Design Team A
Service Level Expectation (SLE) Update

CWG – Working Group

Background

- Service Level Expectation (SLE) Design Team (DT) is comprised of 3 gTLD Registry representatives and 3 ccTLD Representatives
- The DT was asked:
  - To review the current IANA functions operations
  - To review and evaluate existing SLEs between IANA and NTIA
  - Work with IANA staff to capture the current work flow processes
  - Develop new SLEs that reflect both the current work flow and customer performance

Summary of Recommendations so far

- Current performance standards in NTIA/IANA agreement <u>inadequate</u> for registry service of global importance.

- Appropriate time for customers to determine minimally acceptable service levels, reporting requirements and breach levels

- Not recommending any changes to the process

- Recommending mechanisms put in place prior to transition that measure, record, and extract transaction times

- Recommend additional reporting mechanisms that promote transparency for IANA process

Guiding Principles of the Process (1)

- **Attributable measures.** Unless clearly impractical, individual metrics should be reported attributing time taken to the party responsible. For example, time spent by IANA staff processing a change request should be accounted for distinctly from time spent waiting for customer action during a change request.

- **Overall metrics.** In addition to the previous principle, overall metrics should be reported to identify general trends associated with end-to-end processing times and processing volumes. The raw performance data should continue to be freely available to third parties to conduct their own analysis.

- **Relevance.** All metrics to be collected should be relevant to the validation of customer service. In addition some are customer critical metrics that are considered important to set specific thresholds for judging breaches in ICANN's ability to provide an appropriate level of service.

- **Clear definition.** Each metric should be sufficiently defined such that there is a commonly held understanding on what is being measured, and how an automated approach would be implemented to measure against the standard.

Guiding Principles of the Process (2)

- **Definition of thresholds.** The definition of specific thresholds for performance criteria should be set to ensure minimally acceptable service levels. Thresholds are expected to change over time to drive improvements in service levels. Initial thresholds may be based on analysis of actual data or this may require first the definition of a metric, a period of data collection, and later analysis by IANA customers before defining the threshold.

- **Review process.** The service level expectations should be reviewed periodically, and adapted based on the revised expectations of IANA's customers and relevant updates to the environment. They should be mutually agreed between the community and the IANA Functions Operator.

- **Regular reporting.** To the extent practical, metrics should be regularly reported automatically and without delay as and when collected.

Process

- Collected and statistically processed historical processing times (attached in the presentation)

- The numbers showed IANA was much better than its SLEs but more granularity and transparency was needed.

- DT-A began working with IANA to map out their process in more detail and develop more detailed SLEs

