



.BIZ Agreement Appendix 5 Whois Specifications

(22 August 2013)

Public Whois Specification

Registry Operator 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 following elements in the following format. Both services will be provided over both IPv4 and IPv6 transport. In the alternative, Registry Operator may transition, upon notice to ICANN, to the Registration Data Publication Services requirements set forth in Specification 4 to the new gTLD Registry Agreement upon the approval of the new gTLD Registry Agreement by the ICANN Board of Directors.

Registry Operator shall implement a new standard supporting access to domain name registration data (SAC 051) no later than 135 days after it is requested by ICANN if: 1) the IETF produces a standard (i.e., it is published, at least, as a Proposed Standard RFC as specified in RFC 2026); and 2) its implementation is commercially reasonable in the context of the overall operation of the registry.

RFC 3912-Conformant Whois

As a thick registry, the standard Whois service will provide a central location for all authoritative .biz TLD data. Registrars will be able to provide a front-end web interface to the standard Whois service. In addition, the Registry provides its own front-end web interface to allow user access to the Whois service.

Due to the nature of the NeuStar thick registry model, the RFC 3912-conformant Whois service will be engineered to handle high transaction load and be integral to the standard suite of registry services. The service will return a single response per domain name or nameserver query. The RFC 3912-conformant Whois service will conform to established service level agreements.

The RFC 3912-conformant service provided by the registry will have the following features:

- Standard WHOIS protocol accessible over port 43.
- Consistent format (fields and formatting) for all registrars.
- Near real-time updates, eliminating "timing" problems when modifying registry information.

- Extensible field capability.

Whois Service Data Elements

The RFC 3912-conformant service will include the following data elements:

- The name of the domain name registered;
- The IP addresses of the primary nameserver and secondary nameserver(s) of the name registered;
- The corresponding names of those nameservers;
- The identity of the registrar;
- The original creation date and term of the registration;
- The name, postal address, e-mail address, voice telephone number, and (where available) fax number of the domain name registrant;
- The name, postal address, e-mail address, voice telephone number, and (where available) fax number of the technical contact for the name registered; and
- The name, postal address, e-mail address, voice telephone number, and (where available) fax number of the administrative contact for the name registered.

Extensible-Field Capability

NeuStar gives the ability for registrars to use EPP to add customized fields to a record in the registry database. These fields will appear in an "additional information" section of the Whois data.

Query Control - Object Type Control

The following keywords restrict a search to specific object type:

Domain: Search only by domain objects. The input string is searched in the Name field.

Contact: Search only contact objects. The input string is searched in the ID field.

Nameserver: Search only by nameserver objects. The input string is searched in the nameserver field or the IP address field.

Registrar: Search only registrar objects. The input string is searched in the Name field.

By default, if no object type control is specified, then the Name field of the Domain object is searched.

Whois Output Fields

Domain Record:

A Whois query that results in domain information will return the following fields from the

Domain object and the associated data from host and contact objects. This set of data is also referred to as the Domain Record.

Domain Name
Domain ID
Sponsoring Registrar
Sponsoring Registrar IANA ID
Domain Status
Registrant, Administrative, Technical and Billing Contact Information including
- ID
- Name
- Organization
- Address
- Geographic Location Code
- Phone Number
- Facsimile Number
- Email
Name Server(s)
Created by Registrar
Last Updated by Registrar
Domain Registration Date
Domain Expiration Date
Domain Last Updated Date

Note: For domains on PendingDelete Status, the Registry's front-end web interface will provide an additional explanation of the status as follows:

Up to 30 days after deletion:	PendingDelete (Restorable)
More than 30 days after deletion:	PendingDelete (Scheduled for release)

Nameserver Record:

Name Server ID
Name Server Name
Name Server Status
Sponsoring Registrar
Sponsoring Registrar IANA ID
Created by Registrar
Name Server Registration Date

Contact Record:

A Whois query that results in contact information will return the following. This set of information is referred to as the Contact Record.

