AppScale

ATS for Cloud Service Providers

Companies are embracing a **hybrid cloud strategy** to align application requirements with the optimal deployment platform. Performance, cost, latency, compliance, security, and geographic location must be considered to ensure the right platform, at the right time, and at the right cost. Given the dynamic nature of today's businesses, these variables may change over time and an application – be it cloud-native or datacenter-native – may run in a variety of deployment scenarios during its lifecycle:

- staying **on premises** in a traditional virtual datacenter or private cloud,

- staying in or migrating to a dedicated service provider **managed environment**,

- staying in or migrating to a **public cloud**,

- **migrating away** from a public cloud to a dedicated service provider environment or customer data center.

In this hybrid world, many companies are looking to embrace a **single development and deployment paradigm** to accelerate application time-to-service, enhance effectiveness, and improve compliance. This would allow them to develop once and deploy to the right platform initially – and if conditions change, migrate applications off the original deployment platform.

Given the demands of these increasingly complex environments, many companies are relying on service providers (SPs) to assess, migrate, host, and manage their applications and infrastructure across the variety of deployment platforms. Many of these SPs have partnered with **Amazon Web Services** (AWS) to offer managed services around the public cloud aspect of the hybrid environment. This partnership has been fruitful for many SPs, but with the accelerating adoption of hybrid cloud and Amazon's announcement of Outposts, an on-premises offering, SPs may find themselves competing with AWS for business they've traditionally owned. This means:

- New revenue opportunities may decrease as Outposts will be managed by AWS.

- Account control may diminish as customers look to AWS for guidance as the provider of a core element of their hybrid strategy.

- Current managed service engagements may become more complex as Outposts introduces potential security and compliance challenges with hybrid management centrally controlled from the pubic cloud.

Appscale is enabling service providers to address these challenges with an AWS-compatible on-premises offering. The **Appscale ATS** solution allows SPs to drive top line growth with differentiating services, maintain account control, and ensure security and compliance in this accelerating hybrid cloud market.
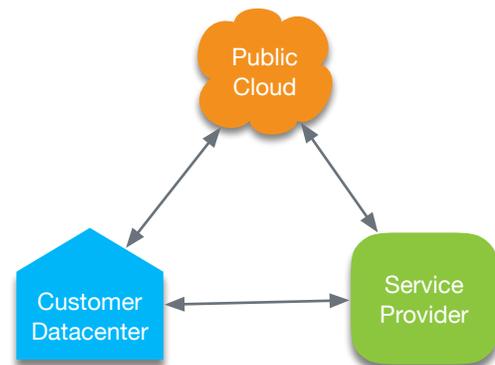
"84% of enterprises have a multi-cloud strategy [today]. Enterprises with a hybrid strategy… grows to 58% in 2019 from 51% in 2018." [1]

By 2022, 20% of all enterprises will have hybrid AWS environments. [2]

Benefits of ATS

- **Top line growth**: offer customers an AWS on-premises solution that covers a broad set of use cases.

- **Security and compliance:** leverage advantages of dedicated and on-premise environments.

- **Time to service**: offer an AWS compatible hybrid cloud now, taking advantage of rapidly increasing market demand.

- **Easy migration:** applications or workloads currently on AWS EC2 can be migrated to the Appscale ATS platform with little effort.

- **Cost effective:** launch your AWS on-premises service quickly with an introductory licensing and pricing package.
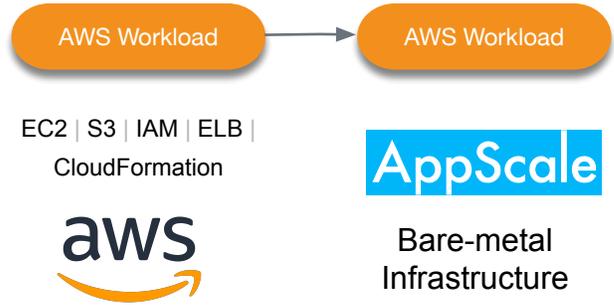
1.   Rightscale's "2019 State of the Cloud" report

2.   Gartner's "Prepare for AWS Outposts to Disrupt Your Hybrid Cloud Strategy" by David Wright, Jeffrey Hewitt, Henrique Cecci, February 2019

AppScale ATS implements AWS-compatible clouds over bare-metal infrastructure. Those familiar with AWS can view it as another region, with one or more availability zones. Collections of virtual machines, their network topology, and storage can be managed using command-line tools, a Web console, or programmatically through an API. AWS-style load balancing, auto-scaling, and user identity management, with a rich set of access controls, are included.

ATS is fully compatible with AWS APIs, providing endpoints for **EC2, EBS, S3, IAM, ELB, CloudWatch, CloudFormation,** and other services. The large variety of tools for managing EC2 workloads and software stacks designed to run on top of EC2 can be used on ATS with little or no modification. This enables easy migration to or from AWS, as well as hybrid deployments, without the need for extra abstraction layers.

