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Jefferies

CASE STUDY

JEFFERIES & MULTI-CLOUD MANAGEMENT

TECHNOLOGIES USED

EC2, ELB/ALB , Cloudwatch,Cloudtrail, Route 53, Terraform, Ansible

THE CHALLENGE

As enterprises move toward modernizing their infrastructure, embracing cloud technologies is often part of the "big picture." However, some workloads can't be moved into the cloud because of security or cost concerns and are often retained on-premises, resulting in a hybrid cloud. This new way of operating brings with it a new set of challenges. It is challenging to find interoperability within tools for managing resources in both cloud and on-premise environments, resulting in complex provisioning processes that are difficult to manage.

The hurdle for Jefferies was two-fold. First, the provisioning of resources was still a manual process involving lengthy SLAs. Often up to 2 weeks with 8-10 hours required for a full build and setup. Second, the configuration of resources required updating to reduce the accumulation of technical debt in the future.

The challenge was clear. Jefferies needed to enable the automatic provisioning and configuration of resources in the cloud and on-premise using the standard workflow mechanism, ServiceNow.

HOW PRESIDIO AND JEFFERIES ADDRESSED THE CHALLENGE

The Jefferies team engaged Presidio to help find a way to lessen these burdens while empowering the team to deploy into instances they were utilizing for hosting applications.

Presidio's approach to meet the requirements was to create a custom orchestration solution. The solution leverages an infrastructure automation tool named Terraform to provision EC2 instances or VMware VM's when requested from within ServiceNow. Information obtained in the ServiceNow request item determines how to provision a resource.

THE CUSTOMER

Jefferies is a diversified financial services company engaged in investment banking and capital markets, asset management, and direct investing.

Their hybrid cloud consisted of their on-premise cloud powered by VMware extended into AWS for additional access to compute and storage services.

Example options include:

- auto-scaling
- load balancing
- multi-az
- multi-region
- disaster recovery

HOW PRESIDIO AND JEFFERIES ADDRESSED THE CHALLENGE (CONTINUED)

In every AWS deployment case, AWS CloudWatch is used to monitor instances in the environment. AWS CloudTrail logs are used for governance, compliance, and operational auditing. AWS's Route 53 handles all DNS related management of newly created resources.

Management of the underlying EC2 instances provisioned this way is handled by Terraform. As a result, the only piece of information updated in the ServiceNow CMDB record was the IP address. The infrastructure automation tool maintains all other aspects of the instance.

The second part of the solution leverages a popular configuration automation tool named Ansible to make configuration of resources simpler.

Finally, a web-based interface provides visibility into the work queue for the solution. The interface provides an overview of queue items, their completion statuses, and any error messages encountered during a failed run.

THE RESULTS

With the solution now in place, improvements are noticeable. Teams are reporting:

- Significant decrease in the overall level of effort to deploy a resource to on-premise data centers or AWS with resource provisioning in less than 5 minutes, fully built and setup
- Integrated automatic provisioning of resources with the established workflow, ServiceNow — Allows for increased adoption of AWS as the vehicle for application deployment
- Unified logic that drives provisioning to on-premise datacenters or AWS that is "turn-key" for the end user.

Previously Jefferies was using AWS in an ad-hoc manner, but now Jefferies has centralized the provisioning processes into a single workflow. This consolidation helped drive the adoption of AWS as the target deployment platform for applications that do not present security concerns when being deployed to the cloud.

This solution allows Jefferies to accelerate the movement of workloads to AWS and take a big step towards "infrastructure as code."

LEARN MORE

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