knowledge17

WORK at LIGHTSPEED™

Using ServiceNow® to Provide Self-Service Access and Tracking of Cloud Usage

DAYMION REYNOLDS
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GoDaddy Inc.

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Agenda

- Meet the Speakers
- Meet the Company (GoDaddy)
- Business CI Tracking Made Easy
- Automating the Tracking of Resources
- Orchestrating Shared Services

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Speaker Introduction



NAME: Daymion Reynolds

TITLE: Sr. Director of Shared Services

FUNCTION: Development/Design of Shared Services

COMPANY: GoDaddy Inc.

EXPERIENCE: 5 years in Leadership, 11 years in Development/Architecture

EXPERTISE: DevOps, Agile Methods, Analytics

ACHIEVEMENTS: Architect of GoDaddy Hosting, lead ideation, product owner, and Sr. Director of Shared Services, which utilizes ServiceNow for resource tracking

CURRENT PROJECTS: Driving self-service for all internal shared services

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Speaker Introduction



NAME: Jan-Erik Carlsen

TITLE: Sr. Software Development Engineer

FUNCTION: Enterprise Configuration Management/Shared Services

COMPANY: GoDaddy Inc.

EXPERIENCE: 10 years experience as Software Developer/Architect

EXPERTISE: Continuous Delivery, REST APIs, Jenkins, Java, Python, OpenStack

ACHIEVEMENTS: Developing GoDaddy Efforts API, using ServiceNOW to manage cloud sprawl

CURRENT PROJECTS: Automation and Self Service everything to improve the Developer Experience at GoDaddy

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My Company



NAME: GoDaddy

INDUSTRY: Internet

MARKET FOCUS: Domain Registrar, Web hosting, SSL certificates, small businesses

COMPANY'S PRIMARY PRODUCTS/SOLUTIONS: Small Business , Domain Registration, Hosting, SSL

COMPANY-WIDE INITIATIVES: Decreasing Time to Market, Continually Improving Quality, Self Service, Cost efficiency

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GODADDY: UNIQUE ADVANTAGES

CUSTOMER SCALE

13.6 Million

Paid customers

#1 IN KEY "ONRAMP"

61 Million

Domains under mgmt, over 20% of global total*

BRAND AWARENESS

81%

Aided—US Region**

Source: Brand Outlook

CLOUD PLATFORM SCALE

13.3 Billion

DNS queries per day on average in 2015

CUSTOMER CARE PROS

3,600+

Technology at our core



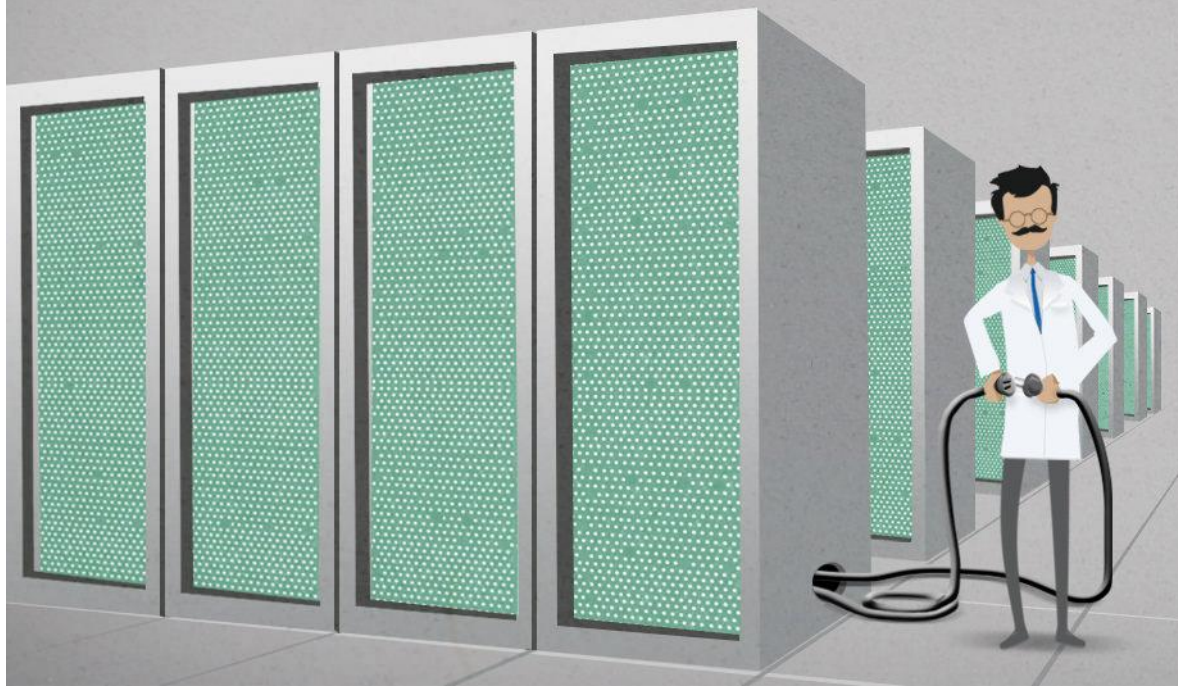
Figures as of September 30, 2015. *Source: Verisign Domain Name Industry Report, September 30, 2015. **As of June 30, 2015.

