draft-dickinson-dnsop-nameserver-control-01

Stephen Morris
stephen@isc.org
Function Breakdown

• Commands - start, stop, halt etc.
• Zone manipulation – add/remove zone, ACL creation, etc.
• Parameters - control nameserver behaviour
• Statistics - obtain information from nameserver
• Zone data - manipulation of small amounts of zone data?
Object Model

- **Server**
  - **Peers**
    - **Peer**
  - **Panorama**
    - **ACL**
    - **View**
    - **Zone**
  - **Statistics**
  - **DNSSEC Policy**
Transport Mechanism

- **NETCONF (RFC 4741)**
  - Designed for controlling network devices
  - Persistent connections
  - Basic protocol superstructure
  - Commands to manipulate configuration
    - `<get-config>`, `<edit-config>`, `<lock>`, etc
  - Able to transport any XML data over it
  - Extensible
NSCP

• Breaks basic functionality into several capabilities:
  – Base – understands basic data model
  – Basic Control - stop/reload/restart
  – Start Control - start

• Additional functionality by defining additional capabilities
Comparison to Requirements (1)

• Expected Deployment Scenarios
  – Nothing restricts size of zone deployed.
  – Nothing restricts configuration data volatility.
  – Supplies a common data model.

• Nameserver Types
  – No constraint on type of server that can be managed.
Comparison to Requirements (2)

• Control Requirements
  – Supplies basic start/stop/reload
  – Asynchronous notification supported by NETCONF [RFC5277]

• Configuration Requirements
  – Can add/delete/modify zones
  – Potentially add zone data
  – Able to handle DNSSEC configuration
  – Able to limit access to zones/functions
Comparison to Requirements (3)

• Monitoring Requirements
  – Statistics part of base data model

• Alarm and Event Requirements
  – Built on asynchronous notification
Comparison to Requirements (4)

• Security Requirements
  – Provided mainly through NETCONF transport layer

• Other Requirements
  – Extensible via NETCONF capabilities