- In realizing that the process is going to require more time to develop SLEs with transparency; the DT-A issued a statement to the CWG that it will continue to work in parallel to the transition, and ensure a robust SLE is in place post transition
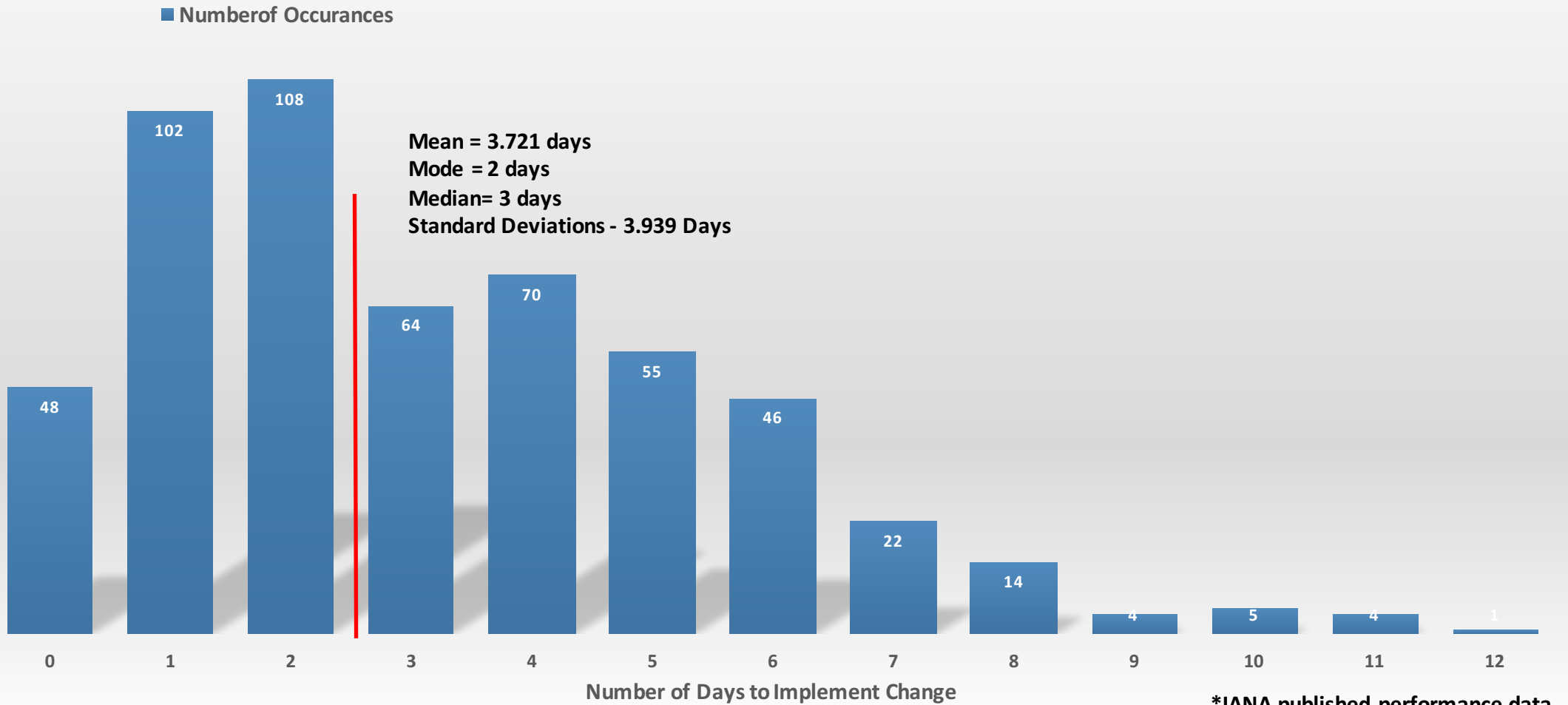
Next Steps

- IANA and Adam Smith (Community DNS) will refine the processes and SLEs and present weekly to DT-A for comment.

- Once agreed, IANA will develop an Implementation plan including an internal ICANN request for Technical Resources.

- Request comment from NTIA

- Deploy resources to capture actual data

- Populate the agreed thresholds for the SLEs based upon real world data

- With the SLE data specified the SLE will be in place for the Implementation Phase.

- Checking of the SLE during the Implementation Phase - SLE in place from the date of Transition

Backup Data Slides

DT-A Subgroup

Root Zone and WHOIS Database Changes
(09/13 -01/2015*)

■ Numberof Occurances

Mean = 3.721 days
Mode = 2 days
Median= 3 days
Standard Deviations - 3.939 Days

Days	Occurrences
0	48
1	102
2	108
3	64
4	70
5	55
6	46
7	22
8	14
9	4
10	5
11	4
12	1