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Science & Technology: At Our Core

Our services are built on a powerfully integrated cloud platform that is fueled by
world-class data science.



35 PETABYTES OF CAPACITY

9.9M WEBSITES HOSTED

55k SERVERS

160 PATENTS

9 GLOBAL DATA CENTERS

Data as of September 30, 2015.

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Session Overview



Objectives

- Self service automation while using ServiceNow as your environments CMDB



What You Will Learn

- Automation against ServiceNow APIs
- Storing CIs and custom attributes in tables
- Self-service provisioning of cloud resources
- Tracking of cloud resources in ServiceNow
- How to provide ServiceNow tracked Shared Services

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Challenges

























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Challenges

- We needed to solve a few problems:
  - Administration of these shared services. Who has rights to manage the services?
  - Attribution of each service to a Business Unit. Who is going to pay for each allocation?
  - Relationship between Shared Service and Business Service. Service Catalog?
  - Programmatic access and management of relationship metadata. API?
  - A namespace for all of the services to operate. Data sharing.

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Our Solution : Composable Efforts

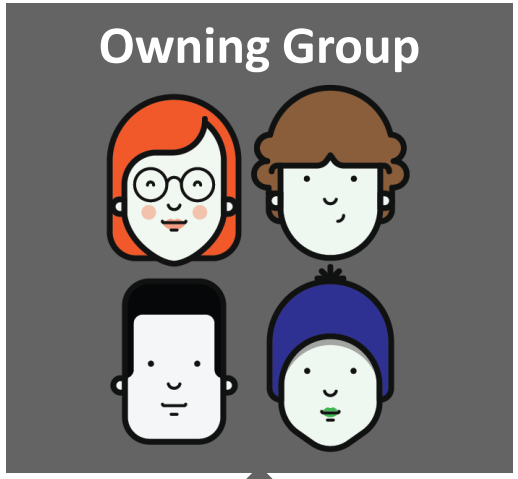
Creation of business service mapping with effort resource grouping.



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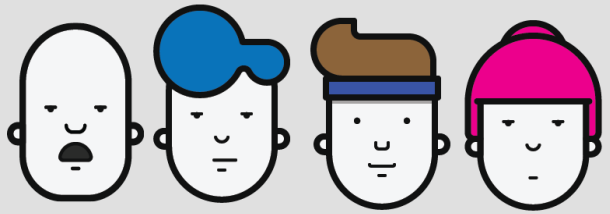
Strategy – What is an Effort?



