



FUNCTIONAL SPECIFICATIONS

REGISTRY REGISTRAR INTERFACE

- EPP Domain Registration Protocol - [IETF STD 69 EPP](#) Provisioning Protocol compliance including RFC 5910 support for DNSSEC + EPP
- Transport Protocol TCP/IPv4 - RFC 791, RFC 6864
- Transport Protocol TCP/IPv6 - IETF STD 86
- Transport Security - TLS v1.2 - 1.3 - RFC 5246, RFC 8446
- Custom Interfaces - Application Programmer Interface (API) - WHMCS and JSON provide functionality for interfacing 3rd party Registrar systems to Rengin

CCTLD REGISTRATIONS

- Second Level Registration Compliance - Support [ZADNA](#) - .za
- Third Level Registration Compliance - Support [ZACR](#) - .co.za, .org.za, .net.za, .web.za and [TENET](#) for ac.za

DOMAIN MANAGEMENT

- Name Mapping - RFC 5731 (IETF STD 69)
- Host Mapping - RFC 5732 (IETF STD 69)
- Contact Mapping - RFC 5733 (IETF STD 69)
- [Grace Period Mapping](#) - RFC 3915
- [Internationalised Domain Names \(IDNs\)](#) - Guidelines for the Implementation of Internationalized Domain Names Version 4.0
- Registry Fee Extensions - Optional Registry [Fee Extension](#) for EPP
- Donuts Registry Price Extension - Optional Registry [Price Extension](#) for EPP

ICANN GTLD REGISTRATIONS

- gTLD Compliance - Complies with [ICANN PDT Testing](#) - PDT Tests completed for .africa, .joburg, .capetown, .durban, .cologne, .koeln, .tirol, .wien
- Launch Phase - Limited Rights Registration - Launch Phase Mapping including Landrush and Sunrise for the Extensible Provisioning Protocol (EPP) [draft-tan-epp-launchphase-12](#)
- Lifecycle Compliance - Complies with [ICANN Recommend Approach](#) - Domain name registration lifecycle implementation, with options for customisation

REGISTRY DATA DIRECTORY SERVICE (RDDS)

- Whois - [ICANN](#), Port 43, RFC 3912
- RDAP - ICANN [RDAP](#) Operational Profile, Registry Data Access Protocol Operational Profile for gTLD Registries and Registrars (GDPR Compliance)

POLICY ENGINE

- XML Based Policy Definition Framework - Dynamic policy engine permitting authorised Registry policy extensions and amendments
- The Policy Engine Framework provides clear separation between high level Registry policy requirements and the physical system and operational infrastructure of the DNS Business REngin Registry System
- Policy may be dynamically adapted by the Registry Operator to changing requirements
- Supports multiple policies per zone
- Supports multiple zones per policy (SRS)
- [Dynamic Business-Rule Implementation and Execution Framework](#)



FUNCTIONAL SPECIFICATIONS

DNS

- Unicast Nameservers - Supports UniCAST, RFC 6763, RFC 8553 compliance. Supported DNS Systems include Bind 9, Knot and NSD
- Anycast Nameservers - Supports AnyCAST, RFC 4786 compliance, DNS Business provides access to the Netnod Anycast Service. Other AnyCAST service providers may be used at client request
- DNSSEC - Supported using either Hardware Security Module (HSM) or Software Security Module (SoftHSM), RFC 4033, RFC 4034, RFC 4025 Compliance

TRANSACTION SYSTEM

- Domain Registrations - Registrar Invoices Credit Notes, Statements, Generally Accepted Accounting Principles (GAAP). Registrars invoiced weekly or monthly
- Registrar Billing - Automated Billing, Interface to existing financial system and/or Sage Online Accounting system

ISO/IEC 27001:2013 CERTIFIED



Both DNSA and DNSZA have recently achieved ISO/IEC 27001:2013 certification for providing specialist domain registry services for domain registrations and related services.

This certification ensures that effective information security controls and policies are in place. ISO27001 pertains to the establishment, implementation, maintenance, and continuous improvement of information security management systems for the DNS.Business group of companies.

This certification ensures that effective security controls and policies for the management of critical databases and systems of national interest, such as the administration of country code and generic top-level domain registries are in place on our systems.



GENERAL REGISTRY SERVICES

- Registry Database - Database, JDBC/SQL Compliant, Hot Standby. PostgreSQL version 9.5 or greater recommended
- System Languages - Codebase, Python, PHP, Java, XML, HTML, JSON
- Hosting - Registry System Installation Environments, Cloud, On Premises, Cloud and on own Premises. Registry System Hosting can be any combination of in cloud, on premises or in selected in country hosting environments
- Software Packaging - Package Distribution and Updates, Docker Container Based. (PaaS) container based software package support
- Operating System - Long Term Support, Linux. Ubuntu Server LTS version 18.04 or later
- System Logging - Audit Trail, Syslog and database supported. Includes logging of all low level registration transactions both locally and to remote logging services
- System Reliability - High Availability and Failover. Configurable as High-Availability and Load Balanced Cluster including support for remote failover
- System Security - Data at Rest, encrypted according to client requirements. Data in Transfer, between Registrars and Registry conforms to the TLSv1.2 transfer encryption standard. Data in transit to 3rd parties such as Escrow agents are encrypted according to ICANN requirements.
- System Monitoring - Realtime Monitoring of registration and support systems. The DNS Business registry systems are monitored in real-time using Zenoss and Prometheus metric based monitoring systems providing real-time notifications via email and/or text messages to monitoring staff.
- Escrow - Remote registration data dumps. Support for regular remote registration data escrow dumps to independent third party escrow service providers. Standards followed are according to ICANN and Domain Name Registration Data (DNRD) Objects Mapping requirements.