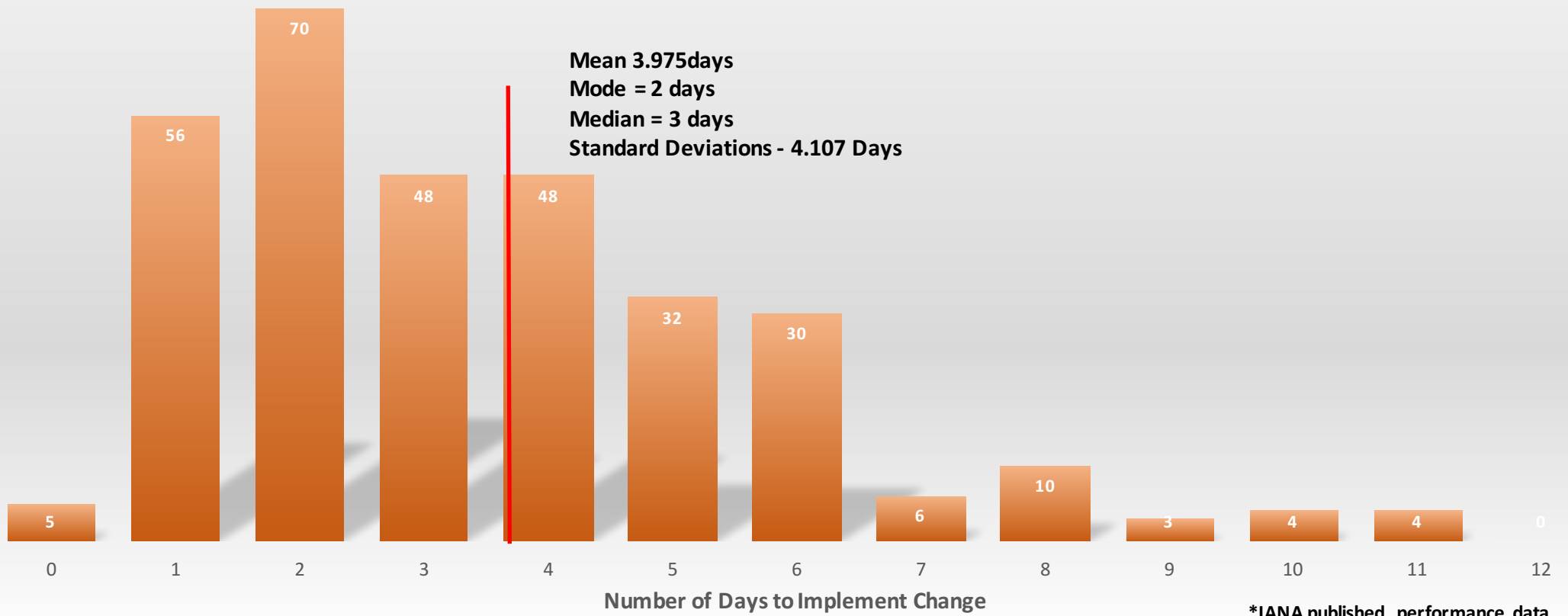**Number of Days to Implement Change**

*IANA published performance data.

Notes to All Data Slide

- All Root Zone and WHOIS Database Changes – ccTLD, gTLDs, & IDNs
- Calculating the time it took from receipt of registry validation to completion verification
- Measured in total number of days (including weekends)
- Approximately 565 total data points – only 27 transactions took longer than 9 days and 13 took longer than 12 days (not on graph)
- 4 transaction took longer than 1 year – data points were thrown out because could not confirm date that request was received
- Overall Mean = 3.721 days
- Mode = 2 days
- Median = 3 days
- Standard Deviations - 3.939 Days

Root Zone and WHOIS Database Changes
ccTLDs
(09/13 -01/2015*)

■ **Number of Occurances**

Mean 3.975days
Mode = 2 days
Median = 3 days
Standard Deviations - 4.107 Days

| Days	Occurrences
0	5
1	56
2	70
3	48
4	48
5	32
6	30
7	6
8	10
9	3
10	4
11	4
12	0

Number of Days to Implement Change

*IANA published performance data.

Notes to ccTLD Slide

- Root Zone and WHOIS Database Changes for ccTLDs
- Calculating the time it took from receipt of registry validation to completion verification
- Measured in total number of days (including weekends)
- 323 data points – a total on of only 7 transactions took longer than 11 days and only18 took longer than 8 days to complete (not on graph)
- Mean 3.975days
- Mode = 2 days
- Median = 3 days
- Standard Deviations - 4.107 Days

