CloudBolt

Simplified Management for AWS Resources

- Leverage scalable resources
- Simplify IT provisioning
- Gain visibility and control

Infrastructure resources from Amazon Web Services (AWS) have become very popular for enterprises — providing a scalable environment for mission-critical applications and services that are dedicated or on-demand and part of an overall hybrid cloud and multi-cloud strategy. AWS resources help top enterprises innovate and achieve digital business objectives with agility.

Although an excellent wellspring of resources, AWS has what seems like an infinite number of decisions to make before deploying them. IT admins and end users want to use AWS resources with the goal of not sacrificing security and performance while controlling costs so they don't end up costing more than the value they provide.

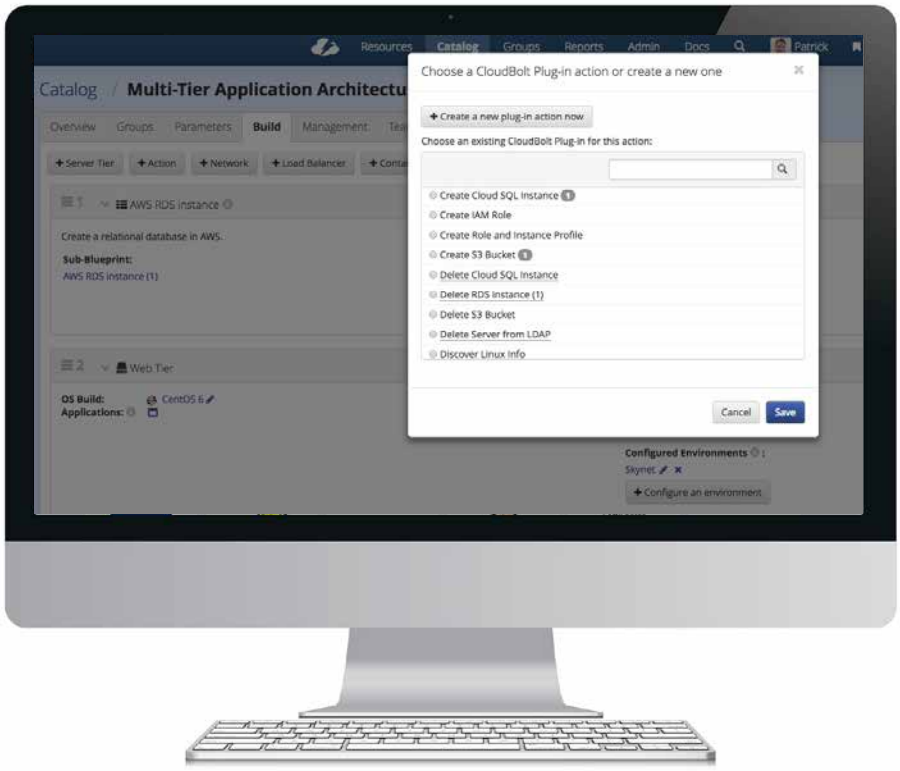
For those reasons, deploying AWS resources effectively can be daunting to even seasoned IT professionals. At the enterprise level, making the right decisions about using AWS resources can make a huge difference for the overall success of digital transformation initiatives, particularly when implementing hybrid cloud and multi-cloud strategies.

CloudBolt helps IT admins move the critical and complicated aspects of deploying AWS resources behind the scenes. The entire process of requesting, deploying, and terminating virtual machines (VMs) and cloud services is more efficient for end users who are provided with an intuitive self-service IT portal and unified manager to provision and manage the resources they need.

As a hybrid cloud and multi-cloud management platform, CloudBolt homogenizes access to virtualization and cloud environments to not only AWS, but also to Microsoft Azure, Google Cloud Platform, and VMware vCenter. CloudBolt users don't need to know the details of the behind-the-scenes deployment of VMs to any of these environments. IT admins can set the parameters and use CloudBolt orchestration to provide the best-fit resources for the end user's needs.

