Expert Working Group on gTLD Directory Services (EWG) Final Report Overview

Expert Working Group on gTLD
Directory Services (EWG)
23 June, 2014

ICANN

Session Agenda

- About the EWG

- Overview of the EWG's Final Report

- Next Steps

- Extended Q&A Opportunities

  - EWG Final Report Discussion Session 1
    Monday, 23 June, 1700 - 1900

  - EWG Final Report Discussion Session 2
    Wednesday, 25 June, 0800 – 1000

About the EWG

- Formed to overcome decade-long deadlock

  - Bring together a diverse group of volunteers

  - Apply wide range of expertise and experiences

  - Discuss issues frankly, participate individually

  - Strike compromises to find a path forward

- ICANN Board's mandate to EWG

  - Reexamine purpose & provision of gTLD registration data

  - Envision a next-generation solution to better serve global Internet community needs

  - Create a foundation to help the ICANN community (through the GNSO) create a new policy for gTLD directory services

A Clean Slate

EWG Members

Jean-Francois Baril (Lead Facilitator)	
Pekka Ala-Pietilä	Michele Neylon
Lanre Ajayi	Michael Niebel
Steve Crocker	Stephanie Perrin
Chris Disspain	Rod Rasmussen
Scott Hollenbeck	Carlton Samuels
Jin Jian	Faisal Shah
Susan Kawaguchi	Fabricio Vayra
Nora Nanayakkara	

EWG Approach

- Final Report reflects 15+ month effort
  - Thousands of hours on in-depth research
  - 2600+ pages of comments, responses, results
  - 19 public community consultations
  - 35 EWG meeting days
  - 42 EWG calls
  - More than 200 subteam calls
- To answer a simple question about a very complex problem…

Is there an alternative to today's WHOIS to better serve the global Internet community?

EWG's Answer

- Today's WHOIS model of giving every user the same entirely anonymous public access to often-inaccurate data should be abandoned.

EWG's Final Report

- Details a proposed next-generation **Registration Directory Service (RDS)**

- Strikes a balance between **accuracy, access, and accountability**

- Collects, validates and discloses gTLD data for **permissible purposes only**

- Leaves minimum data publicly available

- Safeguards the rest through a new paradigm: **purpose-driven gated access**

- Introduces new contracted parties to
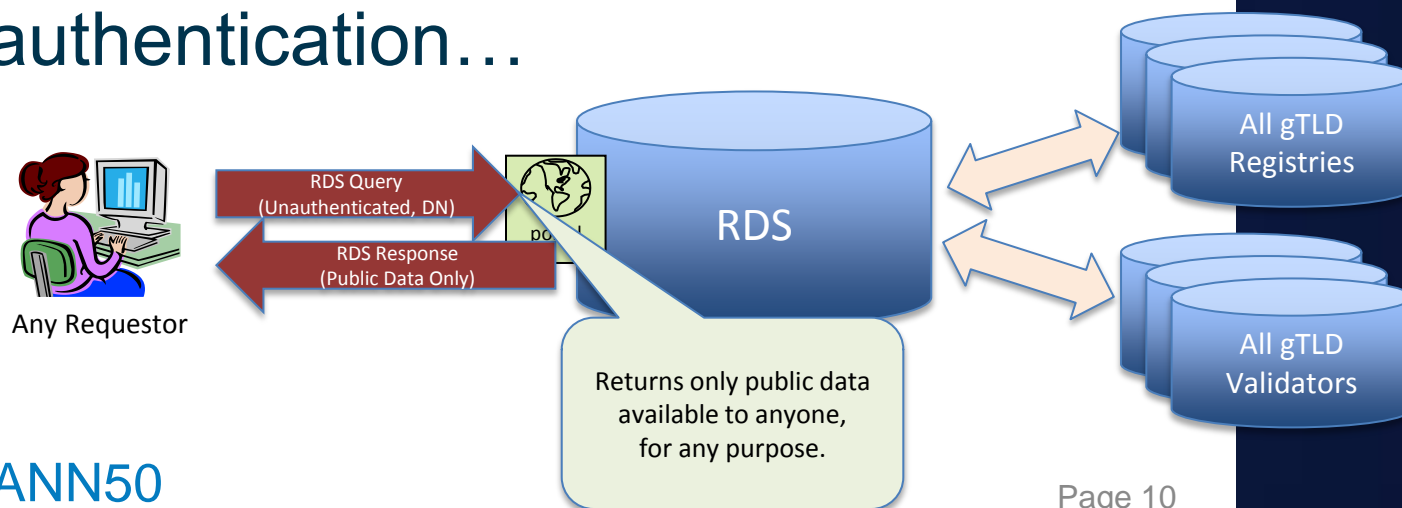
  o Validate Contact Data

  o Accredit RDS Users

Overview of Final Report

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Why create a new RDS?

- WHOIS provides one-size-fits-all public access to anonymous users
  - o Little accountability or abuse remedies
  - o Limited individual privacy protection or ability to conform to differing laws
  - o Limited ability to ensure data integrity
  - o Lack of security and auditing capabilities
  - o Cumbersome contact management
  - o Inefficient communication

Solution: Purpose-Driven Access

- Some registration data would remain public to promote Internet stability and meet basic DNS needs

- This minimum public data would still be accessible by anyone, for any permissible purpose, without authentication…

RDS Query (Unauthenticated, DN)

RDS Response (Public Data Only)

Any Requestor

RDS

All gTLD Registries

All gTLD Validators

Returns only public data available to anyone, for any purpose.

WHOIS

WHOIS	Existing Registrant Contact Data	Existing Admin, Tech Contact Data
Existing Domain Name Data Supplied by Registrar and Registry	Collected from Registrant	Collected from Registrant

Today's WHOIS

- Entirely Public Data
- Entirely Anonymous Access
- Registrants Cannot Provide Contemporary/Alternate Data
- Contacts Cannot Prevent Inaccurate or Fraudulent Use

RDS

RDS	Registrant ID	PBC IDs
Existing Domain Name Data	**Existing Registrant Contact Data** **New Optional Data Elements**	**Admin, Tech Contact Data** **Abuse, Legal, Proxy & Business Contact Data** **Collected from each Contact**

Purpose-Driven RDS

- Minimum Public Data – *Most Data Gated By Default!*
- Contact Data is Validated
- IDs link Contact Data to Registered Domain Names
- Purpose-Based Contacts (PBCs) Manage Their Own Data

Minimum Public Data Overview

Registration Status: x	Domain Name: MYDOMAIN.TLD
DNSSEC Delegation: signedDelegation	Name Server: NS01.EXAMPLE-REGISTRAR.TLD
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited	Registrant Type:
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited	Registrant Contact ID: xxxx-xxxx
Registrar: EXAMPLE REGISTRAR LLC	
Reseller: EXAMPLE RESELLER	Registrant Contact Validation Status: Operationally Validated
Registrar Jurisdiction: EXAMPLE JURISDICTION	Registrant Contact Last Validated Timestamp: x
Registry Jurisdiction: EXAMPLE JURISDICTION	
Registration Agreement Language:	Registrant Email: MAILBOX@MYDOMAIN.TLD
Creation Date: 2000-10-08T00:45:00Z	
Original Registration Date: 2000-10-08T00:45:00Z	Registrant Country: AA
Registrar Registration Expiration Date: 2010-10-08T00:44:59Z	Administrator Contact ID: xxxx-xxxx
Updated Date: 2009-05-29T20:13:00Z	Tech Contact ID: xxxx-xxxx
Registrar URL: http://www.example-registrar.tld	Legal Contact ID: xxxx-xxxx
Registrar IANA Number: 5555555	Abuse Contact ID: xxxx-xxxx
Registrar Abuse Contact Email: email@registrar.tld	Business Contact ID: xxxx-xxxx
Registrar Abuse Contact Phone: +1.1235551234	
URL of the Internic Complaint Site: http://wdprs.internic.net/	Privacy/Proxy Contact ID: xxxx-xxxx

Registrant Contact ID

Minimum Public Registrant Contact Data

Domain Name Data Supplied by Registrar and Registry

Purpose-Based Contact IDs

(but NOT their Data)

Minimum registration data that is publicly available
to anyone, for any permissible purpose, without authentication

Minimum Public Data Example

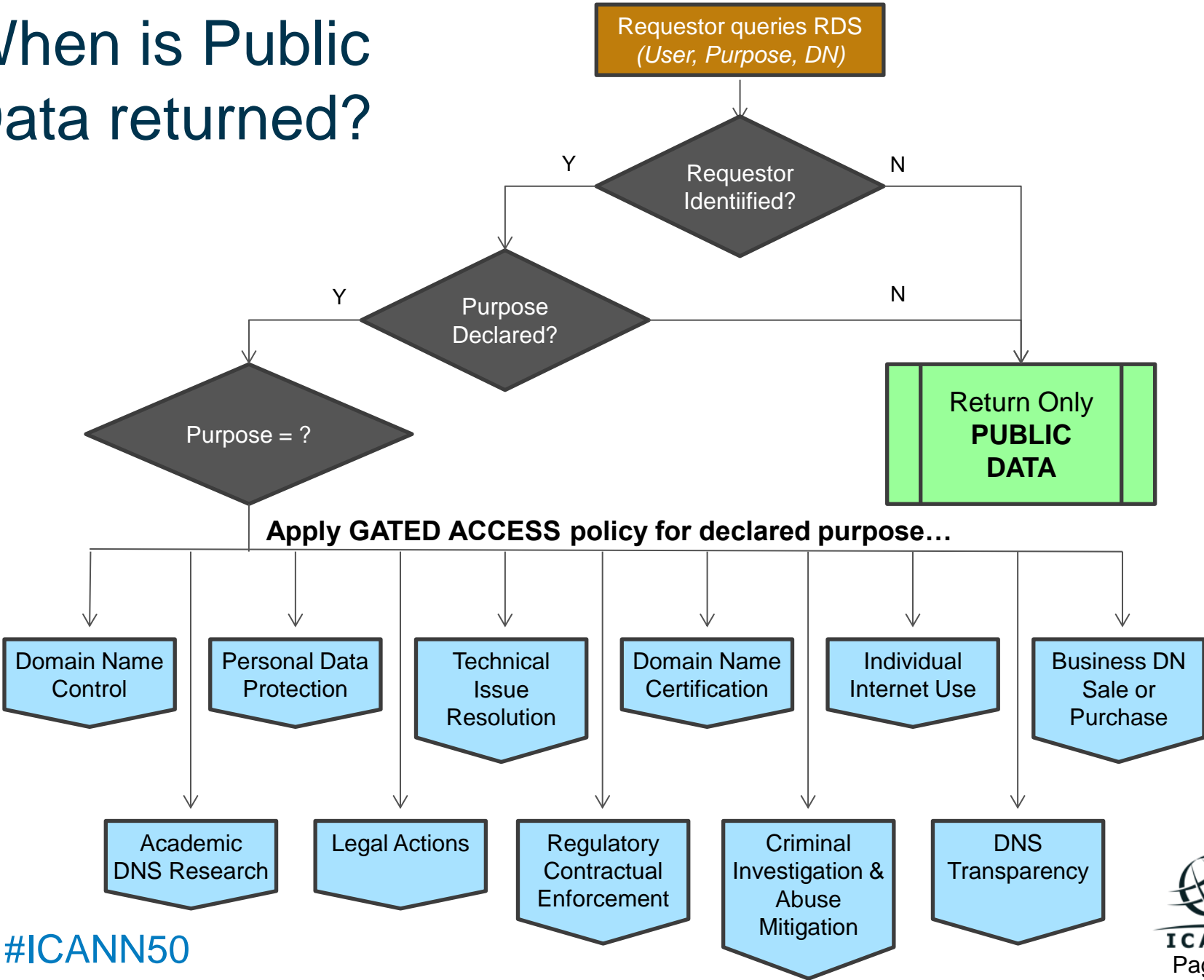|	
Registration Status: x	Domain Name: MY_DOMAIN.TLD
DNSSEC Delegation: signedDelegation	Name Server: NS01.MY_REGISTRAR.TLD
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited	Registrant Type: UNDECLARED
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited	
Registrar: MY_REGISTRAR LLC	Registrant Contact ID: xxxx-xxxx
Reseller: MY_RESELLER	Registrant Contact Validation Status: Operationally-Validated
Registrar Jurisdiction: RR_JURISDICTION	
Registry Jurisdiction: RY_JURISDICTION	Registrant Contact Last Validated Timestamp: x
Registration Agreement Language: ENGLISH	Registrant Email: EMAIL@MY_DOMAIN.TLD
Creation Date: 2000-10-08T00:45:00Z	Registrant Country: AA
Original Registration Date: 2000-10-08T00:45:00Z	
Registrar Registration Expiration Date: 2010-10-08T00:44:59Z	Administrator Contact ID: xxxx-xxxx
Updated Date: 2009-05-29T20:13:00Z	Tech Contact ID: xxxx-xxxx
Registrar URL: http://www.registrar.tld	Legal Contact ID: xxxx-xxxx
Registrar IANA Number: 5555555	Abuse Contact ID: xxxx-xxxx
Registrar Abuse Contact Email: email@registrar.tld	
Registrar Abuse Contact Phone: +1.1235551234	Business Contact ID: xxxx-xxxx
URL of the Internic Complaint Site: http://wdprs.internic.net/	Privacy/Proxy Contact ID: xxxx-xxxx

Minimum¥ registration data that is publicly available
to anyone, for any permissible purpose, without authentication*
(grey = not applicable for every domain name)

* Except where prohibited by data protection laws
¥ Gated Registrant Data can also be made public at the Registrant's discretion

When is Public Data returned?

