



Enabling Self-Service for Data Scientists with AWS Service Catalog

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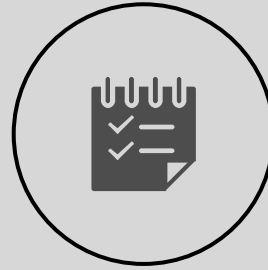
What do we want to gain?



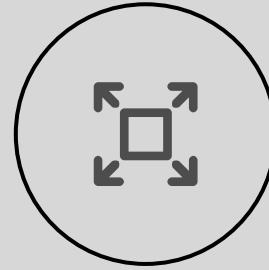
Ease of Use



Agility

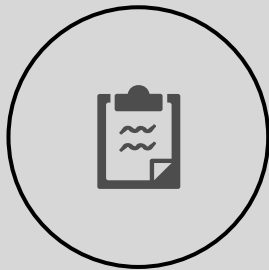


Governance



Scale

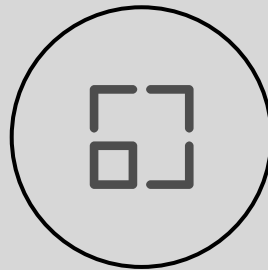
How to get self-service?



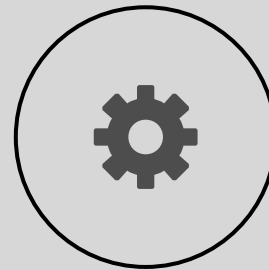
Standardize



Enforce Policy



Integrate



Automate

AWS Service Catalog



Control
Standardization
Governance

Agility
Self-Service
Time to Market



Organizations



Developers

AWS Service Catalog: Terminology

Product



An IT service (VPC, web server, n-tier environment, database) that you want to make available for deployment on AWS

Constraint



Restriction on the ways that specific AWS resources can be deployed for a product, e.g., template constraints to allow only certain EC2 instance sizes

Portfolio



A collection of products, together with configuration information, launch controls, and administrator-controlled access

Provisioned Product



An AWS Service Catalog product is launched through an AWS CloudFormation process, and the collection of launched services is called a Provisioned Product