EFFORT



Users / Effort Owners



admins_<effort-name>

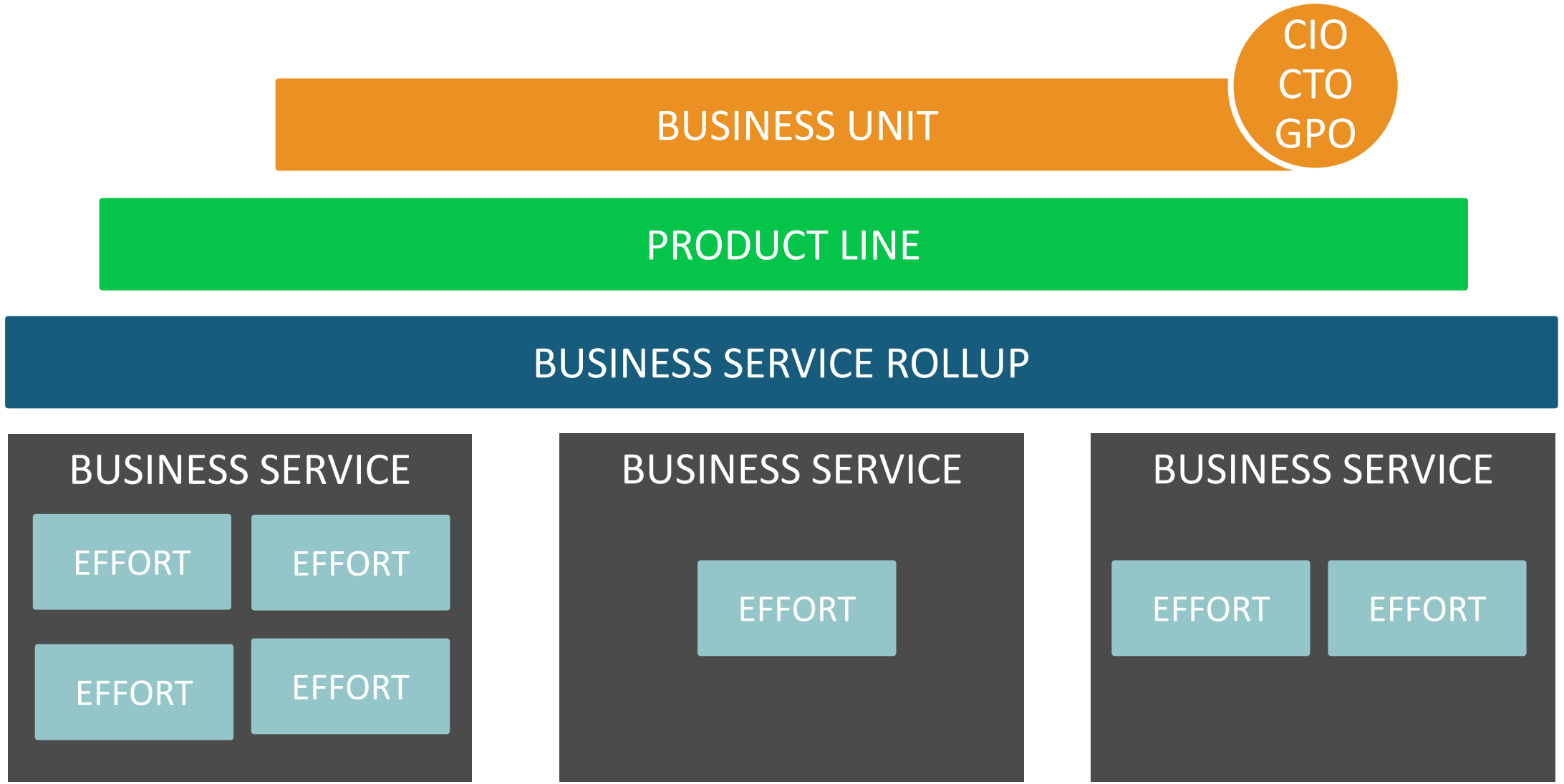
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Microsoft Active Directory

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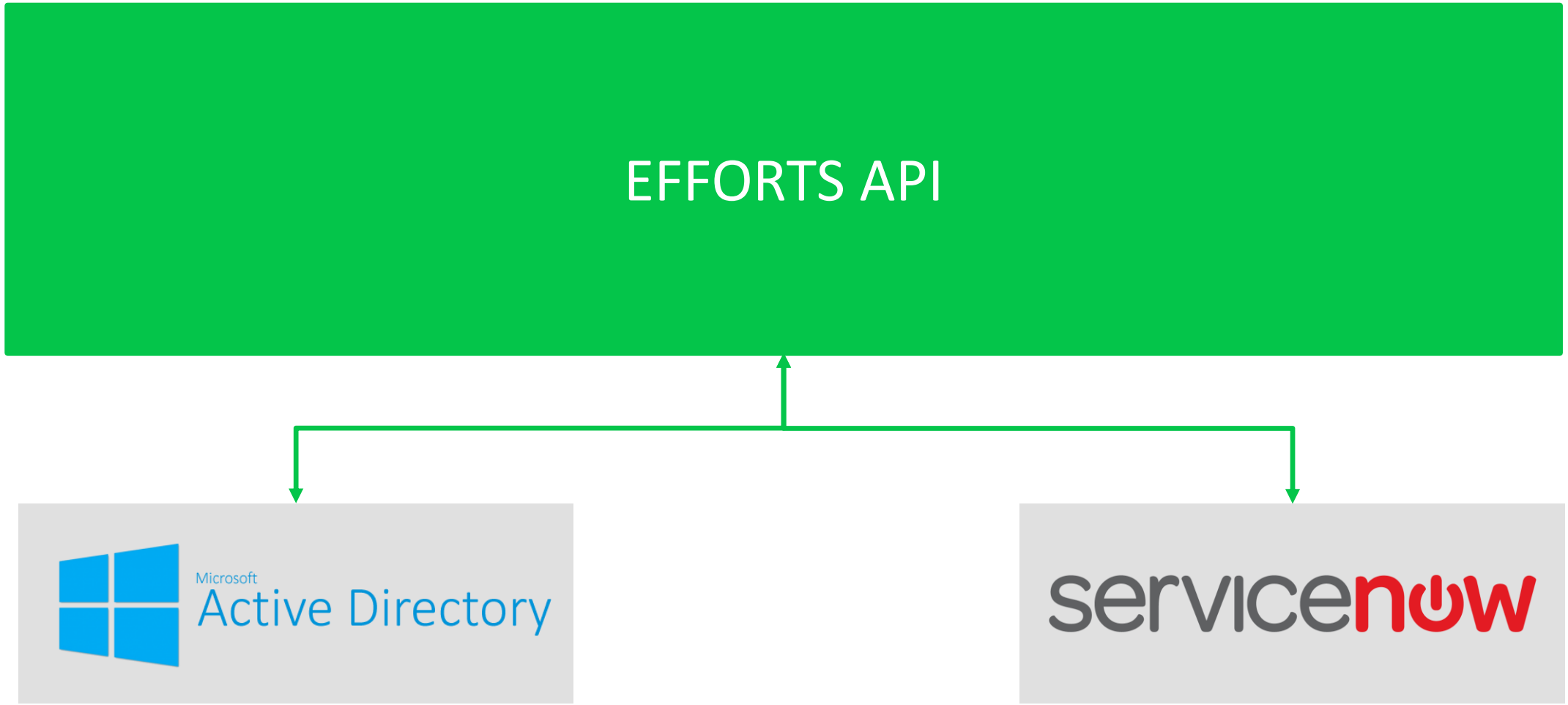
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One or More Efforts Create a Business Service



