

The image is a promotional graphic for the ICANN 60 Annual General meeting. It features a background photograph of a cityscape at dusk or dawn, with several tall, modern skyscrapers on the left and a large, ornate archway on the right. In the foreground, there are colorful flower beds and a paved walkway. A white rectangular box with a thin border is overlaid on the right side of the image, containing the event details in white text. The text is arranged in three lines: 'ICANN' in a large, bold, sans-serif font, followed by 'ANNUAL GENERAL' in a smaller, bold, sans-serif font, and '60' in a very large, bold, sans-serif font. Below this, 'ABU DHABI' is written in a bold, sans-serif font, and '28 October-3 November 2017' is written in a smaller, sans-serif font.

**ICANN**  
**ANNUAL GENERAL**

**60**

**ABU DHABI**

28 October-3 November 2017

# EBERO Exercises



Francisco Arias

ICANN 60 – Tech Day  
30 October 2017

# Agenda

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# What is the EBERO Program?

# What is the EBERO Program?

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- ⦿ Aimed at protecting registrants from a gTLD 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 five-year contracts with ICANN

# Five Critical Functions Provided by EBEROs

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- ⦿ 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 (i.e., WHOIS and Web Whois)
- ⦿ Registry data escrow deposits

# Currently Contracted EBEROs

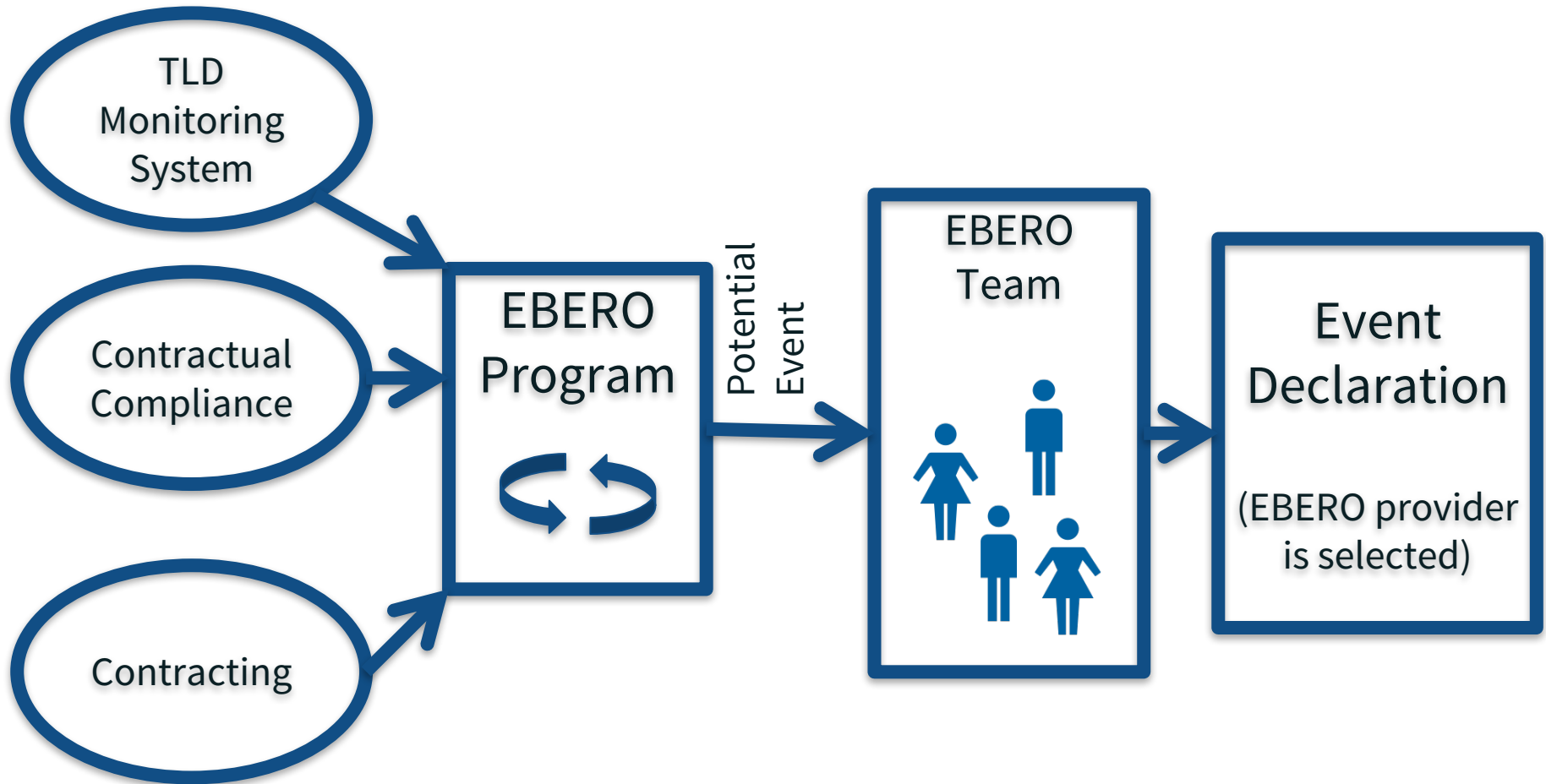
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- ⦿ China Internet Network Information Center (CNNIC)
- ⦿ CORE Association (CORE Internet Council of Registrars)
- ⦿ Nominet