CloudBolt integrates on-premises virtualization with private cloud and public cloud virtualization environments from AWS and many other technology vendors along with enterprise configuration management tools and domain-specific technologies.

MODULAR, REUSABLE BUILDING BLOCKS



With CloudBolt, IT admins can model their enterprise cloud using several building blocks, such as:

- Resource handlers that connect to multiple virtualization platforms from a wide variety of best-of-breed vendors
- Environments for grouping components like resource handlers, subsets of VM images and networks
- User groups to manage access to CloudBolt resources efficiently
- Catalogs for self-service IT and blueprints for specific sets of resources to simplify complex orchestration
- Orchestration frameworks to configure and automate custom workflows
- Technology connectors for configuration managers, service tickets, and automated workflows

Why Do Enterprises Need CloudBolt for AWS?

FAST PROVISIONING, EASE OF USE

AWS makes it possible for anyone with very simple or extremely complex sets of requirements to run dedicated and on-demand infrastructure in AWS cloud environments and scale the resources to fit fluctuating capacity requirements. As AWS resources are hosted in geographical regions across the globe, launching a VM from an Amazon Machine Image (AMI) is routine for many developers who have been using AWS for years. New users typically find it unnecessarily complex.

In spite of its complexity, enterprise IT leaders are now turning to AWS and many other private cloud and public cloud vendors to be included as viable options for their end users instead of having in-house IT configure on-premises infrastructure hosted in data centers that they own. These readily available resources have become a critical part of application development and IT service strategies.

In fact, many teams within an organization have been going outside the central management of IT resources and running their own IT resources tied to their line of business within the organization and using cloud providers like AWS, MS Azure, and Google Cloud Platform to achieve their own objectives.

IT leaders now want to consolidate these efforts and implement cloud resources more strategically across the enterprise. It's critical for them to support digital business initiatives with faster time-to-value resources. They want these resources available for any of their mission-critical internal digital services as well as for their external revenue-generating applications.

IT leaders recognize now they cannot stifle the innovation that has occurred from the independent teams that have engaged in shadow IT when their IT departments cannot meet demand. CloudBolt's cloud management platform can help IT leaders achieve the innovation needs of specific lines of business with less complicated resource provisioning, all while managing the complexity of security, performance, and control on the backend.

EC2 encourages scalable deployment of applications by providing a web service through which a user can boot an Amazon Machine Image (AMI) to configure a virtual machine, known as an "instance" in Amazon terminology, containing any software desired. A user can create, launch, and terminate server instances as needed, paying by the second for active servers.