Root Zone and WHOIS Database Changes
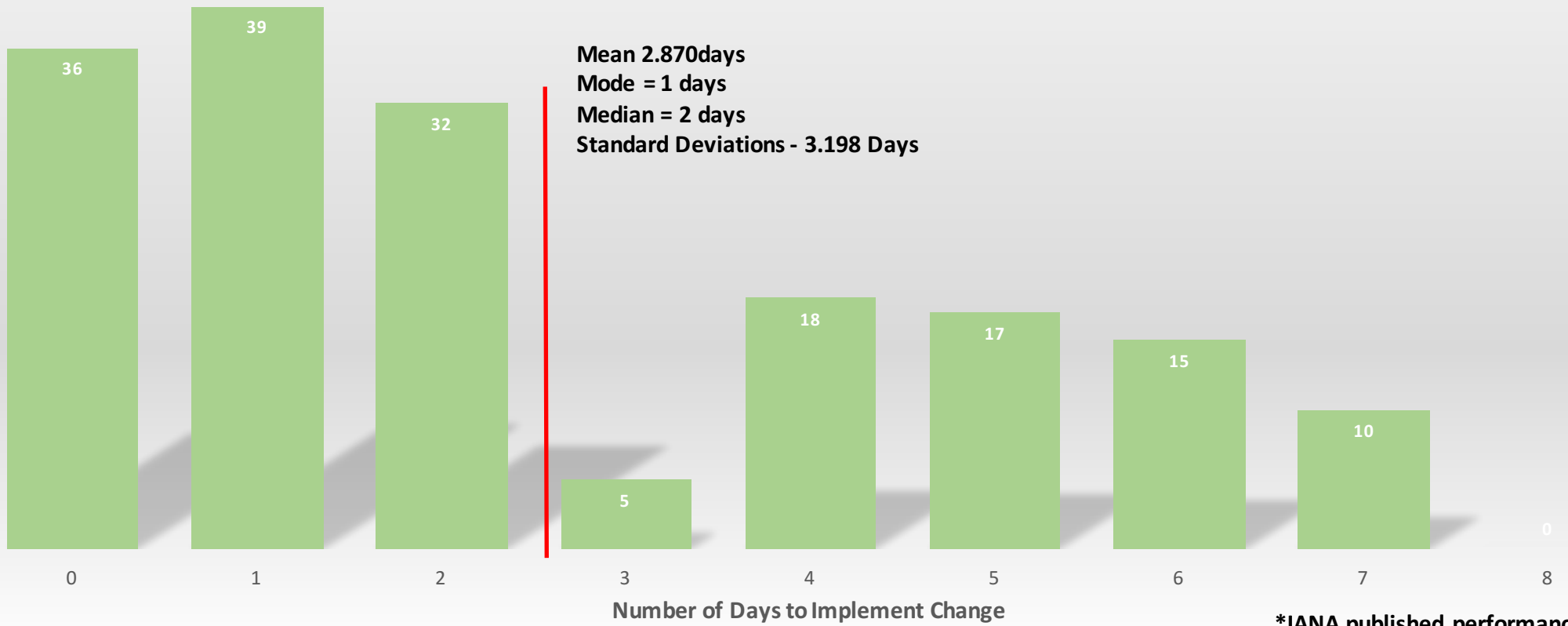IDNs
(09/13 -01/2015*)
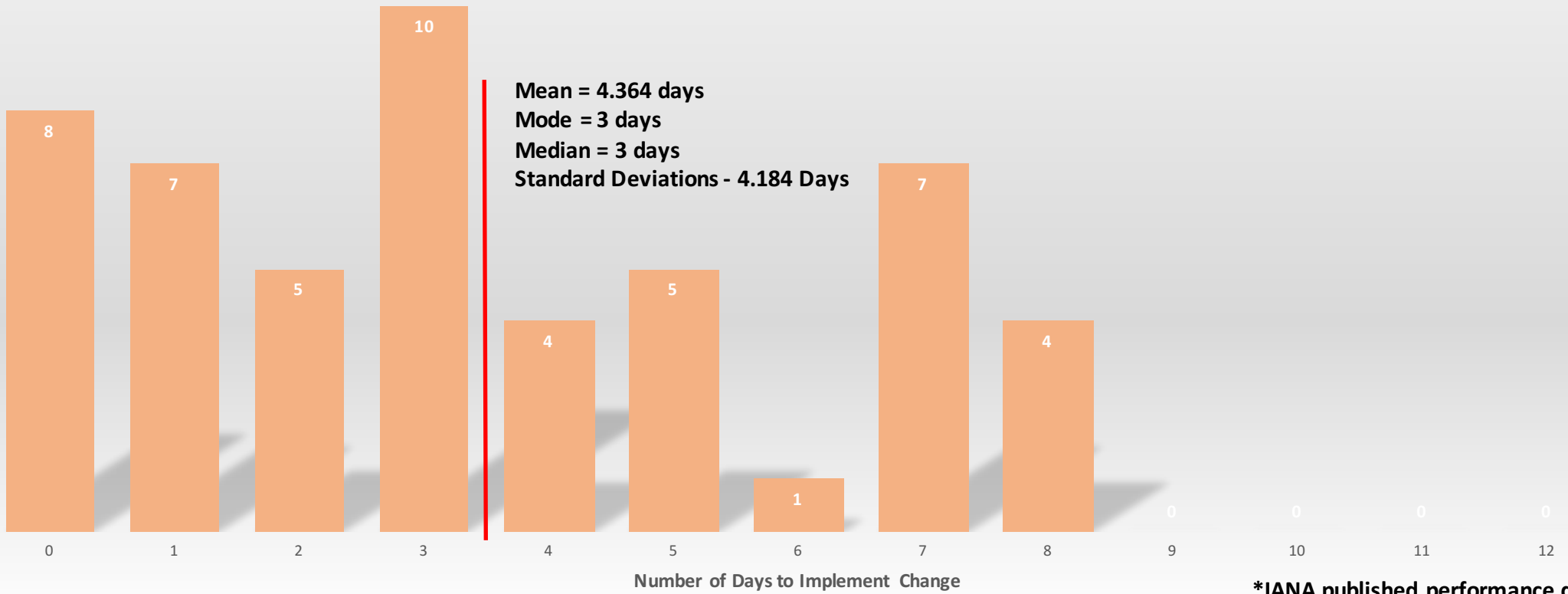
Notes to IDN Slide