Requestor queries RDS
(User, Purpose, DN)

Requestor Identiified?
— Y → Purpose Declared?
— N →

Purpose Declared?
— Y → Purpose = ?
— N →

Return Only **PUBLIC DATA**

Apply GATED ACCESS policy for declared purpose…

- Domain Name Control
- Personal Data Protection
- Technical Issue Resolution
- Domain Name Certification
- Individual Internet Use
- Business DN Sale or Purchase
- Academic DNS Research
- Legal Actions
- Regulatory Contractual Enforcement
- Criminal Investigation & Abuse Mitigation
- DNS Transparency
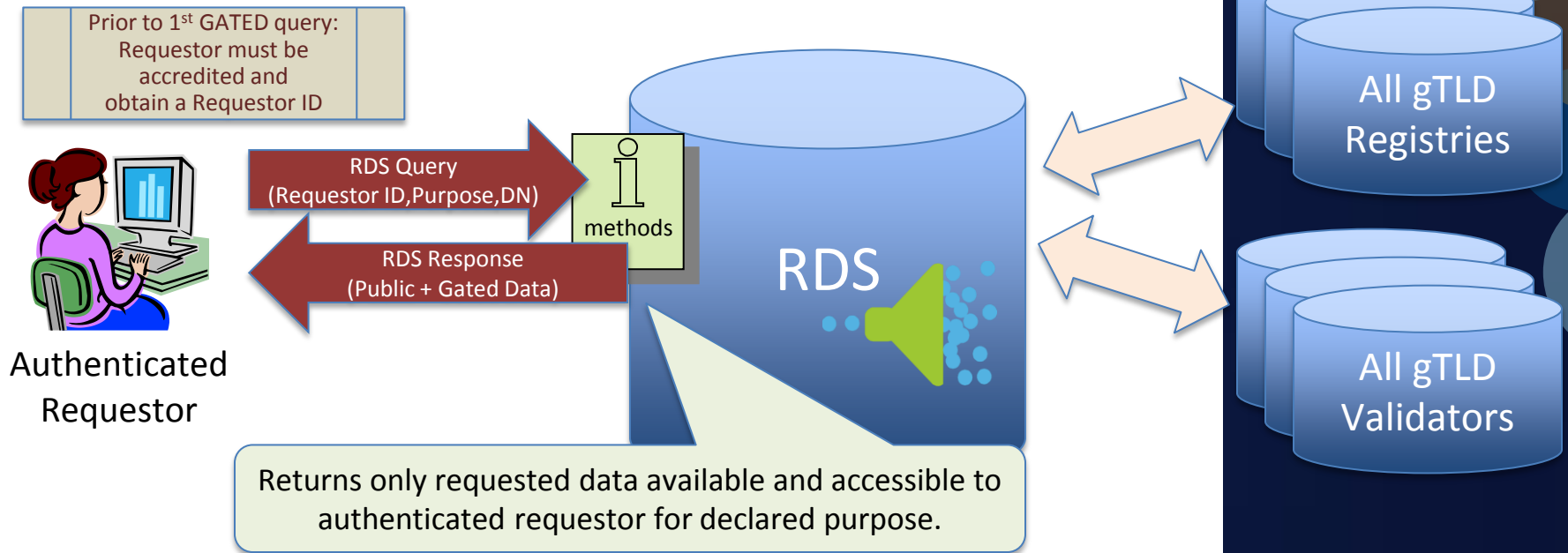
What is the RDS "gate"?

There is no single RDS "gate"

- Requestors and their data needs vary; so would RDS gated access policies

- Like most on-line services that hold private data, the RDS would

  ◦ Apply policy-defined permissions

  ◦ Driven by requestor identity + purpose

  ◦ Uniformly enforce terms of service
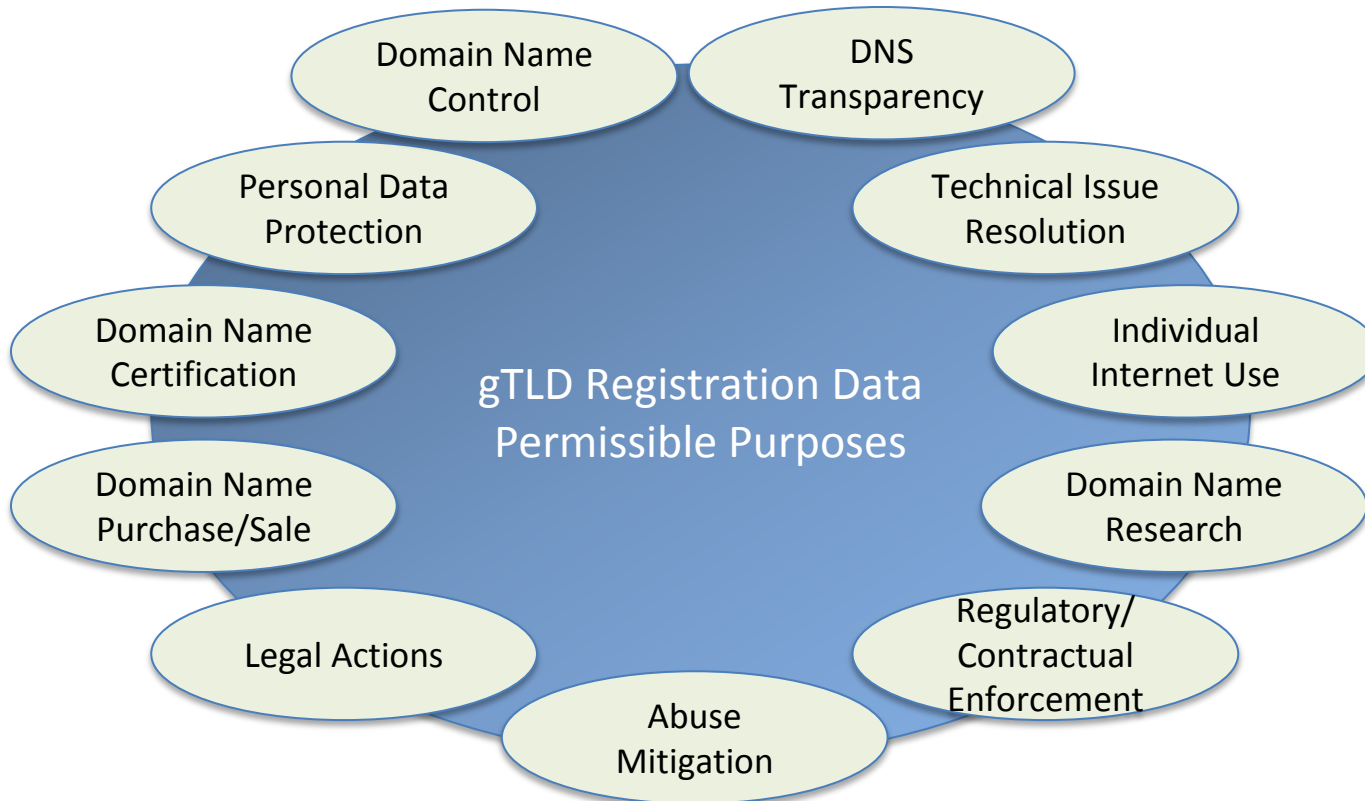
  ◦ Apply measures to deter and mitigate abuse

What is Gated Access?

- In the RDS, data is collected and disclosed for permissible purposes

Prior to 1st GATED query: Requestor must be accredited and obtain a Requestor ID

RDS Query (Requestor ID, Purpose, DN)

methods

RDS Response (Public + Gated Data)

Authenticated Requestor

RDS

All gTLD Registries

All gTLD Validators

Returns only requested data available and accessible to authenticated requestor for declared purpose.

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Accredited Users and Purposes

- RDS must be able to support existing and future permissible purposes

gTLD Registration Data Permissible Purposes

- Domain Name Control
- DNS Transparency
- Personal Data Protection
- Technical Issue Resolution
- Domain Name Certification
- Individual Internet Use
- Domain Name Purchase/Sale
- Domain Name Research
- Legal Actions
- Regulatory/ Contractual Enforcement
- Abuse Mitigation

Purposes and Data

- Every permissible purpose has data needs
  - Domain Names involved
  - Domain Name Data (public)
  - Registrant Data (public &/or gated)
  - PBC Data (gated)
  - WhoWas &/or Reverse Query needs

- Some purposes are widely used and can be satisfied by minimum public data

- Other purposes require formal accreditation, strict terms of service, strong access controls, anti-abuse mechanisms, penalties for misuse
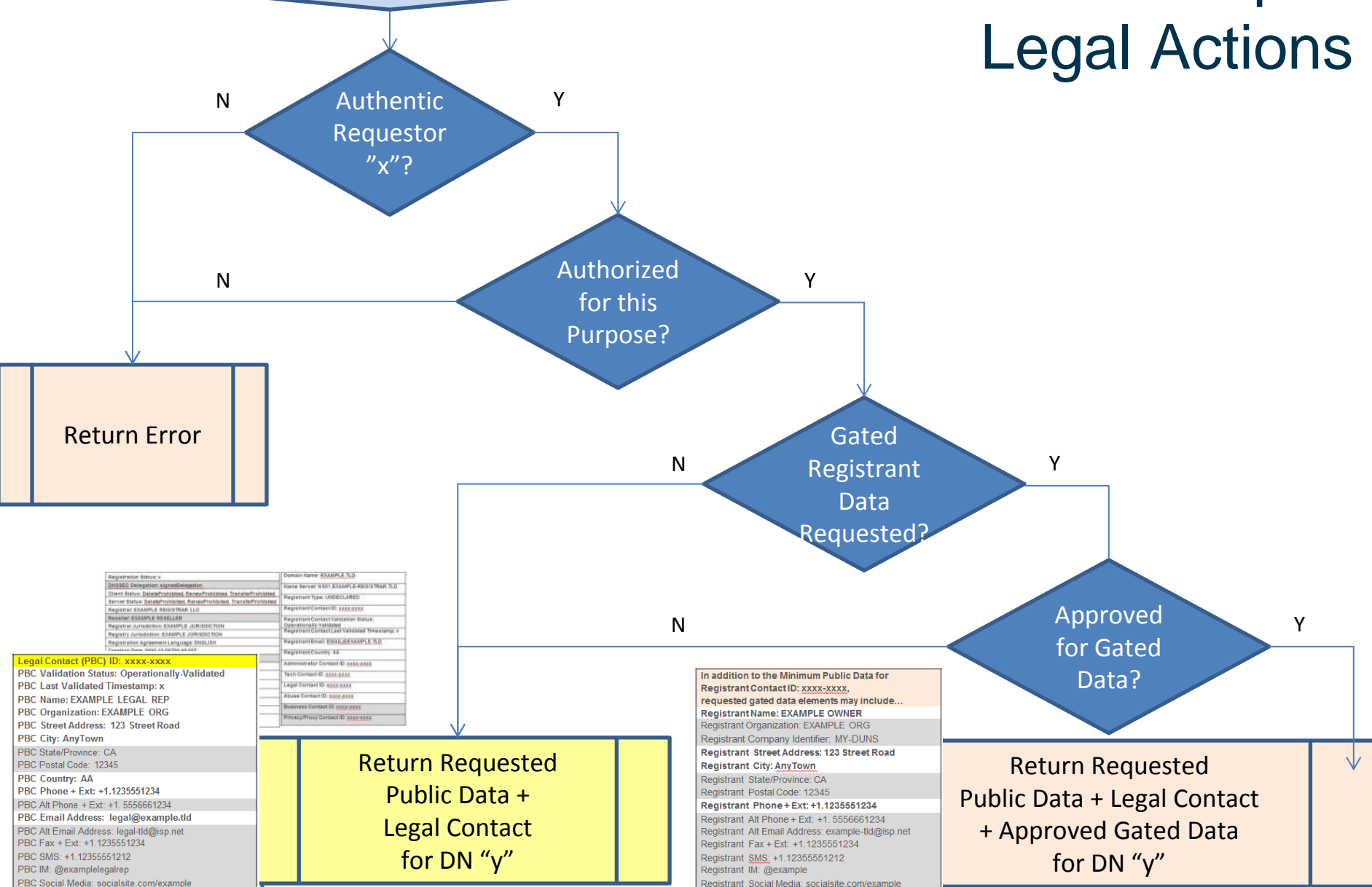
Purpose-Based Contacts

- Improve accountability and reachability while giving Registrants more control over personal data use

- Contact IDs are public, linked to Contact Data

- Contact Data is largely gated, accessible only to authenticated requestors with specific purpose who agree to be accountable for use

Registrant Contact

Required for all DNs today

Every Domain Name has
1 Registrant Contact ID
4 Mandatory PBC ID
2 Optional PBC IDs

Admin Contact	**Technical Contact**	**Abuse Contact**	**Legal Contact**	**Privacy/Proxy Provider Contact**	**Business Contact**
Required for all DNs today	Required for all DNs today	Required for all new DNs	Required for all new DNs	Required for PP registrations	Recommended for businesses

Legal Actions (Requestor = x, DN = y)

Authentic Requestor "x"? — N / Y

Authorized for this Purpose? — N / Y

Gated Registrant Data Requested? — N / Y

Approved for Gated Data? — N / Y

Return Error

Return Requested Public Data + Legal Contact for DN "y"

Return Requested Public Data + Legal Contact + Approved Gated Data for DN "y"

Registration Status: x
DNSSEC Delegation: signedDelegation
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited
Registrar: EXAMPLE REGISTRAR LLC
Reseller: EXAMPLE RESELLER
Registrar Jurisdiction: EXAMPLE JURISDICTION
Registry Jurisdiction: EXAMPLE JURISDICTION
Registration Agreement Language: ENGLISH
Creation Date: 2000-10-08T00:45:00Z

Domain Name: EXAMPLE.TLD
Name Server: NS01.EXAMPLE-REGISTRAR.TLD
Registrant Type: UNDECLARED
Registrant Contact ID: xxxx-xxxx
Registrant Contact Validation Status: Operationally-Validated
Registrant Contact Last Validated Timestamp: x
Registrant Email: EMAIL@EXAMPLE.TLD
Registrant Country: AA
Administrator Contact ID: xxxx-xxxx
Tech Contact ID: xxxx-xxxx
Legal Contact ID: xxxx-xxxx
Abuse Contact ID: xxxx-xxxx
Business Contact ID: xxxx-xxxx
Privacy/Proxy Contact ID: xxxx-xxxx

