

# PUBLIC SUFFIX LIST

A VOLUNTARY “RAINBOW BRIDGE” BETWEEN  
DOMAINS AND APPS/DEVELOPERS

ROW 10

Virtual Event

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## **THIS TALK**

WHAT IS THE PSL

DEVS / “REAL WORLD”  
PERSPECTIVE

RAINBOW BRIDGE / UA  
BENEFIT

# WHAT IS THE PSL



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## THE PSL IS

AN EVER-EXPANDING  
CATALOG OF ICP-3  
OR I\* VETTED TLDs

FREE AND PUBLICLY  
AVAILABLE

MAINTAINED ON  
GITHUB BY  
VOLUNTEERS

VETTED / VALIDATED  
CHANGES, TRACKED  
WITH VERSION  
CONTROL

WIDELY USED AND  
INCORPORATED

NOT MAINTAINED BY  
ICANN/IANA

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# (FORMERLY MOZILLA) PUBLIC SUFFIX LIST

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- EXPANDS ICANN/IANA PUBLIC SUFFIX LIST (TLDs alpha-by-domain.txt) WHICH LISTS ONLY TLD
  - RESPECTS ICP-3 “ONE ROOT”
    - REJECTS ALT-ROOT REQUESTS
  - DESCENDS INTO STUBS (CO.UK, COM.AU descendants vs only .UK, .AU)
  - ALSO HOLDS ‘PSEUDO’ / PRIVATE SECTION
  - GITHUB, SUBDOMAIN, OTHER descendants of ICANN PSL that seek to operate as-if TLD (“effective TLD”)

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## SOME CAVEATS ON MPSL

- LEAST AWFUL, BEST MAINTAINED RESOURCE OF ITS KIND
- ENTIRELY VOLUNTEER CONTRIBUTOR/MAINTAINERS
- NO SERVICE LEVELS, WARRANTY OR GUARANTEE
- IMPLIES NO SECURITY, BUT MANY ASSUME DOES
- STATIC PUBLIC SUFFIX LIST PERPETUATES HOSTS.TXT DILEMMA = ARCHITECTURALLY UNWISE
- REQUESTING BADLY FORMATTED ENTRY CAN HARM COOKIE OR OTHER HANDLING
- VOLUNTEERS HAVE NO CONTROL OVER DOWNSTREAM PROPAGATION OR INCLUSION

# DEVS AND THE REAL WORLD PERSPECTIVE



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# DOMAIN NAMES ARE THE PARSELY, NOT THE MEAL

- DEVS PRIMARY CARE IS ABOUT ACHIEVING THEIR OBJECTIVE
- DOMAIN NAME IS TO THEIR PROJECT WHAT TELEPHONE IS TO BUSINESS
- FOR MOST DEVS - BUSINESS IS THE FOCUS, DOMAIN IS NOT