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Efforts API – Overview



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Efforts API – Overview

EFFORTS API

OpenStack API

Sensu API

GDLocker API

Artifactory API

GitHub API

Yum API

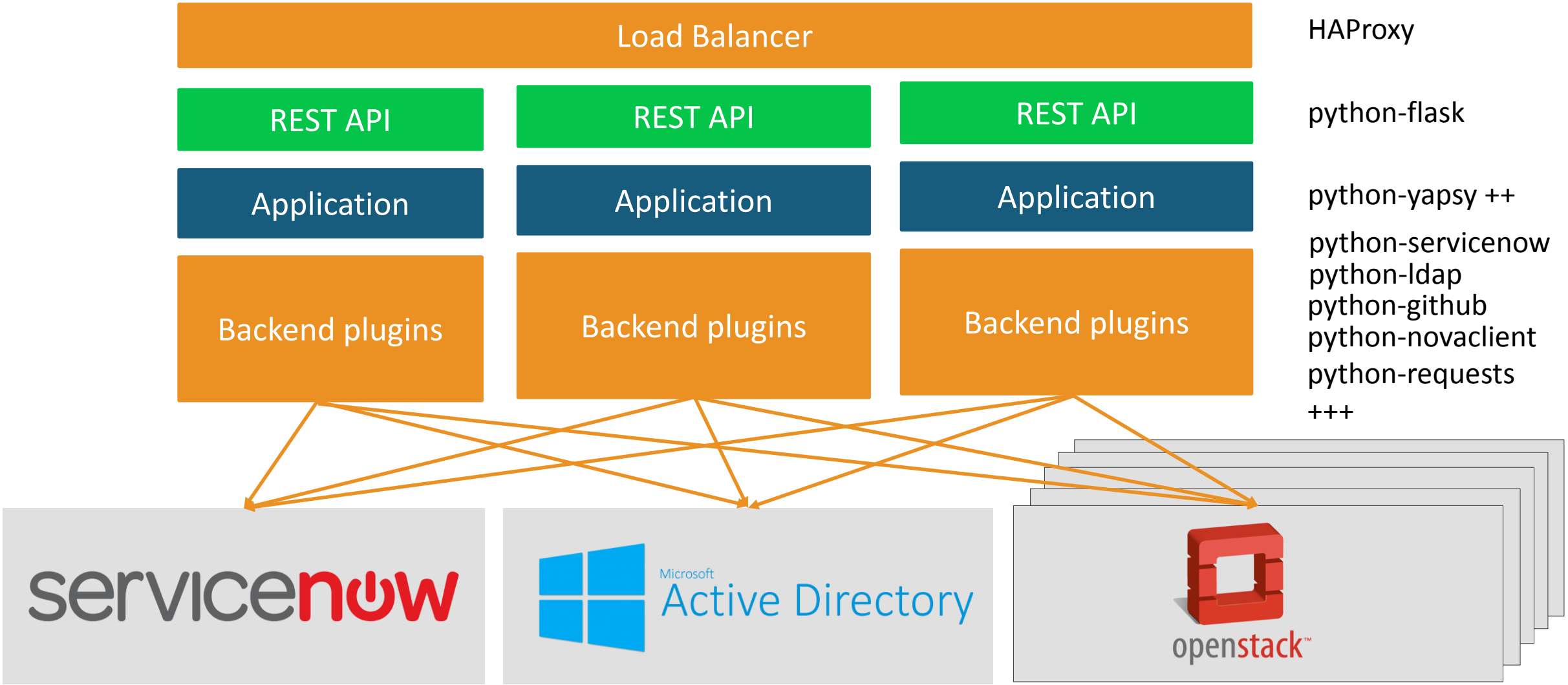
DNS API

Active Directory



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Efforts API – High Level Architecture