Key Benefits

Standardize



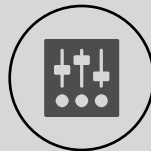
Developer Autonomy



Enforce Consistency and Compliance



Guardrail Resources



Limit Access



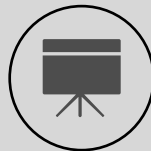
Automate Deployments



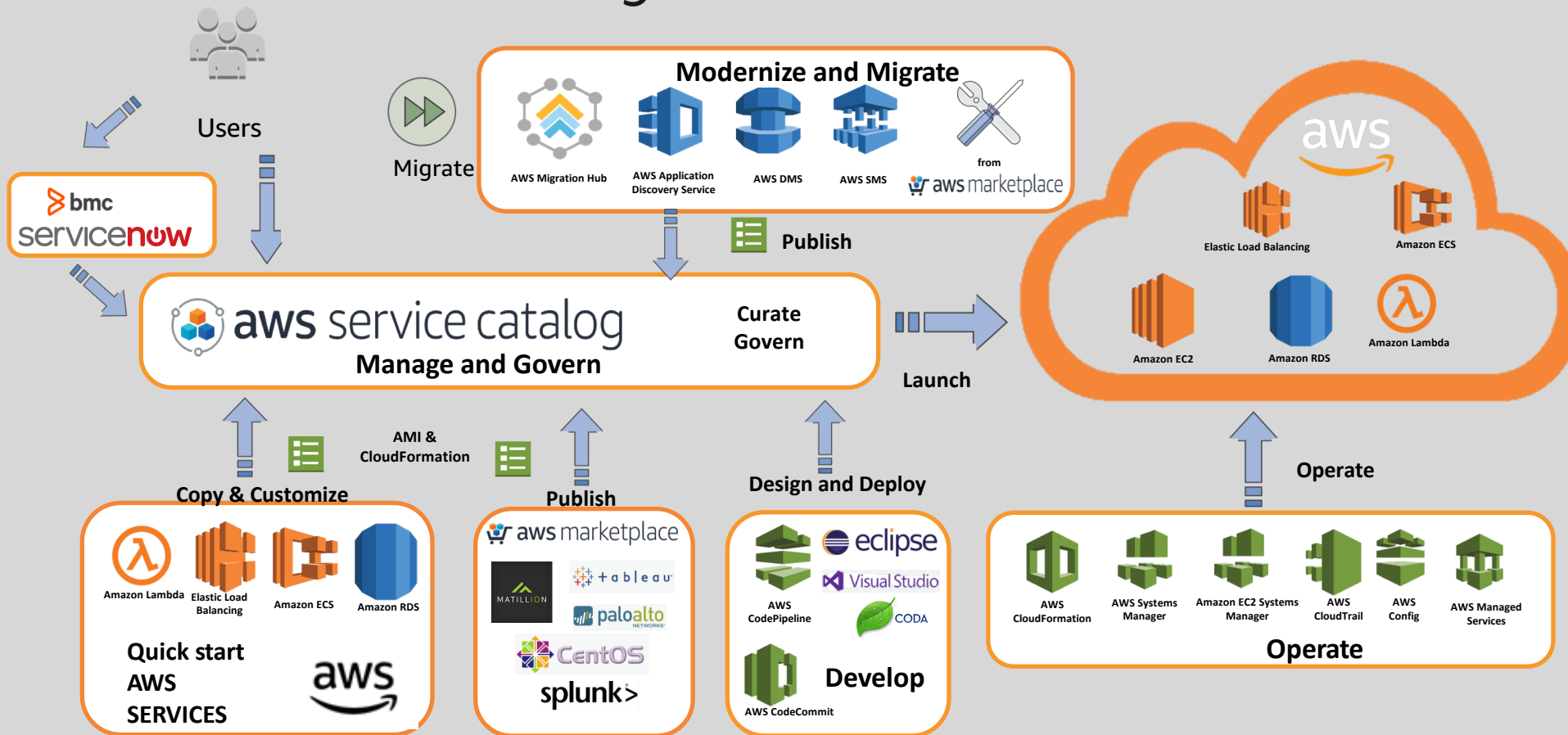
Enforce Tagging



Single-pane for Provisioning



The self-service management framework



ITSM Integration

AWS Service Catalog



