.br RDAP
Implementation experience and deployment plans

ROW - IETF 93 - 20150719

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Implementation Experience

- 4 months of development (RDAP server + REST backend)
- In general straightforward
- Public RDAP test suite is very important
- Use of VCard makes the protocol debugging a little more difficult as we get arrays of JSON values instead of a "well defined" structure – probably due to the lack of good libraries
- Extensions created for the Entity type are instance type dependent to be meaningful

Implementation Experience

Behaviour

.br equivalency name policy (hyphen/IDN) will return a 303 HTTP status when the requested domain doesn't exist but there's an equivalent domain.

```
→ GET /domain/xn--rfael-xqa.net.br


← HTTP/1.1 303 See Other
  Location: /domain/rafael.net.br
```

Protocol Overview

NIC.br extension

Extension Field	Description
nicbr_status, nicbr_lastCheck, nicbr_lastOK	Nameserver and DS checks
nicbr_arbitration	NIC.br domain special policy
nicbr_responsible	Entity Responsible
nicbr_customerSupportService (object)	Entity Customer Service Support
nicbr_domainCount, nicbr_inetCount, nicbr_autnumCount	Entity resources counters
nicbr_autnum	IP network Autonomous System relation
nicbr_routingPolicy (object)	Autonomous System routing policy

Test and conformance

Comparing Viagenie test results

Lack of support for registries that do not have host objects (Viagenie expects nameserver handle and links in responses).

	Viagenie expected	.br returned
/ip/1.2.3.4//32	400 (Bad Request)	404 (Not Found) [1]
/autnum/0666	400 (Bad Request)	200 (OK)

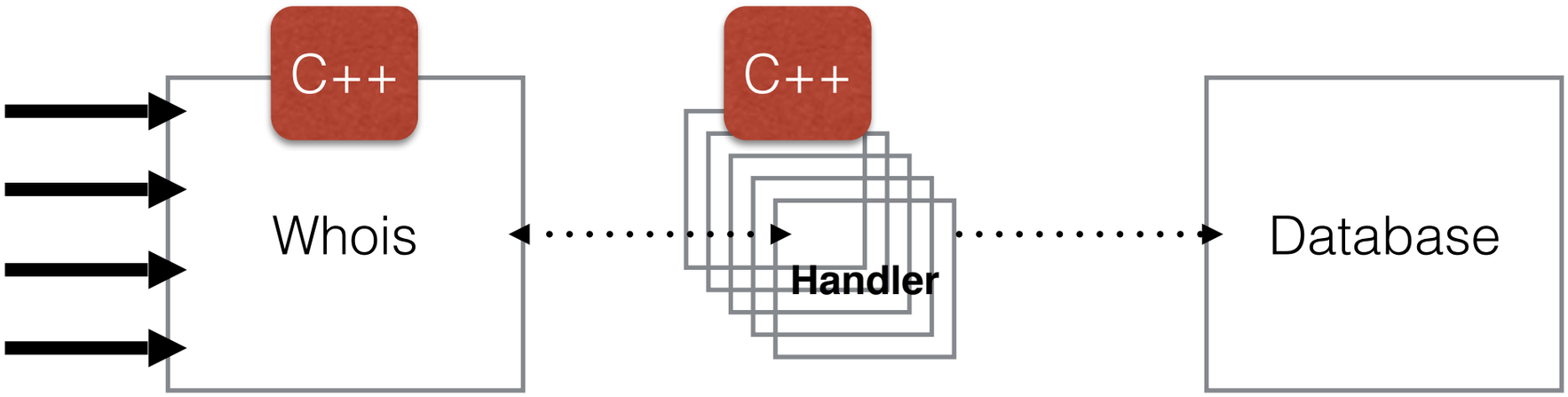
[1] In RFC 3986, appendix A, empty path segments are allowed, but Apache and nginx ignore them.