- Root Zone and WHOIS Database Changes for IDNs
- Calculating the time it took from receipt of registry validation to completion verification
- Measured in total number of days (including weekends)
- 55 data points – a total on of only 4 transactions took longer than 8 days to complete (not on graph)…the tail
- Mean = 4.364 days
- Mode = 3 days
- Median = 3 days
- Standard Deviations - 4.184 Days

Root Zone and WHOIS Database Changes
gTLDs
(09/13 -01/2015*)

■ Numberof Occurances

Mean 2.870days
Mode = 1 days
Median = 2 days
Standard Deviations - 3.198 Days

36

39

32

5

18

17

15

10

0

0   1   2   3   4   5   6   7   8

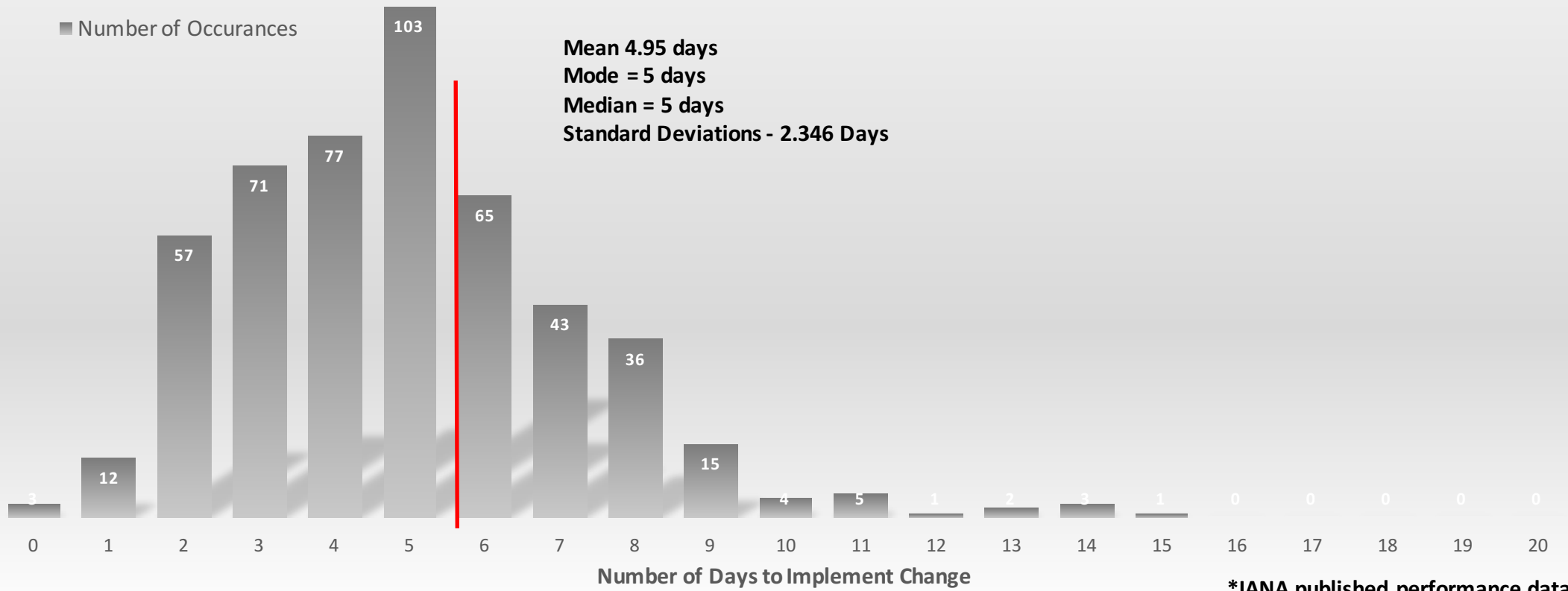**Number of Days to Implement Change**

***IANA published performance data.**

Notes to gTLD Delegation Slide

