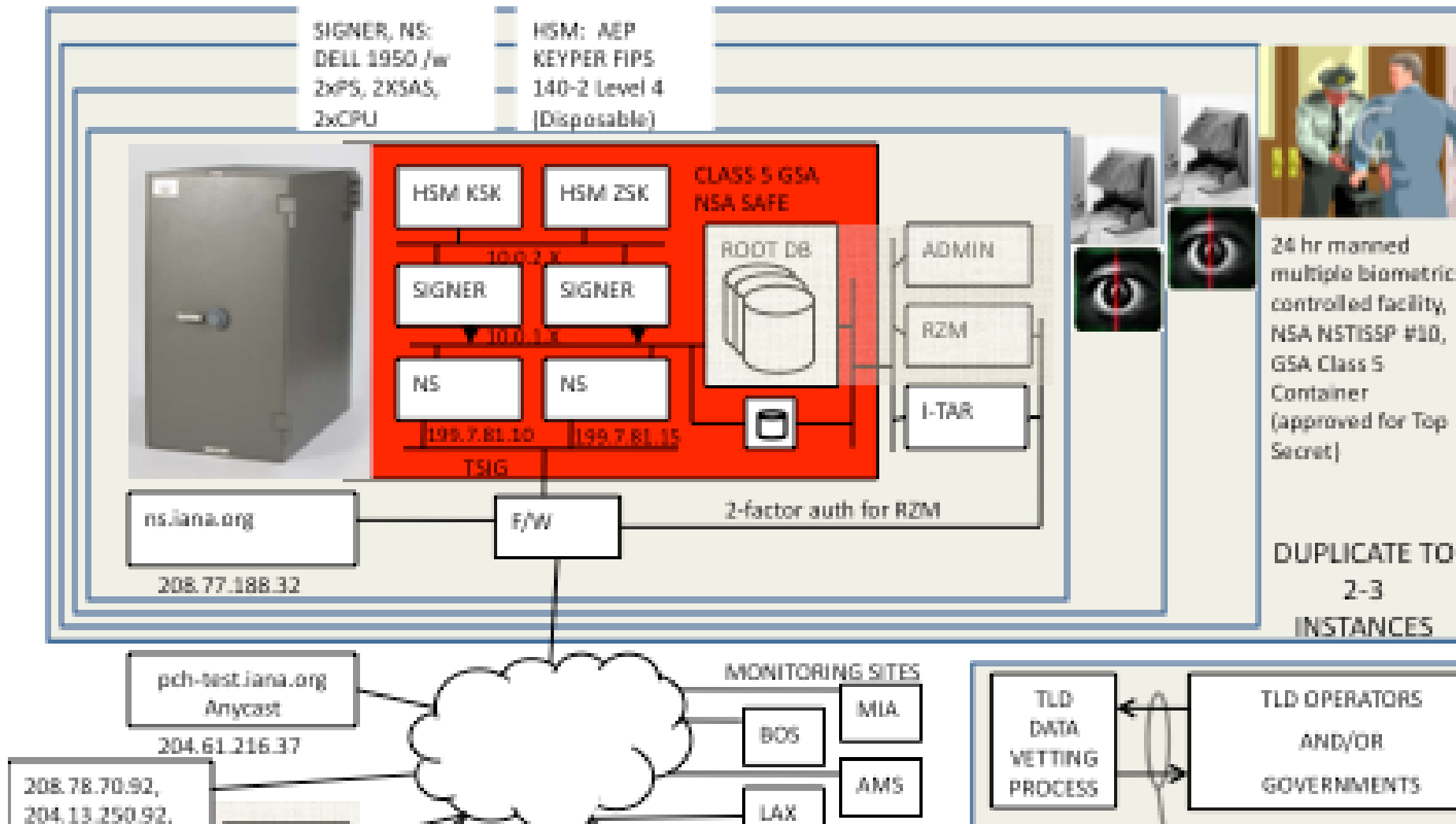
- DNSSEC IS THE RIGHT ANSWER FOR IDENTITY THEFT IN INTERNET BUT IT DOES NOT ;
- PROVIDE ANY PROTECTION AGAINST DDOS ATTACK
- ADD ANY CONFIDENTIALITY TO

# ICANN SIGNING OPERATION



# Behind our testbed

System status at: <https://ns.iana.org/dnssec/status.html> .arpa, in-addr.arpa, ip6.arpa, iris.arpa, um.arpa, uri.arpa, .int, xn-"test" (DS: .se, .be, .bg, .pr, .cz, .museum, .gov)



- MASTER KEY HAS BEEN BUILT WITH MAXIMUM SECURITY.
- LOCATED IN LOS ANGELES, CA
- MULTIPLE LAYERS OF BIOMETRIC ACCESS TO THE CAGE WHERE NSA NSTISSP #10. GSA CLASSIFIED CONTAINER IS HOSTED.
- ESCORTED , MULTIPARTY

# ICANN DNSSEC

- SECONDARY/BACKUP SITE BEING BUILT
- LOCATED IN SWEDEN
- NSA NSTISSP #10. GSA CLASSIFIED CONTAINER.
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THANK YOU..

- RICHARD LAMB , FOR ALL HIS EFFORTS ON DNSSEC AT ICAI
- JOE ABLEY / DAVID CONRAD FOR ALLOWING ME TO BE IN BAHRA MENOG.

# QUESTIONS?

- FEEL FREE TO ASK YOUR  
QUESTIONS HERE OR EMAIL ME  
[MEHMET@ICANN.ORG.](mailto:MEHMET@ICANN.ORG)