HOW CLOUDBOLT RELIEVES THE COMPLEXITY

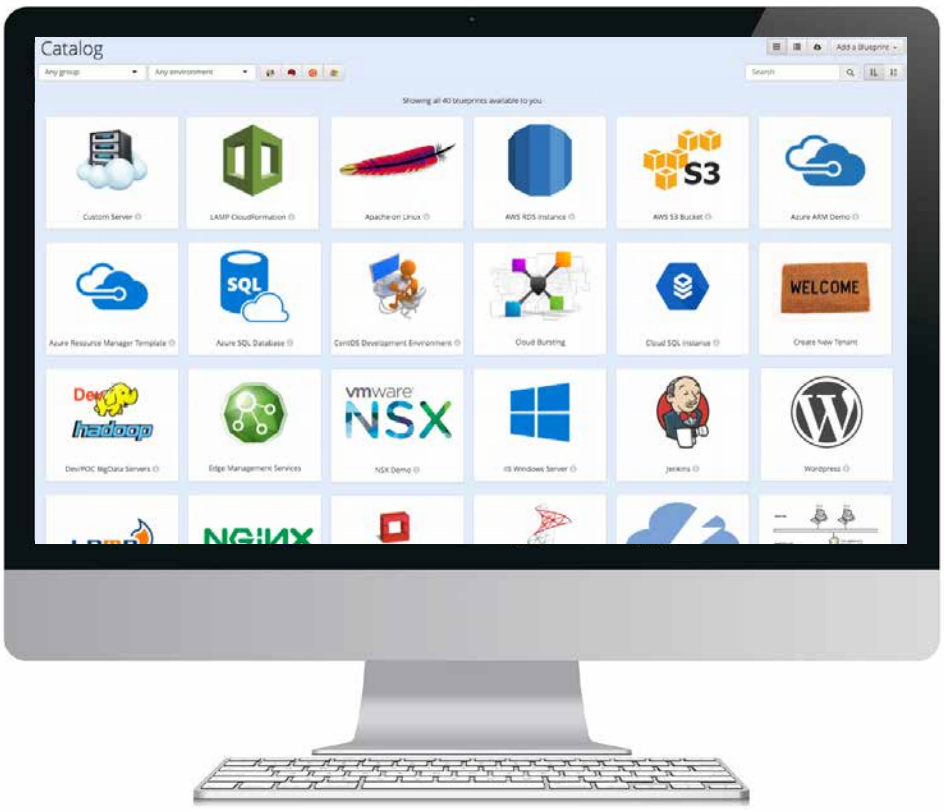
Amazon has a database of thousands of AMIs. End users must sort through that database to figure out which AMI they should use to provision resources. They have to know which region they should use and which availability zone is best to deploy their infrastructure. These are just a few of the questions that they must answer to provision resources for AWS EC2 instances.

When an enterprise end user creates a server in an AWS cloud environment, they must also consider configuring the server with the appropriate tags for billing, reporting, or resource tracking purposes. All of this complexity can be abstracted from end users or groups of end users with specific requirements using a cloud management platform like CloudBolt.

CloudBolt can present end users with a subset of the AWS settings to configure, narrowing down the choices to just what is necessary while all of the other configuration details are configured behind the scenes. As multiple end users and end user groups access AWS resources across the enterprise, CloudBolt can synchronize tags associated with those servers and use them for reporting on users, billing codes, or any annotations related to their usage.

CloudBolt can power hybrid cloud strategies by offering end users a simple catalog to access AWS resources and often as a part of an overall IT resource strategy. For example, a CloudBolt catalog can have options for VMs to be hosted not only on AWS but also on whatever cloud technology is best suited for the task. The catalog enables admins to create "blueprints" for controlled and repeatable deployments by end users. A CloudBolt blueprint can be as simple as a one-click single server build or as complex as a multi-tier load balanced application stack running in multiple environments.

Blueprints are extremely flexible and designed for any self-service IT needs. They are composed of only actions, with no servers provisioned. For example, administrators could create blueprints for ordering user accounts, virtual networks, or cloud-specific services not involving actual VM provisioning. This "Anything-as-a-Service" (XaaS) capability makes CloudBolt the perfect platform for enterprises to manage their overall hybrid cloud, multi-cloud, and IT service needs, all from one console.



BETTER VISIBILITY INTO RESOURCE USAGE

CloudBolt gives admins the ability to see who is using certain resources. One of CloudBolt's unique features is the ability for admins to monitor and track different resources from one place. They can be shown next to each other in the interface but in totally different runtime environments. For example, they can see all of their resources running in AWS alongside resources running on a VMware vCenter platform or on a Google Cloud platform, both of which are also used like AWS to provision and manage virtual servers.

