



IANA functions — How can you tell the DNS stable?
 Operability of DNS L and coordination of root servers

Recursive resolver
 DNSSEC taxonomy
 Hard to determine health of DNS based on unknown but exploited holes in DNS

Healthy DNS needs good incident management and good network operations

Threat warning and recommendations of mitigation based on the warning

Need of service level of DNS (dashboard)

Secondary servers — Availability of DNS as a service

Data consistency

DNS data accuracy -- 100%

Data integrity
 Process integrity
 System integrity

(1) Availability - n/a

DNS data accuracy -- 100%

Data integrity
 Process integrity
 System integrity

(2) Availability - 90%

DNS data accuracy -- 100%

Data integrity
 Process integrity
 System integrity

(3) Availability --

DNS data accuracy -- 100%

Data integrity
 Process integrity
 System integrity

(4) Availability -- 100%

+ Picture

Team 1

Team 2

Criteria

Team 5

Team 4

Team 3

What does Security and Stability mean?

- Availability of data/system
- Correctness/accuracy
- Timely response
- Data consistency
- Attribution/zone data?
- WHOIS problem?

Threats and defenses

- Operational criteria
 - Roles and responsibilities
 - Physical/procedural/process
 - 3rd party suppliers of services/SLA's
- Institutional confidence
- Accountability and transparency

Picture +

Criteria

- Availability
- Capacity
- Accuracy (e.g. errors/typos in names/IPs/etc.)
- Security

Uptime

- Reachability
 - At multiple ports
 - Unintended
 - Officially intentional
 - Malicious
- Note -- WW CGI.hR, SIMET

Infrastructure (Mikey's suggestion for topic-header)

- Hardware
- Software
- Connection
 - Bandwidth
 - Connectivity
 - Latency

Content (Mikey's suggestion for topic-header)

- Configuration
- Data integrity
 - Transit
 - Submission/registration

Physical Security

Picture +

From whose perspective???

Enablers

- Diversity
 - Operator (people, location, funds, experience)
 - Infrastructure (brand, spec, location)
- Skill
 - Design
 - Operation
- Expertise
 - DNS
 - Security
 - Networking
- Technology — DNSSEC
- Procedures

Criteria

- Secure
 - Integrity of data
 - Authenticity
 - Trustworthy
 - Confidence
 - Resistant to attack
 - Manage threats effectively
- Stable
 - Works and continues to work in a highly predictable way
 - Changes can be implemented with a predictable impact on services
 - Consistency
 - Acceptable performance for all actors

• DNS ≡ End-to-End

Picture +