Contact ID
Contact Name
Contact Organization
Contact Address1
Contact Address2
Contact City
Contact State/Province
Contact Postal Code
Contact Geographic Location
Contact Geographic Location Code
Contact Phone Number
Contact Facsimile Number
Contact Email
Sponsoring Registrar
Sponsoring Registrar IANA ID

Contact ROID
Contact Registration Date
Contact Last Updated Date
Last Updated by Registrar
Contact Status
Created by Registrar

Registrar Record:

A Whois query that results in Registrar information will return the following. This set of information is referred to as the Registrar Record.

Registrar IANA ID
Registrar Name
Registrar Address1
Registrar Address2
Registrar City
Registrar State/Province
Registrar Geographic Location
Registrar Geographic Location Code
Registrar Postal Code
Registrar Phone
Registrar Fax
Registrar Email
Registrar ROID

Sample Whois Output

This section provides sample output from the Whois server for each type of Registry Object: Domain, Contact, Nameserver, and Registrar. The output is structured as key/value pairs, which simplifies machine-readability.

Domain Record:

Input:	whois "domain = NeuStar.biz"	
Output:	Domain Name	NEUSTAR.BIZ
	Domain ID	D618-BIZ
	Sponsoring Registrar	REGISTRY REGISTRAR
	Sponsoring Registrar IANA ID	666
	Domain Status	clientDeleteProhibited
	Domain Status	clientTransferProhibited
	Domain Status	clientUpdateProhibited
	Domain Status	serverDeleteProhibited
	Domain Status	serverTransferProhibited
	Domain Status	serverUpdateProhibited
	Registrant ID	NEUSTAR1
	Registrant Name	NeuStar, Inc.
	Registrant Organization	NeuStar, Inc.
	Registrant Address1	Loudoun Tech Center
	Registrant Address2	45980 Center Oak Plaza
	Registrant City	Sterling
	Registrant State/Province	Virginia
	Registrant Postal Code	20166
	Registrant Geographic Location	United States
	Registrant Geographic Location Code	US
	Registrant Phone Number	+1.5714345757
	Registrant Facsimile Number	+1.5714345758
	Registrant Email	support@NeuStar.biz
	Administrative Contact ID	NEUSTAR1
	Administrative Contact Name	NeuStar, Inc.
	Administrative Contact Organization	NeuStar, Inc.
	Administrative Contact Address1	Loudoun Tech Center
	Administrative Contact Address2	45980 Center Oak Plaza
	Administrative Contact City	Sterling
	Administrative Contact State/Province	Virginia
	Administrative Contact Postal Code	20166
	Administrative Contact Geographic Location	United States
	Administrative Contact Geographic Location Code	US
	Administrative Contact Phone Number	+1.5714345757
	Administrative Contact Facsimile Number	+1.5714345758
	Administrative Contact Email	support@NeuStar.biz

Billing Contact ID	NEUSTAR1
Billing Contact Name	NeuStar, Inc.
Billing Contact Organization	NeuStar, Inc.
Billing Contact Address1	Loudoun Tech Center
Billing Contact Address2	45980 Center Oak Plaza
Billing Contact City	Sterling
Billing Contact State/Province	Virginia
Billing Contact Postal Code	20166
Billing Contact Geographic Location	United States
Billing Contact Geographic Location Code	US
Billing Contact Phone Number	+1.5714345757
Billing Contact Facsimile Number	+1.5714345758
Billing Contact Email	support@NeuStar.biz
Technical Contact ID	NEUSTAR1
Technical Contact Name	NeuStar, Inc.
Technical Contact Organization	NeuStar, Inc.
Technical Contact Address1	Loudoun Tech Center
Technical Contact Address2	45980 Center Oak Plaza
Technical Contact City	Sterling
Technical Contact State/Province	Virginia
Technical Contact Postal Code	20166
Technical Contact Geographic Location	United States
Technical Contact Geographic Location Code	US
Technical Contact Phone Number	+1.5714345757
Technical Contact Facsimile Number	+1.5714345758
Technical Contact Email	support@NeuStar.biz
Name Server	PDNS1.ULTRADNS.NET
Name Server	PDNS2.ULTRADNS.NET
Name Server	PDNS3.ULTRADNS.ORG
Name Server	PDNS4.ULTRADNS.ORG
Name Server	PDNS5.ULTRADNS.INFO
Name Server	PDNS6.ULTRADNS.CO.UK
Created by Registrar	REGISTRY REGISTRAR
Last Updated by Registrar	KSOERJADI
Domain Registration Date	Wed Nov 07 00:01:00 GMT 2001
Domain Expiration Date	Mon Nov 06 23:59:00 GMT 2006
Domain Last Updated Date	Thu May 25 18:32:14 GMT 2006

