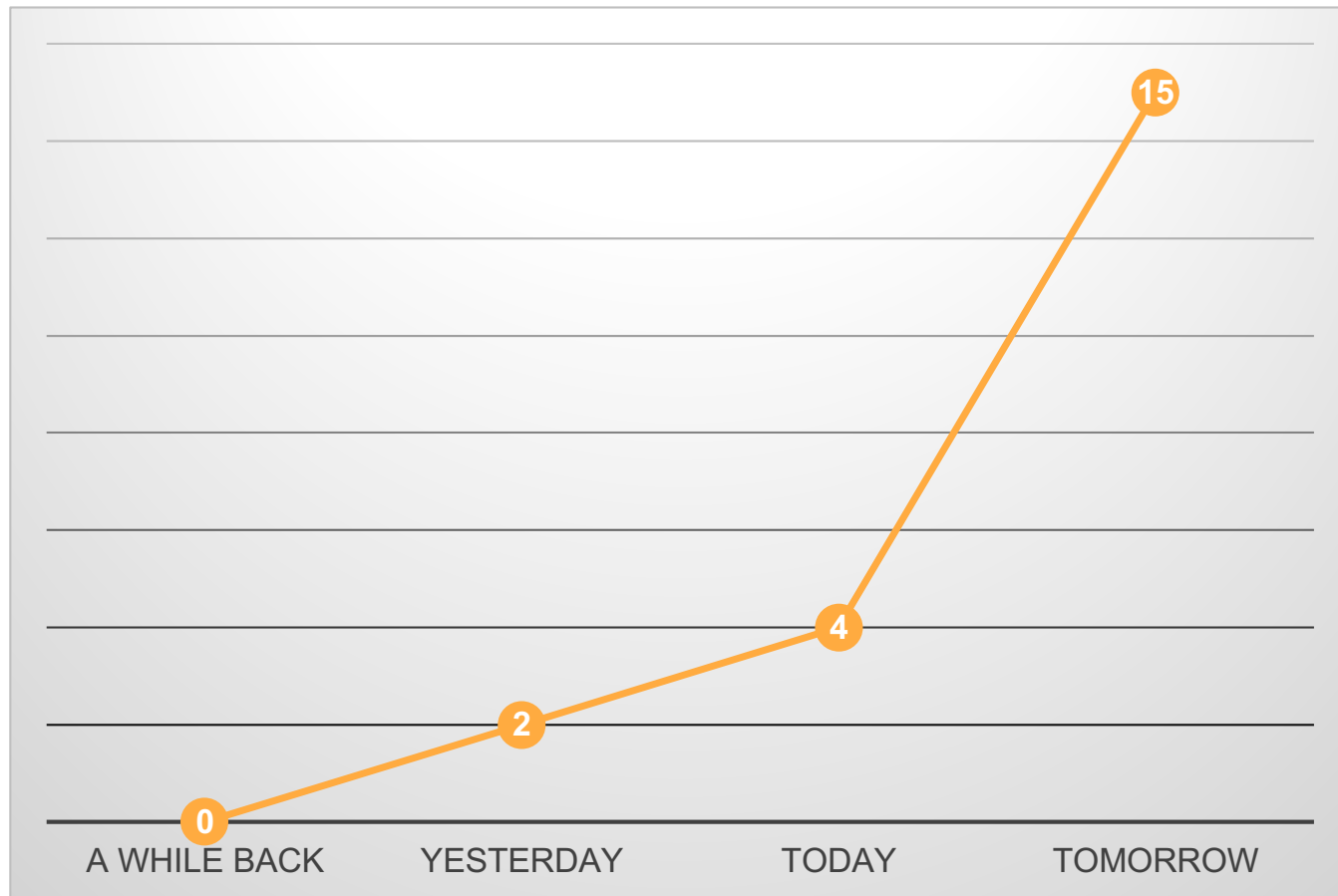


A Proposed Governance Model for the DNS Root Server System

Joint Meeting: ALAC and RSSAC
21 October 2018

Brad Verd, RSSAC Co-Chair

The Staggering Growth of the Internet



A Few Acronyms

**RSS**

- Root Server System

**RS**

- Root Server

**RSO**

- Root Server Operator

**SF**

- Secretariat Function

**SAPF**

- Strategy, Architecture, and Policy Function

**DRF**

- Designation and Removal Function

**PMMF**

- Performance Monitoring and Measurement Function

**FF**

- Financial Function

Setting the Context and Expectations

3-year Effort

- New work with RSSAC focus only

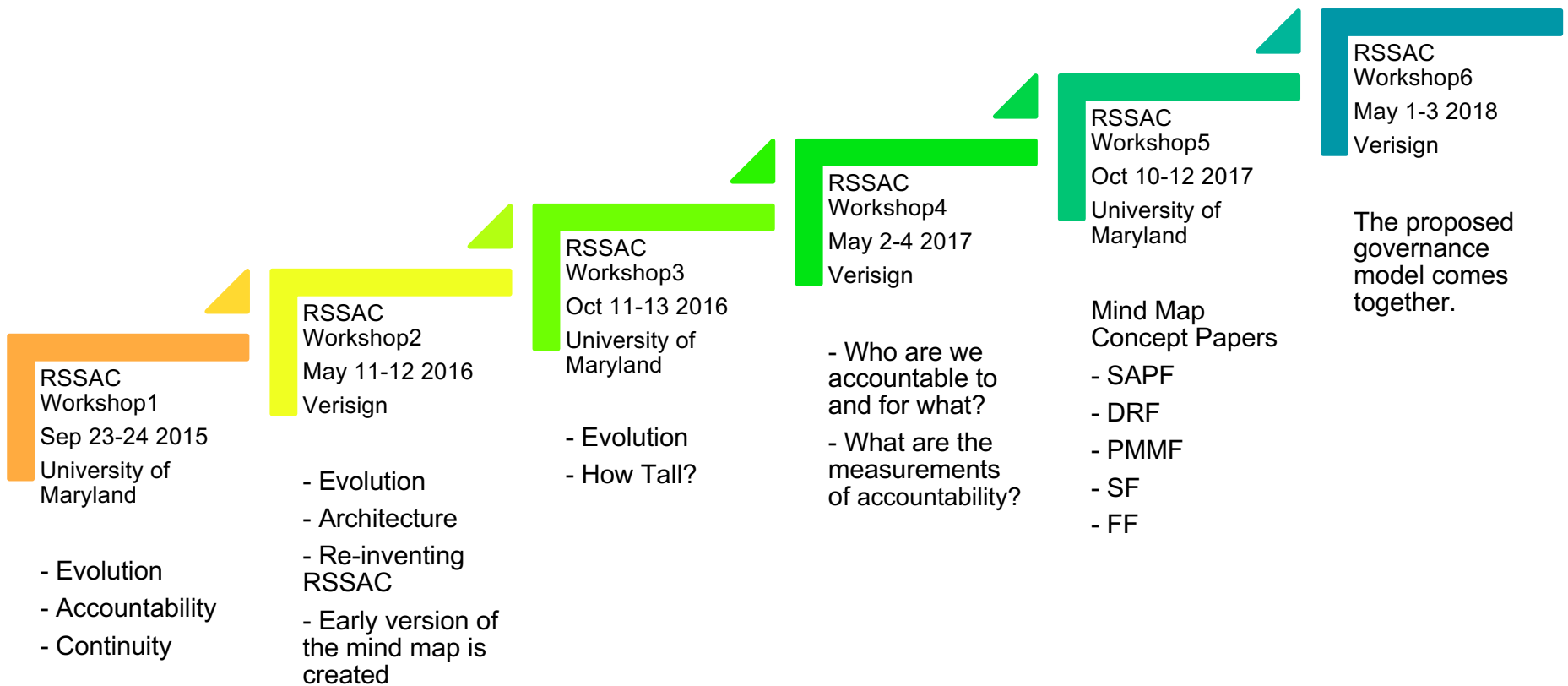
An initial draft model

- RSSAC is providing a starting point

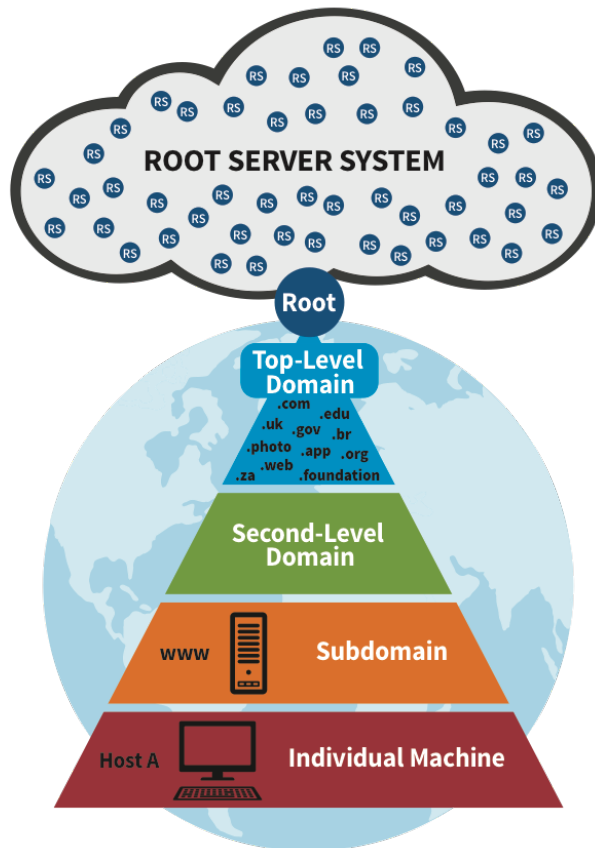
Our initial impetus “to workshop”