Legal Contact (PBC) ID: xxxx-xxxx
PBC Validation Status: Operationally-Validated
PBC Last Validated Timestamp: x
PBC Name: EXAMPLE LEGAL REP
PBC Organization: EXAMPLE ORG
PBC Street Address: 123 Street Road
PBC City: AnyTown
PBC State/Province: CA
PBC Postal Code: 12345
PBC Country: AA
PBC Phone + Ext: +1.1235551234
PBC Alt Phone + Ext: +1. 5556661234
PBC Email Address: legal@example.tld
PBC Alt Email Address: legal-tld@isp.net
PBC Fax + Ext: +1.1235551234
PBC SMS: +1.12355551212
PBC IM: @examplelegalrep
PBC Social Media: socialsite.com/example
PBC Alt Social Media: socialsite.com/example2
PBC Contact_URL: example.tld/contact_us.html
PBC Abuse_URL: example.tld/report_abuse.html

In addition to the Minimum Public Data for Registrant Contact ID: xxxx-xxxx, requested gated data elements may include…
Registrant Name: EXAMPLE OWNER
Registrant Organization: EXAMPLE ORG
Registrant Company Identifier: MY-DUNS
Registrant Street Address: 123 Street Road
Registrant City: AnyTown
Registrant State/Province: CA
Registrant Postal Code: 12345
Registrant Phone + Ext: +1.1235551234
Registrant Alt Phone + Ext: +1. 5556661234
Registrant Alt Email Address: example-tld@isp.net
Registrant Fax + Ext: +1.1235551234
Registrant SMS: +1.12355551212
Registrant IM: @example
Registrant Social Media: socialsite.com/example
Registrant Alt Social Media: socialsite2.com/example
Registrant Contact_URL: example.tld/contact_us.html
Registrant Abuse_URL: example.tld/report_abuse.html

Contact Data can contain

- Third-party PBC's information, authorized for use by this Domain Name

- Forwarding addresses, supplied by an accredited Privacy Service

- Proxy's information, supplied by an accredited Proxy Service

- Registrant's own information, if no other choice is made

- Each Contact Holder can opt to gate data not needed for purpose(s)
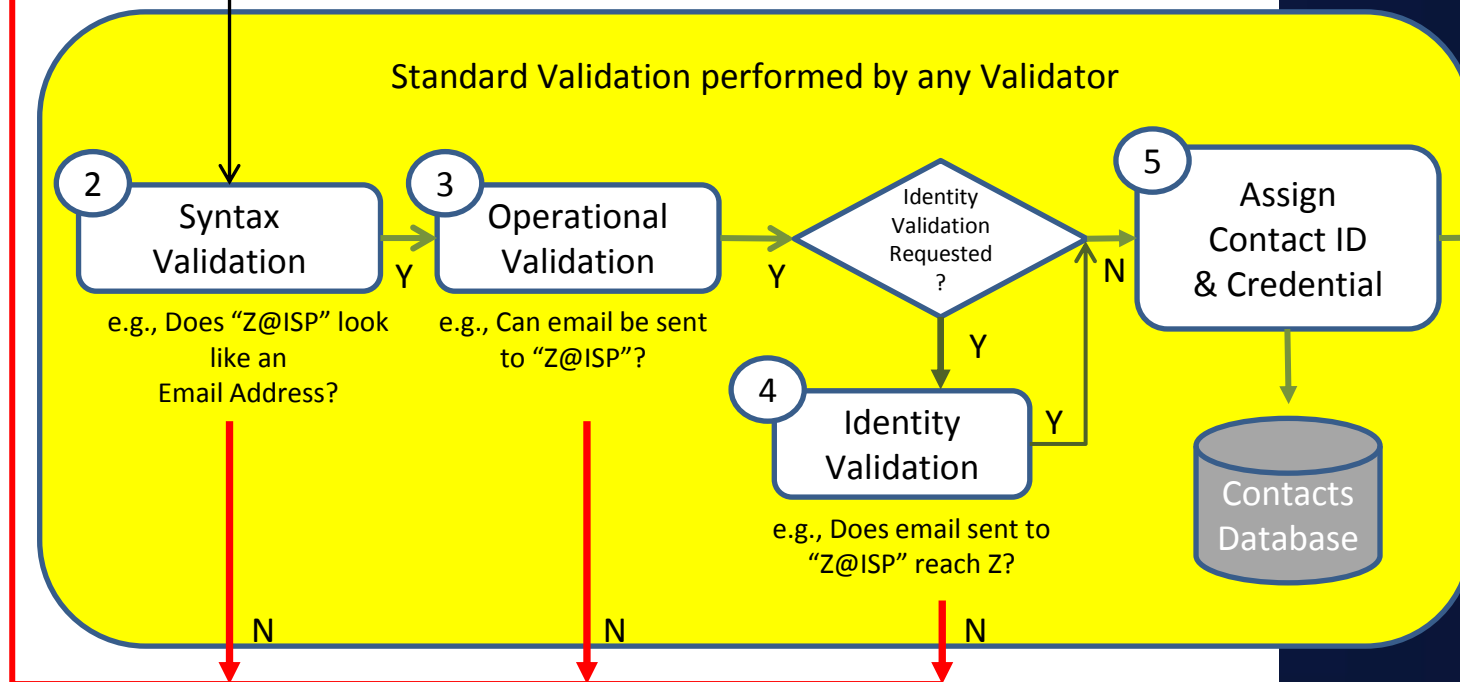
Data Quality Improvements

- Gated Access reduces intentional inaccuracy

- With Contact Directory, conceptually separate from Domain Name Directory, individuals and organizations control and maintain own data

- Contact data accuracy improved by Standard Validation, at time of collection/update

- Optional identity validation reduces identity theft

- Reusable Contacts improve data consistency and simplify large-scale updates

- Letting Contacts use any Validator may ease compliance with local data protection laws

- Local Validators may support native languages

Standard Validation

1

Name = Z
Email = Z@ISP

- Syntax Validation for every Data Element
- Operational Validation for some Addresses
- Identity Validation is Optional
- User-Visible Validation Result & Timestamp

Standard Validation performed by any Validator

2 Syntax Validation

Y

e.g., Does "Z@ISP" look like an Email Address?

N

3 Operational Validation

Y

e.g., Can email be sent to "Z@ISP"?

N

Identity Validation Requested?

Y

N

4 Identity Validation

Y

e.g., Does email sent to "Z@ISP" reach Z?

N

5 Assign Contact ID & Credential

Contacts Database

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RDS Contact Directory

Domain Name A	Domain Name B
Reg Contact ID=1	Reg Contact ID=2
Admin Contact ID=1	Admin Contact ID=2
Tech Contact ID=3	Tech Contact ID=3

Updates made to Contact # 3 automatically reflected in RDS Data for both Domain Names A and B

- Registrants and PBCs create and maintain their own Contact Data using Validators

- By separating Contact Validation from Domain Name Registration

  ○ Difficult validation tasks can be carried out by specialists – many of whom already validate addresses on a global scale

  ○ Registrars and Registries won't be forced to create global validation systems

  ○ Registrants can choose local Validators, reducing overall cost
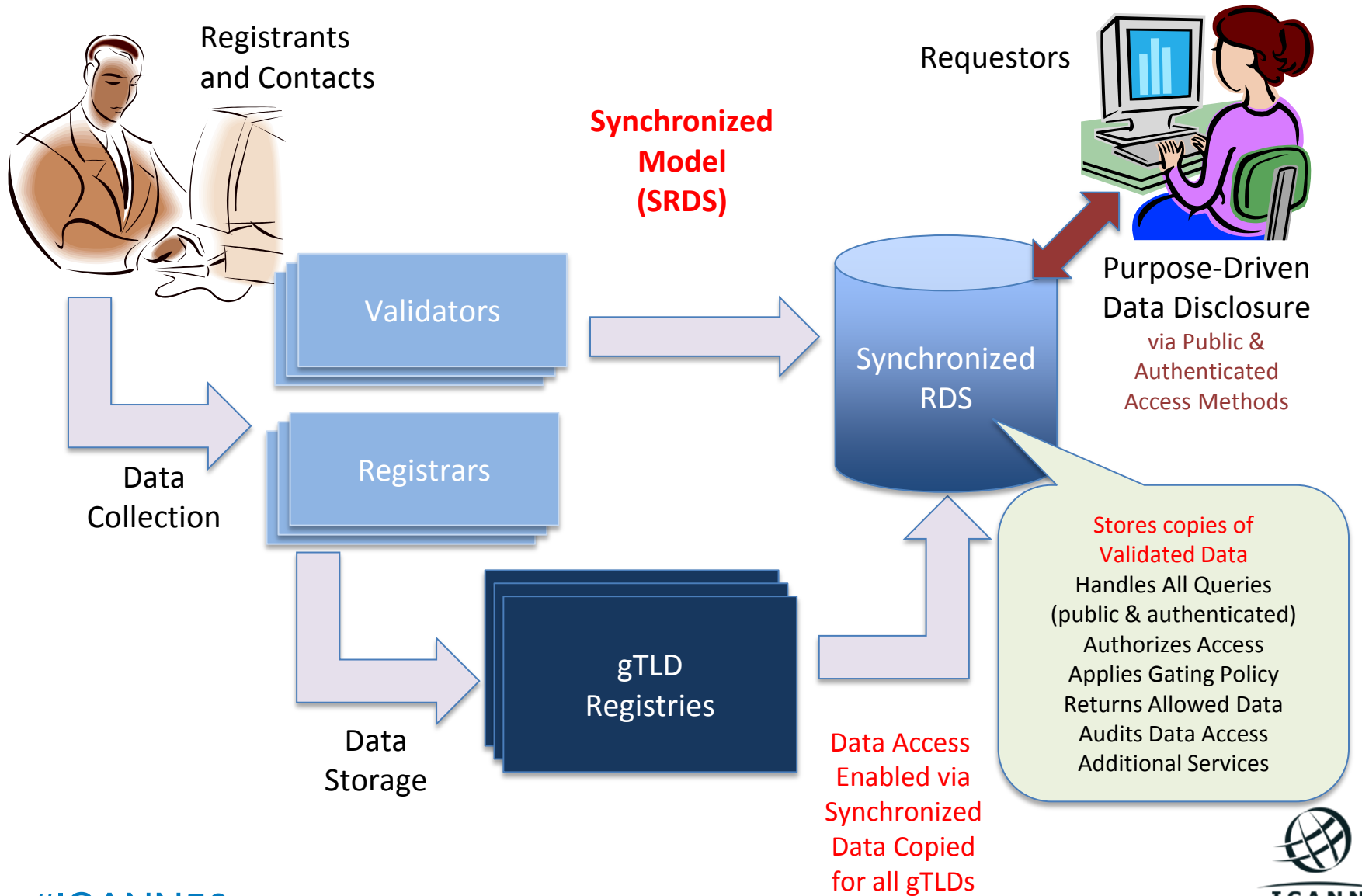
ICANN
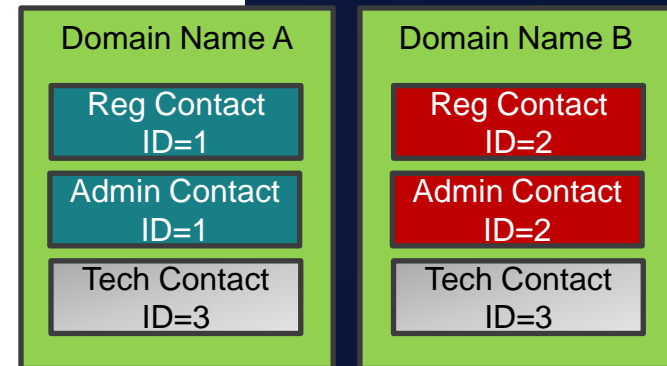
Recommended Model

- The EWG evaluated several possible models against defined criteria

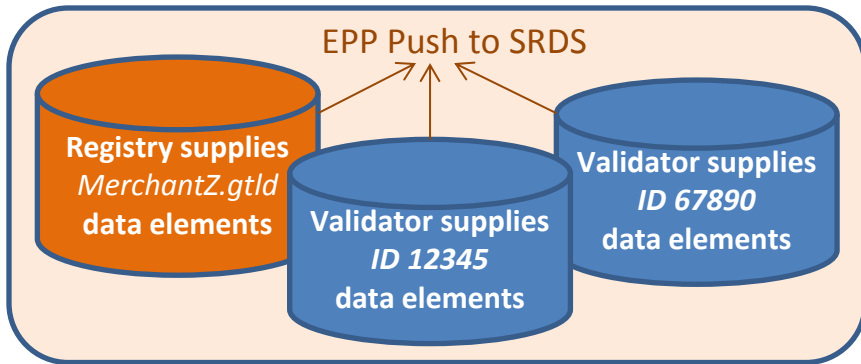| POSSIBLE MODELS	Collection	Storage	Copy	Access
Current WHOIS	RR	RR/Ry	n/a	RR/Ry
Federated	RR & V	RR/Ry & V	n/a	RDS
Synchronized *	RR & V	RR/Ry & V	RDS	RDS
Regional	RR & V	RR/Ry & V	Regional	RDS
Opt-Out	RR & V	RR/Ry & V	Optional	RDS
Bypass	RR & V	RR & V	RDS	RDS

- After rigorous analysis of factors – including cost – the EWG chose the Synchronized RDS (SRDS)