Contact Record:

Input:	whois "contact = NEUSTAR1"	
Output:	Contact ID	NEUSTAR1
	Contact Name	NeuStar, Inc.
	Contact Organization	NeuStar, Inc.
	Contact Address1	Loudoun Tech Center
	Contact Address2	45980 Center Oak Plaza
	Contact City	Sterling
	Contact State/Province	Virginia
	Contact Postal Code	20166
	Contact Geographic Location	United States
	Contact Geographic Location Code	US
	Contact Phone Number	+1.5714345757
	Contact Facsimile Number	+1.5714345758
	Contact Email	support@NeuStar.biz
	Sponsoring Registrar	REGISTRY REGISTRAR
	Sponsoring Registrar ID	666
	Contact ROID	C591-BIZ
	Contact Registration Date	Sun Sep 30 18:12:56 GMT 2001
	Contact Last Updated Date	Thu Jan 05 19:45:24 GMT 2006
	Last Updated by Registrar	KSOERJADI
	Contact Status	ok
	Created by Registrar	REGISTRY REGISTRAR

Nameserver Record:

Input:	whois " PDNS1.ULTRADNS.NET "	
Output:	Name Server ID	H9087947-BIZ
	Name Server Name	PDNS1.ULTRADNS.NET
	Name Server Status	ok
	Sponsoring Registrar	TUCOWS INC.
	Sponsoring Registrar IANA ID	69
	Created by Registrar	TUCOWS INC.
	Name Server Registration Date	Fri Feb 25 22:37:50 GMT 2005

Registrar Record:

Input:	whois "registrar registry registrar"	
Output:	Registrar IANA ID	REGISTRY REGISTRAR
	Registrar Name	666
	Registrar Address1	LOUDOUN TECH CENTER
	Registrar Address2	45980 CENTER OAK PLAZA
	Registrar City	STERLING
	Registrar State/Province	VA
	Registrar Geographic Location	United States
	Registrar Geographic Location Code	US
	Registrar Postal Code	20166
	Registrar Phone	+1.5714345757
	Registrar Fax	+1.5714345758
	Registrar Email	support@NeuStar.biz
	Registrar ROID	R720-BIZ

Whois Provider Data Specification

Registry Operator will provide bulk access to up-to-date data concerning domain name and nameserver registrations maintained by Registry Operator in connection with the .biz TLD on a daily schedule, only for purposes of providing free public query-based access to up-to-date data concerning domain name and nameserver registrations in multiple TLDs, to a party designated from time to time in writing by ICANN (the "Designated Recipient"). Any agreement between ICANN and a Designated Recipient for the license of such data (a "Whois License Agreement") will provide NeuStar with the right to enforce the Designated Recipient's obligations under this Appendix and the Whois License Agreement directly against the Designated Recipient, whether through being made a party to or third-party beneficiary of such agreement or through such other means as may be appropriate. In addition, any Whois License Agreement will include the following provisions governing the use of such data by the Designated Recipient:

1. The Designated Recipient shall only use the data provided by Registry Operator for the purpose of providing free public query-based Whois access. The Designated Recipient may not use such data for any other purpose.
2. The Designated Recipient shall use best efforts to implement any corrections to the data provided by Registry Operator as soon as practicable.