The Workshop Timeline and What Happened



Global DNS Root Services



1000+ DNS root server instances in the global DNS root cloud

1. Cogent Communications
2. ICANN
3. Internet Systems Consortium
4. NASA Ames Research Center
5. Netnod
6. Réseaux IP Européens Network Coordination Centre
7. University of Maryland
8. University of Southern California, Information Sciences Institute
9. U.S. Department of Defense Network Information Center
10. U.S. Army Research Laboratory
11. Verisign, Inc.
12. WIDE Project and Japan Registry Services

Root Server System Principles

•To remain a global network, the Internet requires a globally unique public namespace.

Principle 1

•IANA is the source of DNS root data.

Principle 2

•The RSS must be a stable, reliable, and resilient platform for the DNS service to all users.

Principle 3

•Diversity of the root server operations is a strength of the overall system.

Principle 4

•Architectural changes should result from technical evolution and demonstrated technical need.

Principle 5

•The IETF defines technical operation of the DNS protocol.

Principle 6

•RSOs must operate with integrity and an ethos demonstrating a commitment to the common good of the Internet.

Principle 7

•RSOs must be transparent.

Principle 8

•RSOs must collaborate and engage with the stakeholder community.

Principle 9

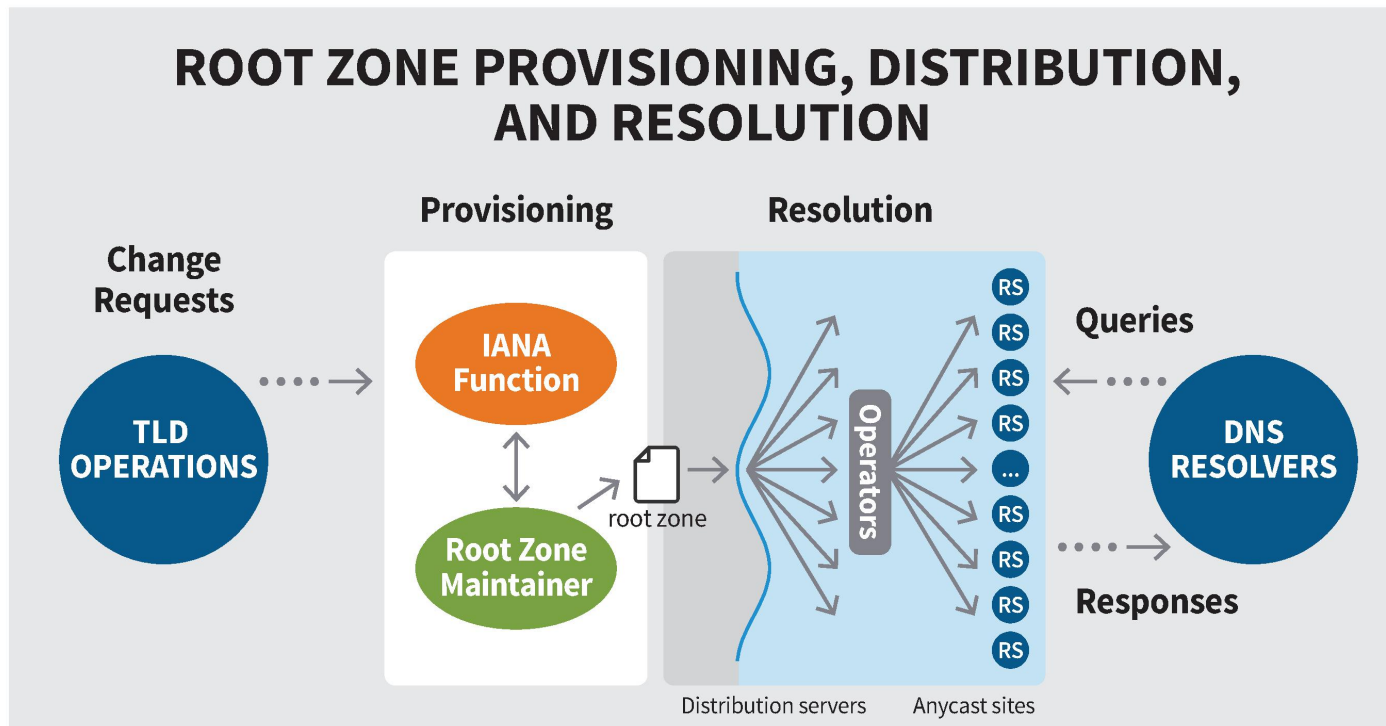
•RSOs must be autonomous and independent.