HAProxy

python-flask

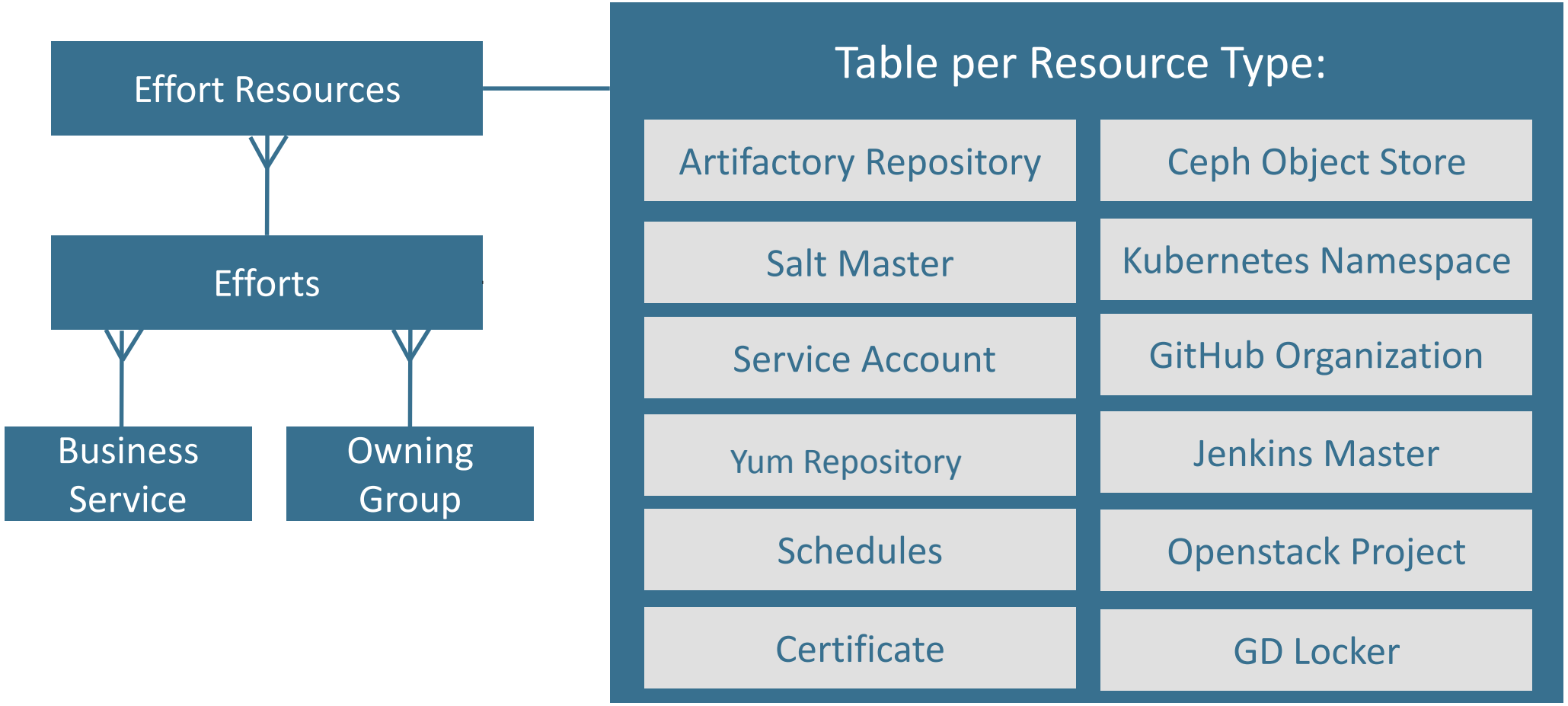
python-yapsy ++

python-servicenow
python-ldap
python-github
python-novaclient
python-requests
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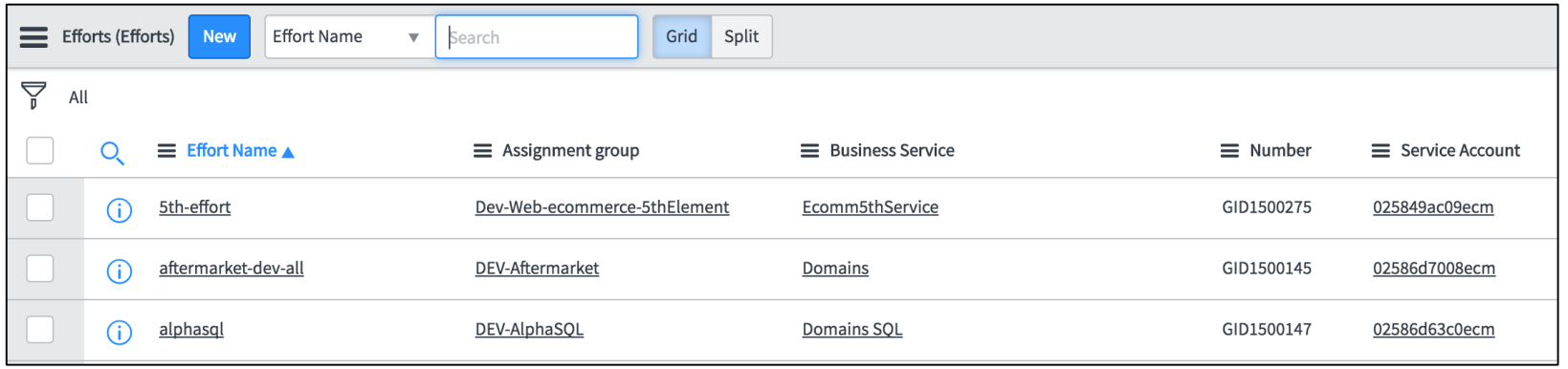
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Efforts Application in ServiceNow - Tables

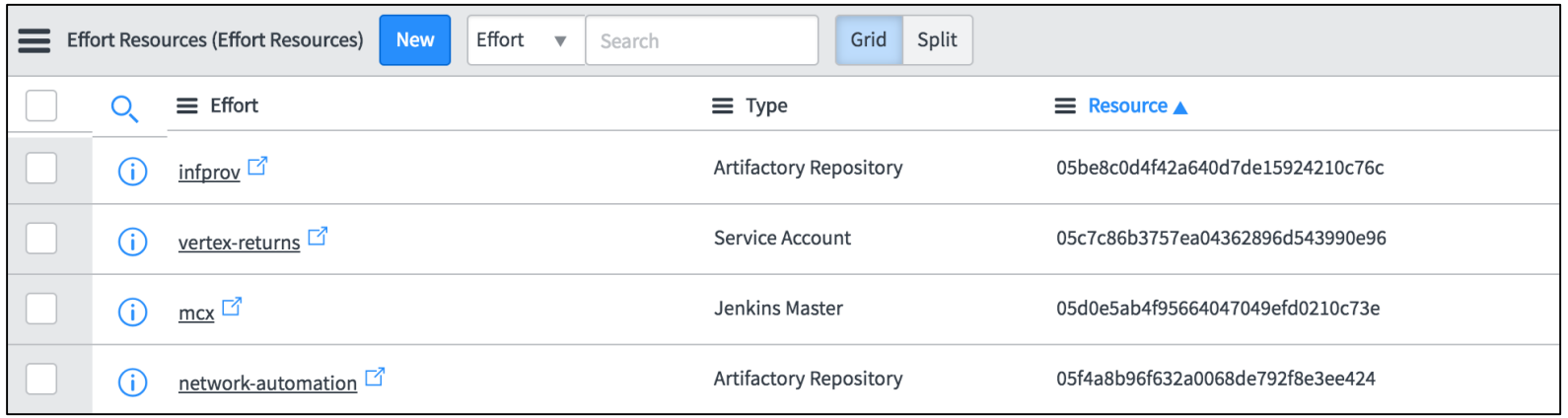


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Efforts



Effort Resources



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Efforts Application – ServiceNow Platform Features



Tables, Forms, List Layouts, Access Controls and Menu items defined for each of Efforts, Effort Resources, and all Resource Types. All tables inherit from parent table *Configuration Item*



Business Rule running on inserts and updates to enforce uniqueness for Effort names



Numbered tables to generate and track Active Directory UIDs and GIDs for some resource types (Efforts, Service Accounts)