3. The Designated Recipient must take such technical and organizational security measures as are, at a minimum, equivalent to those implemented by Registry Operator with respect to such data.

4. Except for providing free public query-based access according to item 1 above, the Designated Recipient shall not transfer the data to any third party for any purpose except in the event that such third party becomes bound in the same manner as a Designated Recipient by the provisions of this Appendix and the Whois License Agreement.

Unless otherwise agreed by the Parties, the procedures for providing access, and the specification of the content and format of this data, will be as stated below,

A. Procedures for Providing Access

Registry Operator shall prepares (i) full data sets for one day of each week (the day to be designated by ICANN) and (ii) incremental data sets for all seven days of each week. Full and incremental data sets shall be up-to-date and coherent as of 1200 UTC on the day to which they relate. Until a different day is designated by ICANN, the full data sets will be prepared for Sundays. (Note that on the ICANN-designated day both an incremental and a full data set are prepared.)

1. Preparation of Files Containing Data Sets. Each full and incremental data set consists of an XML document meeting the content and format requirements of Parts B and C of this document. Once the XML document is generated, the following preparation steps will be performed:

a. The XML document will be placed in a file named according to the following convention:

For full data sets: "wfYYMMDD" where "YYMMDD" is replaced with the date (YY=last two digits of year; MM=number of month; DD=day; in all cases a single-digit number should be left-padded with a zero).

For incremental data sets: "wiYYMMDD" where "YYMMDD" follows the same format.

b. Registry Operator may optionally split the document using the Unix SPLIT command (or equivalent) to produce files no less than 1GB each (except the final file). If files are split, an MD5 file (produced with MD5SUM or equivalent) must be included with the resulting files to isolate errors in case of transfer fault. Registry Operator may optionally compress the document using the Unix GZIP command (or equivalent) to reduce the file size.

c. The file(s) will then be encrypted and signed using PGP, version 6.5.1 or above, with a key of DH/DSS type and 2048/1024-byte length. (Note that PGP compresses the escrow file in addition to encrypting it.) The Data Recipient's public key will be used for the encryption and Registry Operator's private key will be used for the signature. Public keys will be exchanged between Registry Operator and the Designated Recipient by e-mail, physical

delivery of floppy diskettes, or other agreed means.

2. Transmission of Full Data Sets. Once prepared, full data sets will be provided either by the procedures for incremental data sets described in item A (3) below or, at the option of either Registry Operator or the Designated Recipient, by writing the full data set to DAT tape (or other media mutually agreed by Registry Operator and the Designated Recipient) and sending it to the Designated Recipient by expedited delivery service (such as FedEx or DHL). If sent by expedited delivery service, the full data set will be scheduled for arrival no later than the second calendar day following the day to which the full backup relates.

3. Transmission of Incremental Data Sets. To permit the transmission of incremental data sets, Registry Operator shall make them available for download by the Designated Recipient by Internet File Transfer Protocol. Incremental data sets will be made available for download no later than 2000 UTC on the day to which they relate.

4. Objects Contained in Full and Incremental Data Sets. Full data sets include one domain object for each Registered Name within the Sponsored TLD; and nameserver, contact, and registrar objects for each nameserver, contact, and registrar referred to in any domain object. Incremental data sets consist of (a) those of the objects constituting a full data set that have been added or updated since the last incremental data set and (b) notations of deletion of any objects since the last incremental data set.