Principle 10

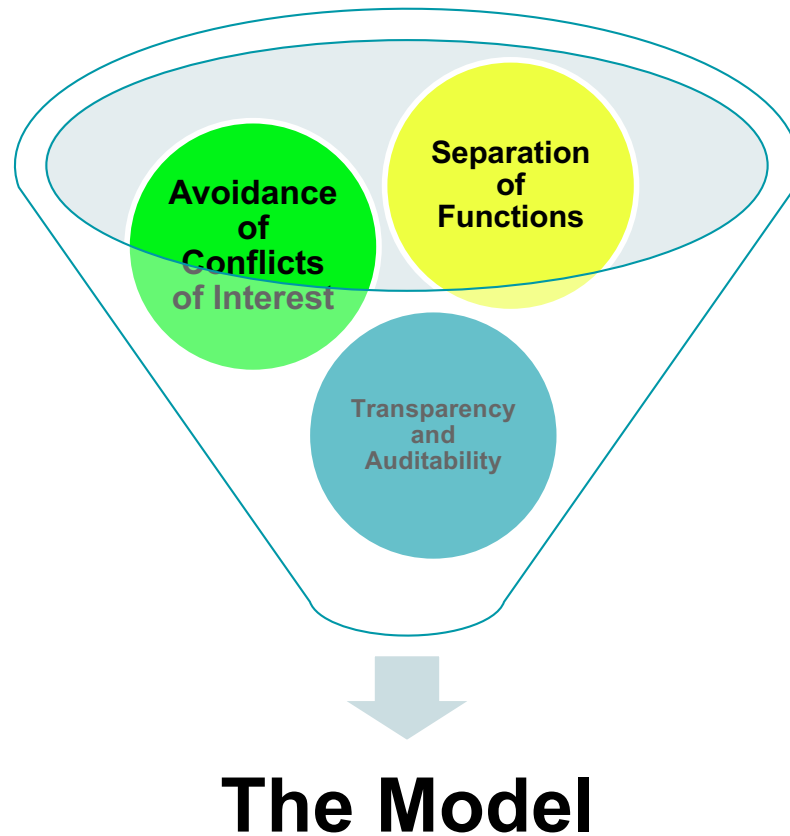
•RSOs must be neutral and impartial

Principle 11

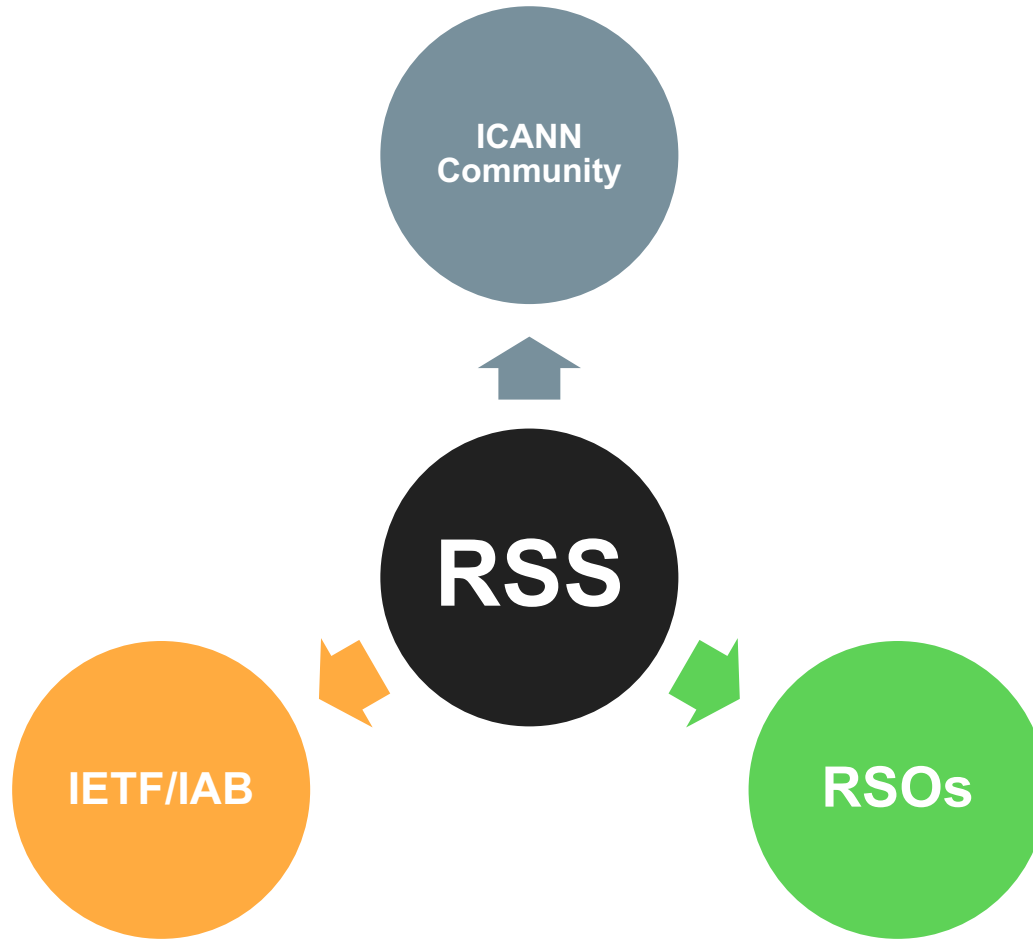
Scope of Proposed Model



Model Design Principle

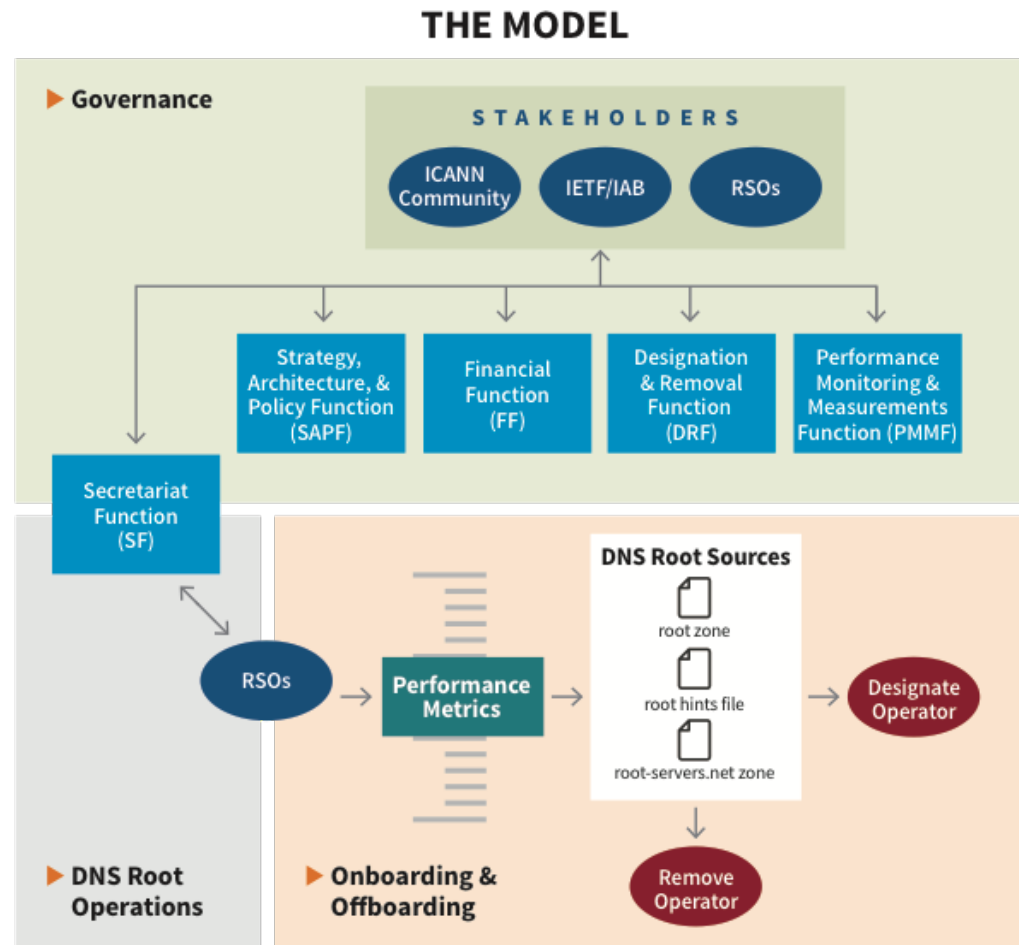


Stakeholders

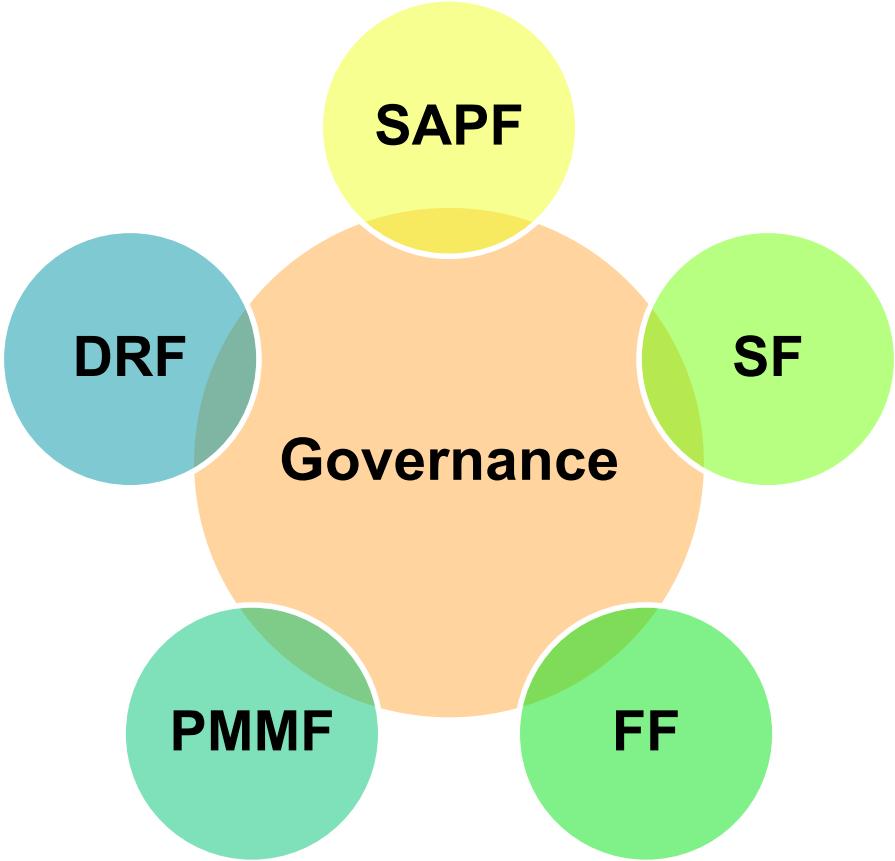


Governance:

