Adaptive COMPUTING

Accelerate Insight

Moab® HPC Suite-Enterprise Edition: Elastic Computing

Challenges with Workload Bursts

While some organizations have the benefit of dealing with consistent workloads, most experience bursty workloads that bring with them a number of provisioning and performance challenges. These workload bursts can negatively impact the workload time to completion, creating a logjam to discovery. Bursty workloads vary in quantity and size, which makes capacity planning an exponentially more difficult task if there is little advance knowledge of the incoming spike.

Even during peak times, administrators must ensure that regularly scheduled workloads are completed and associated SLAs are met. Large system administrators juggle lots of users' needs and the requirement to be responsive to those needs is imperative; therefore, being able to burst workloads to other resources becomes extremely desirable.

Introducing Elastic Computing for Moab

Moab HPC Suite-Enterprise Edition 8.1 helps admins tackle these challenges by introducing elastic computing capabilities. With Moab 8.1, admins can efficiently manage resource expansion by bursting to private/public clouds and other data center resources utilizing OpenStack or other standard platforms.

Moab's elastic computing functionality unifies data center resources (a core tenet of Adaptive Computing's Big Workflow vision) as a single ecosystem that adapts as workloads demand. This enables admins to utilize all available resources, including cloud (private and public) and even common platforms such as OpenStack that can be utilized on multiple environments.

Bursting to Communal Data Center Resources

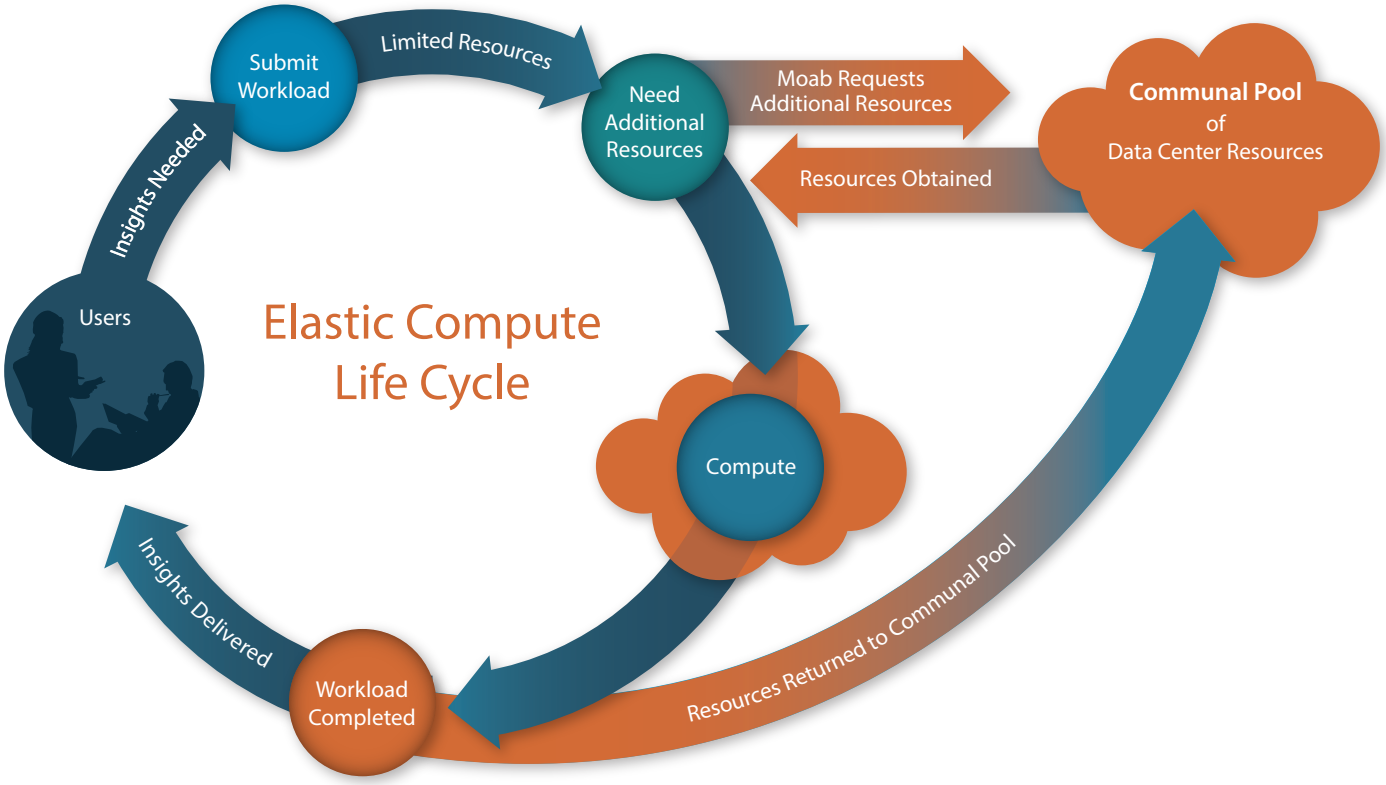
Elastic computing is triggered when a threshold set in Moab is exceeded. To determine this threshold, Moab surveys the system workload and calculates the combined completion time of these burstable workloads if no other workloads are running.

Moab 8.1 achieves elastic computing by bursting workloads, on an as-needed basis, into a communal pool of data center resources and then relinquishing these resources back to the shared pool. This added flexibility enables admins to essentially expand their own cluster while taking advantage of the elasticity of resources and scalability of the cloud.

Utilizing OpenStack as a Common Platform

Moab 8.1 utilizes OpenStack as a common platform to make elastic computing simpler to install and operate. Setting up an OpenStack environment internally is comparably easy to other solutions. Additionally, it reduces the number of integration points and complexity of the systems, which in turn simplifies the professional services requirements.

If OpenStack isn't for you, elastic computing is still available for other standard platforms in Moab 8.1. The architecture has a number of integration points that allow the system to be customized to your existing infrastructure and management tools. Well-defined interfaces and loose-coupling allows Adaptive Computing's Professional Services team to customize elastic computing to meet your environments specific needs.



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