B. Format

Full and incremental data sets will be XML version 1.0, UTF-8 encoded documents conforming to the following document type definition:

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<schema targetNamespace="urn:NeuStar:whoisdb-1.0"
xmlns:whoisdb="urn:NeuStar:whoisdb-1.0"
xmlns:eppcom="urn:ietf:params:xml:ns:eppcom-1.0"
xmlns:epp="urn:ietf:params:xml:ns:epp-1.0"
xmlns:contact="urn:ietf:params:xml:ns:contact-1.0"
xmlns:domain="urn:ietf:params:xml:ns:domain-1.0"
xmlns:host="urn:ietf:params:xml:ns:host-1.0"
xmlns="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified">
```

```
<!--
```

```
Import EPP Element Types
```

```
-->
```

```
<import namespace="urn:ietf:params:xml:ns:eppcom-1.0" schemaLocation="eppcom-1.0.xsd"/>
```

```
<import namespace="urn:ietf:params:xml:ns:epp-1.0" schemaLocation="epp-1.0.xsd"/>
```

```

<import namespace="urn:ietf:params:xml:ns:contact-1.0" schemaLocation="contact-
1.0.xsd"/>
<import namespace="urn:ietf:params:xml:ns:domain-1.0" schemaLocation="domain-
1.0.xsd"/>
<import namespace="urn:ietf:params:xml:ns:host-1.0" schemaLocation="host-
1.0.xsd"/>

<annotation>
< documentation>
XML Schema for WHOIS Data Escrow From NeuStar
</documentation>
</annotation>

<!--
Child Element
-->
<element name="whois-data" type="whoisdb:whoisDbType"/>

<complexType name="whoisDbType">
< choice>
< element name="full" type="whoisdb:fullsetType"/>
< element name="incremental" type="whoisdb:partialType"/>
</choice>
< attribute name="tld" type="whoisdb:tldType" use="required"/>
< attribute name="date" type="dateTime" use="required"/>
</complexType>
< simpleType name="tldType">
< restriction base="string">
< enumeration value="biz"/>
</restriction>
</simpleType>
< complexType name="fullsetType">
< sequence>
< element name="contact" type="contact:infDataType"
minOccurs="0" maxOccurs="unbounded"/>
< element name="domain" type="domain:infDataType"
minOccurs="0" maxOccurs="unbounded"/>
< element name="host" type="host:infDataType"
minOccurs="0" maxOccurs="unbounded"/>
< element name="registrar" type="whoisdb:registrarType"
minOccurs="0" maxOccurs="unbounded"/>
</sequence>
</complexType>
< complexType name="partialType">
< sequence>
< element name="contact" type="contact:infDataType"

```

```

minOccurs="0" maxOccurs="unbounded"/>
< element name="domain" type="domain:infDataType"
minOccurs="0" maxOccurs="unbounded"/>
< element name="host" type="host:infDataType"
minOccurs="0" maxOccurs="unbounded"/>
< element name="registrar" type="whoisdb:registrarType"
minOccurs="0" maxOccurs="unbounded"/>
< element name="del-contact" type="contact:sIDType"
minOccurs="0" maxOccurs="unbounded"/>
< element name="del-domain" type="domain:sNameType"
minOccurs="0" maxOccurs="unbounded"/>
< element name="del-host" type="host:sNameType"
minOccurs="0" maxOccurs="unbounded"/>
< element name="del-registrar" type="whoisdb:registrarIDType"
minOccurs="0" maxOccurs="unbounded"/>
</sequence>
</complexType>
< complexType name="registrarIDType">
< sequence>
< element name="registrar-id" type="eppcom:clIDType"/>
</sequence>
</complexType>

<!--
Registrar Type derived from EPP Specification
-->
<complexType name="registrarType">
< sequence>
< element name="roid" type="eppcom:roidType"/>
< element name="registrar-id" type="eppcom:clIDType"/>
< element name="name" type="whoisdb:registrarNameType"/>
< element name="address" type="contact:addrType"/>
< element name="referral-url" type="whoisdb:registrarWebUrlType"
minOccurs="0"/>
< element name="whois-server" type="whoisdb:registrarWebUrlType"
minOccurs="0"/>
< element name="iana-id" type="whoisdb:registrarIanaIDType"/>
< element name="contact" type="whoisdb:registrarContactType"
maxOccurs="5"/>
< element name="crDate" type="dateTime"/>
< element name="upDate" type="dateTime" minOccurs="0"/>
</sequence>
</complexType>
< simpleType name="registrarNameType">
< restriction base="string">
< minLength value="1"/>

```