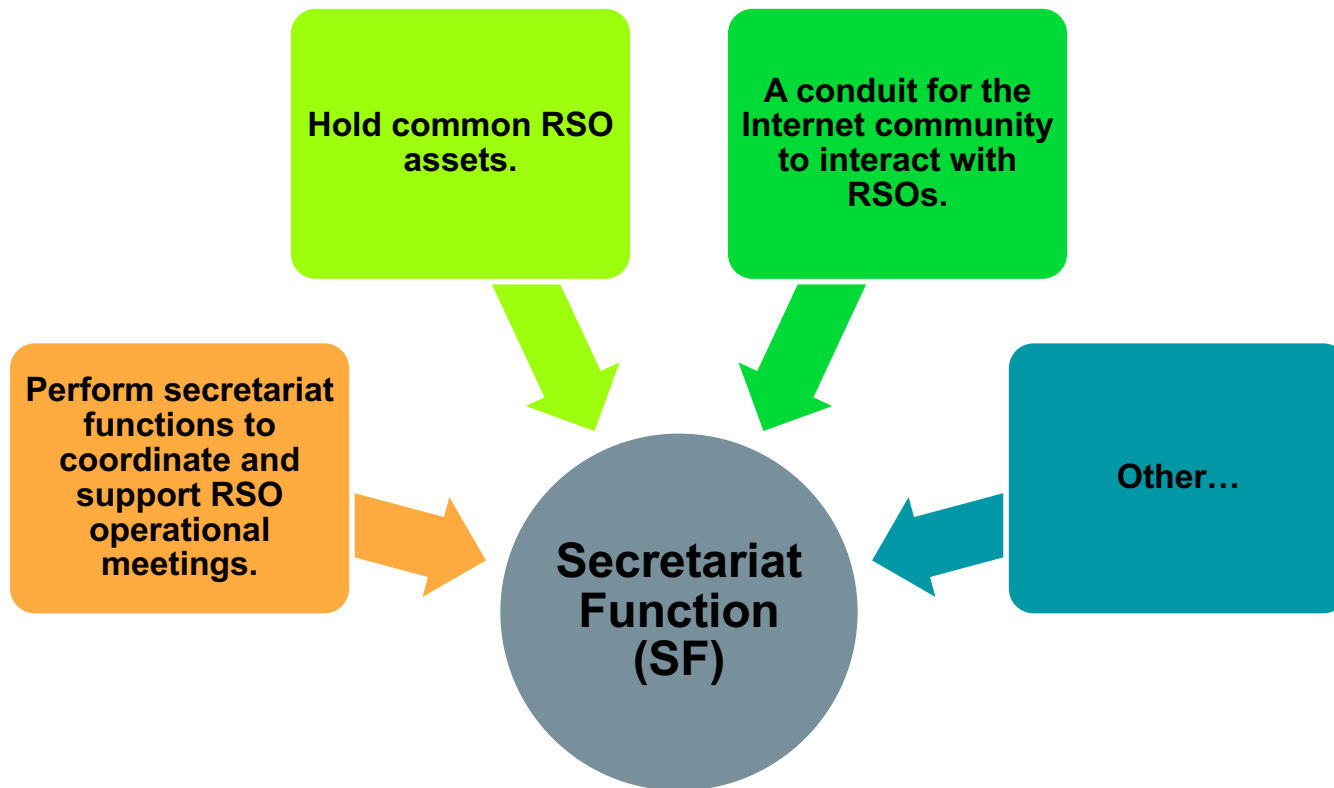
an interplay of three constructs operating in parallel



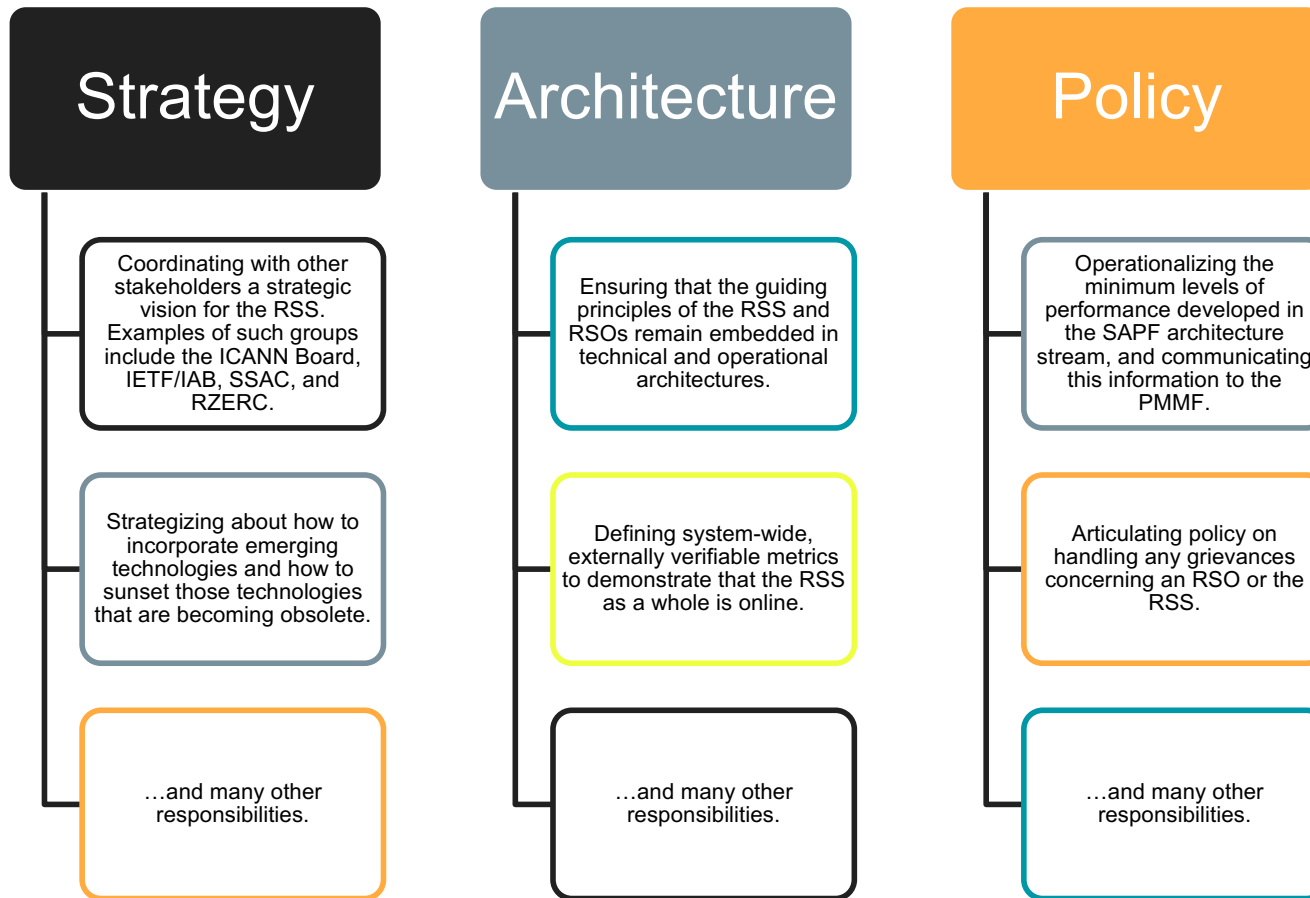
Governance: A balance of interplay of separate functions



Secretariat Function (SF)



Strategy Architecture and Policy Function (SAPF)