Table REST API for inserts and updates and single record reads

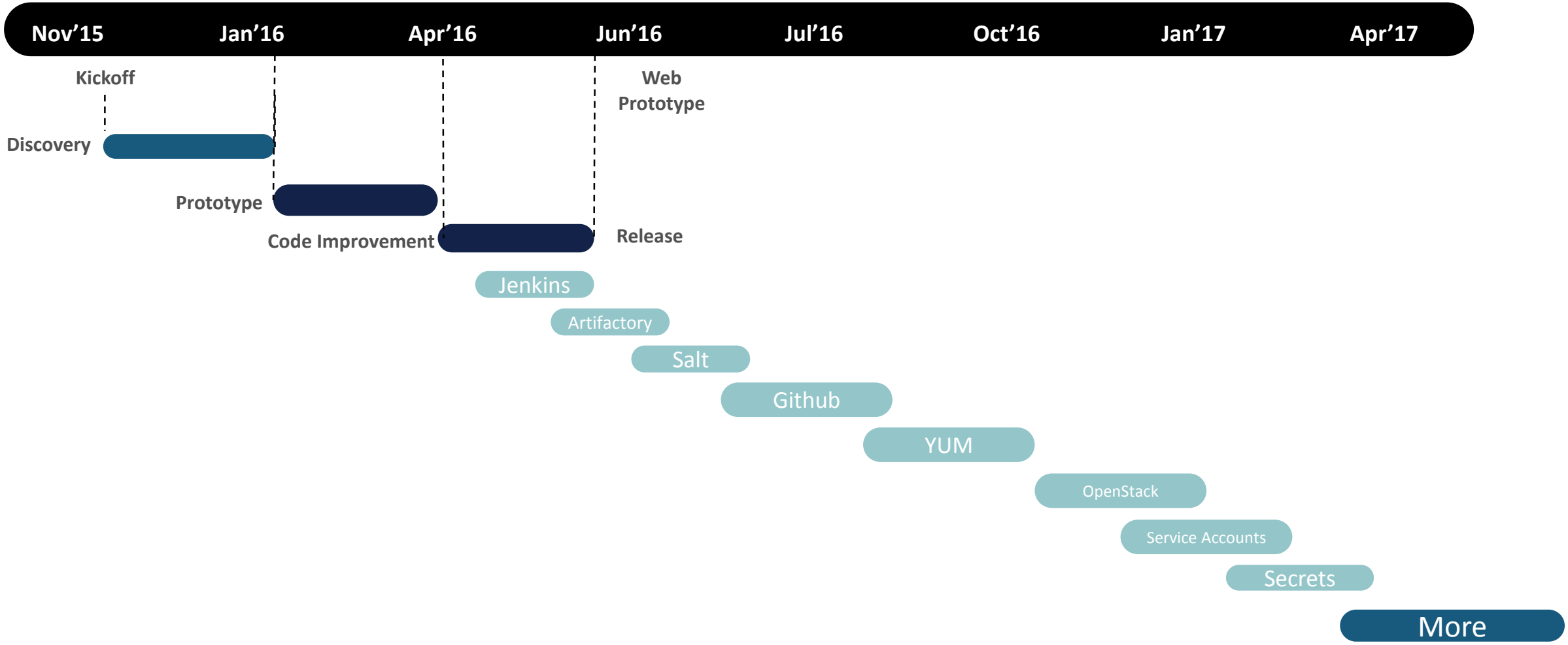


Scripted REST APIs for performance for list and search operations:

- Efforts/list [GET]
- Resources/list [GET]
- Resources/search [GET]

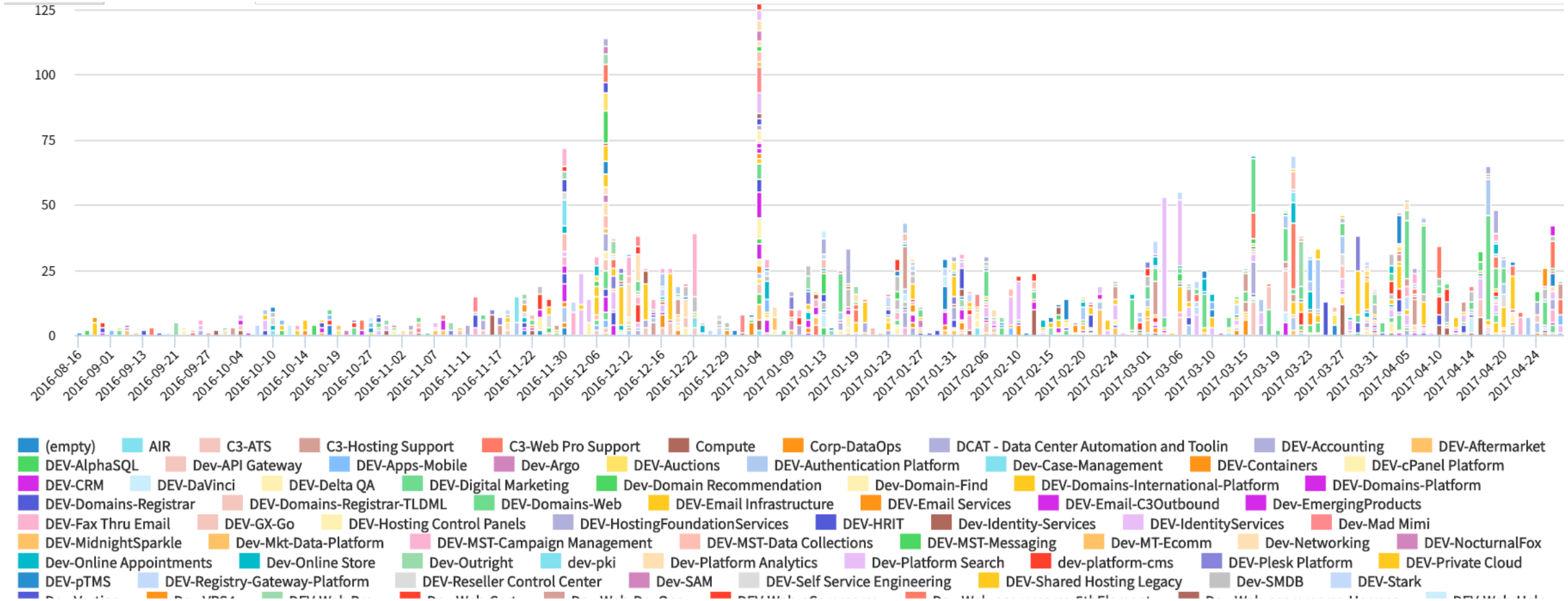
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Solution and Adoption Timeline