# EBERO Event

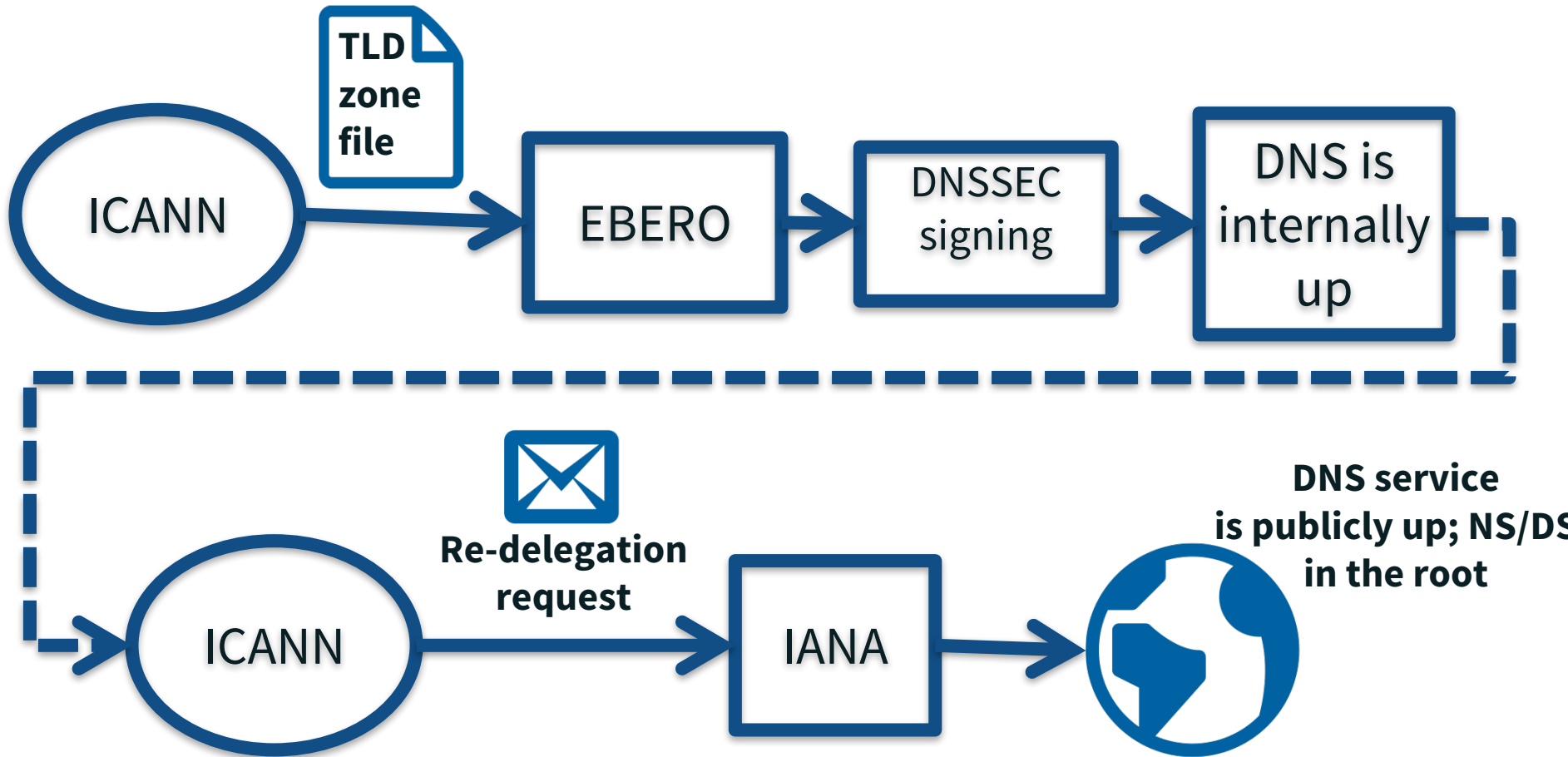


# Declaring an EBERO Event



# What Happens During an EBERO Event?

## DNS

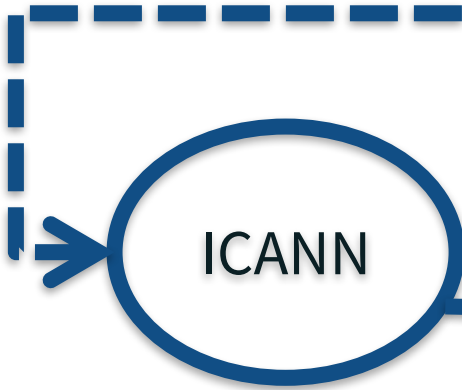


# What Happens During an EBERO Event?

## SRS & RDDS

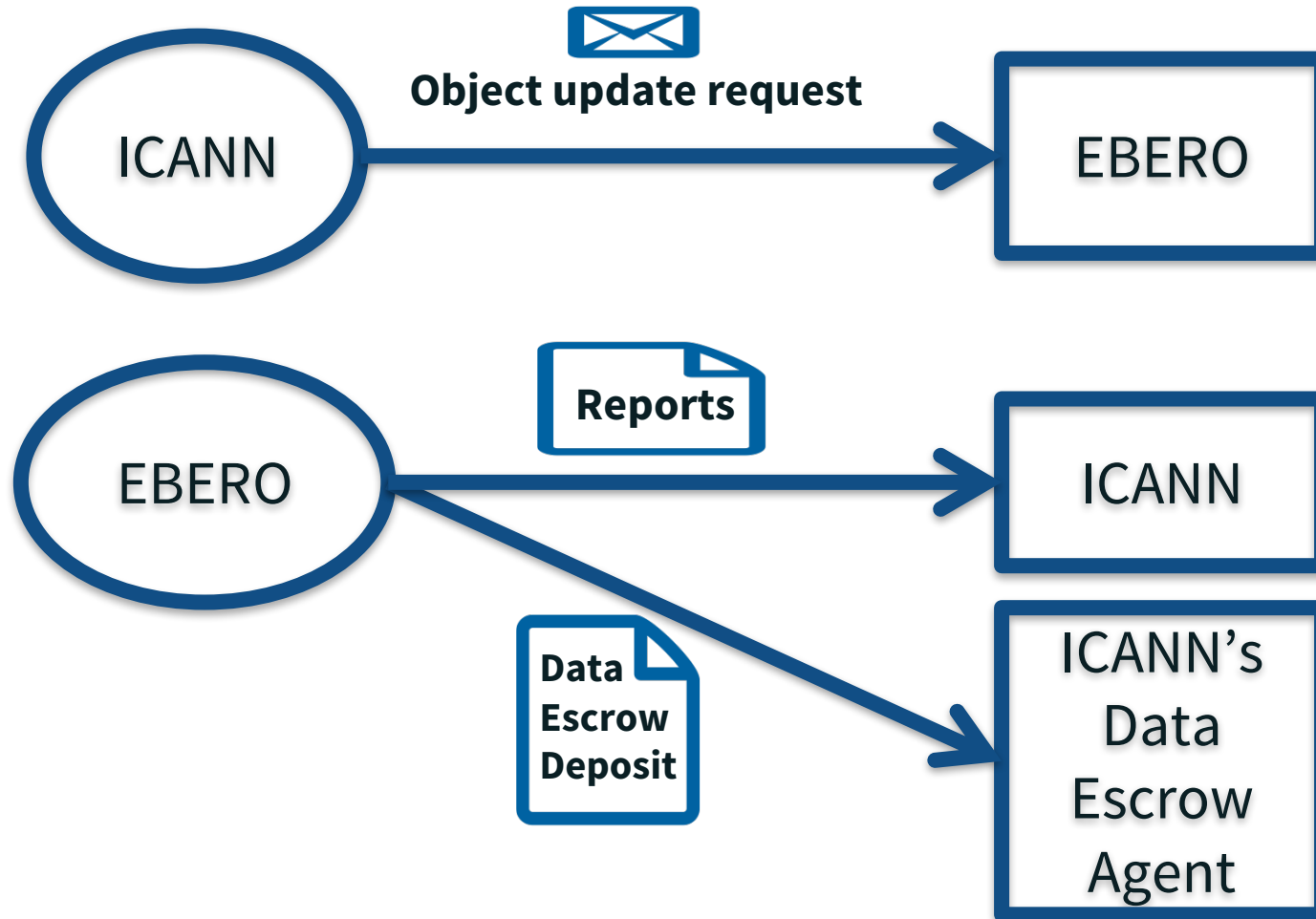


Data Escrow  
Release Request



# What Happens During an EBERO Event?

## Stable EBERO Operation



# EBERO Live-TLD Exercises

# EBERO Live-TLD Exercise

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- ⦿ 3 gTLDs in the process of terminating the Registry Agreement were used to perform EBERO live exercises
- ⦿ The 3 gTLDs used had no registrants; only one name registered by the registry
- ⦿ The Registry Operators agreed to allow ICANN to perform a live-TLD EBERO exercise just before revocation from the root zone