Public APIs



End User



ITOM / ITSM / Global Service Catalog

Public APIs



ITOM / ITSM / Global Service Catalog



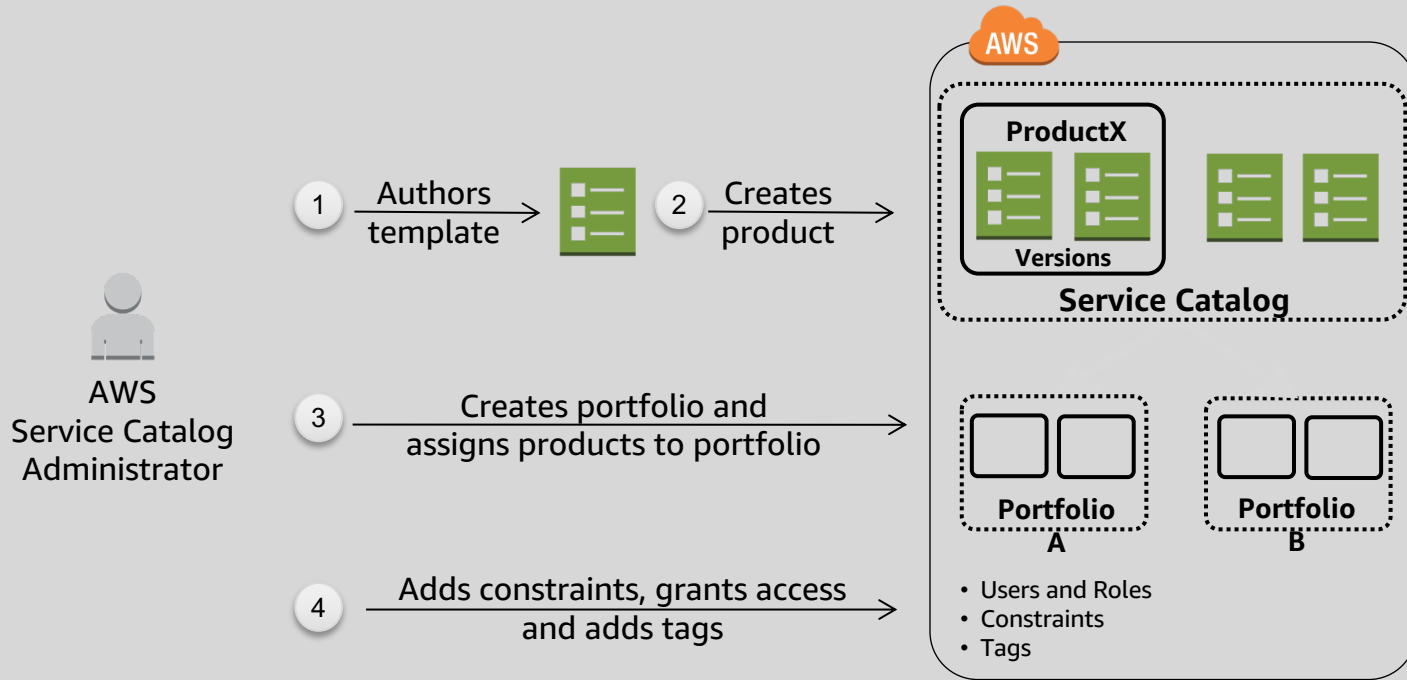
AWS Marketplace



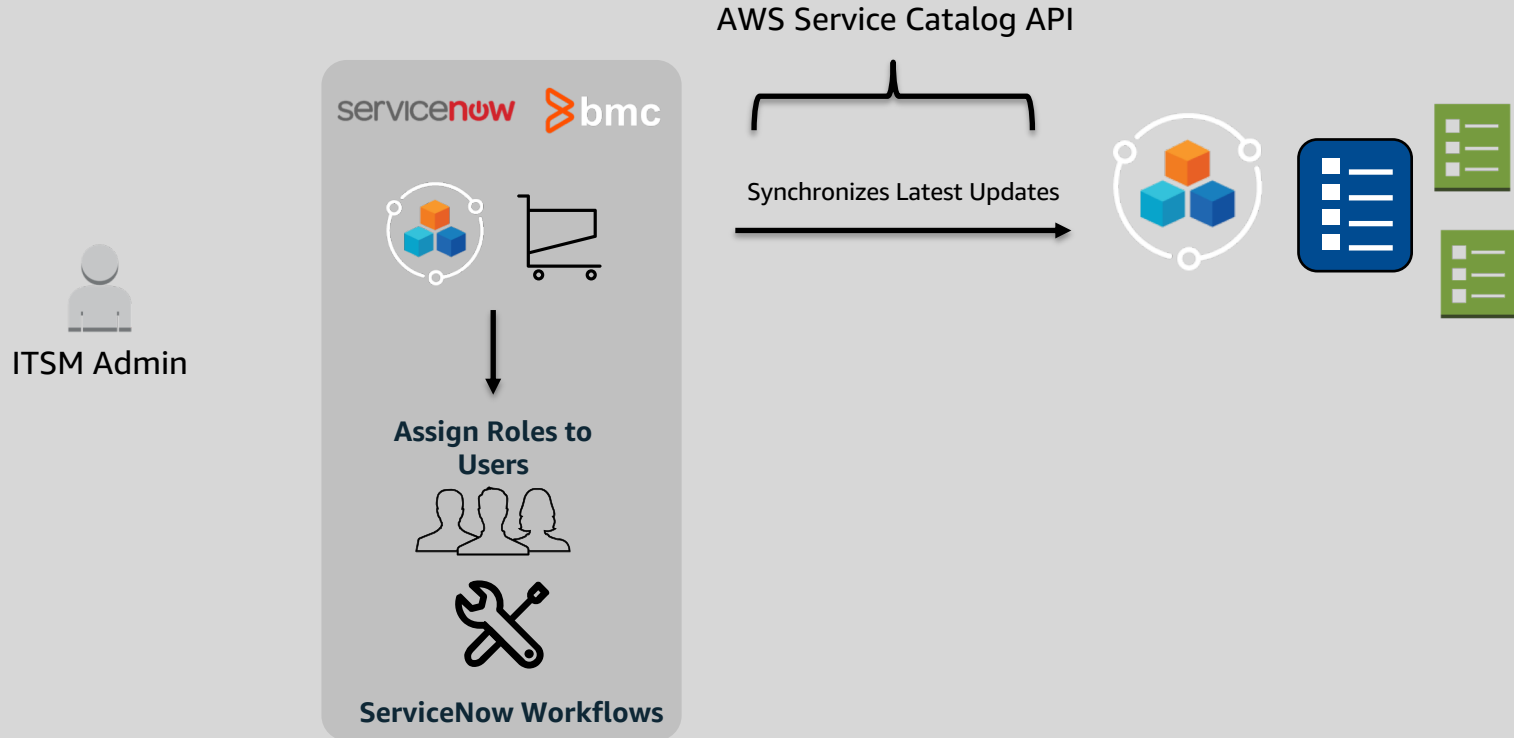
AWS Provisioning

AWS Provisioned Resources

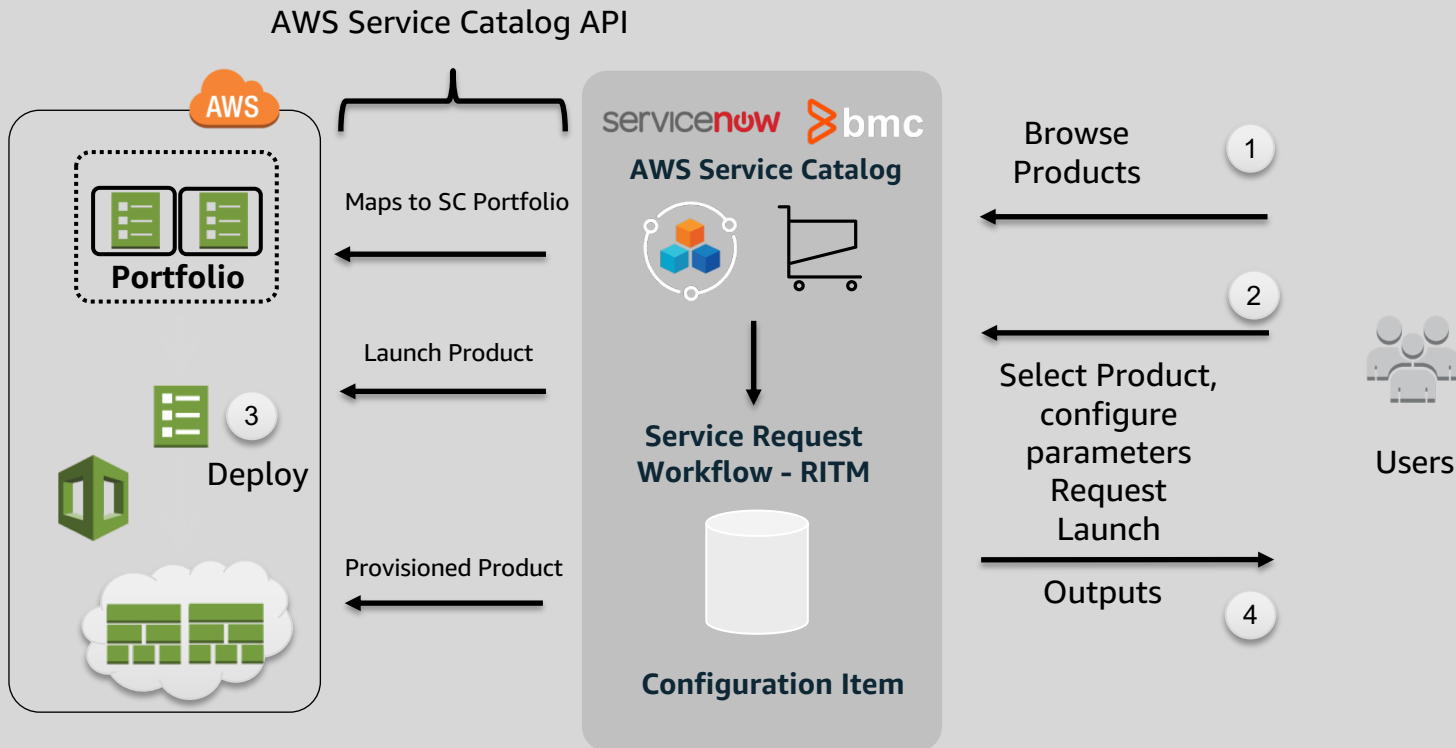
Administrator experience



ITSM Administrator



User experience



Enabling Self-Service for Data Scientists

AWS has 100+ services



USERS

How do I make this easy?

I only need to use services for Analytics. I am lost in the console..

What are these security groups? Should I care? Is there a policy I can use?

How many services do I need to learn?

Isn't there a way to create a product bundle for my project?

How do I logically identify my project assets?

There are too many steps. Can we not automate this?