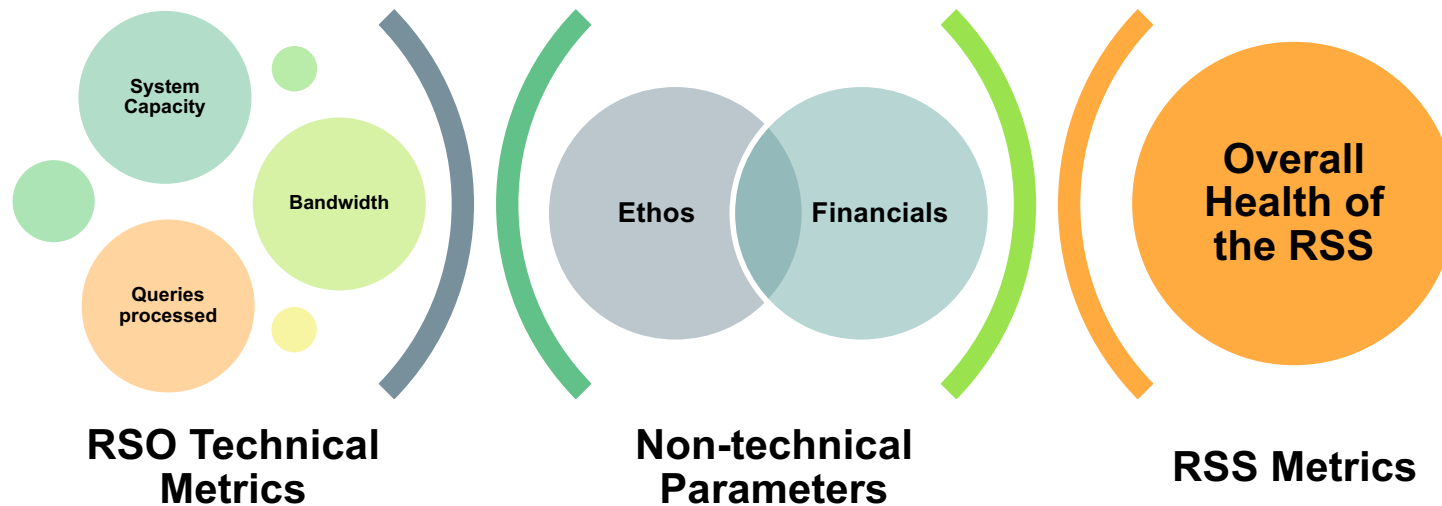


Designation and Removal Function (DRF)

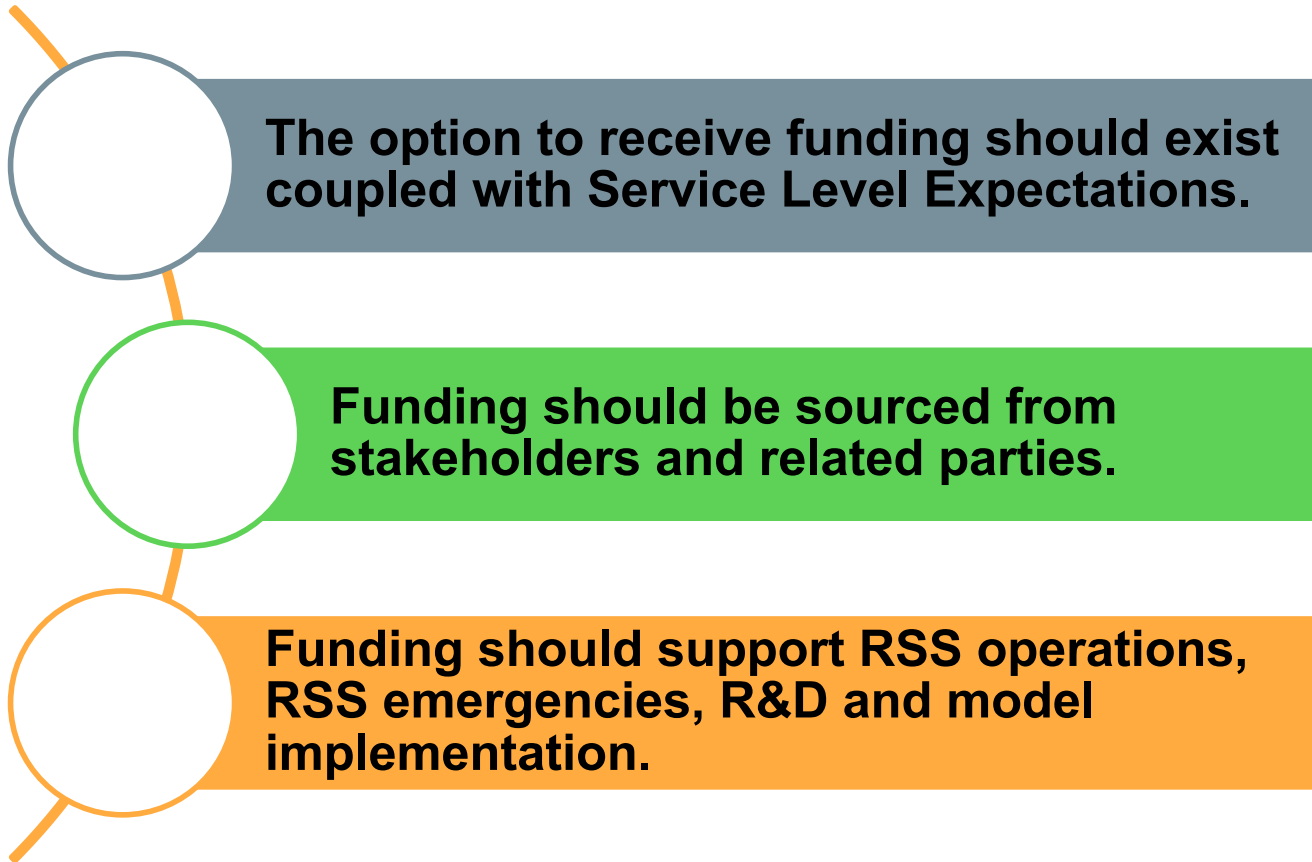


Performance Monitoring and Measurements Function (PMMF)

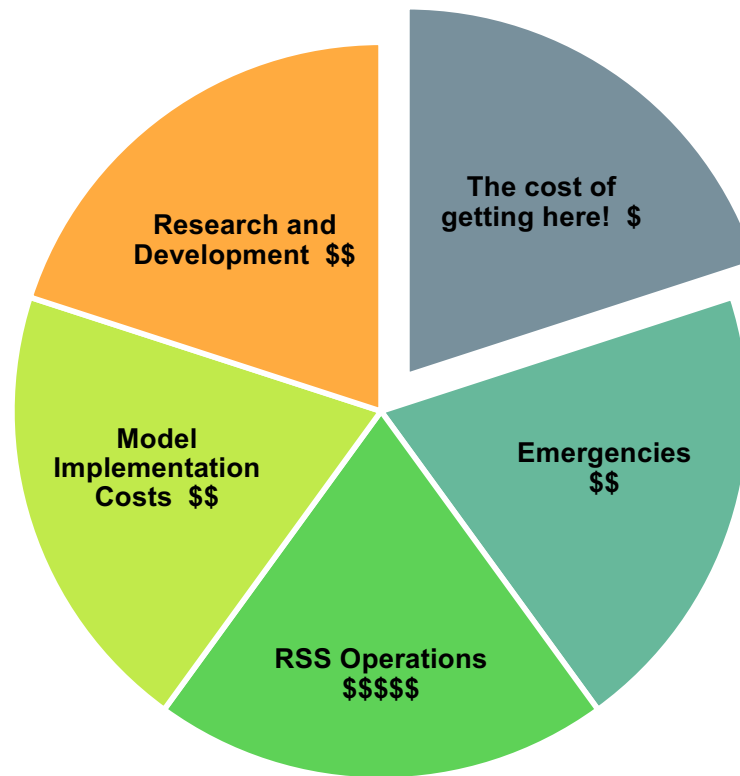
A sample of what could be measured and monitored