- ⦿ Each of the 3 EBERO exercises was performed with a different EBERO service provider

# DNS Timeline comparison

Step	gTLD-1	gTLD-2	gTLD-3
Reached 100% of emergency threshold (Simulated)	<b>16:00 UTC 26 Jan 2016</b>	<b>14:03 UTC 25 Apr 2017</b>	<b>00:05 UTC 21 Sep 2017</b>
DNS/DNSSEC service restored in EBERO's servers	<b>3 hours, 46 minutes</b>	<b>9 hours, 11 minutes</b>	<b>3 hours, 59 minutes</b>
TLD change request issued to IANA	<b>4 hours, 20 minutes</b>	<b>9 hours, 24 minutes</b>	<b>4 hours, 23 minutes</b>
TLD change applied in root zone	<b>8 hours, 22 minutes</b>	<b>1 day, 5 hours, 5 minutes</b>	<b>7 hours, 55 minutes</b>
<b>Total DNS downtime</b> (simulated and discounting cache effects)	<b>12 hours, 22 minutes</b>	<b>1 day, 9 hours, 5 minutes</b>	<b>11 hours, 55 minutes</b>

# SRS/RDDS Timeline comparison

Step	gTLD-1	gTLD-2	gTLD-3
Reached 100% of emergency threshold (Simulated)	<b>16:00 UTC 26 Jan 2016</b>	<b>14:03 UTC 25 Apr 2017</b>	<b>00:05 UTC 21 Sep 2017</b>
Data Escrow deposit made available to ICANN	<b>1 day, 7 hours, 31 minutes</b>	<b>2 days, 19 hours, 36 minutes</b>	<b>1 day, 14 hours, 22 minutes</b>
SRS (EPP) service restored	<b>1 day, 23 hours, 3 minutes</b>	<b>2 day, 22 hours, 14 minutes</b>	<b>4 days, 18 hours, 29 minutes</b>
RDDS service restored	<b>2 days, 1 hour, 5 minutes</b>	<b>2 day, 22 hours, 14 minutes</b>	<b>5 days, 13 hours, 58 minutes</b>
<b>Total RDDS downtime</b> (simulated + real and discounting cache effects)	<b>2 days, 5 hour, 5 minutes</b>	<b>3 days, 2 hours, 14 minutes</b>	<b>5 days, 17 hours, 58 minutes</b>