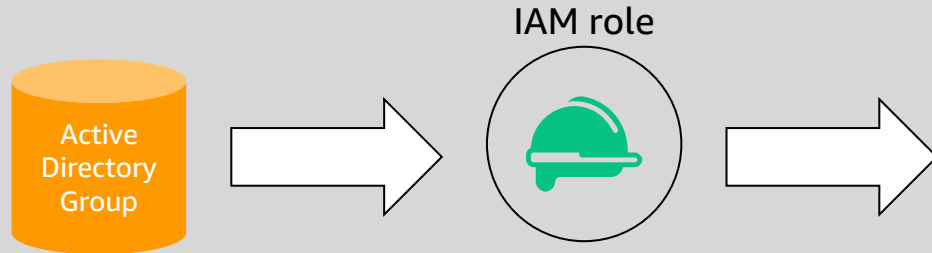
I'd like my team to use these services consistently

Tired of manually creating monthly dashboards

Not sure of the best way to represent the data visually

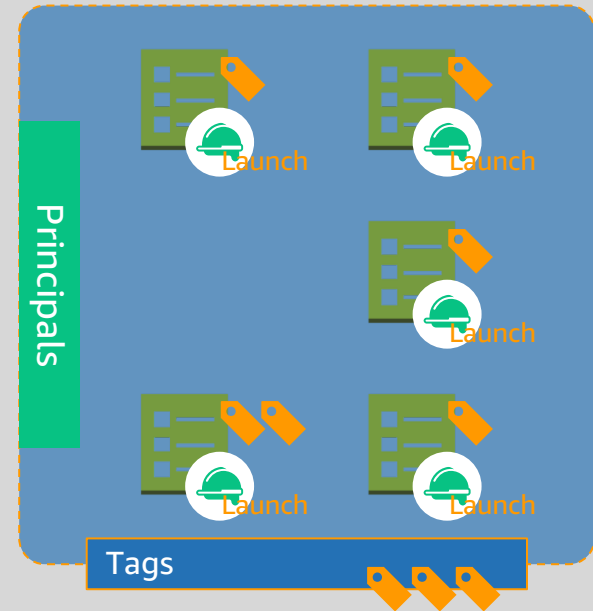
Solution approach - step 1

The Project (Portfolio) Layout



- 1:1 Portfolio (Project) to an IAM role: "Portfolio Role"
- 1:1 Portfolio Role to an IAM Policy: "Portfolio Policy"
- Full access between all AWS resources created through Portfolio