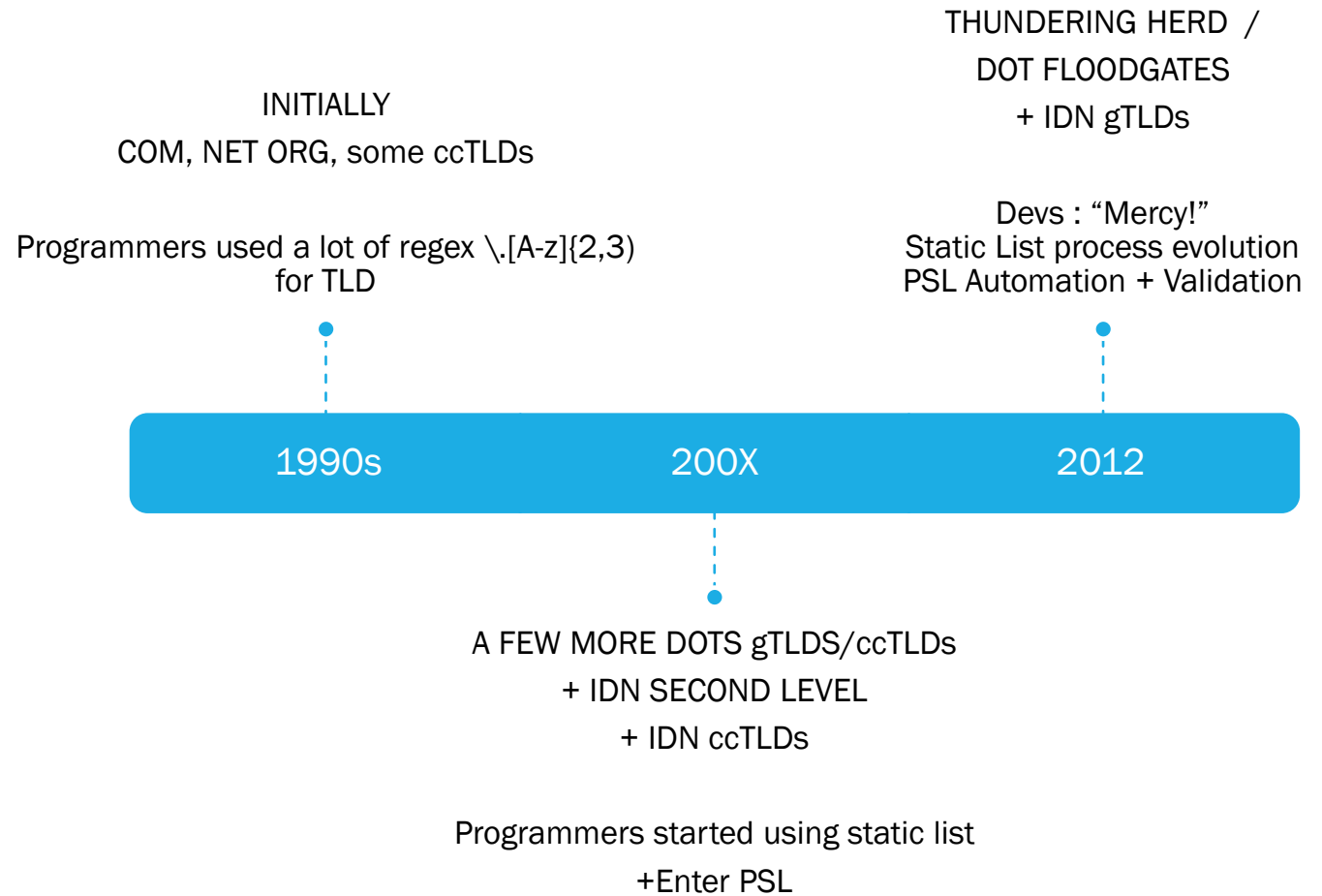


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# DOMAIN NAMES AND SOFTWARE INTERSECT CONSTANTLY

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- “EVERYTHING” IS ONLINE NOW
  - REQUIRES DOMAIN NAME SOPHISTICATION
  - NEED MANNER TO MAKE MACHINES SMARTER ABOUT PROCESSING DOMAINS

# THE VIEW OF TOP LEVEL DOMAINS TO THE REST OF THE WORLD BEYOND REGISTRATION AND RESOLUTION PROVIDERS



# APPS / DEVELOPERS AND “ICANN”

- THERE IS NO PLACE FOR DEVELOPERS INSIDE THE ICANN MULTI-STAKEHOLDER MODEL
  - NON-COMMERCIAL, BUSINESS CONSTITUENCY NOT MADE FOR DEVELOPERS
  - IETF IS A STANDARDS BODY
  - AT-LARGE CLAIMS TO REPRESENT USERS, NOT REGISTRANTS
- IF THERE WERE A PLACE, THE COST OF PARTICIPATING vs VALUE IS NOT PRESENT
  - PACE IS SLOW BY THEIR STANDARDS
  - GOVERNANCE MEANS CREATING MORE FRICTION TO OBJECTIVES
  - TIME / MONEY SPENT ON POLICY STUFF BETTER SPENT ON MORE DEVS TO DELIVER

# PROBLEM TO SOLVE : HOW TO MACHINE PARSE DOMAIN TRANSITIONS (WITH SOME REASONABLE ELEGANCE)

- REGEX ? BAD: FALSE POSITIVES, TOO LOOSE, DOESN'T SOLVE 3LD
- STRLEN? BAD: CAUSES Y2K ISSUE WITHOUT Y2K IMPETUS - .INFO STILL AFFECTED FROM 20+ YRS ON THIS
- OK so is there a list of these?
  - WHO RUNS ALL THE DOMAINS? [Search Engine] -> find ICANN
  - DO THEY HAVE A LIST OF TLDs? [Hunt on ICANN site] -> IANA LIST
  - WHERE IS COM.AU or CO.UK etc? [Find PSL on GitHub] -> solved

**THAT  
“RAINBOW  
BRIDGE”  
THING**





## EXAMPLE: 2012 ROUND TLDS WERE INITIALLY UNRECOGNIZED

- PARTICULARLY IN WEBKIT BASED DEVICES WHERE DELAYED PROPOGATION OF STATIC LIST INCLUSION
- MANY RO EXECS COMPLAINED OF EMBARASSING PRESENTATIONS WHEN EARLY IN THEIR TLD'S DELEGATION
- PRESENCE OF TLD IN PSL COMPLETELY AFFECTED (FIXED) WHERE BEING SENT TO SEARCH INSTEAD OF DNS
- WORKED WITH ICANN TO GET THE CURRENT CONTRACTING JSON AND BUILD AUTOMATION
  - THIS FIXED ISSUE
  - [COST: SSAC REVIEW -> Result SAC 070]