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127 Internal Teams have Provision Resources



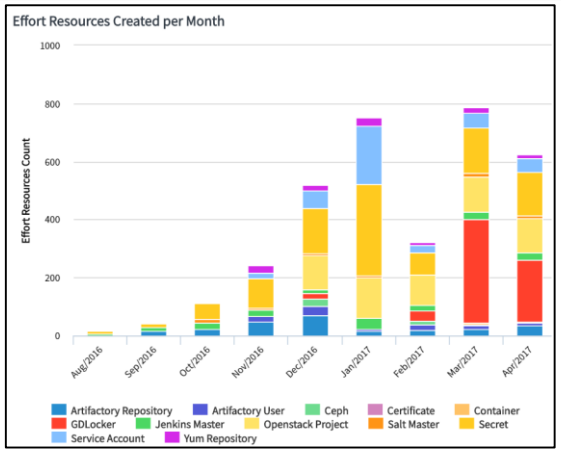
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Usage as of March ‘17

Total Efforts	Total OpenStack Projects	Total Artifactory Repos
354	514	232

Total Service Accounts	Total Jenkins Masters	Total Salt Masters
376	176	55

- 127 Teams have used the system
- Managing entire CICD fleet
- Being readily adopted by the remaining shared services



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Press F11 to exit full screen

Developer Web Services

Announcements!

3/30 - New Services Available!

Come and get your service accounts! You can now create and manage DC1 service accounts right here in the Cloud UI. Check out the new Service Accounts section to try it out.

10/6 - Self-Service Salt Is Here!

Need remote execution capability? You can now get Salt Masters with a single click! Head over to the new Remote Execution section to create and manage one right this minute.

8/29 - New Services Available!

We added several new self service options like Jenkins Masters & Artifactory Repos. You will also find we've reorganized under more sensible categories and added documentation for many things that aren't quite yet self service.

7/15 - New Certs Features

You can now use the certificates interface to Cancel, Retire, and Retain certs. We have also added filtering to the listing to make it easier to find the cert your interested in. To check it out just head over to the Certs Section.

Service Categories


Resource Grouping


Compute


Networking


Security & Identity


CI-CD


Storage


Database


Analytics

Value Outcomes

	BEFORE	AFTER
Ownership	Tracked in Spreadsheets	Automated ServiceNow Reports
Attribution	Derived from Spreadsheets or Compute costs	Automated ServiceNow Reports
Developing Tracking/Reporting System	Potential Cost 3 Devs 6 Months	Realized by using ServiceNow CMDB
Self Service Tracking	Manual	Automated via ServiceNow APIs
Shared Services build for new projects	1-3 months	10 min
Developer Tools Survey	19pts	63pts (42pt increase)

tldr;

Cloud resources are now created, tracked, and managed in a reproducible and manageable way

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Our Next Steps

- Complete the Migration of all Shared Services to ServiceNow tracking.
  - Cassandra, Hadoop, Load Balancing, data publishing, and more
  - Seeding Effort information into all OpenStack provisioned assets
  - Automated access to the secret store via the Effort namespace
- Formalize attribution model, and use it to guide efficient usage of resources.
- Further integration and automation of the continuous delivery tool chain.

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Top Takeaways

1

Create self-service Shared Services and automate tracking in ServiceNow

2

Track ALL resources. This includes cloud and electronic artifacts

3

Provide an easy onboard method for other development teams to track their resources

4

Partner with your coworkers. They are your customers and will inform you of their needs

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Thank You

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Q & A

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Take the Survey

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Thank You

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