Portfolio



Solution approach - step 2

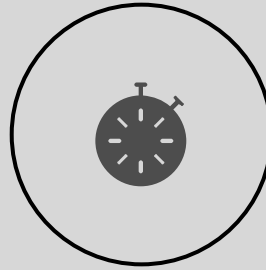
Automate Portfolio Creation



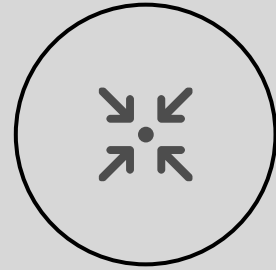
Scale



Infrastructure
as Code



Minimize
Human Error



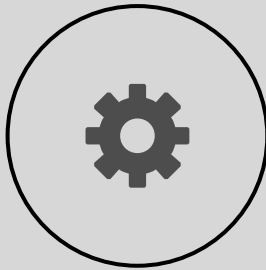
Project
Onboarding

Solution approach - step 3

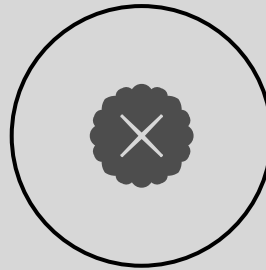
Dynamically Update IAM Policies



Least Privilege



Automate



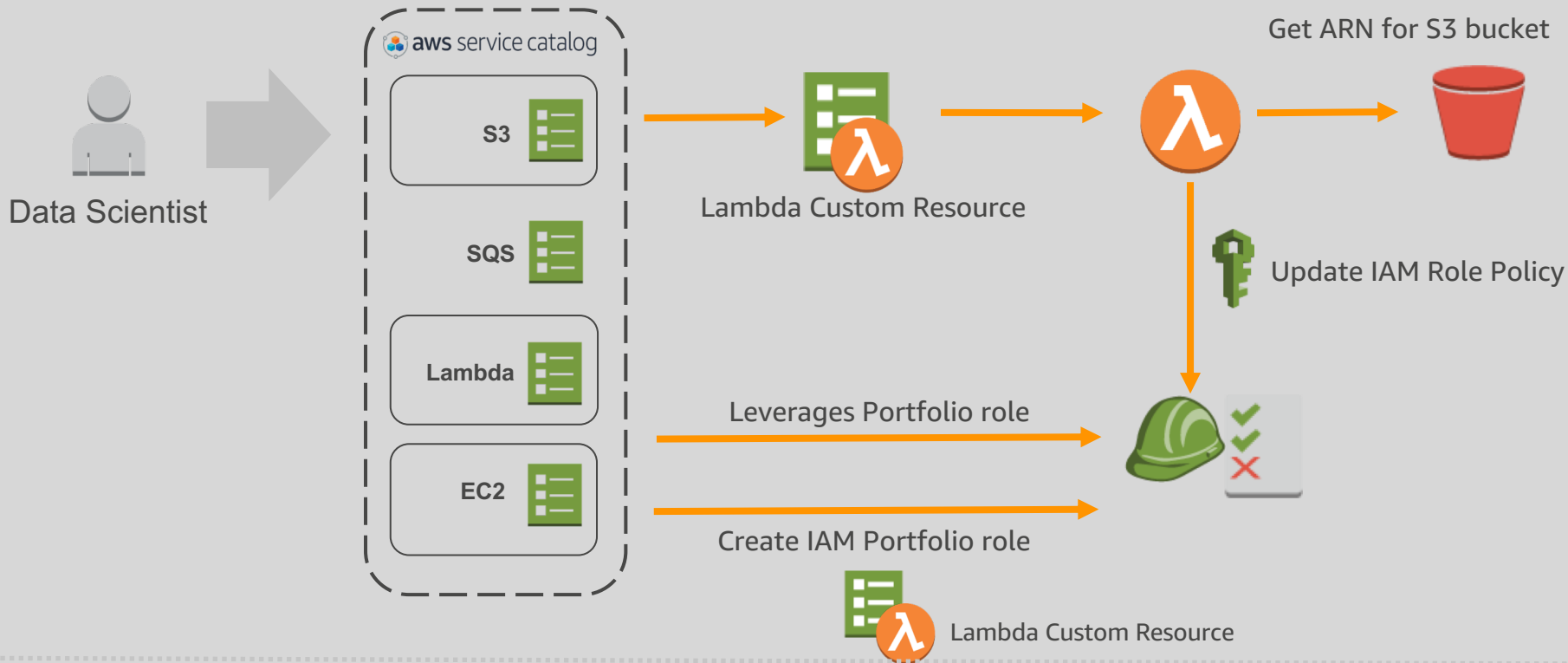
Block Lateral
Attacks



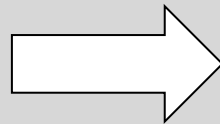
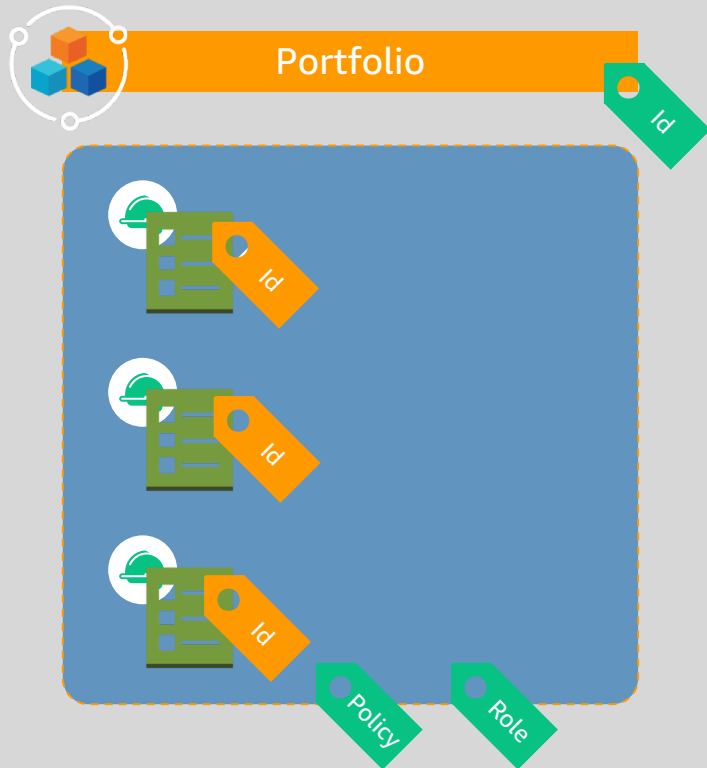
Customer
Experience