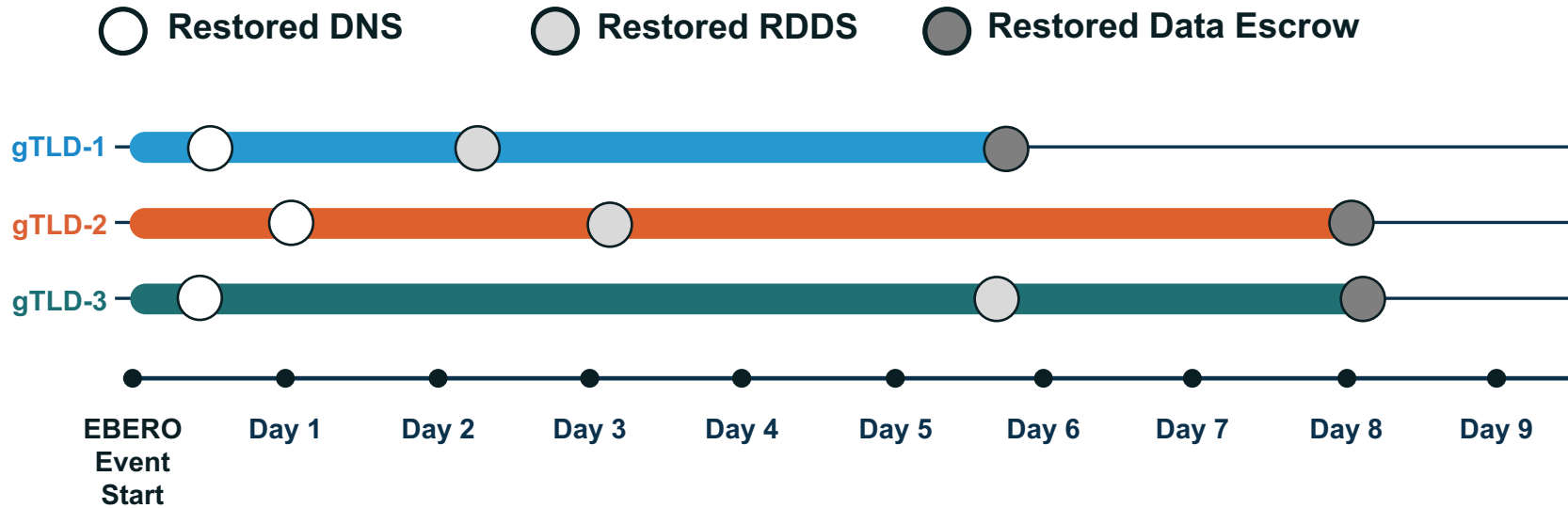


# Summary and Next Steps

# Summary

Step	gTLD-1	gTLD-2	gTLD-3
Reached 100% of emergency threshold (Simulated)	16:00 UTC 26 Jan 2016	14:03 UTC 25 Apr 2017	00:05 UTC 21 Sep 2017
Total DNS downtime (simulated and discounting cache effects)	12 hours, 22 minutes	1 day, 9 hours, 5 minutes	11 hours, 55 minutes
Total RDDS downtime (simulated + real and discounting cache effects)	2 days, 5 hour, 5 minutes	3 day, 2 hours, 14 minutes	5 days, 17 hours, 58 minutes
Data Escrow function restored (End of exercise)	5 days, 21 hours, 53 minutes	8 days, 2 hours, 34 minutes	8 days, 3 hours, 21 minutes
<b>Issues discovered</b>	<b>44 issues</b>	<b>37 issues</b>	<b>20 issues</b>

# Timeline



## Next Steps

During each of the 3 live-TLD exercises, a number of issues was found in the process and have or are in the process to be solved

# Engage with ICANN



## Thank You and Questions

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