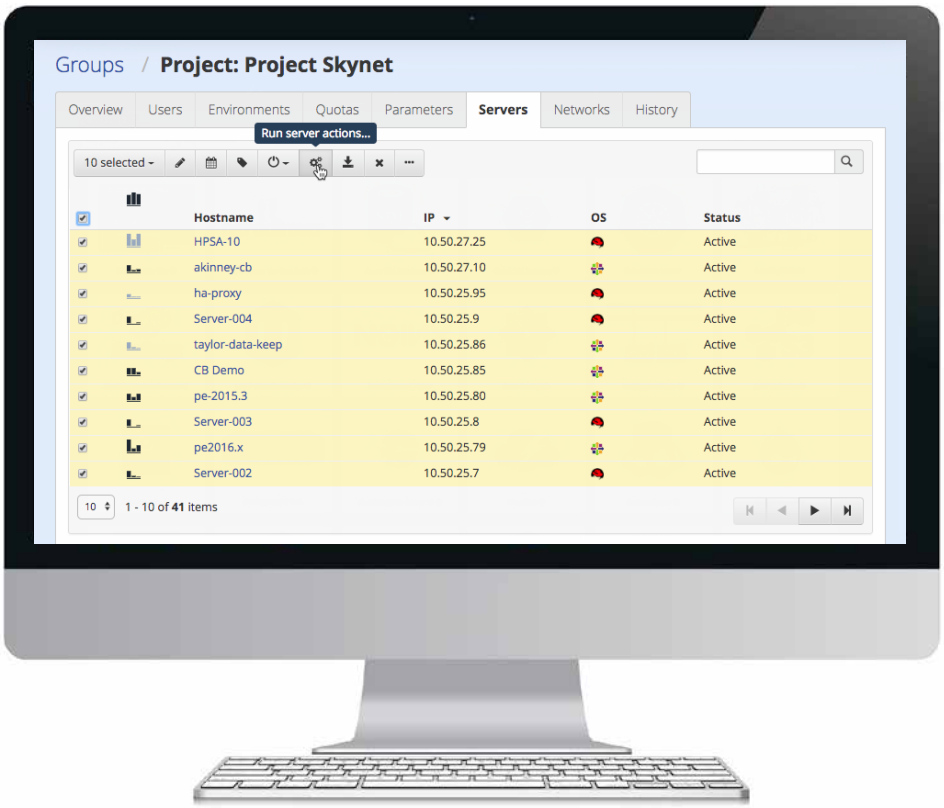
By managing the provisioning process and end user choices, admins can mask actions like giving a VM a public IP address. IT managers typically don't want end users to build servers that are uniquely available on the Internet. Admins can control that activity through CloudBolt and make sure that servers are launched with the appropriate controls.

Once a CloudBolt admin has configured all of the backend complexity of AWS resources, an end user can simply choose where they want the virtual server, and CloudBolt handles the rest. For example, they can choose to have their VM deployed in the "Production East" or "Production West" regions, and CloudBolt handles all of the behind-the-scenes details of how the VMs should be built.

Most enterprises have ended up with multiple, separate AWS accounts from teams across the enterprise as well as through mergers and acquisitions. CloudBolt can simplify access to all of these accounts or work with AWS directly to consolidate and manage access to these specific accounts. In some cases, they can negotiate with AWS for usage discounts.

CloudBolt allows an admin to unify accounts and make them available through a single interface. As CloudBolt end users access and use AWS resources along with any other cloud vendor resources, the resulting unified CloudBolt view is updated with the latest inventory at regular intervals to track usage across all end users and accounts as well as report on the associated costs.

CloudBolt also assists admins in updating servers to their latest patch level. They can select the servers from the CloudBolt user interface and deploy the patch to all of the servers at the same time. Instead of flipping through a bunch of different consoles, each with a different purpose and with varying degrees of control and oversight, CloudBolt provides a centralized IT management platform for admins to implement global actions that can affect the entire enterprise as well as tailor requests for specific sets of users.



CROSS-CLOUD DEPLOYMENTS

Avoiding vendor lock-in scenarios is a part of most modern digital transformation strategies. When resources from one vendor cannot be easily migrated to another environment, a substantial risk is exposed to any of the digital resources running in that environment. Suppose a user agreement is violated for a specific vendor or the resources running in a specific region are subject to an unforeseen outage and high availability has not been properly configured.

CloudBolt allows an admin to create a blueprint that deploys servers in two parallel environments. For example, they can deploy resources in both AWS and VMware vCenter with the aim of having them work together as a single service. This cross-cloud deployment can mitigate the risk of vendor lock-in. If one environment fails, the service can continue to run in the other environment as resources come back up or are deployed to another cross-cloud location.