IAM Bound Architecture

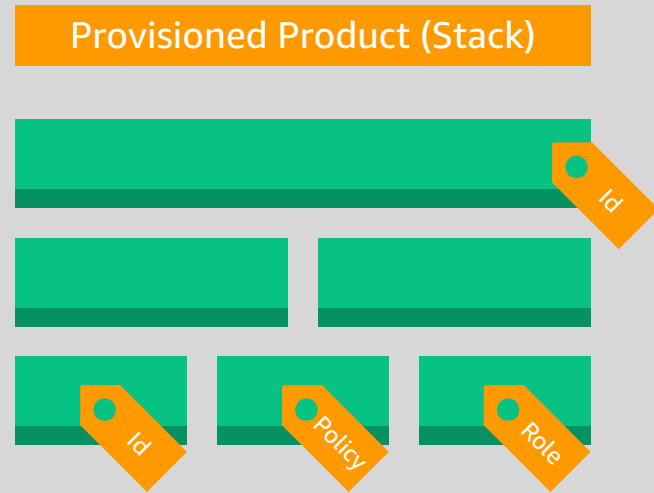
Dynamically update Portfolio Policy and assign Portfolio Role to new resources



Tags as metadata glue

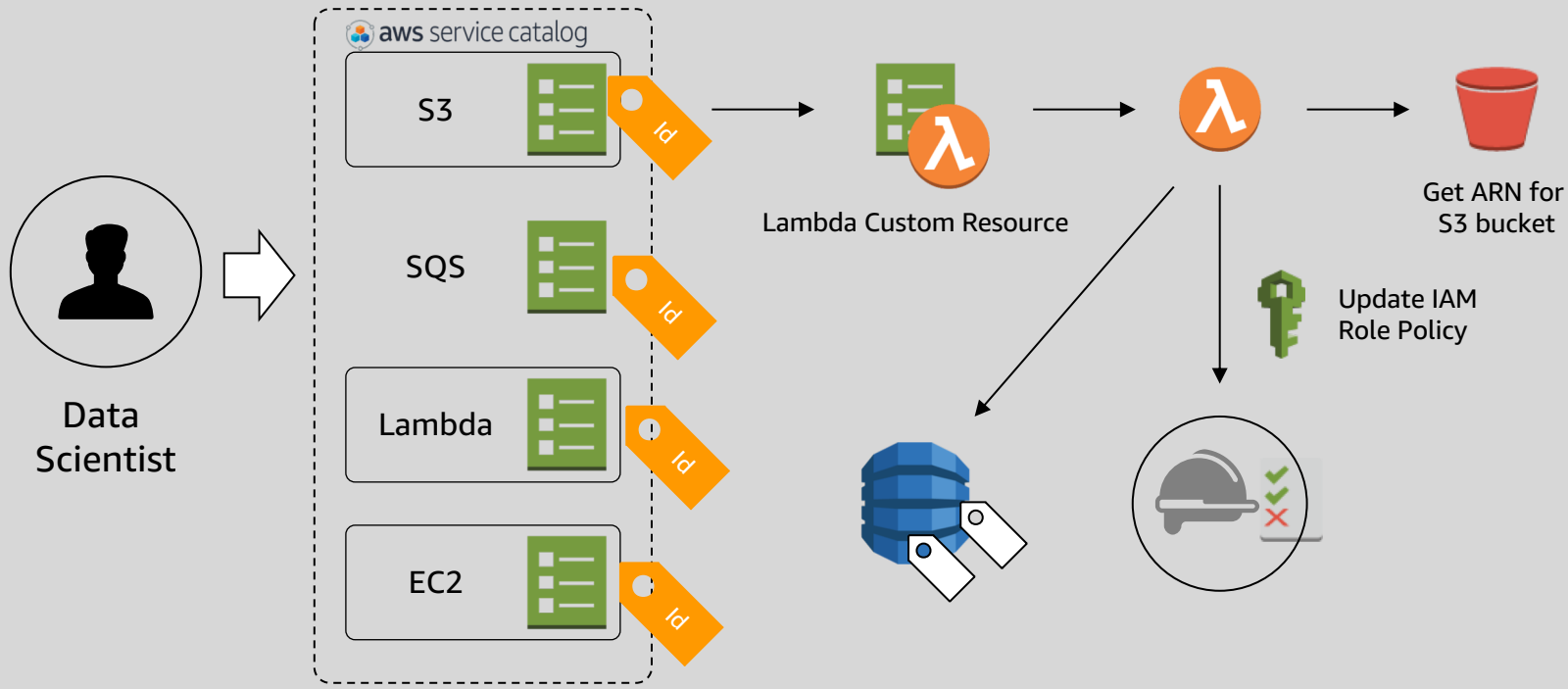


Tags Enforced

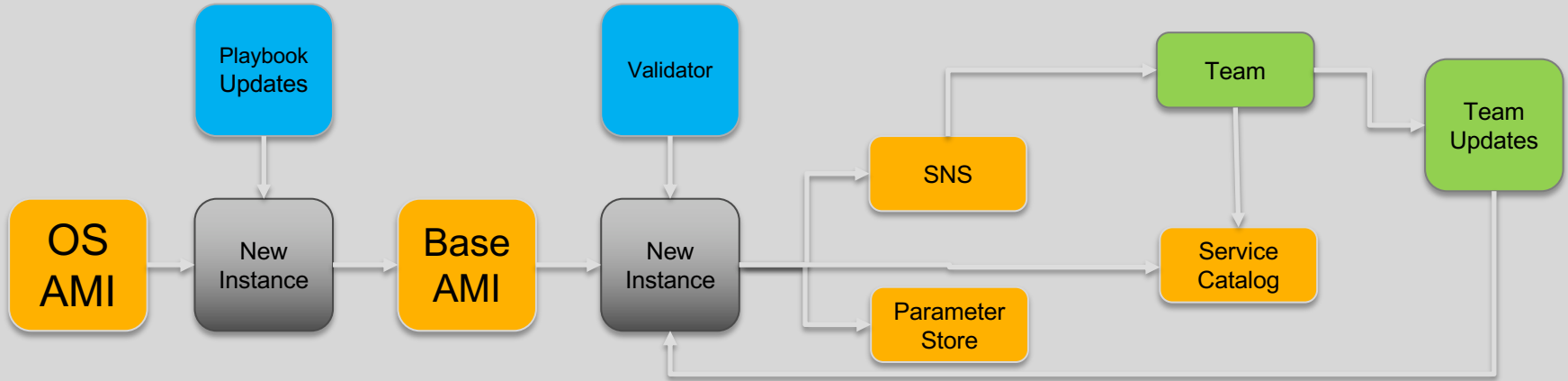


**Tags will be used by Lambda function
to identify the project, its Role,
and its Policy**

Logging and tracking



Automated AMI Build and Validation workflow.



Solution

- **Step 1:** 1:1 portfolio to project mapping
 - Enforce tagging
 - Align security controls and resource allocation
- **Step 2:** Automate product and portfolio creation
- **Step 3:** Dynamically update IAM policies as new resources are provisioned



ServiceNow / AWS Service Catalog Demo

ServiceNow and Service Catalog

- AWS Service Catalog
