

## **7 March 2013 Posting Note: Registrars Are Still Considering This Document**

### **REGISTRATION DATA DIRECTORY SERVICE (WHOIS) SPECIFICATION**

***[Note: ICANN will be proposing updated language regarding the term “Whois” to comply with SSAC recommendations. The updated language will not represent a change to the proposed obligations.]***

- 1. Registration Data Directory Services.** Until ICANN requires a different protocol, Registrar will operate a WHOIS service available via port 43 in accordance with RFC 3912, and a web-based Directory Service providing free public query-based access to at least the elements set forth in Section 3.3.1.1 through 3.3.1.8 of the Registrar Accreditation Agreement in the format set forth in Section 1.4 of this Specification. ICANN reserves the right to specify alternative formats and protocols, and upon such specification, the Registrar will implement such alternative specification as soon as reasonably practicable.

Following the publication by the IETF of a Proposed Standard, Draft Standard or Internet Standard and any revisions thereto (as specified in RFC 2026) relating to the web-based directory service as specified in the IETF Web Extensible Internet Registration Data Service working group, Registrar shall implement the directory service specified in any such standard (or any revision thereto) no later than 135 days after such implementation is requested by ICANN. Registrar shall implement internationalized registration data publication guidelines according to the specification published by ICANN following the work of the ICANN Internationalized Registration Data Working Group (IRD-WG) and its subsequent efforts, no later than 135 days after it is approved by the ICANN Board.

- 1.1.** The format of responses shall follow a semi-free text format outline below, followed by a blank line and a legal disclaimer specifying the rights of Registrar, and of the user querying the database.
- 1.2.** Each data object shall be represented as a set of key/value pairs, with lines beginning with keys, followed by a colon and a space as delimiters, followed by the value.
- 1.3.** For fields where more than one value exists, multiple numbered key/value pairs with the same key shall be allowed (for example to list multiple name servers). The first key/value pair after a blank line should be considered the start of a new record, and should be considered as identifying that record, and is used to group data, such as hostnames and IP addresses, or a domain name and registrant information, together.

#### **1.4. Domain Name Data:**

- 1.4.1. Query format:** whois -h whois.example-registrar.tld EXAMPLE.TLD

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### **1.4.2. Response format:**

The format of responses shall contain all the elements and follow a semi-free text format outline below. Additional data elements can be added at the end of the text format outlined below, followed by a blank line and a legal disclaimer specifying the rights of Registrar, and of the user querying the database.

Domain Name: EXAMPLE.TLD  
Registry Domain ID: D1234567-TLD  
Registrar WHOIS Server: whois.example-registrar.tld  
Registrar URL: http://www.example-registrar.tld  
Updated Date: 2009-05-29T20:13:00Z  
Creation Date: 2000-10-08T00:45:00Z  
Registrar Registration Expiration Date: 2010-10-08T00:44:59Z  
Registrar: EXAMPLE REGISTRAR LLC  
Registrar IANA ID: 5555555  
Registrar Abuse Contact Email: email@registrar.tld  
Registrar Abuse Contact Phone: +1.1235551234  
Reseller: EXAMPLE RESELLER<sup>1</sup> [*Note: Pending discussion with registrars. Inserted based on request from Law Enforcement*]  
Domain Status: clientDeleteProhibited<sup>2</sup>  
Domain Status: clientRenewProhibited  
Domain Status: clientTransferProhibited  
Registry Registrant ID: 5372808-ERL<sup>3</sup>  
Registrant Name: EXAMPLE REGISTRANT<sup>4</sup>  
Registrant Organization: EXAMPLE ORGANIZATION  
Registrant Street: 123 EXAMPLE STREET  
Registrant City: ANYTOWN  
Registrant State/Province: AP<sup>5</sup>  
Registrant Postal Code: A1A1A1<sup>6</sup>  
Registrant Country: AA  
Registrant Phone: +1.5555551212  
Registrant Phone Ext: 1234<sup>7</sup>  
Registrant Fax: +1.5555551213  
Registrant Fax Ext: 4321  
Registrant Email: EMAIL@EXAMPLE.TLD

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<sup>1</sup> May be left blank if not applicable.

<sup>2</sup> Note: all applicable statuses must be displayed in the Whois output.

<sup>3</sup> May be left blank if not available from Registry.

<sup>4</sup> For the Registrant, Admin and Tech contact fields requiring a "Name" or "Organization", the output must include either the name or organization (or both, if available).

<sup>5</sup> All "State/Province" fields may be left blank if not available.

<sup>6</sup> All "Postal Code" fields may be left blank if not available.

<sup>7</sup> All "Phone Ext", "Fax" and "Fax Ext" fields may be left blank if not available.

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Registry Admin ID: 5372809-ERL<sup>8</sup>  
Admin Name: EXAMPLE REGISTRANT ADMINISTRATIVE  
Admin Organization: EXAMPLE REGISTRANT ORGANIZATION  
Admin Street: 123 EXAMPLE STREET  
Admin City: ANYTOWN  
Admin State/Province: AP  
Admin Postal Code: A1A1A1  
Admin Country: AA  
Admin Phone: +1.5555551212  
Admin Phone Ext: 1234  
Admin Fax: +1.5555551213  
Admin Fax Ext: 1234  
Admin Email: EMAIL@EXAMPLE.TLD  
Registry Tech ID: 5372811-ERL<sup>9</sup>  
Tech Name: EXAMPLE REGISTRANT TECHNICAL  
Tech Organization: EXAMPLE REGISTRANT LLC  
Tech Street: 123 EXAMPLE STREET  
Tech City: ANYTOWN  
Tech State/Province: AP  
Tech Postal Code: A1A1A1  
Tech Country: AA  
Tech Phone: +1.1235551234  
Tech Phone Ext: 1234  
Tech Fax: +1.5555551213  
Tech Fax Ext: 93  
Tech Email: EMAIL@EXAMPLE.TLD  
Name Server: NS01.EXAMPLE-REGISTRAR.TLD<sup>10</sup>  
Name Server: NS02.EXAMPLE-REGISTRAR.TLD  
DNSSEC: signedDelegation  
URL of the ICANN WHOIS Data Problem Reporting System:  
<http://wdprs.internic.net/> [*Note: this item is in response to a drafting team request*]  
>>> Last update of WHOIS database: 2009-05-29T20:15:00Z <<<