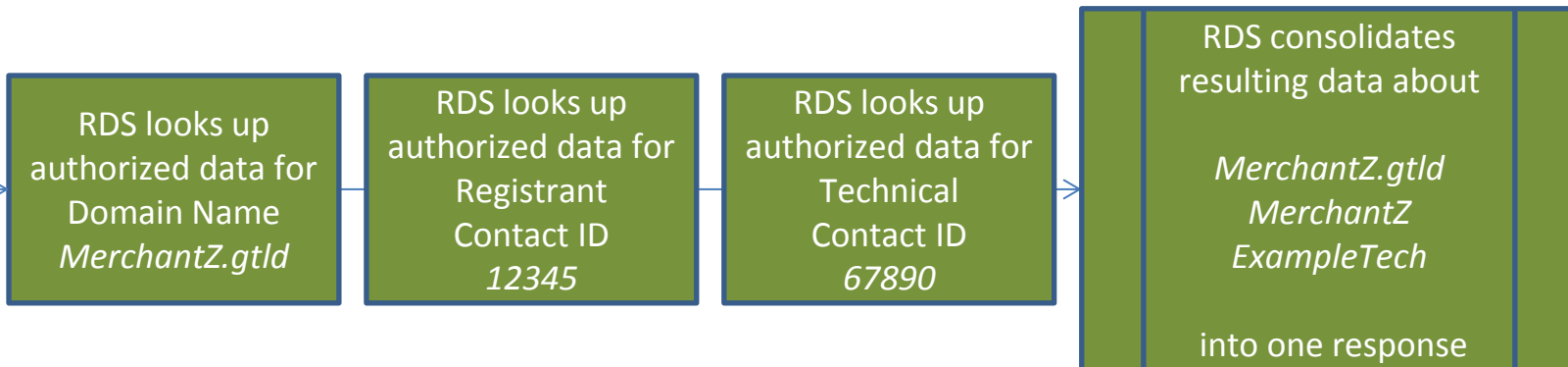* Formerly known as the Aggregated RDS (ARDS)

Synchronized RDS

Registrants and Contacts

Requestors

Synchronized Model (SRDS)

Validators

Registrars

Data Collection

gTLD Registries

Data Storage

Synchronized RDS

Purpose-Driven Data Disclosure
via Public & Authenticated Access Methods

Data Access Enabled via Synchronized Data Copied for all gTLDs

Stores copies of Validated Data
Handles All Queries (public & authenticated)
Authorizes Access
Applies Gating Policy
Returns Allowed Data
Audits Data Access
Additional Services

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RDS Ecosystem

EPP Push to SRDS

Registry supplies *MerchantZ.gtld* data elements

Validator supplies *ID 12345* data elements

Validator supplies *ID 67890* data elements

**Example #2 –
Querying SRDS about DN
for Technical Issue Resolution**

(illustrates Synchronized model)

User *X* queries RDS *(MerchantZ.gtld, Technical Issue Res)*

RDS authenticates *X* for purpose *Technical Issue Res*

Required for Gated Data Otherwise Optional

RDS authorizes access to data for *Technical Issue Res*

List of Public and Gated data elements accessible for this purpose

RDS looks up authorized data for Domain Name *MerchantZ.gtld*

RDS looks up authorized data for Registrant Contact ID *12345*

RDS looks up authorized data for Technical Contact ID *67890*

RDS consolidates resulting data about

MerchantZ.gtld MerchantZ ExampleTech

into one response

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Data Protection Principles

- Compliance challenges growing rapidly for WHOIS, exacerbated by new gTLDs

- Mechanisms must be adopted to facilitate routine legally compliant data collection and transfer between RDS ecosystem actors handling personal data, including

  1. Standard Contract Clauses that are harmonized with privacy and data protection laws, codified in a policy and enforced through contracts

  2. "Rules Engine" to apply data protection laws

  3. RDS Storage Localization to implement a high level of data protection

Privacy Principles

- In addition to compliance with data protection laws, the RDS ecosystem must accommodate needs for privacy by including:

  o An accredited **Privacy/Proxy Service**

  o An accredited **Secure Protected Credentials Service**

- There Accreditation and rules for the provision and use of accredited Privacy/Proxy services

- Outside of domain names registered via accredited Privacy/Proxy Services, Registrants must assume responsibility for the domain names they register

Secure Protected Credentials

For persons at risk, and in instances where free-speech rights may be denied or speakers persecuted
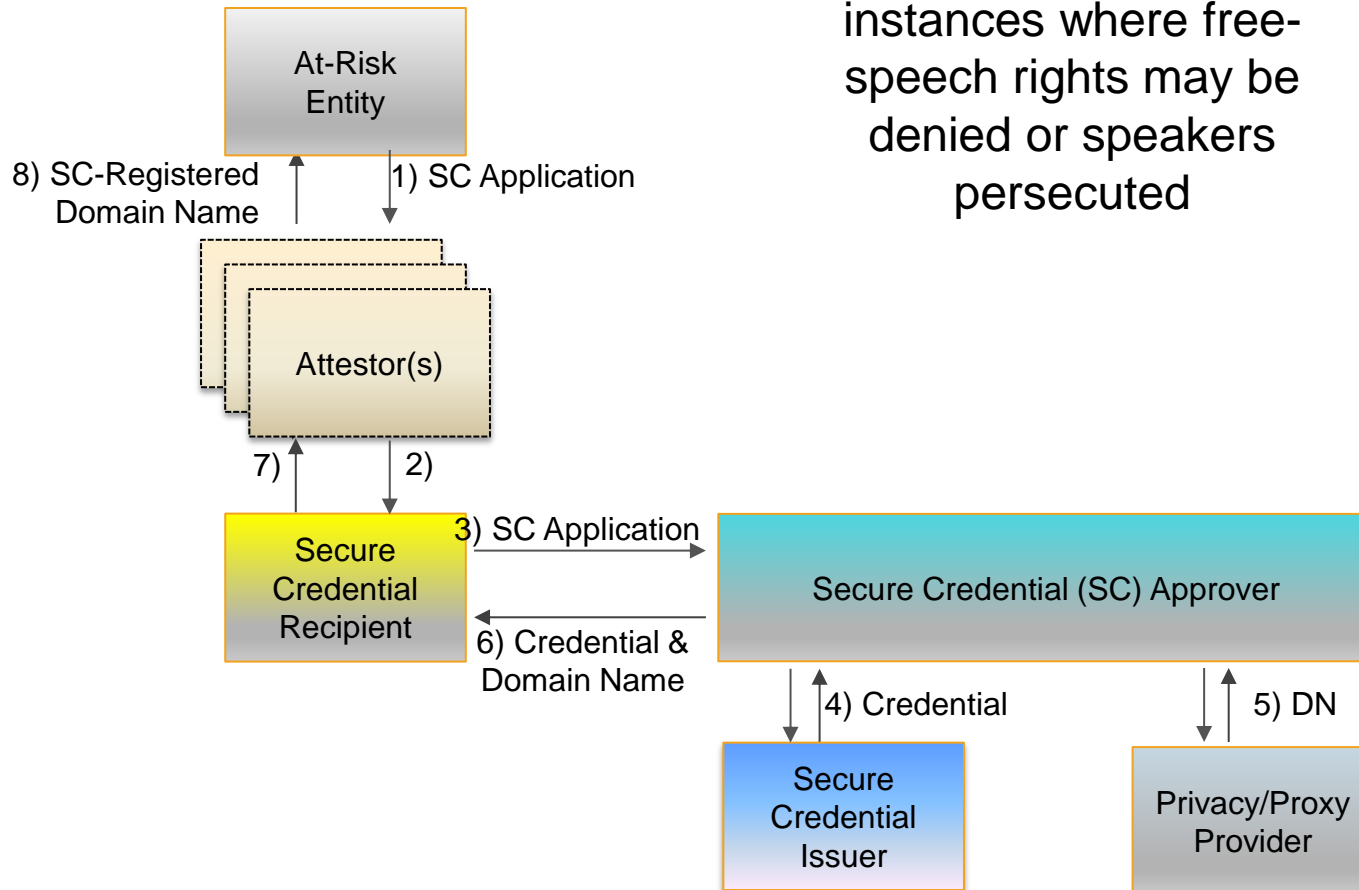
Other Topics in Final Report

- Data Element Principles

- RDS User Accreditation

- Law Enforcement Access

- Compliance and Contractual Relationships

- Accredited Privacy and Proxy Service Principles

- Model Design Principles

- Core RDS Cost Analysis

- Data Storage, Escrow, and Logging Principles

- Benefits compared to 2013 RAA WHOIS

- RDS Risks and Impacts

https://www.icann.org/en/system/files/files/final-report-06jun14-en.pdf

Conclusion

Next Steps

- EWG to offer webinars and other opportunities for Community Q&A

- ICANN Board to consider EWG's Final Report as foundation for the Board-requested GNSO Policy Development Process (PDP)

- Fundamental questions to consider
  - Is the RDS preferable to today's WHOIS?
  - If not, can WHOIS meet the needs of the evolving global Internet?

Questions?

- EWG Discussion Sessions
  - Monday, 23 June, 1700 - 1900
  - Wednesday, 25 June, 0800 – 1000
- Where EWG members will
  - Discuss key RDS concepts
  - Answer your questions

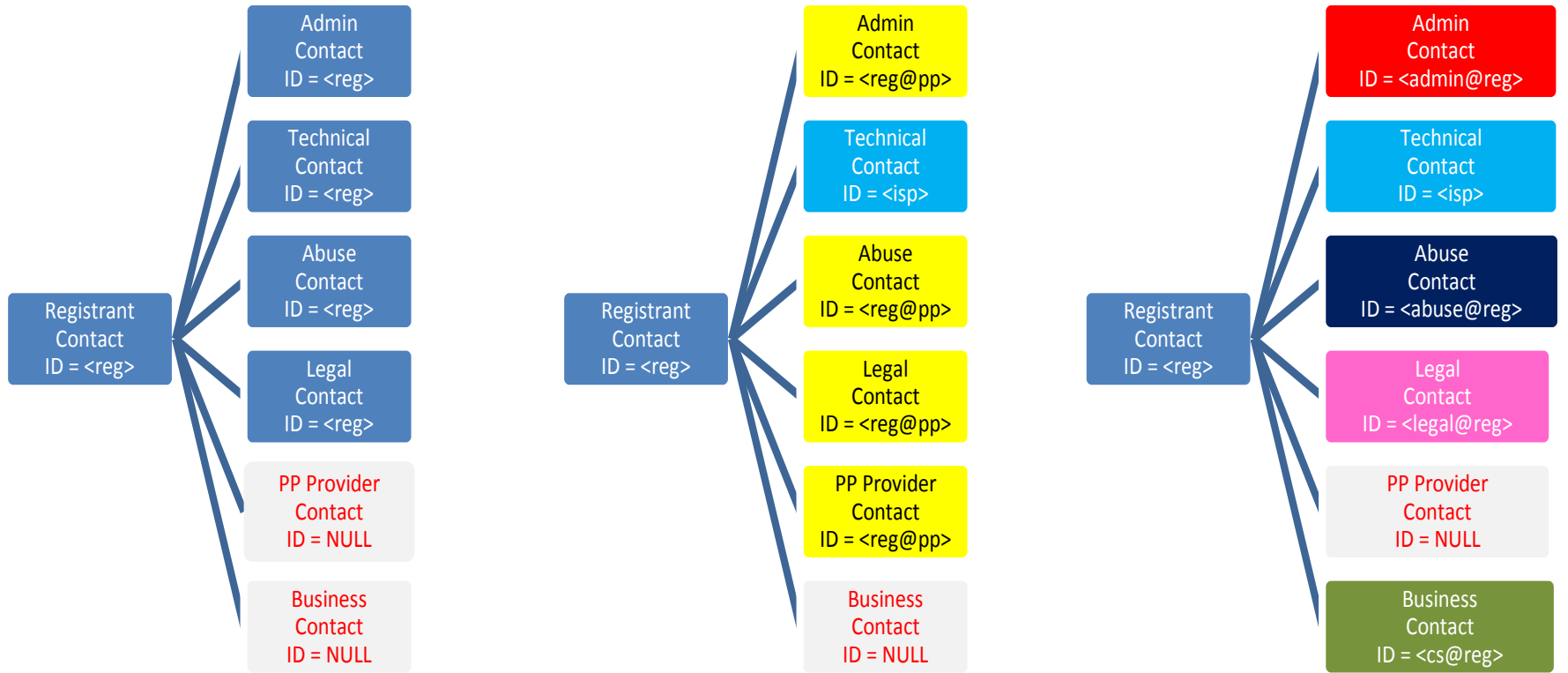# Background Materials

Additional Resource Links

- **EWG Public Wiki**
  https://community.icann.org/pages/viewpage.action?
  pageId=40175189

- **Initial Report Announcement**
  https://www.icann.org/news/announcement-3-2013-06-24-en

- **Status Update Report Announcement**
  https://www.icann.org/news/announcement-2013-11-11-en

- **Final Report Announcement**
  https://www.icann.org/news/blog/ewg-recommends-a-
  replacement-for-whois

- **Public Research Page**
  https://community.icann.org/display/WG/
  EWG+Public+Research+Page

Users and Purposes Background Materials

Purposes and Tasks

Purpose	Includes tasks such as...
Domain Name Control	Creating, managing and monitoring a Registrant's own domain name (DN), including creating the DN, updating information about the DN, transferring the DN, renewing the DN, deleting the DN, maintaining a DN portfolio, and detecting fraudulent use of the Registrant's own contact information.
Personal Data Protection	Identifying the accredited Privacy/Proxy Provider or Secure Protected Credential Approver associated with a DN and reporting abuse, requesting reveal, or otherwise contacting that Provider.
Technical Issue Resolution	Working to resolve technical issues associated with domain name use, including email delivery issues, DNS resolution failures, and website functional issues, by contacting technical staff responsible for handling these issues.
Domain Name Certification	Certification Authority (CA) issuing an X.509 certificate to a subject identified by a domain name needing to confirm that the DN is registered to the certificate subject.
Individual Internet Use	Identifying the organization using a domain name to instill consumer trust, or contacting that organization to raise a customer complaint to them or file a complaint about them.
Business Domain Name Purchase or Sale	Making purchase queries about a DN, acquiring a DN from another Registrant, and enabling due diligence research.
Academic/Public-Interest DNS Research	Academic public-interest research studies about domain names published in the RDS, including public information about the Registrant and designated contacts, the domain name's history and status, and DNs registered by a given Registrant.
Legal Actions	Investigating possible fraudulent use of a Registrant's name or address by other domain names, investigating possible trademark infringement, contacting a Registrant/Licensee's legal representative prior to taking legal action and then taking a legal action if the concern is not satisfactorily addressed.
Regulatory and Contractual Enforcement	Tax authority investigation of businesses with online presence, UDRP investigation, contractual compliance investigation, and registration data escrow audits.
Criminal Investigation & DNS Abuse Mitigation	Reporting abuse to someone who can investigate and address that abuse, or contacting entities associated with a domain name during an offline criminal investigation.
DNS Transparency	Querying the registration data made public by Registrants to satisfy a wide variety of needs to inform the general public.