Another cross-cloud — *also considered a hybrid cloud strategy* — would be to host a base tier of web servers from a local data center, and if the tier gets overwhelmed, additional servers are automatically deployed in a public cloud environment like AWS to create additional capacity.

CloudBolt's blueprint engine can deploy a blueprint independent of the cloud technology chosen. For example, a CloudBolt admin can set up a blueprint for a Jenkins server that can be deployed in an internal data center, AWS, or Microsoft Azure, with no change to the blueprint itself. The end user does not even need to know where it is being deployed.

Conclusion

CloudBolt provides one unified view for all clouds – internal and external – as well as on-premises infrastructure to help end users leverage compute, network, and storage resources from anywhere that is deemed appropriate for the enterprise. Enterprises can deploy infrastructure to run digital business services and applications when and where they need them across multiple private cloud and public resources to avoid vendor lock-in.

CloudBolt provides an easy-to-use platform that enables admins to abstract complex configuration settings for almost any digital asset available on-premises or through any private or public cloud provider like AWS, and then expose simplified workflows to end users who can start using digital resources immediately instead of waiting for a lengthy IT provisioning process or having to go through a tedious manual process.

CloudBolt Capabilities for AWS

AWS Services Supported	EC2, ELB, RDS, S3, CloudFormation Templates, CloudWatch Metrics.
Discoverable Resources	Instances, regions, VPCs, Marketplace and Private AMIs, keypairs, instance types. On VMs: tags, HW resources, IP addresses, instance IDs.
Continuous Discovery & Refresh	Discovery and full management of resources created outside of CloudBolt, plus updating of known resources (including changes initiated outside of CloudBolt).
Supported VM Management Actions	Scaling up & down, running scripts, power control, accessing ssh & RDP from within the browser, managing NICs & EIPs.
Multi-environment Blueprints	CloudBolt blueprints can be set to be deployable to both AWS and any other set of clouds & virtualization systems.
Configuration Management	CloudBolt integrates deeply with Ansible, Chef, and Puppet to provide consistent configuration across public & private cloud environments.
Orchestration	CloudBolt has 43 distinct trigger points where admins can choose to execute additional instructions in CloudBolt actions. Five different types of actions are available: remote scripts, webhooks, email hooks, external orchestration flows in vRO or HP OO, and CloudBolt Plug-ins.
Power Scheduling	A weekly power schedule can be specified for VMs to shut them off during hours when they are not needed to save on costs.
Chargeback / Showback / Shameback	CloudBolt interprets the rate data published by AWS (and other cloud providers) to provide cost estimates & comparisons when ordering, show costs across environments, groups, and sets of servers, and also generate exportable per-group billing and trend reports.
Cloud Bursting	Services running in private virtualization systems can be set to scale to other environments (including public clouds) when they reach specified maximum thresholds, then back down when the load on the resources goes below minimum thresholds. This allows CloudBolt end users to build their private environments for baseline load, and rent resources for peak times.
Expiration Dates	Yes, with per-environment and per-group configurable behavior at expiration time.
Resource Quotas & Limits	Limits are settable on groups, environments (clusters), and per-user.
Continuous Environment Testing	Orders can be set as CIT tests within CloudBolt so deployments are tested nightly to ensure a healthy build pipeline.
VM Migration to Public Clouds	Yes, via integration with CloudEndure.

sales@cloudbolt.io

703.665.1060

www.cloudbolt.io

DS.AWS.186.30

ONE VIEW. MANY CLOUDS.

Automation. Flexibility. Control.

CloudBolt's hybrid cloud platform enables enterprise IT departments to build, deploy, and manage private and public clouds quickly and efficiently. The user-friendly portal hides the complexities of hybrid cloud, giving end users the ability to manage and provision resources on demand, while administrators set provisioning conditions for governance. With CloudBolt, IT leverages its investment and controls costs while increasing flexibility and agility.