## **THE WHOLE THING LEANS TOGETHER, INFORMALLY, BUT WIDELY**

- OVER THE PAST 15+ YEARS OF PSL, THE ADOPTION, USE AND INCORPORATION OF IT HAS SPREAD WIDELY
- ENTRIES CAN HAVE WIDESPREAD AFFECTATION OF A DOMAIN OR EFFECTIVE TLD (GOOD OR BAD)

**THAT  
VOLUNTARY  
THING**





# BROWSERS : “WE USE BECAUSE : EXISTS, FREE, SIMPLE, CASUAL”

- BROWSER ADOPTION AND USE OF PSL IS THE MAJORITY OF MARKET
- EACH DOES THEIR OWN THING
  - HOW FREQUENTLY THEY REFRESH IF USING IN STATIC MANNER (ie IOS update, Chrome Version, etc)
  - WHAT DELTA (ADD/REMOVE) THEY PROCESS BEFORE USE (Maybe some proprietary mojo, smiting of badfolk, etc)
  - BEHAVIORS RELATED TO MATCHES MAY VARY (ie. Display, DOM, Cookie)
- PSL INCORPORATION IS A CHOICE – THERE IS NO COMPULSION TO DO ANYTHING
  - SAC 070 RECOMMENDATIONS ATTEMPTING TO COMPEL ANYTHING OF DEVS GOT A “GEE, THAT’S INTERESTING”
- BROWSERS MAY/WILL ABANDON PSL FOR THEIR OWN SOLUTION IF TOO MUCH CHANGES WRT STATUS QUO

# OTHERS : “BECAUSE : EXISTS, FREE, SIMPLE, BROWSERS DO”

- OTHER USES
  - LET'S ENCRYPT AND OTHER CA – AVOID WILDCARD CERT FOR ETLTLD, PRESENCE ON PSL WORKS AROUND LIMITS PER CERT
  - CLOUDFLARE – RATE LIMITS ON SUBDOMAINS ALLOWED FOR GIVEN DOMAIN PER ACCOUNT
  - FACEBOOK PIXEL - # OF SUBDOMAINS PER VERIFIED DOMAIN (MORE ON THIS LATER)
  - SECURITY SOLUTIONS – FOR USE IN DETERMINING HORIZONS ON SUBDOMAINS, ANTI-SPAM (DMARC)
- APPS / SOFTWARE LIBRARIES (MOST ALL MODERN LANGUAGES HAVE PSL LIB/HANDLERS)
  - PARSING FIELD INPUT
  - PROCESSING DOMAIN NAME LOGIC, GENERALLY
  - MEASURING VALID / INVALID
  - LINKIFICATION / DETECTION IN APPS
  - LOADS OF OTHER PURPOSES



## REGISTRIES : HELP PSL VOLUNTEERS HELP YOU

- PERIODICALLY REVIEW YOUR ENTRIES
- WATCH FOR VERIFICATION REQUEST EMAILS TO IANA CONTACT
- THE CASCADING BENEFIT OF CORRECT LISTING IS POSITIVE FOR YOUR TLDs

# DEVS : UNDERSTAND WHAT PSL IS (AND ISN'T)

- PSL CAN BE GOOD
  - TOOL FOR MACHINE UNDERSTANDING TLDs (OR “Effective TLDs)
  - YOUR SOFTWARE / APP / SYSTEM CAN USE TO HAVE MORE ELEGANCE ON “TLDs”
- PSL IS NOT
  - INTENDED AS A SIEVE FOR LIMITS YOU BUILD IN TO YOUR SYSTEM(S)
  - A TRUST SYSTEM; THOUGH THERE IS SOME VERIFICATION AND VALIDATION, THE PSL IS NOT ANY INDICATION OF SECURITY OR TRUST IN THE CATALOGUED NAMES
  - INTENDED TO BE A WORKAROUND FOR LIMITS OTHERS BUILD INTO THEIR SYSTEMS
  - DESIGNED TO RECEIVE YOUR CUSTOMER SERVICE QUEUE WHEN [VENDOR] CHANGES THEIR PRIVACY PREFERENCES FOR THEIR DEVICES

**Q & A**





# THANK YOU

Learn more:

<https://github.com/publicsuffix/list> or  
<https://publicsuffix.org>

Also:

ICANN OCTO 10 and ICANN SSAC – SAC 070

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