- Root Zone and WHOIS Database Changes for gTLDs
- Calculating the time it took from receipt of registry validation to completion verification
- Measured in total number of days (including weekends)
- 176 data points – a total on of only 4 transactions took longer than 7 days to complete (not on graph)...the tail
- Mean 2.870days
- Mode = 1 days
- Median = 2 days
- Standard Deviations - 3.198 Days

Delegation for gTLDs and IDNs (09/13 -01/2015*)

Mean 4.95 days
Mode = 5 days
Median = 5 days
Standard Deviations - 2.346 Days

■ Number of Occurances

Days	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Occurances	3	12	57	71	77	103	65	43	36	15	4	5	1	2	3	1	0	0	0	0	0

Number of Days to Implement Change
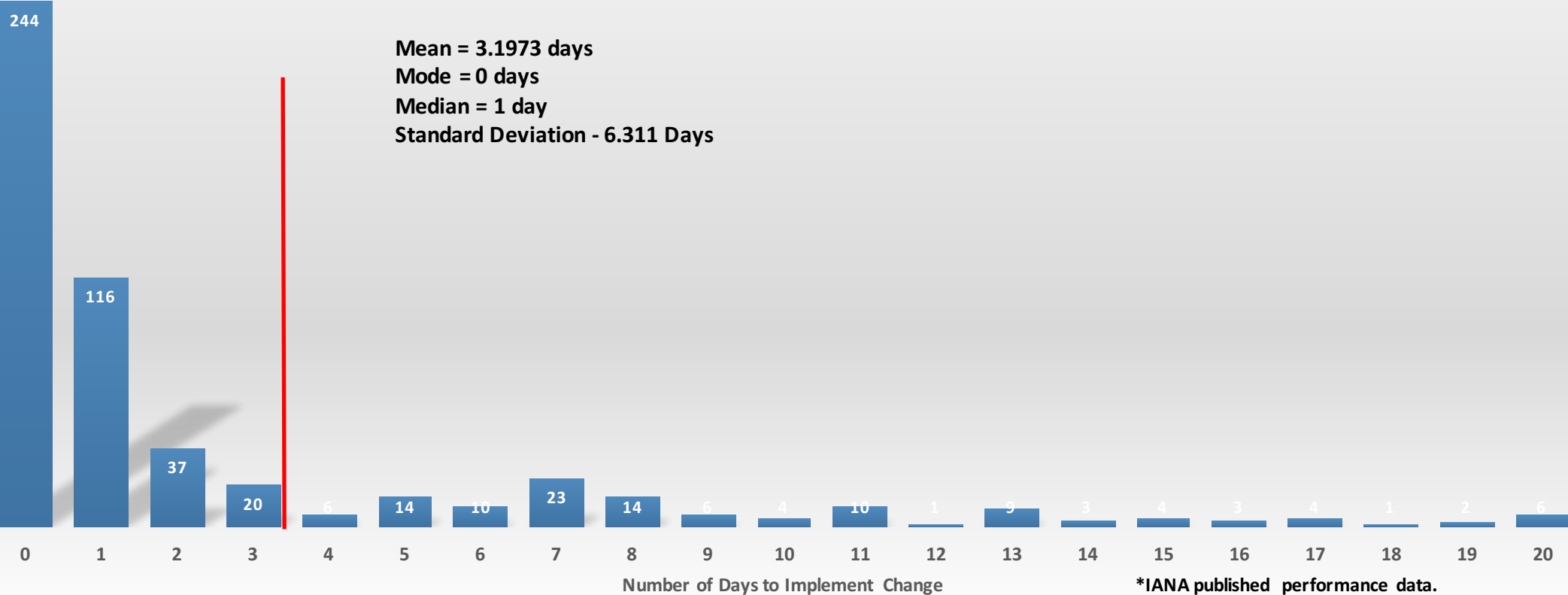
*IANA published performance data.