Robustness principle: “Be conservative in what you send, be liberal in what you accept"

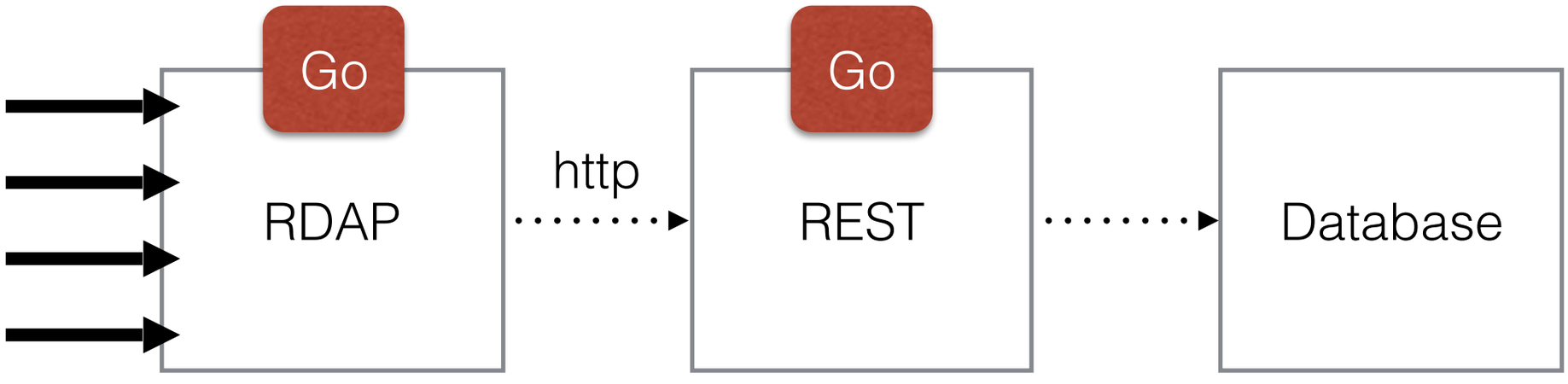
Implementation Architecture

Legacy C++ Whois works as an asynchronous proxy in a pre-fork mode that talks directly with the database