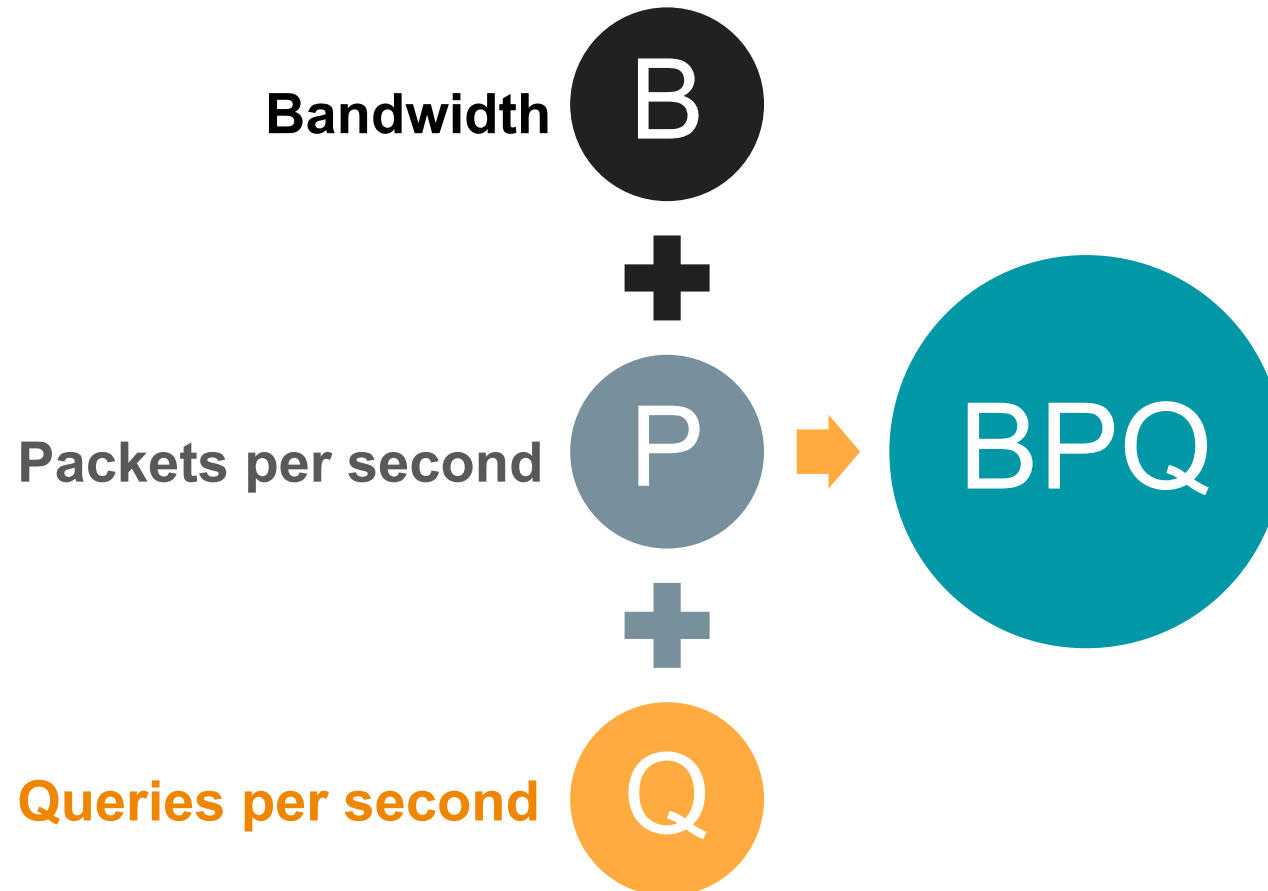
Financial Function (FF)



Financial Function (FF)



Introducing BPQ – a proposed RSS capacity indicator



Determining the cost for the value of BPQ

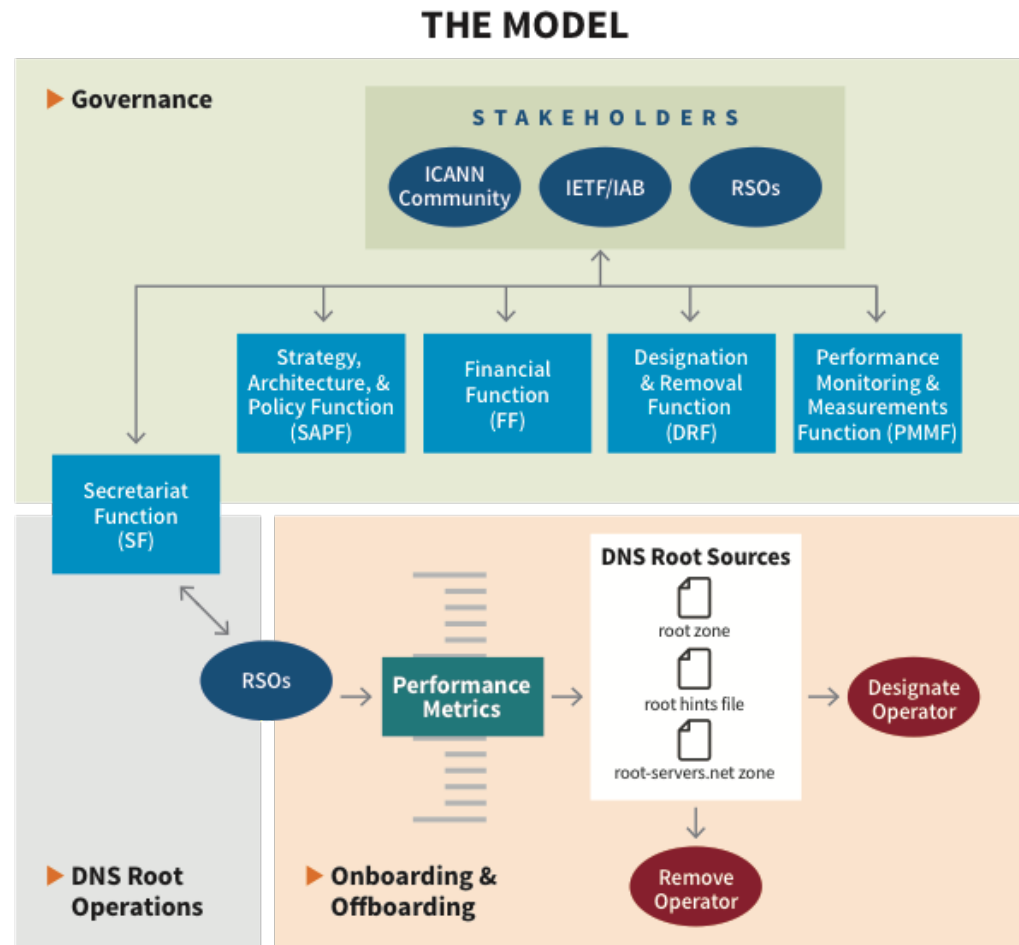


Estimated Cost of the Model



Manifesting the Model:

A Set of Three Recommendations



Recommendations

Recommendation 1

- The RSSAC recommends that the ICANN Board initiate a process to produce a final version of the Model for implementation.

Recommendation 2

- Use the provided methodology (or a similar one) to cost out the implementation and operations of the Model

Recommendation 3

- Implement the Model based upon the principles of accountability, transparency, sustainability, and service integrity.