Notes to gTLD Slide

- Delegation times for gTLDs
- Calculating the time it took from receipt of registry validation to completion verification
- Measured in total number of days (including weekends)
- 176 data points – a total on of only 4 transactions took longer than 7 days to complete (not on graph)…the tail
- Mean 4.95 days
- Mode = 5 days
- Median = 5 days
- Standard Deviations - 2.346 Days

Number of Days for Registries to Validate Requests (09/13 -01/2015*)

Number of Occurances

Mean = 3.1973 days
Mode = 0 days
Median = 1 day
Standard Deviation - 6.311 Days

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
244	116	37	20	6	14	10	23	14	6	4	10	1	5	3	4	3	4	1	2	6

Number of Days to Implement Change

*IANA published performance data.

Notes to Registry Validation Slide

- Validation times for all TLDs

- Calculating the time it took from registry request to IANA's receipt of validation

- Note calculation was based registry request because IANA has an automated email response for validation, and actual times for the receipt of the email has been < 1 min; so the time difference is negligible.

- Measured in total number of days for response

- 563 data points – long tail – large Standard Deviation in comparison to the Mean

- Mean = 3.1973 days

- Mode = 0 days

- Median = 1 day

- Standard Deviation - 6.311 Days

- ***It takes registries just as long or longer to respond to the validation email vs. IANA, NTIA, and VeriSign to implement the change.***
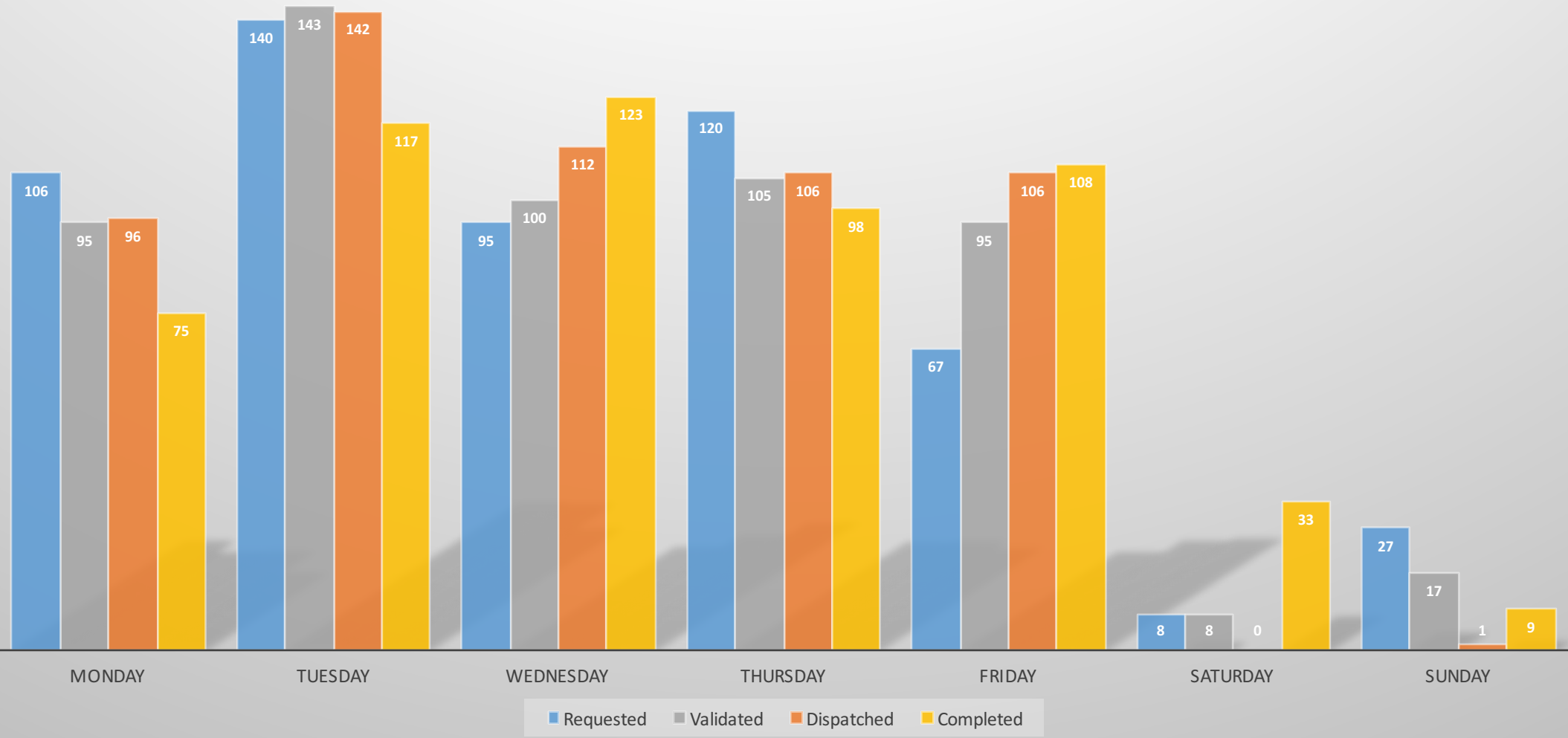
Representative Transactions

TLD	Request Received	Request Validated	Request Dispatched	Request Completed		Days to Completed
gov	8/29/2013	9/10/2013	9/10/2013	9/10/2013		0
md	9/2/2013	9/10/2013	9/10/2013	9/10/2013		0