Old



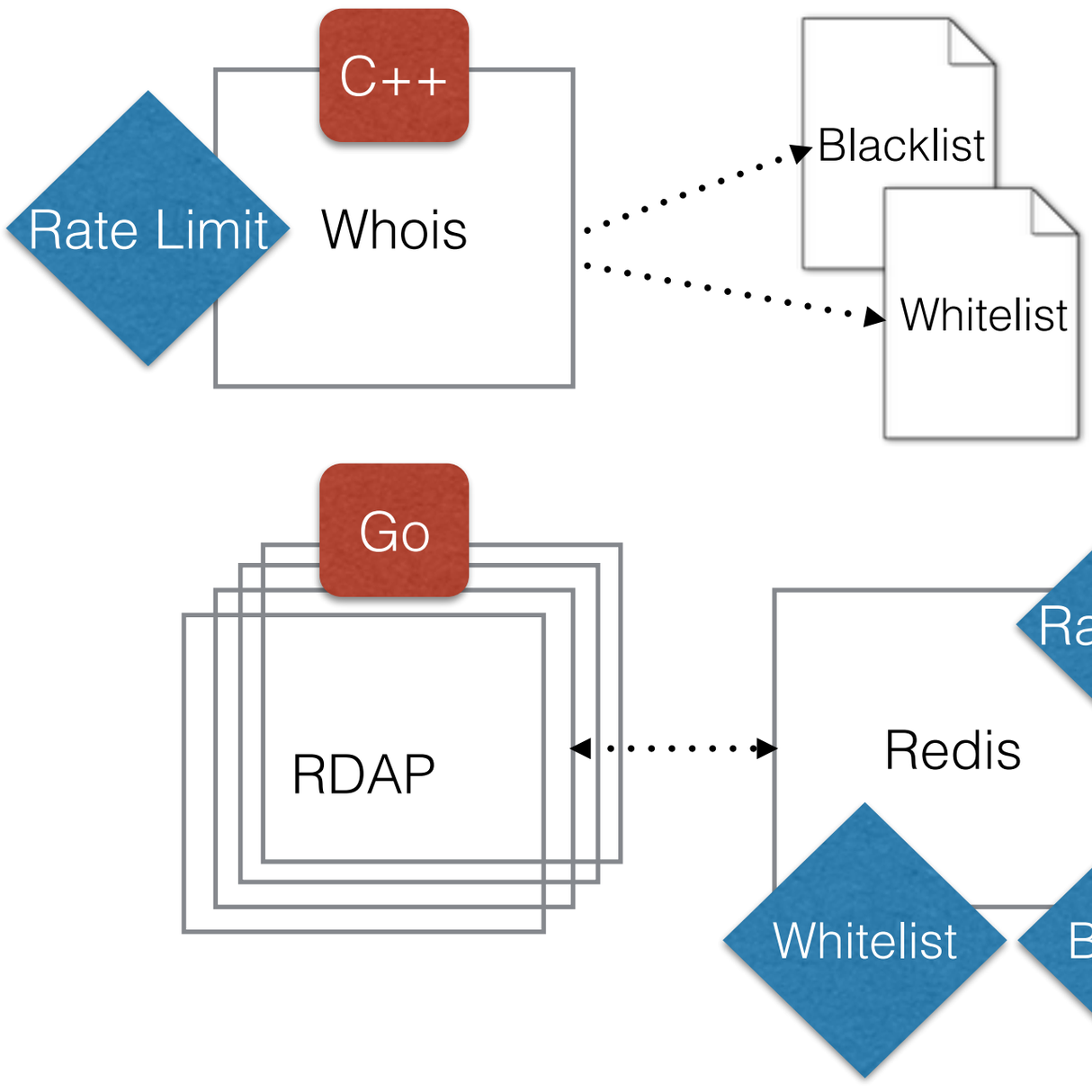
New



Go RDAP daemon works using a web service architecture and exchanges data with a REST backend