Example Registrations using Purpose-Based Contacts

Individual using own Data

- Registrant Contact ID = <reg>
  - Admin Contact ID = <reg>
  - Technical Contact ID = <reg>
  - Abuse Contact ID = <reg>
  - Legal Contact ID = <reg>
  - PP Provider Contact ID = NULL
  - Business Contact ID = NULL

Individual or Org using Privacy Service* forwarding addresses

- Registrant Contact ID = <reg>
  - Admin Contact ID = <reg@pp>
  - Technical Contact ID = <isp>
  - Abuse Contact ID = <reg@pp>
  - Legal Contact ID = <reg@pp>
  - PP Provider Contact ID = <reg@pp>
  - Business Contact ID = NULL

Business using 3rd Party PBCs

- Registrant Contact ID = <reg>
  - Admin Contact ID = <admin@reg>
  - Technical Contact ID = <isp>
  - Abuse Contact ID = <abuse@reg>
  - Legal Contact ID = <legal@reg>
  - PP Provider Contact ID = NULL
  - Business Contact ID = <cs@reg>

* Proxy Registration also possible, not shown

Purposes and Needs

Purpose	Query Scope	Contact(s) Needed	Registrant Data Needed	DN Data	Other Queries Needed
Domain Name Control	Own DN	All	Public+Gated	Yes	Reverse (Own Data) WhoWas (Own DN)
Personal Data Protection	PP DN*	PP	Public	Yes	None
Technical Issue Resolution	Any DN	Tech	Public	Yes	None
Domain Name Certification	Any DN	None	Public+Gated	Yes	None
Individual Internet Use	LP DN*	Business	Public	No	None
Business Domain Name Purchase or Sale	Any DN	Admin	Public+ Approved Gated	Yes	Reverse (Approved Data) WhoWas (Any DN)
Academic/Public Interest DNS Research	Any DN	All	Public+ Approved Gated	Yes	Reverse (Approved Data) WhoWas (Any DN)
Legal Actions	Any DN	Legal	Public+ Approved Gated	Yes	Reverse (Approved Data) WhoWas (Any DN)
Regulatory and Contractual Enforcement	Any DN	Legal	Public+Gated	Yes	Reverse (Any Data) WhoWas (Any DN)
Criminal Investigation & DNS Abuse Mitigation	Any DN	Abuse	Public+Gated	Yes	Reverse (Any Data) WhoWas (Any DN)
DNS Transparency	Any DN		Public	Yes	None

LP = Legal Person   PP = Privacy/Proxy   DN = Domain Name

PBCs and Responsibilities

PBC Type	Potential Responsibilities
Admin	Handling requests related to domain name acquisition and sale, such as purchase inquiries and domain name transfers.
Legal	Handling requests about this domain name from tax authorities, UDRP investigators, contractual compliance investigators, and legal representatives.
Technical	Handling requests about this domain name related to problems with website outages, DNS issues, mail delivery issues, etc.
Abuse	Handling DNS abuse reports about this domain name, including phishing, spam, and other harmful Internet activities.
Privacy Proxy	Handling requests for relay/reveal, fielding complaints about domain name abuse on behalf of the Registrant/Licensee, complying with LEA investigations into criminal activities.
Business	Handling consumer requests for information about a business and information for contacting the company for further information or to resolve customer complaints.

RDS User Accreditation Background Materials

RDS User Accreditation

- Any purpose requiring gated access requires user accreditation

- Each RDS User community should be consulted to confirm

  - EWG-identified purposes

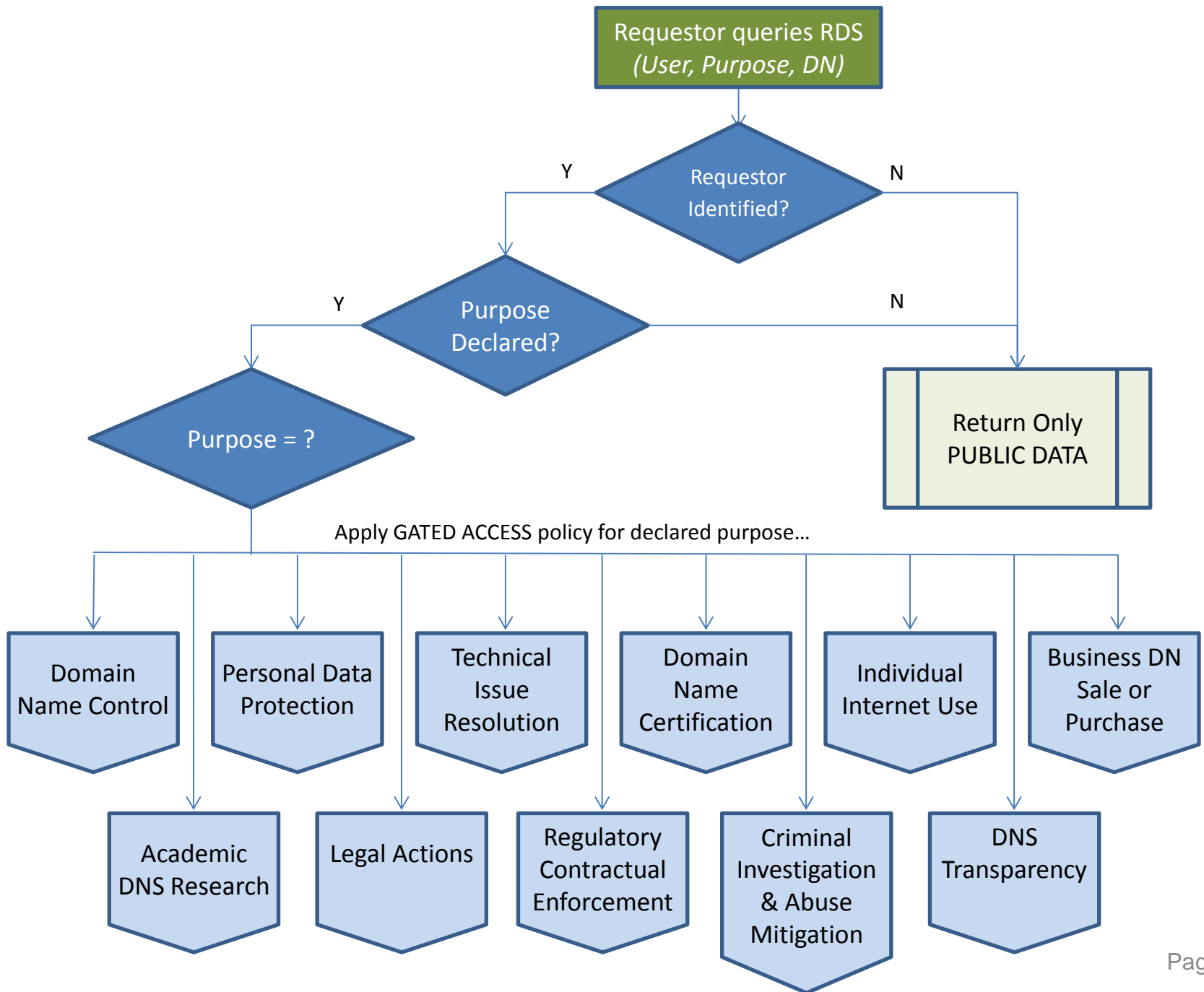 - Data elements needed for purpose

  - Possible RDS User Accreditors

RDS User Accreditor Models

- Many organizations may accredit RDS Users, taking on one or both of these roles:
  - o Accrediting Body - manages community
  - o Accreditation Operator - underlying platform

- Guided by common principles but using varied implementations

  1. Accrediting Body, separate from third-party Accreditation Operator

  2. Accrediting Body + Operator, passing authenticated requests to RDS

  3. Accrediting Body + Operator, proxying member requests (i.e., "Interpol model")

User → User → User → Body + Operator → RDS

Gated Data Examples
Background Materials

ICANN

Requestor queries RDS
(User, Purpose, DN)

Requestor Identified?

Purpose Declared?

Purpose = ?

Return Only PUBLIC DATA

Apply GATED ACCESS policy for declared purpose…

Domain Name Control

Personal Data Protection

Technical Issue Resolution

Domain Name Certification

Individual Internet Use

Business DN Sale or Purchase

Academic DNS Research

Legal Actions

Regulatory Contractual Enforcement

Criminal Investigation & Abuse Mitigation

DNS Transparency

Minimum Public Data

Registration Status: x	**Domain Name: EXAMPLE.TLD**
DNSSEC Delegation: signedDelegation	**Name Server: NS01.EXAMPLE-REGISTRAR.TLD**
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited	**Registrant Type: UNDECLARED**
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited	
Registrar: EXAMPLE REGISTRAR LLC	**Registrant Contact ID: xxxx-xxxx**
Reseller: EXAMPLE RESELLER	**Registrant Contact Validation Status: Operationally-Validated**
Registrar Jurisdiction: EXAMPLE JURISDICTION	
Registry Jurisdiction: EXAMPLE JURISDICTION	**Registrant Contact Last Validated Timestamp: x**
Registration Agreement Language: ENGLISH	**Registrant Email: EMAIL@EXAMPLE.TLD**
Creation Date: 2000-10-08T00:45:00Z	
Original Registration Date: 2000-10-08T00:45:00Z	**Registrant Country: AA**
Registrar Registration Expiration Date: 2010-10-08T00:44:59Z	**Administrator Contact ID: xxxx-xxxx**
Updated Date: 2009-05-29T20:13:00Z	**Tech Contact ID: xxxx-xxxx**
Registrar URL: http://www.example-registrar.tld	
Registrar IANA Number: 5555555	**Legal Contact ID: xxxx-xxxx**
Registrar Abuse Contact Email: email@registrar.tld	**Abuse Contact ID: xxxx-xxxx**
Registrar Abuse Contact Phone: +1.1235551234	**Business Contact ID: xxxx-xxxx**
URL of the Internic Complaint Site: http://wdprs.internic.net/	**Privacy/Proxy Contact ID: xxxx-xxxx**

Minimum¥ registration data that is publicly available
to anyone, for any permissible purpose, without authentication*
(grey = not applicable for every domain name)

* Except where prohibited by data protection laws
¥ Gated Registrant Data can also be made Public at the Registrant's discretion

Domain Name Control
(Requestor = x, DN = y)

Authentic Requestor "x"?
- N
- Y

DN "y" registered to "x"?
- N
- Y

Gated Registrant Data Requested?
- N
- Y

Return Error

Return Requested Public Data + PBCs for DN "y"

Return Requested Public Data + PBCs + Gated Data for DN "y"

Example PBCs – Administrator and Technical

Administrator Contact (PBC) ID: xxxx-xxxx
PBC Validation Status: Operationally-Validated
PBC Last Validated Timestamp: x
PBC Name: EXAMPLE ADMIN
PBC Organization: EXAMPLE ORG
PBC Street Address: 123 Street Road
PBC City: AnyTown
PBC State/Province: CA
PBC Postal Code: 12345
PBC Country: AA
PBC Phone + Ext: +1.1235551234
PBC Alt Phone + Ext: +1. 5556661234
PBC Email Address: admin@example.tld
PBC Alt Email Address: admin-tld@isp.net
PBC Fax + Ext: +1.1235551234
PBC SMS: +1.12355551212
PBC IM: @exampleadmin
PBC Social Media: socialsite.com/example
PBC Alt Social Media: socialsite.com/example2
PBC Contact_URL: example.tld/contact_us.html
PBC Abuse_URL: example.tld/report_abuse.html

Technical Contact (PBC) ID: xxxx-xxxx
PBC Validation Status: Operationally-Validated
PBC Last Validated Timestamp: x
PBC Name: EXAMPLE TECH
PBC Organization: EXAMPLE ORG
PBC Street Address: 123 Street Road
PBC City: AnyTown
PBC State/Province: CA
PBC Postal Code: 12345
PBC Country: AA
PBC Phone + Ext: +1.1235551234
PBC Alt Phone + Ext: +1. 5556661234
PBC Email Address: tech@example.tld
PBC Alt Email Address: tech-tld@isp.net
PBC Fax + Ext: +1.1235551234
PBC SMS: +1.12355551212
PBC IM: @exampletech
PBC Social Media: socialsite.com/example
PBC Alt Social Media: socialsite.com/example2
PBC Contact_URL: example.tld/contact_us.html
PBC Abuse_URL: example.tld/report_abuse.html

PBC data that is disclosed
only to authenticated RDS users authorized for specific purpose*
(grey = collected and published at the Contact's discretion)

* Except where prohibited by data protection laws

Example PBCs – Legal and Abuse

Legal Contact (PBC) ID: xxxx-xxxx
PBC Validation Status: Operationally-Validated
PBC Last Validated Timestamp: x
PBC Name: EXAMPLE LEGAL REP
PBC Organization: EXAMPLE ORG
PBC Street Address: 123 Street Road
PBC City: AnyTown
PBC State/Province: CA
PBC Postal Code: 12345
PBC Country: AA
PBC Phone + Ext: +1.1235551234
PBC Alt Phone + Ext: +1. 5556661234
PBC Email Address: legal@example.tld
PBC Alt Email Address: legal-tld@isp.net
PBC Fax + Ext: +1.1235551234
PBC SMS: +1.12355551212
PBC IM: @examplelegalrep
PBC Social Media: socialsite.com/example
PBC Alt Social Media: socialsite.com/example2
PBC Contact_URL: example.tld/contact_us.html
PBC Abuse_URL: example.tld/report_abuse.html