Scenarios – testing the Model

Designation

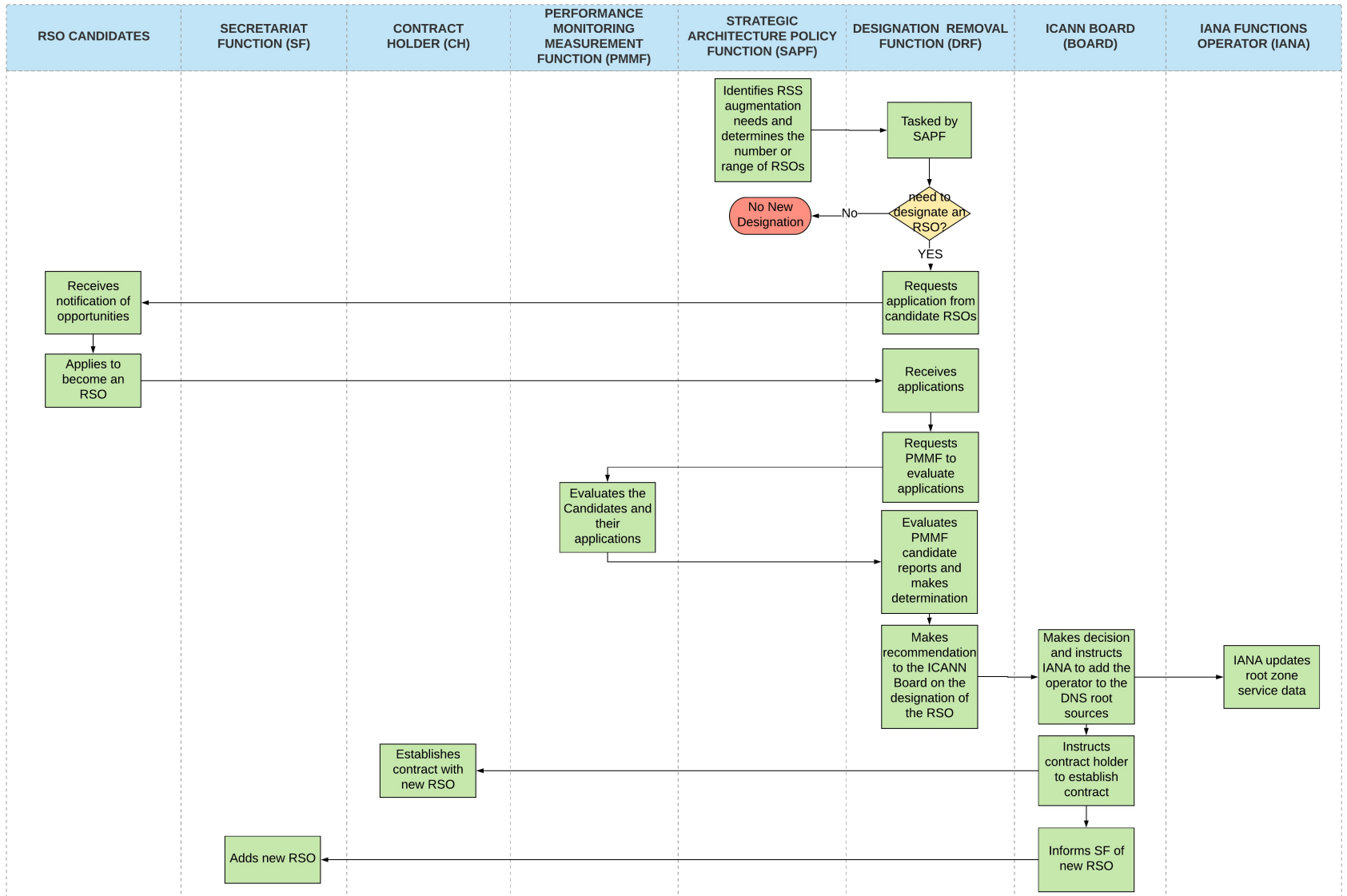
Voluntary Resignation

Poor Performance

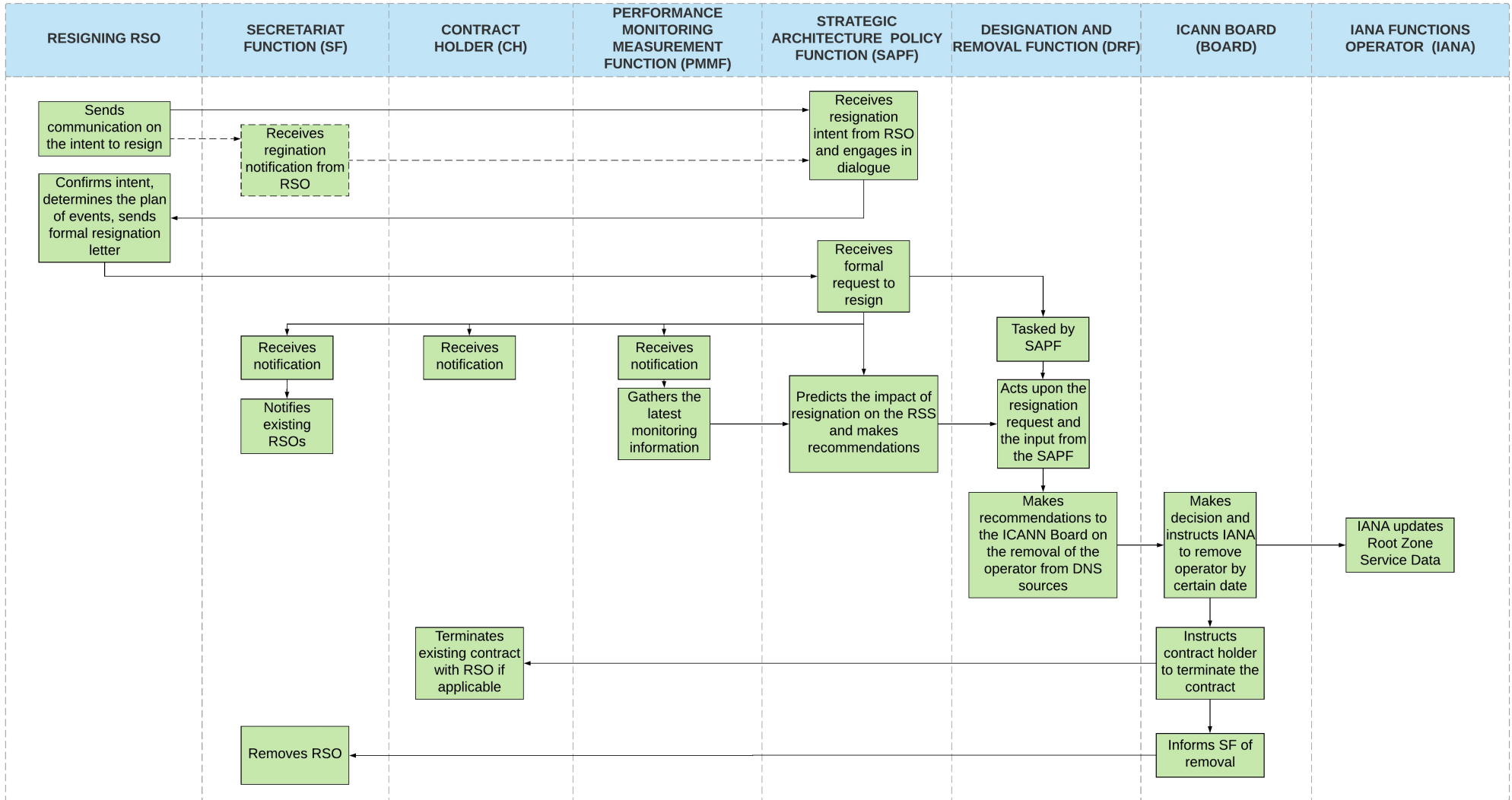
Catastrophic Shutdown

Rogue Operator

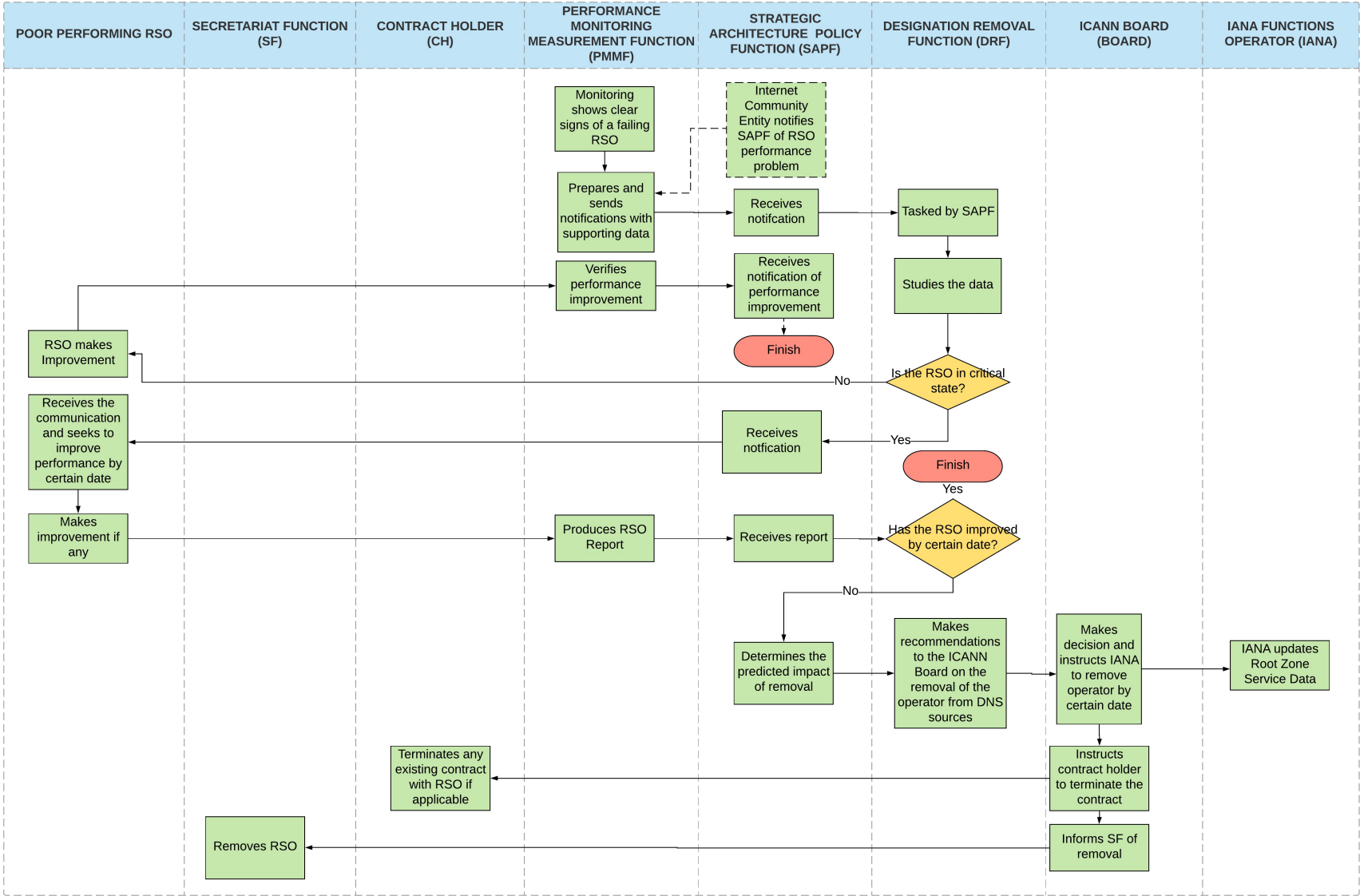