Implementation Architecture

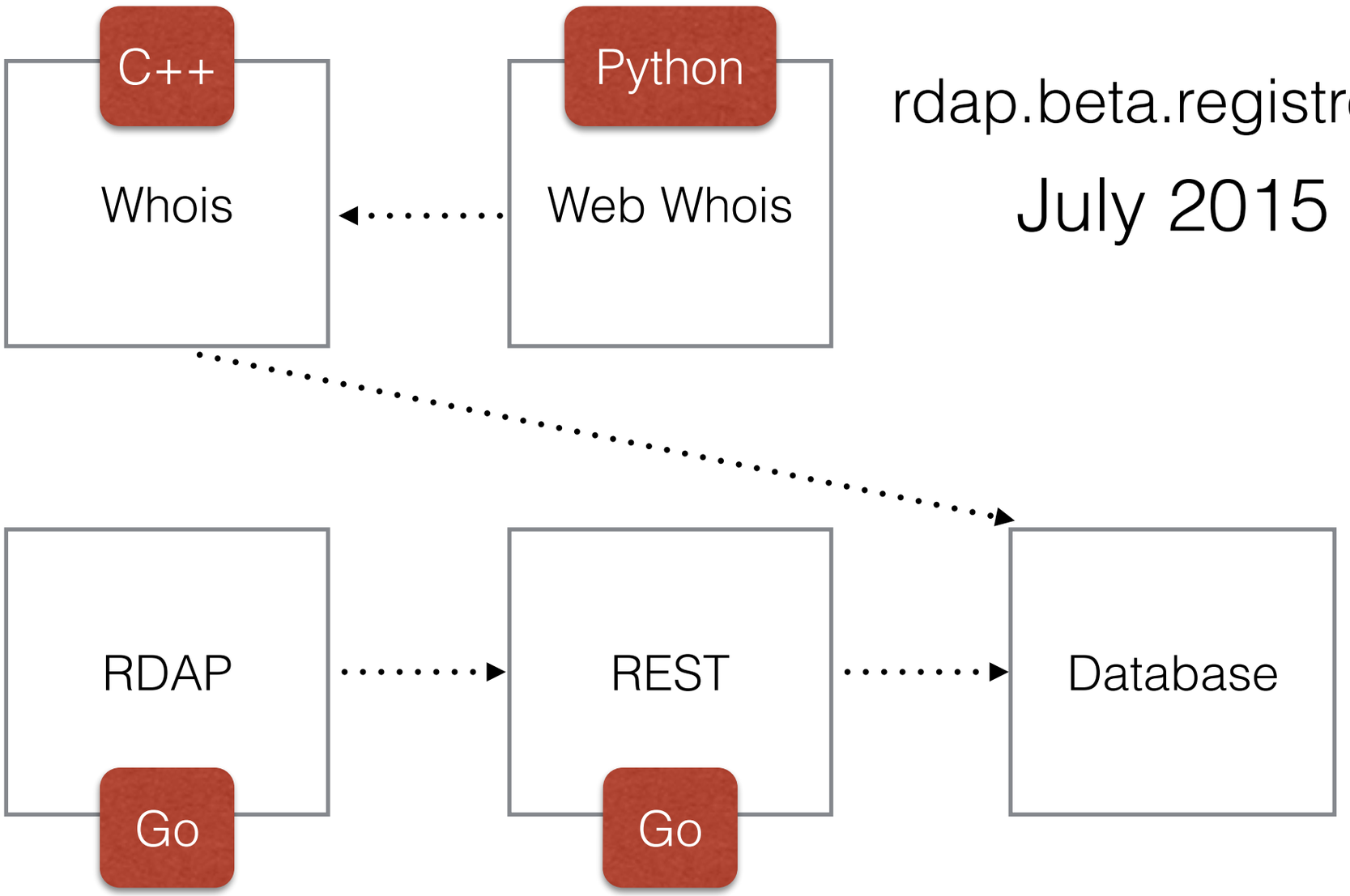
Rate Limit



- Token bucket strategy
- Centralised whitelist, blacklist, etc.
- 4 different content levels