Abuse Contact (PBC) ID: xxxx-xxxx
PBC Validation Status: Operationally-Validated
PBC Last Validated Timestamp: x
PBC Name: EXAMPLE ABUSE DESK
PBC Organization: EXAMPLE ORG
PBC Street Address: 123 Street Road
PBC City: AnyTown
PBC State/Province: CA
PBC Postal Code: 12345
PBC Country: AA
PBC Phone + Ext: +1.1235551234
PBC Alt Phone + Ext: +1. 5556661234
PBC Email Address: abuse@example.tld
PBC Alt Email Address: abuse-tld@isp.net
PBC Fax + Ext: +1.1235551234
PBC SMS: +1.12355551212
PBC IM: @exampleabusedesk
PBC Social Media: socialsite.com/example
PBC Alt Social Media: socialsite.com/example2
PBC Contact_URL: example.tld/contact_us.html
PBC Abuse_URL: example.tld/report_abuse.html

PBC data that is disclosed
only to authenticated RDS users authorized for specific purpose*
(grey = collected and published at the Contact's discretion)

* Except where prohibited by data protection laws

Example PBCs – PP Provider and Business

Privacy/Proxy Provider Contact (PBC) ID: 1234-5678
PBC Validation Status: Operationally-Validated
PBC Last Validated Timestamp: x
PBC Name: PROXY.NET INFO
PBC Organization: PROXY.NET
PBC Street Address: 123 Street Road
PBC City: AnyTown
PBC State/Province: CA
PBC Postal Code: 12345
PBC Country: AA
PBC Phone + Ext: +1.1235551234
PBC Alt Phone + Ext: +1. 5556661234
PBC Email Address: info@proxy.net
PBC Alt Email Address: info@proxy2.net
PBC Fax + Ext: +1.1235551234
PBC SMS: +1.12355551212
PBC IM: @proxynet
PBC Social Media: socialsite.com/proxynet
PBC Alt Social Media: socialsite.com/proxynet2
PBC Contact_URL: proxy.net/contact_us.html
PBC Abuse_URL: proxy.net/report_abuse.html

Business Contact (PBC) ID: 8765-4321
PBC Validation Status: Operationally-Validated
PBC Last Validated Timestamp: x
PBC Name: BIZ.COM INFO
PBC Organization: BIZ.COM
PBC Street Address: 123 Street Road
PBC City: AnyTown
PBC State/Province: CA
PBC Postal Code: 12345
PBC Country: AA
PBC Phone + Ext: +1.1235551234
PBC Alt Phone + Ext: +1. 5556661234
PBC Email Address: owner@biz.com
PBC Alt Email Address: info@biz.com
PBC Fax + Ext: +1.1235551234
PBC SMS: +1.12355551212
PBC IM: @biz
PBC Social Media: socialsite.com/biz
PBC Alt Social Media: socialsite.com/biz2
PBC Contact_URL: biz.com/contact_us.html
PBC Abuse_URL: biz.com/report_abuse.html

PBC data that is disclosed
only to authenticated RDS users authorized for specific purpose*
(grey = collected and published at the Contact's discretion)

* Except where prohibited by data protection laws
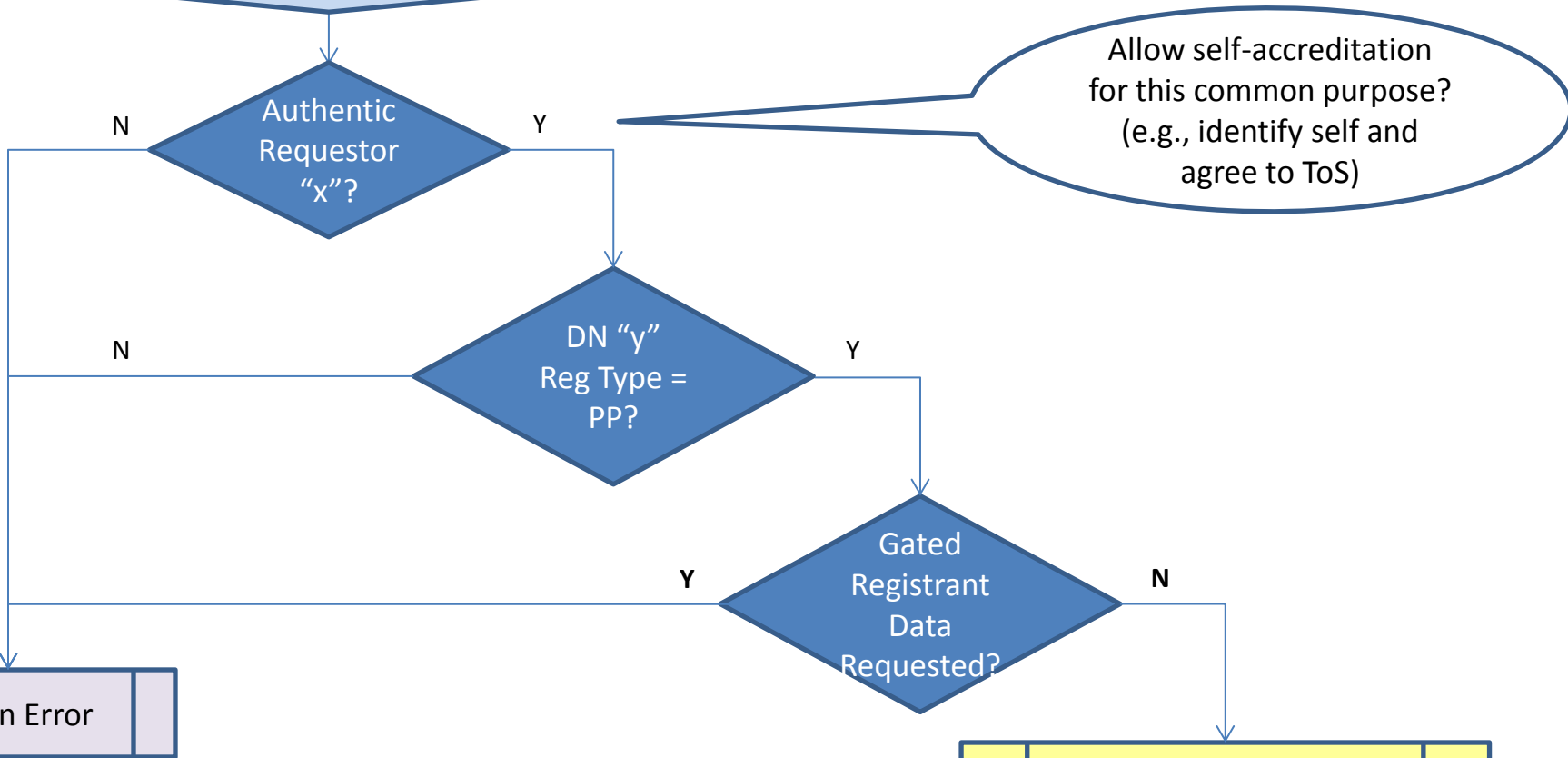
Example Gated Registrant Data

In addition to the Minimum Public Data for Registrant Contact ID: xxxx-xxxx, requested Gated Data may include…
Registrant Name: EXAMPLE OWNER
Registrant Organization: EXAMPLE ORG
Registrant Company Identifier: MY-DUNS
Registrant Street Address: 123 Street Road
Registrant City: AnyTown
Registrant State/Province: CA
Registrant Postal Code: 12345
Registrant Phone + Ext: +1.1235551234
Registrant Alt Phone + Ext: +1. 5556661234
Registrant Alt Email Address: example-tld@isp.net
Registrant Fax + Ext: +1.1235551234
Registrant SMS: +1.12355551212
Registrant IM: @example
Registrant Social Media: socialsite.com/example
Registrant Alt Social Media: socialsite2.com/example
Registrant Contact_URL: example.tld/contact_us.html
Registrant Abuse_URL: example.tld/report_abuse.html

Registrant data that is gated by default ¥
and disclosed only to authenticated RDS users
authorized to access *approved data* for specific purpose*
(grey = collected when applicable or at the Registrant's discretion)

* Except where prohibited by data protection laws
¥ Gated Registrant Data can also be made Public at the Registrant's discretion

Personal Data Protection (Requestor = x, DN = y)

Authentic Requestor "x"?
- N → Return Error
- Y → (continue)

Allow self-accreditation for this common purpose? (e.g., identify self and agree to ToS)

DN "y" Reg Type = PP?
- N → Return Error
- Y → (continue)

Gated Registrant Data Requested?
- Y → Return Error
- N → Return Requested Public Data + PP PBC for DN "y"

Registration Status: x	Domain Name: PROXYREG.TLD	Privacy/Proxy Provider Contact (PBC) ID: 1234-5678
DNSSEC Delegation: signedDelegation	Name Server: NS01.EXAMPLE-REGISTRAR.TLD	PBC Validation Status: Operationally-Validated
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited		PBC Last Validated Timestamp: x
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited	Registrant Type: PROXY	PBC Name: PROXY.NET INFO
Registrar: EXAMPLE REGISTRAR LLC	Registrant Contact ID: 1234-5678	PBC Organization: PROXY.NET
Reseller: EXAMPLE RESELLER		PBC Street Address: 123 Street Road
Registrar Jurisdiction: EXAMPLE JURISDICTION	Registrant Contact Validation Status: Operationally-Validated	PBC City: AnyTown
Registry Jurisdiction: EXAMPLE JURISDICTION	Registrant Contact Last Validated Timestamp: x	PBC State/Province: CA
Registration Agreement Language: ENGLISH		PBC Postal Code: 12345
Creation Date: 2000-10-08T00:45:00Z	Registrant Email: info@proxy.net	PBC Country: AA
Original Registration Date: 2000-10-08T00:45:00Z	Registrant Country: AA	PBC Phone + Ext: +1.1235551234
Registrar Registration Expiration Date: 2010-10-08T00:44:59Z		PBC Alt Phone + Ext: +1. 5556661234
Updated Date: 2009-05-29T20:13:00Z	Administrator Contact ID: xxxx-xxxx	PBC Email Address: info@proxy.net
	Tech Contact ID: xxxx-xxxx	PBC Alt Email Address: info@proxy2.net
Registrar URL: http://www.example-registrar.tld		PBC Fax + Ext: +1.1235551234
Registrar IANA Number: 5555555	Legal Contact ID: xxxx-xxxx	PBC SMS: +1.12355551212
Registrar Abuse Contact Email: email@registrar.tld	Abuse Contact ID: xxxx-xxxx	PBC IM: @proxynet
Registrar Abuse Contact Phone: +1.1235551234		PBC Social Media: socialsite.com/proxynet
	Business Contact ID: xxxx-xxxx	PBC Alt Social Media: socialsite.com/proxynet2
URL of the Internic Complaint Site: http://wdprs.internic.net/	Privacy/Proxy Contact ID: 1234-5678	PBC Contact_URL: proxy.net/contact_us.html
		PBC Abuse_URL: proxy.net/report_abuse.html

```
Technical Issue Resolution
(Requestor = x, DN = y)
```

Authentic Requestor "x"? — N → Return Error; Y →

Allow self-accreditation for this common purpose? (e.g., identify self and agree to ToS)

Gated Registrant Data Requested? — Y → Return Error; N → Return Requested Public Data + Tech PBC for DN "y"

Return Error

Return Requested Public Data + Tech PBC for DN "y"

Registration Status: x	Domain Name: EXAMPLE.TLD	Technical Contact (PBC) ID: xxxx-xxxx
DNSSEC Delegation: signedDelegation	Name Server: NS01.EXAMPLE-REGISTRAR.TLD	PBC Validation Status: Operationally-Validated
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited	Registrant Type: UNDECLARED	PBC Last Validated Timestamp: x
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited	Registrant Contact ID: xxxx-xxxx	PBC Name: EXAMPLE TECH
Registrar: EXAMPLE REGISTRAR LLC		PBC Organization: EXAMPLE ORG
Reseller: EXAMPLE RESELLER	Registrant Contact Validation Status: Operationally-Validated	PBC Street Address: 123 Street Road
Registrar Jurisdiction: EXAMPLE JURISDICTION	Registrant Contact Last Validated Timestamp: x	PBC City: AnyTown
Registry Jurisdiction: EXAMPLE JURISDICTION		PBC State/Province: CA
Registration Agreement Language: ENGLISH	Registrant Email: EMAIL@EXAMPLE.TLD	PBC Postal Code: 12345
Creation Date: 2000-10-08T00:45:00Z	Registrant Country: AA	PBC Country: AA
Original Registration Date: 2000-10-08T00:45:00Z		PBC Phone + Ext: +1.1235551234
Registrar Registration Expiration Date: 2010-10-08T00:44:59Z	Administrator Contact ID: xxxx-xxxx	PBC Alt Phone + Ext: +1. 5556661234
Updated Date: 2009-05-29T20:13:00Z	Tech Contact ID: xxxx-xxxx	PBC Email Address: tech@example.tld
Registrar URL: http://www.example-registrar.tld	Legal Contact ID: xxxx-xxxx	PBC Alt Email Address: tech-tld@isp.net
		PBC Fax + Ext: +1.1235551234
Registrar IANA Number: 5555555	Abuse Contact ID: xxxx-xxxx	PBC SMS: +1.12355551212
Registrar Abuse Contact Email: email@registrar.tld		PBC IM: @exampletech
Registrar Abuse Contact Phone: +1.1235551234	Business Contact ID: xxxx-xxxx	PBC Social Media: socialsite.com/example
	Privacy/Proxy Contact ID: xxxx-xxxx	PBC Alt Social Media: socialsite.com/example2
URL of the Internic Complaint Site: http://wdprs.internic.net/		PBC Contact_URL: example.tld/contact_us.html
		PBC Abuse_URL: example.tld/report_abuse.html

Domain Name Certification
(Requestor = x, DN = y)

Authentic Requestor "x"?

