What is the EBERO Program?

EBERO Event

EBERO Live-TLD Exercise

Summary and Next Steps
What is the EBERO Program?
What is the EBERO Program?

- Serves to protect registrants from a registry operator failure

- An Emergency Back-End Registry Operator (EBERO) provides the five critical registry functions in the event of a gTLD failure

- EBEROs are organizations that have demonstrated years of experience in operating registry services

- EBEROs have entered into three to five-year contracts with ICANN
Five Critical Functions Provided by EBEROs

- DNS resolution for registered domain names
- Maintenance of a properly signed zone in accordance with DNSSEC requirements
- Operation of Shared Registration System (i.e., EPP)
- Operation of Registration Data Directory Services (e.g., WHOIS and Web Whois)
- Registry data escrow deposits
Currently Contracted EBEROs

- China Internet Network Information Center (CNNIC)
- CORE Association (CORE Internet Council of Registrars)
- Nominet
EBERO Event
Declaring an EBERO Event

- TLD Monitoring System
- Contractual Compliance
- Contracting

EBERO Program

Potential Event

EBERO Team

Event Declaration

(EBERO provider is selected)
What Happens During an EBERO Event?

DNS

ICANN -> TLD zone file

ICANN -> EBERO

ICANN -> DNSSEC signing

ICANN -> DNS is internally up

ICANN -> Re-delegation request

ICANN -> IANA

ICANN -> DNS service is publicly up/ NS in the root
What Happens During an EBERO Event?

SRS & RDDS

Data Escrow Release Request

ICANN

Data Escrow Deposit

TLD Data Escrow Agent

Data Escrow Deposit

ICANN

EBERO

Import data / cross validation with zone file

RDDS & EPP services are up
What Happens During an EBERO Event?

Stable EBERO Operation

ICANN

Object update request

EBERO

EBERO

Reports

ICANN

Data Escrow Deposit

ICANN’s Data Escrow Agent
EBERO Live-TLD Exercise
On 3 Sept 2015, the Registry Operator for .doosan requested the termination of their gTLD Registry Agreement with ICANN by 1 March 2016.

TLD had no registrants.

The Registry Operator agreed to allow ICANN to perform a live-TLD EBERO exercise.

Nominet (as EBERO provider) agreed to perform the EBERO exercise to start on 26 January 2016 at 12:00 UTC.
EBERO Live-TLD Exercise – DNS Timeline

- Reached 100% of DNS emergency threshold (simulated)
  - 2016-January-26 16:00

- Declared EBERO event
  - 2016-January-26 17:42
  - Time elapsed: 1 hour, 42 minutes

- DNS/DNSSEC service restored in EBERO’s servers
  - 2016-January-26 19:46
  - Time elapsed: 3 hours, 46 minutes
EBERO Live-TLD Exercise – DNS Timeline

- TLD change request issued to IANA
  - 2016-January-26 20:20
  - Time elapsed: 4 hours, 20 minutes

- TLD change applied in root zone
  - 2016-January-27 00:22
  - Time elapsed: 8 hours, 22 minutes

- Total DNS downtime (simulated and discounting cache effects): 12 hours, 22 minutes
Reached 100% of DNS emergency threshold (simulated)

- 2016-January-26 16:00

Declared EBERO event

- 2016-January-26 17:42
- Time elapsed: 1 hour, 42 minutes

Data Escrow release request issued

- 2016-January-26 18:38
- Time elapsed: 2 hours, 38 minutes
EBERO Live-TLD Exercise – SRS/RDDS Timeline

- Data Escrow deposit made available to ICANN
  - 2016-January-27 23:31
  - Time elapsed: 1 day, 7 hours, 31 minutes

- Data Escrow deposit made available to EBERO
  - 2016-January-28 00:56
  - Time elapsed: 1 day, 8 hours, 56 minutes

- SRS (EPP) service restored
  - 2016-January-28 15:03
  - Time elapsed: 1 day, 23 hours, 3 minutes
EBERO Live-TLD Exercise – SRS/RDDS Timeline

- RDDS service restored
  - 2016-January-28 17:05
  - Time elapsed: 2 days, 1 hour, 5 minutes

- Total RDDS downtime (simulated plus real, and not accounting for cache effects): 2 days, 5 hours, 5 minutes

- Data Escrow function restored (end of exercise)
  - 2016-February-01 13:53
  - Time elapsed: 5 days, 21 hours, 53 minutes
Summary and Next Steps
Summary and Next Steps

- Total DNS downtime (simulated and not accounting for cache effects): **12 hours, 22 minutes**
- Total RDDS downtime (simulated plus real, and discounting cache effects): **2 days, 5 hours, 5 minutes**
- SRS (EPP) service restored **1 day, 23 hours, 3 minutes** after having reached the DNS emergency threshold
- Data Escrow function restored (end of exercise) **5 days, 21 hours, 53 minutes** after the threshold
- During the live-TLD exercise, 44 issues were discovered in the process and are going to be solved
Thank You and Questions

Reach us at:
mailto:globalSupport@icann.org
https://icann.org

twitter.com/icann
gplus.to/icann
facebook.com/icannorg
weibo.com/ICANNorg
linkedin.com/company/icann
flickr.com/photos/icann
youtube.com/user/icannnews
slideshare.net/icannpresentations