- 1.5. The format of the following data fields: domain status, individual and organizational names, address, street, city, state/province, postal code, country, telephone and fax numbers, email addresses, date and times must conform to the mappings specified in EPP RFCs 5730-5734 (or its successors), and IPv6 addresses format should conform to RFC 5952 (or its successor), so that the display of this information (or values returned in WHOIS responses) can be uniformly processed and understood.

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<sup>8</sup> May be left blank if not available from Registry.

<sup>9</sup> May be left blank if not available from Registry.

<sup>10</sup> All associated nameservers must be listed.

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### 2. Service Level Agreement for Registration Data Directory Services (RDDS)

#### 2.1 Definitions

- **IP address.** Refers to IPv4 or IPv6 addresses without making any distinction between the two. When there is need to make a distinction, IPv4 or IPv6 is used.
- **Probes.** Network hosts used to perform tests (see below) that are located at various global locations.
- **RDDS.** Registration Data Directory Services refers to the collective of WHOIS and Web based WHOIS services.
- **RTT.** Round-Trip Time or **RTT** refers to the time measured from the sending of the first bit of the first packet of the sequence of packets needed to make a request until the reception of the last bit of the last packet of the sequence needed to receive the response. If the client does not receive the whole sequence of packets needed to consider the response as received, the request will be considered unanswered.
- **SLR.** Service Level Requirement is the level of service expected for a certain parameter being measured in a Service Level Agreement (SLA).

#### 2.2 Service Level Agreement Matrix

*[Note: law enforcement has requested an SLA for Port 43 Whois. This draft SLA includes a further request from ICANN regarding web-based Whois, consistent with the SLA in the new gTLD agreement]*

	Parameter	SLR (monthly basis)
RDDS	RDDS availability	less than or equal to 864 min of downtime
	RDDS query RTT	less than or equal to 4000 ms, for at least 95% of the queries
	RDDS update time	less than or equal to 60 min, for at least 95% of the probes

Registrar is encouraged to do maintenance for the different services at the times and dates of statistically lower traffic for each service. Since substantial downtime is already incorporated in the availability metric, planned outages or similar; any downtime, be it for maintenance or due to system failures, will be noted simply as downtime and counted for SLA purposes.

**2.2.1 RDDS availability.** Refers to the ability of all the RDDS services for the Registrar to respond to queries from an Internet user with appropriate data from the relevant registrar system. If 51% or more of the RDDS testing probes see any of the RDDS services as unavailable during a given time, the RDDS will be

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considered unavailable.

- 2.2.2 WHOIS query RTT.** Refers to the **RTT** of the sequence of packets from the start of the TCP connection to its end, including the reception of the WHOIS response. If the **RTT** is 5-times or more the corresponding SLR, the **RTT** will be considered undefined.
- 2.2.3 Web-based-WHOIS query RTT.** Refers to the **RTT** of the sequence of packets from the start of the TCP connection to its end, including the reception of the HTTP response for only one HTTP request. If Registrar implements a multiple-step process to get to the information, only the last step shall be measured. If the **RTT** is 5-times or more the corresponding SLR, the **RTT** will be considered undefined.
- 2.2.4 RDDS query RTT.** Refers to the collective of “**WHOIS query RTT**” and “**Web-based- WHOIS query RTT**”.
- 2.2.5 RDDS update time.** Refers to the time measured from the receipt of an EPP confirmation to a transform command on a domain name, host or contact, up until the servers of the RDDS services reflect the changes made.
- 2.2.6 RDDS test.** Means one query sent to a particular “**IP address**” of one of the servers of one of the RDDS services. Queries shall be about existing objects in the registrar system and the responses must contain the corresponding information otherwise the query will be considered unanswered. Queries with an **RTT** 5 times higher than the corresponding SLR will be considered as unanswered. The possible results to an RDDS test are: a number in milliseconds corresponding to the **RTT** or undefined/unanswered.
- 2.2.7 Measuring RDDS parameters.** Every 5 minutes, RDDS probes will select one IP address from all the public-DNS registered “**IP addresses**” of the servers for each RDDS service of the Registrar being monitored and make an “**RDDS test**” to each one. If an “**RDDS test**” result is undefined/unanswered, the corresponding RDDS service will be considered as unavailable from that probe until it is time to make a new test.
- 2.2.8 Collating the results from RDDS probes.** The minimum number of active testing probes to consider a measurement valid is 10 at any given measurement period, otherwise the measurements will be discarded and will be considered inconclusive; during this situation no fault will be flagged against the SLRs.
- 2.2.9 Placement of RDDS probes.** Probes for measuring RDDS parameters shall be placed inside the networks with the most users across the different geographic regions; care shall be taken not to deploy probes behind high propagation-delay links, such as satellite links.

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**2.3 Covenants of Performance Measurement**

Registrar shall not interfere with measurement **Probes**, including any form of preferential treatment of the requests for the monitored services. Registrar shall respond to the measurement tests described in this Specification as it would do with any other request from Internet users (for RDDS).