- Cloud Management
- ServiceNow Integration

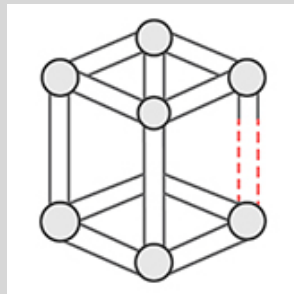
Key Takeaways

- ✓ Start small, iterate quickly, and build incrementally – expand product catalog in steps (ML ,RDS, Amazon EMR ,Marketplace Integration)
- ✓ Align Security and Resource Associations through Portfolios on a per-project basis
- ✓ Automate security processes with AWS Lambda to reduce turnaround time
- ✓ IAM bound your applications through Automation with Tags and Tag Enforcement through AWS Service Catalog
- ✓ Create an easy click-and-go experience for users

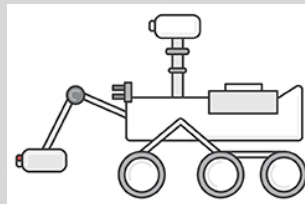
AWS Service Catalog 2018



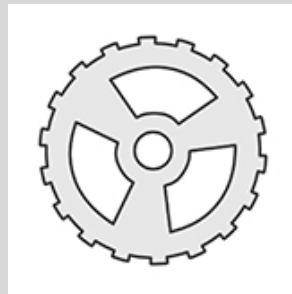
Ease of Use
&
Self Served



Secure &
Aligned
Dynamically



Track
Changes



Automation
&
Tagging

Thank you