Designation



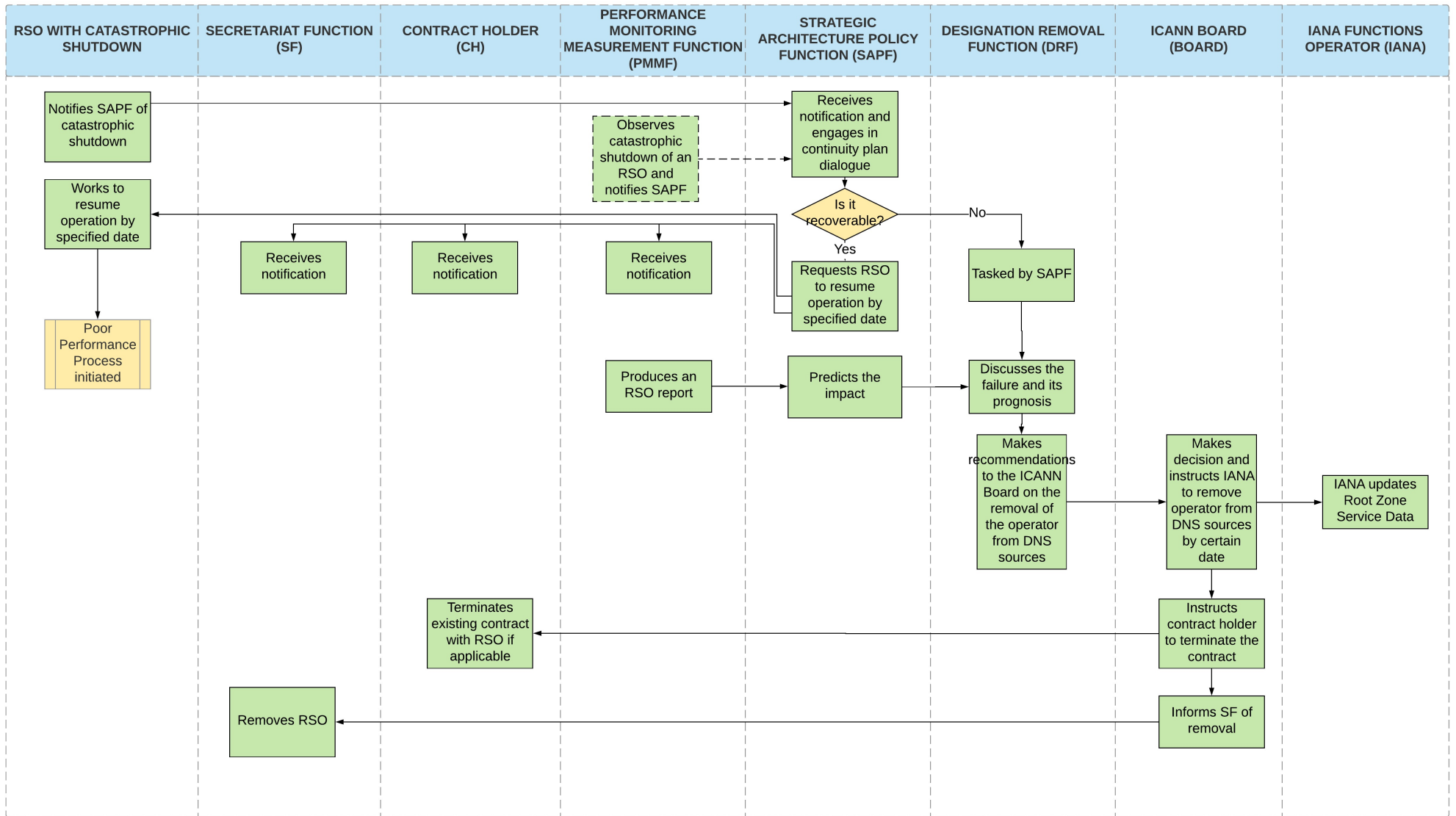
Voluntary Resignation



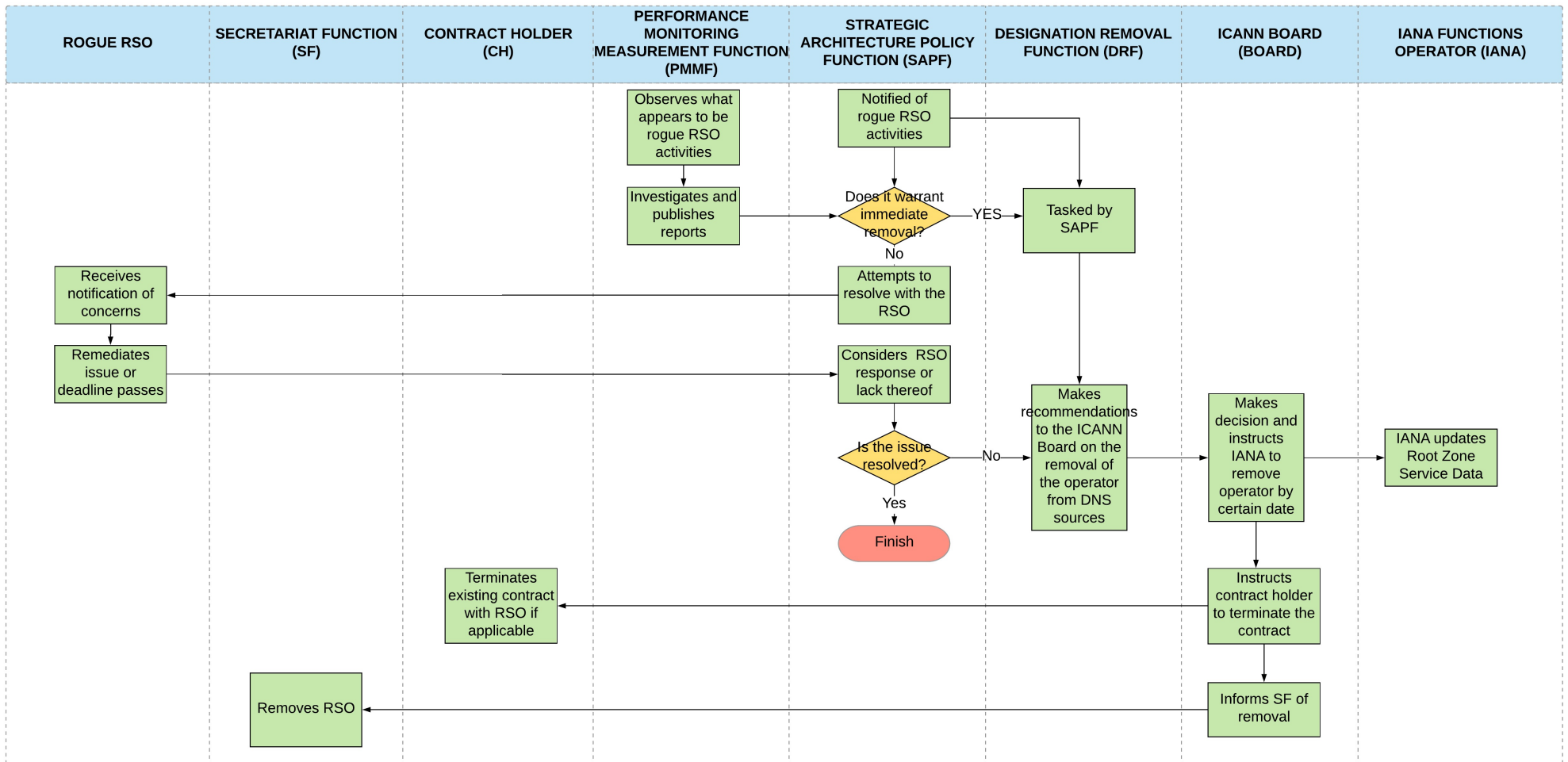
Poor Performance



Catastrophic Shutdown



Rogue Operator



Thank you.

Questions?