N

Y

Authorized for this Purpose?

N

Y

Return Error

Gated Registrant Data Requested?

N

Y

Return Requested Public Data + PBCs for DN "y"

Return Requested Public Data + PBCs + Gated Data for DN "y"

Registration Status: x
DNSSEC Delegation: signedDelegation
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited
Registrar EXAMPLE REGISTRAR LLC
Reseller EXAMPLE RESELLER
Registrar Jurisdiction: EXAMPLE JURISDICTION
Registry Jurisdiction: EXAMPLE JURISDICTION
Registration Agreement Language: ENGLISH
Creation Date: 2000-10-08T00:45:00Z

Domain Name: EXAMPLE.TLD
Name Server: NS01.EXAMPLE-REGISTRAR.TLD
Registrant Type: UNDECLARED
RegistrantContactID: xxxx-xxxx
Registrant Contact Validation Status: Operationally-Validated
RegistrantContactLast Validated Timestamp: x
RegistrantEmail: EMAIL@EXAMPLE.TLD
Registrant Country: AA

Original B Business Contact (PBC) ID: xxxx-xxxx
Registrar PBC Validation Status: x   iinistrator Contact ID: xxxx-xxxx
Updated I Administrator Contact (PBC) ID: xxxx-xxxx   ct ID: xxxx-xxxx
Registrar PBC Validation Status: x   xxxx-xxxx
Registrar PBC Privacy/Proxy Provider Contact (PBC) ID: xxxx-xxxx   xxxx-xxxx
Registrar PBC Technical Contact (PBC) ID: xxxx-xxxx   xxxx-xxxx
Registrar PBC PBC Validation Status: x   33-xxxx
URL of th PBC Legal Contact (PBC) ID: xxxx-xxxx
PBC PBC Validation Status: x
PBC Abuse Contact (PBC) ID: xxxx-xxxx
PBC PBC Validation Status: x
PBC PBC Last Validated Timestamp: x
PBC PBC Name: EXAMPLE ABUSE DESK
PBC PBC Organization: EXAMPLE ORG
PBC PBC Street Address: 123 Street Road
PBC PBC City: AnyTown
PBC PBC State/Province: CA
PBC PBC Postal Code: 12345
PBC PBC Country: AA
PBC PBC Phone + Ext: +1.1235551234
PBC PBC Alt Phone + Ext: +1. 5556661234
PBC PBC Email Address: abuse@example.tld
PBC PBC Email Address: abuse-tld@isp.net
PBC PBC SMS: +1.12355551212
PBC PBC IM: @exampleabusedesk
PBC PBC Social Media: socialsite.com/example
PBC PBC Alt Social Media: socialsite.com/example2
PBC PBC Contact_URL: example.tld/contact_us.html
PBC PBC Abuse_URL: example.tld/report_abuse.html

In addition to the Minimum Public Data for
Registrant Contact ID: xxxx-xxxx,
requested gated data elements may include…
Registrant Name: EXAMPLE OWNER
Registrant Organization: EXAMPLE ORG
Registrant Company Identifier: MY-DUNS
Registrant Street Address: 123 Street Road
Registrant City: AnyTown
Registrant State/Province: CA
Registrant Postal Code: 12345
Registrant Phone + Ext: +1.1235551234
Registrant Alt Phone + Ext: +1. 5556661234
Registrant Alt Email Address: example-tld@isp.net
Registrant Fax + Ext: +1.1235551234
Registrant SMS: +1.12355551212
Registrant IM: @example
Registrant Social Media: socialsite.com/example
Registrant Alt Social Media: socialsite2.com/example
Registrant Contact_URL: example.tld/contact_us.html
Registrant Abuse_URL: example.tld/report_abuse.html

Individual Internet Use
(Requestor = x, DN = y)

Authentic Requestor "x"?

N → Return Error
Y

Allow self-accreditation for this common purpose? (e.g., identify self and agree to ToS)

DN "y" Reg Type = LP?

N
Y

Gated Registrant Data Requested?

Y
N → Return Requested Public Data + Business PBC for DN "y"

Return Error

Registration Status: x	Domain Name: BIZREG.TLD
DNSSEC Delegation: signedDelegation	Name Server: NS01.EXAMPLE-REGISTRAR.TLD
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited	Registrant Type: LEGAL PERSON
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited	Registrant Contact ID: 8765-4321
Registrar: EXAMPLE REGISTRAR LLC	Registrant Contact Validation Status: Operationally-Validated
Reseller: EXAMPLE RESELLER	
Registrar Jurisdiction: EXAMPLE JURISDICTION	Registrant Contact Last Validated Timestamp: x
Registry Jurisdiction: EXAMPLE JURISDICTION	Registrant Email: owner@biz.com
Registration Agreement Language: ENGLISH	
Creation Date: 2000-10-08T00:45:00Z	Registrant Country: AA
Original Registration Date: 2000-10-08T00:45:00Z	Administrator Contact ID: xxxx-xxxx
Registrar Registration Expiration Date: 2010-10-08T00:44:59Z	Tech Contact ID: xxxx-xxxx
Updated Date: 2009-05-29T20:13:00Z	
Registrar URL: http://www.example-registrar.tld	Legal Contact ID: xxxx-xxxx
Registrar IANA Number: 5555555	Abuse Contact ID: xxxx-xxxx
Registrar Abuse Contact Email: email@registrar.tld	Business Contact ID: 8765-4321
Registrar Abuse Contact Phone: +1.1235551234	
URL of the Internic Complaint Site: http://wdprs.internic.net/	Privacy/Proxy Contact ID: xxxx-xxxx

Business Contact (PBC) ID: 8765-4321
PBC Validation Status: Operationally-Validated
PBC Last Validated Timestamp: x
PBC Name: BIZ.COM INFO
PBC Organization: BIZ.COM
PBC Street Address: 123 Street Road
PBC City: AnyTown
PBC State/Province: CA
PBC Postal Code: 12345
PBC Country: AA
PBC Phone + Ext: +1.1235551234
PBC Alt Phone + Ext: +1. 5556661234
PBC Email Address: owner@biz.com
PBC Alt Email Address: info@biz.com
PBC Fax + Ext: +1.1235551234
PBC SMS: +1.12355551212
PBC IM: @biz
PBC Social Media: socialsite.com/biz
PBC Alt Social Media: socialsite.com/biz2
PBC Contact_URL: biz.com/contact_us.html
PBC Abuse_URL: biz.com/report_abuse.html

Business DN Sale or Purchase (Requestor = x, DN = y)

Authentic Requestor "x"? — N / Y

Authorized for this Purpose? — N / Y

Gated Registrant Data Requested? — N / Y

Approved for Gated Data? — N / Y

Return Error

Return Requested Public Data + Admin PBC for DN "y"

Return Requested Public Data + Admin PBC + Approved Gated Data for DN "y"

Registration Status: x
DNSSEC Delegation: signedDelegation
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited
Registrar: EXAMPLE REGISTRAR LLC
Reseller: EXAMPLE RESELLER
Registrar Jurisdiction: EXAMPLE JURISDICTION
Registry Jurisdiction: EXAMPLE JURISDICTION
Registration Agreement Language: ENGLISH
Creation Date: ...

Domain Name: EXAMPLE.TLD
Name Server: NS01.EXAMPLE-REGISTRAR.TLD
Registrant Type: UNDECLARED
Registrant Contact ID: xxxx-xxxx
Registrant Contact Validation Status: Operationally-Validated
Registrant Contact Last Validated Timestamp: x
Registrant Email: EMAIL@EXAMPLE.TLD
Registrant Country: AA
Administrator Contact ID: xxxx-xxxx
Tech Contact ID: xxxx-xxxx
Legal Contact ID: xxxx-xxxx
Abuse Contact ID: xxxx-xxxx
Business Contact ID: xxxx-xxxx
Privacy/Proxy Contact ID: xxxx-xxxx

Administrator Contact (PBC) ID: xxxx-xxxx
PBC Validation Status: Operationally-Validated
PBC Last Validated Timestamp: x
PBC Name: EXAMPLE ADMIN
PBC Organization: EXAMPLE ORG
PBC Street Address: 123 Street Road
PBC City: AnyTown
PBC State/Province: CA
PBC Postal Code: 12345
PBC Country: AA
PBC Phone + Ext: +1.1235551234
PBC Alt Phone + Ext: +1. 5556661234
PBC Email Address: admin@example.tld
PBC Alt Email Address: admin-tld@isp.net
PBC Fax + Ext: +1.1235551234
PBC SMS: +1.12355551212
PBC IM: @exampleadmin
PBC Social Media: socialsite.com/example
PBC Alt Social Media: socialsite.com/example2
PBC Contact_URL: example.tld/contact_us.html
PBC Abuse_URL: example.tld/report_abuse.html

In addition to the Minimum Public Data for
Registrant Contact ID: xxxx-xxxx,
requested gated data elements may include…
Registrant Name: EXAMPLE OWNER
Registrant Organization: EXAMPLE ORG
Registrant Company Identifier: MY-DUNS
Registrant Street Address: 123 Street Road
Registrant City: AnyTown
Registrant State/Province: CA
Registrant Postal Code: 12345
Registrant Phone + Ext: +1.1235551234
Registrant Alt Phone + Ext: +1. 5556661234
Registrant Alt Email Address: example-tld@isp.net
Registrant Fax + Ext: +1.1235551234
Registrant SMS: +1.12355551212
Registrant IM: @example
Registrant Social Media: socialsite.com/example
Registrant Alt Social Media: socialsite2.com/example
Registrant Contact_URL: example.tld/contact_us.html
Registrant Abuse_URL: example.tld/report_abuse.html

Legal Actions
(Requestor = x, DN = y)

Same decisions apply for

Regulatory Contractual Enforcement

Authentic Requestor "x"?

N — Y

Authorized for this Purpose?

N — Y

Gated Registrant Data Requested?

N — Y

Approved for Gated Data?

N — Y

Return Error

Return Requested Public Data + Legal PBC for DN "y"

Return Requested Public Data + Legal PBC + Approved Gated Data for DN "y"

Registration Status: x
DNSSEC Delegation: signedDelegation
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited
Registrar: EXAMPLE REGISTRAR LLC
Reseller: EXAMPLE RESELLER
Registrar Jurisdiction: EXAMPLE JURISDICTION
Registry Jurisdiction: EXAMPLE JURISDICTION
Registration Agreement Language: ENGLISH
Creation Date: 2000-10-08T00:45:00Z

Domain Name: EXAMPLE.TLD
Name Server: NS01.EXAMPLE-REGISTRAR.TLD
Registrant Type: UNDECLARED
Registrant Contact ID: xxxx-xxxx
Registrant Contact Validation Status: Operationally-Validated
Registrant Contact Last Validated Timestamp: x
Registrant Email: EMAIL@EXAMPLE.TLD
Registrant Country: AA
Administrator Contact ID: xxxx-xxxx
Tech Contact ID: xxxx-xxxx
Legal Contact ID: xxxx-xxxx
Abuse Contact ID: xxxx-xxxx
Business Contact ID: xxxx-xxxx
Privacy/Proxy Contact ID: xxxx-xxxx

Legal Contact (PBC) ID: xxxx-xxxx
PBC Validation Status: Operationally-Validated
PBC Last Validated Timestamp: x
PBC Name: EXAMPLE LEGAL REP
PBC Organization: EXAMPLE ORG
PBC Street Address: 123 Street Road
PBC City: AnyTown
PBC State/Province: CA
PBC Postal Code: 12345
PBC Country: AA
PBC Phone + Ext: +1.1235551234
PBC Alt Phone + Ext: +1. 5556661234
PBC Email Address: legal@example.tld
PBC Alt Email Address: legal-tld@isp.net
PBC Fax + Ext: +1.1235551234
PBC SMS: +1.12355551212
PBC IM: @examplelegalrep
PBC Social Media: socialsite.com/example
PBC Alt Social Media: socialsite.com/example2
PBC Contact_URL: example.tld/contact_us.html
PBC Abuse_URL: example.tld/report_abuse.html

In addition to the Minimum Public Data for Registrant Contact ID: xxxx-xxxx, requested gated data elements may include...
Registrant Name: EXAMPLE OWNER
Registrant Organization: EXAMPLE ORG
Registrant Company Identifier: MY-DUNS
Registrant Street Address: 123 Street Road
Registrant City: AnyTown
Registrant State/Province: CA
Registrant Postal Code: 12345
Registrant Phone + Ext: +1.1235551234
Registrant Alt Phone + Ext: +1. 5556661234
Registrant Alt Email Address: example-tld@isp.net
Registrant Fax + Ext: +1.1235551234
Registrant SMS: +1.12355551212
Registrant IM: @example
Registrant Social Media: socialsite.com/example
Registrant Alt Social Media: socialsite2.com/example
Registrant Contact_URL: example.tld/contact_us.html
Registrant Abuse_URL: example.tld/report_abuse.html

```
Criminal Investigation and
DNS Abuse Mitigation
(Requestor = x, DN = y)
```

Authentic Requestor "x"?
- N →
- Y →

Authorized for this Purpose?
- N →
- Y →

Gated Registrant Data Requested?
- N →
- Y →

Approved for Gated Data?
- N →
- Y →
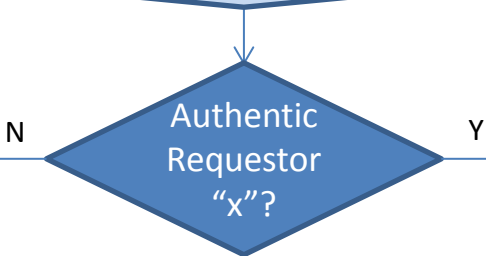
Return Error