ATS was designed to be easy to install, operate, and keep updated. It runs on standard CentOS or RedHat installations, relying on KVM for virtualization. The vast majority of bare-metal configurations, from a handful of servers to many racks, can run ATS. Built using open source software and fully open source itself, ATS will not lock you into an expensive proprietary solution. ATS is enterprise proven with deployments of over 200,000 cores.

AWS Workload → AWS Workload

EC2 | S3 | IAM | ELB | CloudFormation

aws

AppScale

Bare-metal Infrastructure

ATS elegantly serves most hybrid and multi-cloud **use cases**:

- **hybrid** workloads spanning public clouds and dedicated environments, to satisfy compliance or latency requirements
- **on-ramps** for on-premises workloads bound for AWS
- **off-ramps** for EC2 workloads leaving AWS
- **test/dev** on premises with production in public cloud
- **offload** steady-state, predictable workloads from AWS for cost savings
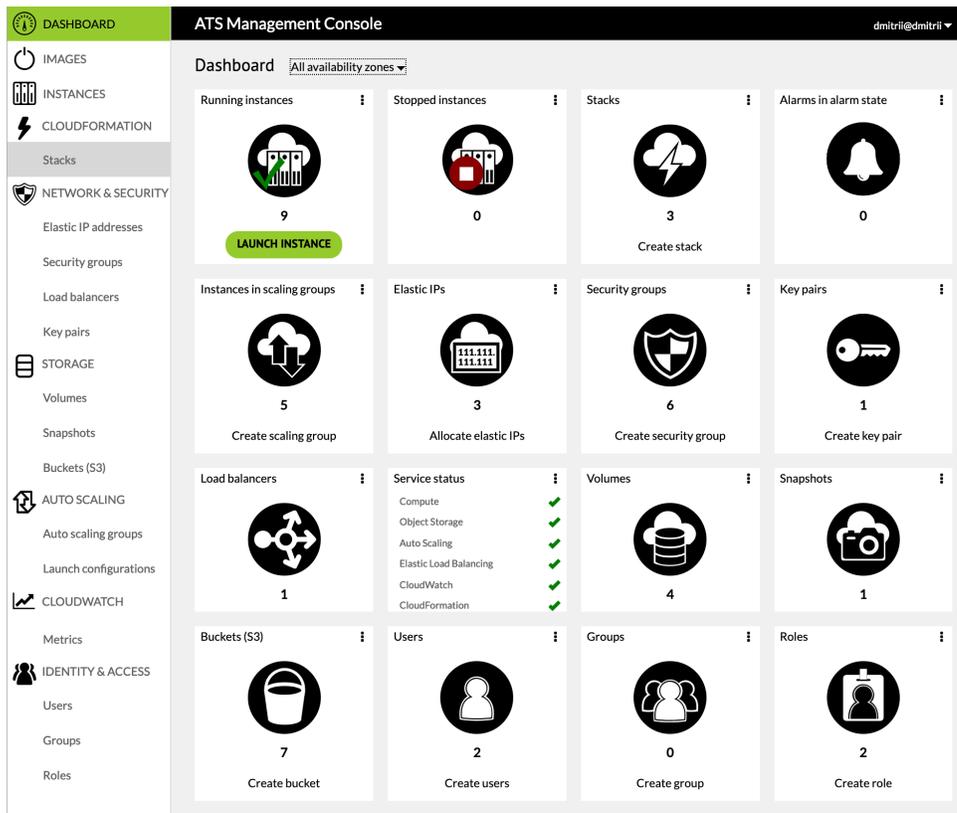
Features

Virtual machine management

Scalable software-defined object and block storage

Software-defined networking

Built-in load balancer

Instance auto-scaling

Identity and access management

LDAP / Active Directory integration

Security Token Service

Web console ATS and AWS

Federation of multiple ATS clouds

DASHBOARD

IMAGES
INSTANCES
CLOUDFORMATION
　Stacks
NETWORK & SECURITY
　Elastic IP addresses
　Security groups
　Load balancers
　Key pairs
STORAGE
　Volumes
　Snapshots
　Buckets (S3)
AUTO SCALING
　Auto scaling groups
　Launch configurations
CLOUDWATCH
　Metrics
IDENTITY & ACCESS
　Users
　Groups
　Roles

ATS Management Console   dmitrii@dmitrii ▾

Dashboard   [All availability zones ▾]

Running instances	Stopped instances	Stacks	Alarms in alarm state
9	0	3	0
LAUNCH INSTANCE		Create stack	

Instances in scaling groups	Elastic IPs	Security groups	Key pairs
5	3	6	1
Create scaling group	Allocate elastic IPs	Create security group	Create key pair

Load balancers	Service status	Volumes	Snapshots
1	Compute ✓ / Object Storage ✓ / Auto Scaling ✓ / Elastic Load Balancing ✓ / CloudWatch ✓ / CloudFormation ✓	4	1

Buckets (S3)	Users	Groups	Roles
7	2	0	2
Create bucket	Create users	Create group	Create role