```

< maxLength value="128"/>
< /restriction>
< /simpleType>
< simpleType name="registrarWebUrlType">
< restriction base="string"/>
< /simpleType>
< simpleType name="registrarIanaIDType">
< restriction base="string"/>
< /simpleType>
< complexType name="registrarContactType">
< simpleContent>
< extension base="eppcom:roidType">
< attribute name="type" use="required">
< simpleType>
< restriction base="string">
< enumeration value="administrative"/>
< enumeration value="billing"/>
< enumeration value="technical"/>
< /restriction>
< /simpleType>
< /attribute>
< /extension>
< /simpleContent>
< /complexType>
< simpleType name="registrarStatusType">
< restriction base="string">
< enumeration value="active"/>
< enumeration value="suspended"/>
< enumeration value="defunct"/>
< /restriction>
< /simpleType>
< /schema>

```

Whois Data Specification – ICANN

Registry Operator will provide bulk access by ICANN to up-to-date data concerning domain name and nameserver registrations maintained by Registry Operator in connection with the .biz TLD on a daily schedule, only for purposes of verifying and ensuring the operational stability of Registry Services, the DNS, and the Internet.

Unless otherwise agreed by the Parties, the procedures for providing access, and the specification of the content and format of this data, will be as stated below.

A. Procedures for Providing Access

Upon request by ICANN, Registry Operator shall prepare a full data set for one day of each

week (the day to be designated by ICANN). Full data sets shall be up-to-date and coherent as of 1200 UTC on the day to which they relate. Until a different day is designated by ICANN, the full data sets will be prepared for Sundays.

1. Preparation of Files Containing Data Sets. Each full data set consists of an XML document meeting the content and format requirements of Parts B and C of this document. Once the XML document is generated, the following preparation steps will be performed:

a. The XML document will be placed in a file named according to the following convention:

"wfYYMMDD" where "YYMMDD" is replaced with the date (YY=last two digits of year; MM=number of month; DD=day; in all cases a single-digit number should be left-padded with a zero).

b. Registry Operator may optionally split the document using the Unix SPLIT command (or equivalent) to produce files no less than 1GB each (except the final file). If files are split, an .MD5 file (produced with MD5SUM or equivalent) must be included with the resulting files to isolate errors. Registry Operator may optionally compress the document using the Unix GZIP command (or equivalent) to reduce the filesize.

c. The file(s) will then be encrypted and signed using PGP, version 6.5.1 or above, with a key of DH/DSS type and 2048/1024-byte length. (Note that PGP compresses the escrow file in addition to encrypting it.) An ICANN public key will be used for the encryption and Registry Operator's private key will be used for the signature. Public keys will be exchanged between Registry Operator and ICANN by e-mail, physical delivery of floppy diskettes or other agreed means.

2. Transmission of Full Data Sets. Once prepared, full data sets will be provided according to paragraph a below or, at ICANN and Registry Operator's option, according to paragraph b below:

a. Registry Operator shall make full data sets available for download by ICANN by Internet File Transfer Protocol (FTP) (FTP access will be password protected and limited to prespecified IP ranges). The data sets will be made available for download beginning no later than 2000 UTC on the day to which they relate and until the next full data set becomes available for download.

b. Registry Operator shall write the full data set to DAT (DDS-4) tape (or other media specified by ICANN) and sends it to ICANN by expedited delivery service (such as FedEx or DHL). The full data set will be scheduled for arrival at ICANN no later than the second calendar day following the day to which the data set relates.

B. Content

The full data sets will consist of four types of the objects and contents described above.

C. Format

Full data sets will be XML version 1.0, UTF-8 encoded documents conforming to the schema/document type declaration set forth in Exhibit 2 of Appendix 1.