Return Requested Public Data + Abuse PBC for DN "y"

Return Requested Public Data + Abuse PBC + Gated Data for DN "y"

Registration Status: x
DNSSEC Delegation: signedDelegation
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited
Registrar EXAMPLE REGISTRAR LLC
Reseller EXAMPLE RESELLER
Registrar Jurisdiction: EXAMPLE JURISDICTION
Registry Jurisdiction: EXAMPLE JURISDICTION
Registration Agreement Language: ENGLISH

Domain Name: EXAMPLE.TLD
Name Server: NS01.EXAMPLE-REGISTRAR.TLD
Registrant Type: UNDECLARED
Registrant Contact ID: xxxx-xxxx
Registrant Contact Validation Status: Operationally-Validated
Registrant Contact Last Validated Timestamp: x
Registrant Email: EMAIL@EXAMPLE.TLD
Registrant Country: AA
Administrator Contact ID: xxxx-xxxx
Tech Contact ID: xxxx-xxxx
Legal Contact ID: xxxx-xxxx
Abuse Contact ID: xxxx-xxxx
Business Contact ID: xxxx-xxxx
Privacy/Proxy Contact ID: xxxx-xxxx

Abuse Contact (PBC) ID: xxxx-xxxx
PBC Validation Status: Operationally-Validated
PBC Last Validated Timestamp: x
PBC Name: EXAMPLE ABUSE DESK
PBC Organization: EXAMPLE ORG
PBC Street Address: 123 Street Road
PBC City: AnyTown
PBC State/Province: CA
PBC Postal Code: 12345
PBC Country: AA
PBC Phone + Ext: +1.1235551234
PBC Alt Phone + Ext: +1. 5556661234
PBC Email Address: abuse@example.tld
PBC Alt Email Address: abuse-tld@isp.net
PBC Fax + Ext: +1.1235551234
PBC SMS: +1.12355551212
PBC IM: @exampleabusedesk
PBC Social Media: socialsite.com/example
PBC Alt Social Media: socialsite.com/example2
PBC Contact_URL: example.tld/contact_us.html
PBC Abuse_URL: example.tld/report_abuse.html

In addition to the Minimum Public Data for Registrant Contact ID: xxxx-xxxx,
requested gated data elements may include...
Registrant Name: EXAMPLE OWNER
Registrant Organization: EXAMPLE ORG
Registrant Company Identifier: MY-DUNS
Registrant Street Address: 123 Street Road
Registrant City: AnyTown
Registrant State/Province: CA
Registrant Postal Code: 12345
Registrant Phone + Ext: +1.1235551234
Registrant Alt Phone + Ext: +1. 5556661234
Registrant Alt Email Address: example-tld@isp.net
Registrant Fax + Ext: +1.1235551234
Registrant SMS: +1.12355551212
Registrant IM: @example
Registrant Social Media: socialsite.com/example
Registrant Alt Social Media: socialsite2.com/example
Registrant Contact_URL: example.tld/contact_us.html
Registrant Abuse_URL: example.tld/report_abuse.html

DNS Transparency
(Requestor = x, DN = y)

Authentic Requestor "x"?
- N → Return Error
- Y → (Allow self-accreditation for this common purpose? (e.g., identify self and agree to ToS))

Gated Registrant Data Requested?
- Y →
- N → Return Only Requested Public Data

Return Error
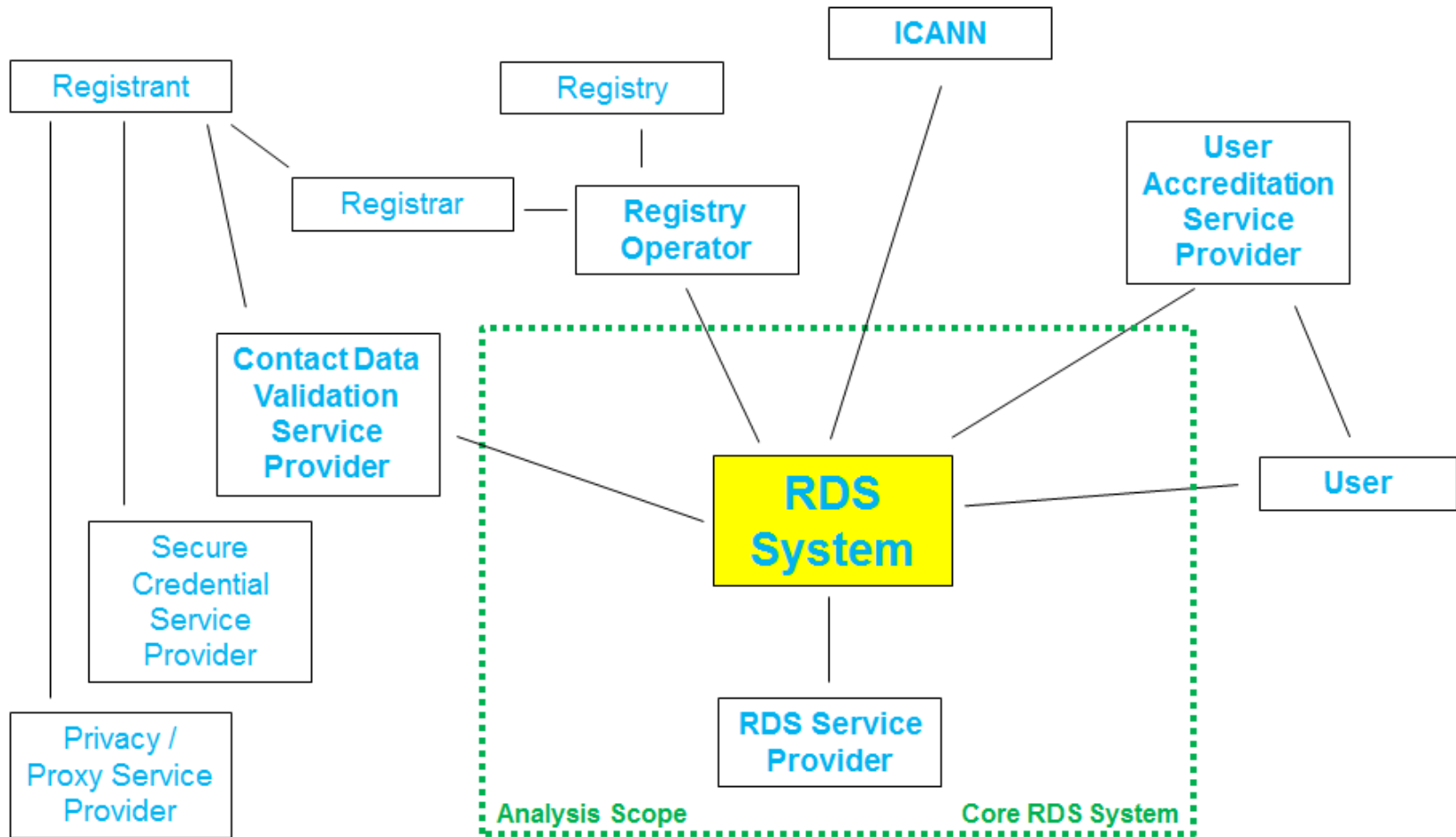
Return Only Requested Public Data

Registration Status: x	Domain Name: EXAMPLE.TLD
DNSSEC Delegation: signedDelegation	Name Server: NS01.EXAMPLE-REGISTRAR.TLD
Client Status: DeleteProhibited, RenewProhibited, TransferProhibited	Registrant Type: UNDECLARED
Server Status: DeleteProhibited, RenewProhibited, TransferProhibited	Registrant Contact ID: xxxx-xxxx
Registrar: EXAMPLE REGISTRAR LLC	
Reseller: EXAMPLE RESELLER	Registrant Contact Validation Status: Operationally-Validated
Registrar Jurisdiction: EXAMPLE JURISDICTION	Registrant Contact Last Validated Timestamp: x
Registry Jurisdiction: EXAMPLE JURISDICTION	
Registration Agreement Language: ENGLISH	Registrant Email: EMAIL@EXAMPLE.TLD
Creation Date: 2000-10-08T00:45:00Z	Registrant Country: AA
Original Registration Date: 2000-10-08T00:45:00Z	
Registrar Registration Expiration Date: 2010-10-08T00:44:59Z	Administrator Contact ID: xxxx-xxxx
Updated Date: 2009-05-29T20:13:00Z	Tech Contact ID: xxxx-xxxx
Registrar URL: http://www.example-registrar.tld	Legal Contact ID: xxxx-xxxx
Registrar IANA Number: 5555555	Abuse Contact ID: xxxx-xxxx
Registrar Abuse Contact Email: email@registrar.tld	Business Contact ID: xxxx-xxxx
Registrar Abuse Contact Phone: +1.1235551234	Privacy/Proxy Contact ID: xxxx-xxxx
URL of the Internic Complaint Site: http://wdprs.internic.net/	

Models and Costs
Background Materials

ICANN

Registrants and Contacts

Requestors

Federated Model (FRDS)

Data Collection

Validators

Registrars

Data Storage

gTLD Registries

Federated RDS

Purpose-Driven Data Disclosure
via Public & Authenticated Access Methods

Data Access Enabled via Queries relayed in Real-Time for all gTLDs

Obtains Validated Data in Real-Time
Handles All Queries (public & authenticated)
Authorizes Access
Applies Gating Policy
Returns Allowed Data
Audits Data Access
Additional Services

RDS Ecosystem

Volumetric Assumptions

- Budgetary cost analysis, focused on differences between SRDS and FRDS, to handle predicted volume...

			start yr1 (2015)	start yr2 (2016)	start yr3 (2017)	start yr4 (2018)	start yr5 (2019)	end yr 5 (2020)
YEARLY GROWTH RATE	22%	nr of DN records added in a year, assumed to include the growth in the nr of gTLDs						
Nr of DN RECORDS, YEARLY UPDATE RATE	100%	nr of DN records updated in a year						
			start yr1 (2015)	start yr2 (2016)	start yr3 (2017)	start yr4 (2018)	start yr5 (2019)	end yr 5 (2020)
	Nr of gTLDs		2000	3000	4000	5000	6000	7000
	growth rate			50%	33%	25%	20%	17%
		December 2013, ICANN input	start yr1 (2015)	start yr2 (2016)	start yr3 (2017)	start yr4 (2018)	start yr5 (2019)	end yr 5 (2020)
NR OF DOMAIN NAMES		151.196.101	184.459.243	225.040.277	274.549.138	334.949.948	408.638.936	498.539.502
NR OF QUERIES/MONTH		9.031.522.529	11.018.457.485	13.442.518.132	16.399.872.121	20.007.843.988	24.409.569.665	29.779.674.992
AVERAGE NR OF QUERIES/SEC		3.484	4.251	5.186	6.327	7.719	9.417	11.489
NR OF QUERIES/PEAK SEC			42.509	51.862	63.271	77.191	94.173	114.891
AVERAGE NR OF QUERIES/HOUR		12.543.781	15.303.413	18.670.164	22.777.600	27.788.672	33.902.180	41.360.660
NR OF QUERIES IN PEAK HOUR		25.087.563	30.606.826	37.340.328	45.555.200	55.577.344	67.804.360	82.721.319
USER VISITS IN PEAK HOUR		16.892.292	20.608.596	25.142.488	30.673.835	37.422.079	45.654.936	55.699.022
CONCURRENT VISITS IN PEAK HOUR		563.076	686.953	838.083	1.022.461	1.247.403	1.521.831	1.856.634
NEW VISITS IN PEAK SEC			28.623	34.920	42.603	51.975	63.410	77.360

% of reverse queries | 1,0%

Estimated RDS Costs

- Based on volumetric inputs and solution outline, the cost per domain name per year for the Core FRDS and SRDS Systems only are estimated as:

SRDS Budgetary Cost Estimate

€	0,0183	average cost/domain/year

cost per domain name				
yr1	yr2	yr3	yr4	yr5
€ 0,041	€ 0,023	€ 0,017	€ 0,020	€ 0,019

FRDS Budgetary Cost Estimate

€	0,0173	average cost/domain/year

cost per domain name				
yr1	yr2	yr3	yr4	yr5
€ 0,041	€ 0,018	€ 0,017	€ 0,021	€ 0,017

Cost Analysis Conclusions

- With 1% Reverse Queries, the Core RDS is slightly less expensive in the FRDS model than the SRDS model

- But FRDS model is highly sensitive to Reverse Query load

  - With a 3% Reverse Query load, the cost of the FRDS model would increase close to 35%

- The FDRS model is expected to require higher application operations, support, maintenance, and test effort

- The FRDS model has more impact on Registry Operators

  - Each Registry Operator would have to support - under SLA - online queries, including Reverse and WhoWas queries

  - Historical data would have to be maintained by Registry Operators

Benefits for individual registrants?

- In the RDS, Registrants will have

  o More visibility into what their data is used for

  o Ability to enter and update their data more easily

  o More flexibility and control over what data is public

  o Options to deter fraudulent use of their data

  o One place to see what RDS users can learn about them

- And greater assurance that

  o Privacy, data protection, security, and auditing policies will be uniformly applied

  o Access to data will be limited to those with a need to know

  o Requestors who access data will be held accountable

Acronyms

ARDS	Aggregated RDS (now SRDS)
FRDS	Federated RDS
ID	Identifier
P/P	Privacy/Proxy
PBC	Purpose-Based Contact
PDP	Policy Development Process
RAA	Registrar Accreditation Agreement
RDAP	Registration Data Access Protocol
RDS	Registration Directory Service
RR	Registrar
Ry	Registry
SC	Secure Credential
SMS	Short Message Service
SRDS	Synchronized RDS (formerly ARDS)
ToS	Terms of Service
UDRP	Uniform DN Dispute Resolution Process
V	Validator