monash	2/4/2014	2/5/2014	2/5/2014	2/5/2014		0
hk	6/27/2014	6/27/2014	6/27/2014	6/27/2014		0
bio	7/11/2014	7/11/2014	7/11/2014	7/11/2014		0
youtube	1/6/2015	1/6/2015	1/6/2015	1/6/2015		0
zip	1/6/2015	1/6/2015	1/6/2015	1/6/2015		0

Notes to Representative Transaction Slide

- First two instances, .gov and .md, the response time to the validation email was longer than the completion of the request.

- One request took one day, .monash, for the reply to the validation email and the remaining transactions were completed in less than one day, from request to confirmation.

IANA Transactions Completed vs. Weekday

	Requested	Validated	Dispatched	Completed
MONDAY	106	95	96	75
TUESDAY	140	143	142	117
WEDNESDAY	95	100	112	123
THURSDAY	120	105	106	98
FRIDAY	67	95	106	108
SATURDAY	8	8	0	33
SUNDAY	27	17	1	9

Notes to Days of the week slide

- Graph shows on which day the transaction was completed

- Importance is to show that measurements shown in the previous slides include weekend time and the mean is skewed to include the weekend

- Depending on when the request is received, the processing time will be delayed for up to two days (because of the manual process)

Data Notes

- Time to Implement Change is defined from the receipt of the validated request to the completed request verification received from VeriSign.

- Four database change entries had time for change > 365 days. Could not confirm the original date of the request, so the data points were deem anomalies and removed.

- All tails on the graphs are approximately >= 97.5% of the total population, numbers beyond that are outliers and statistically insignificant in comparison to entire population.

- All entries with a negative time to implement change were removed from the data population.