Deployment Plan

Architecture

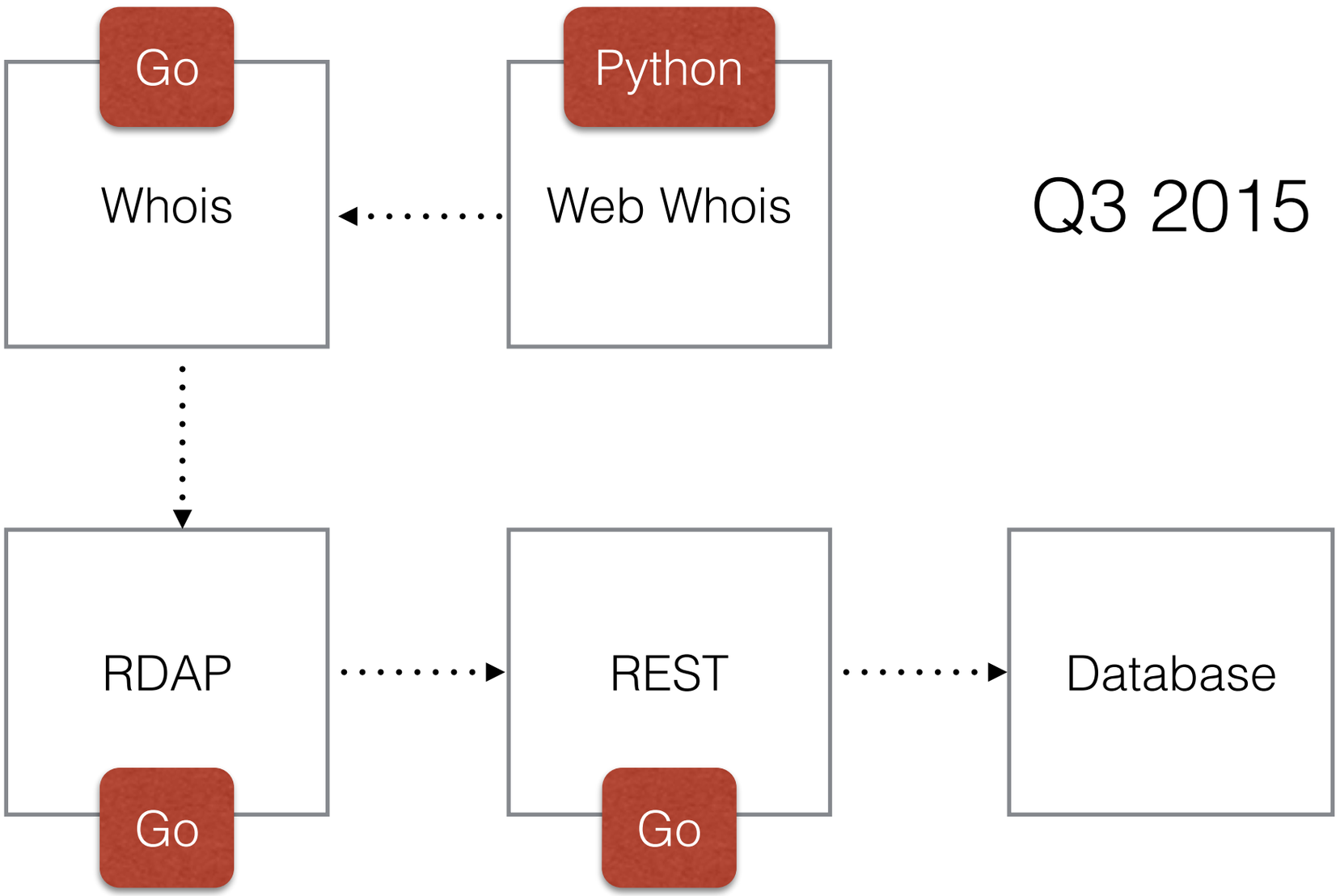


rdap.beta.registro.br

July 2015

Deployment Plan

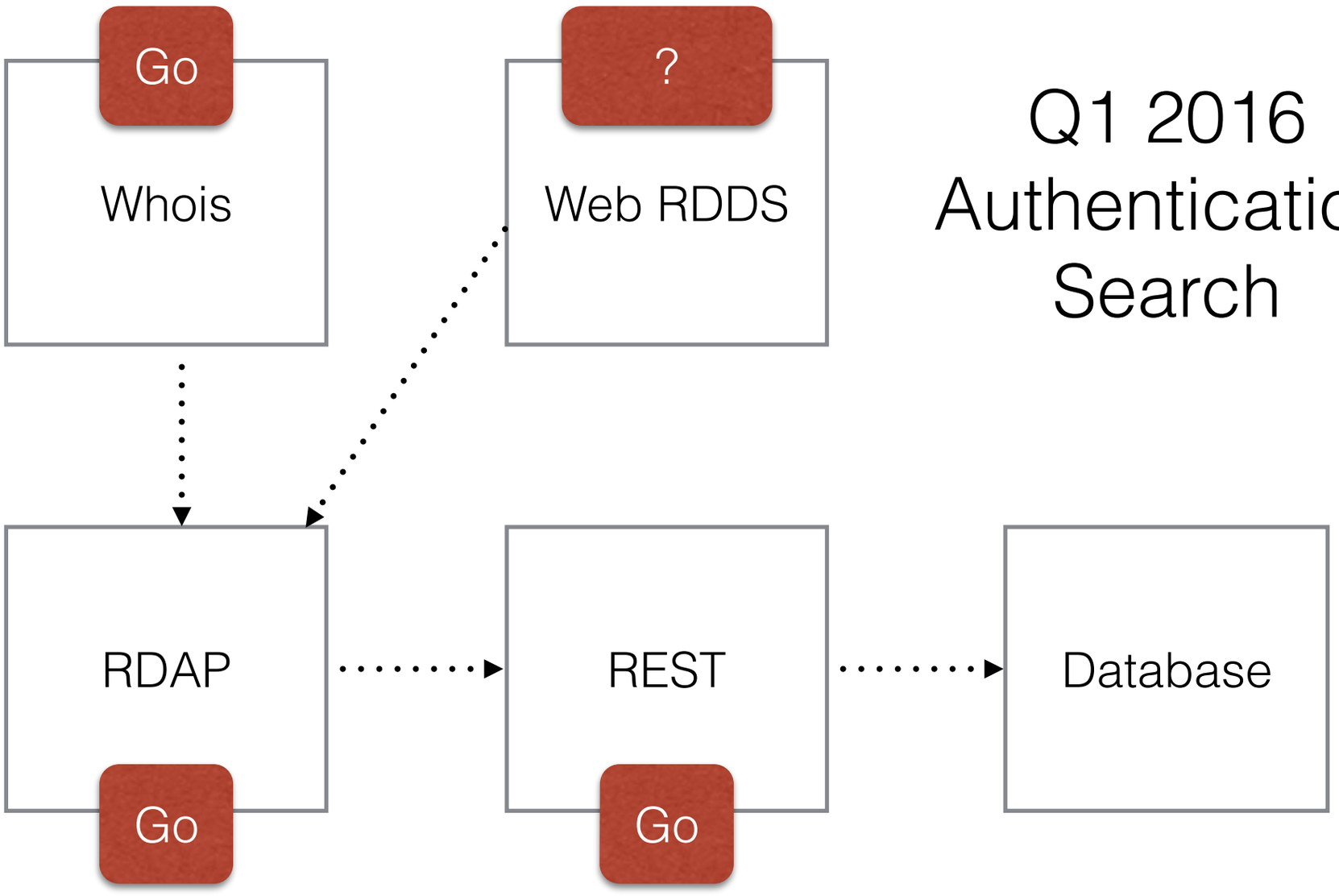
Architecture



Q3 2015

Deployment Plan

Architecture



Q1 2016
Authentication
Search