Adaptive COMPUTING

Moab

Unify Context › Apply Policy › Act Intelligently

Moab Adaptive Computing Suite™ and IBM® xCAT

A Dynamic, Extreme-Scale Enterprise Cloud Solution

The IT Challenge

In a highly competitive global environment, IT organizations must deploy and manage resources that are agile, automated, and adaptive to be responsive enough to deliver the services required by today's rapidly changing business conditions.

Traditional manual IT practices, where new service requests can take six weeks or more to deliver, can no longer keep up with the pace or complexity of current demands.

In combination with a consolidated, standardized, and virtualized infrastructure—a malleable pool of shared resources—Moab Adaptive Computing Suite™ and xCAT deliver intelligent, policy-based decision automation and resource provisioning that can reduce new service delivery time from weeks to minutes.

Key Benefits

- **Agile**: Reduce IT resource delivery time from weeks to minutes
- **Automated**: Mitigate risk through consistency, repeatability, and enforcement of site-specific rules
- **Adaptive**: Respond to dynamically changing circumstances according to organizational priorities by adjusting workload allocation and modifying infrastructure profiles to optimize service delivery
- **Accessible**: Self-service provisioning of physical or virtual infrastructure, including servers, memory, storage, network, software, and licenses
- **Accountable**: Implement allocation and billing systems to charge for costs and regulate user demand
- **Agnostic**: Integrate with existing and acquired or preferred future software and hardware platforms

Moab Adaptive Computing Suite™ and xCAT deliver intelligent, policy-based decision automation and provisioning that reduces service delivery time from weeks to minutes.

Solution Overview

Together, Moab Adaptive Computing Suite and xCAT deliver an intelligent decision-automation and provisioning solution for managing agile, automated, and adaptive data centers and private and public cloud architectures:

Moab Adaptive Computing Suite™ is an intelligent decision-automation system with a self-service portal for user access and integrated accounting capability. Moab provides data-center governance that balances IT service demands, organizational policy, and business priorities with a unified view of current and future data-center resource availability.

xCAT—Extreme Cloud Administration Toolkit is a scalable distributed-computing management and provisioning tool that provides a unified interface for hardware control, discovery, and OS disk-full/diskless deployment. An open-source project originated at IBM, xCAT has been actively developed since 1999 and is based on years of system administration best practices.

Moab Adaptive Computing Suite and xCAT are currently deployed in some of the largest and greenest data centers in the world.

Moab Adaptive Computing Suite™ and IBM® xCAT

Moab and xCAT—

- Intelligently automate extreme-scale, heterogeneous data centers with tens of thousands of applications and servers
- Monitor the state of the entire data-center infrastructure and dynamically allocate resources to applications as needed
- Provision state-full and stateless systems with multi-OS software stacks on demand, reducing deployment time to minutes or seconds
- Use application profiles to intelligently place workloads on both physical and virtual resources
- Enforce service-level agreements (SLAs) and ensure acceptable quality of service (QoS) for all users and applications
- Anticipate surges in application workload and provision additional resources on demand so that peak workloads can be accommodated without delay or interruption of services
- Identify underutilized resources and pack workloads more tightly to enable existing servers to complete more workload in less time
- Automate system health checks, detect amber light and failure conditions, and automatically provision replacement servers so that applications finish on schedule without the need for manual intervention
- Monitor power usage, identify underutilized resources, redistribute workloads, and power down idle servers until required
- Reduce demand on cooling systems and energy consumption by up to 50 percent
- Provide centralized management across multiple geographically dispersed installations

Self-Service Provisioning

From a personal home page, users can—

- Make physical or virtual resource requests through a self-service interface
- Create and manage multiple virtual private clouds (VPCs)
- Provide users full management of their resource requests
- Provide billing by means of a shopping cart
- Modify leased resources
- Archive and restore previous resource requests

An Extreme-Scale Cloud Solution

Most organizations implementing cloud architectures already have a strong investment in infrastructure tools. Moab and xCAT let sites build on this investment by interfacing with key existing solutions while providing a large portfolio of business management tools to supplement the capabilities of the existing infrastructure.

As the scale, scope, and complexity of cloud implementations increase, the need for more intelligent governance of how, when, and to whom resources are allocated also increases. Moab Adaptive Computing Suite takes the role of the service governor that understands the concepts of resources, credentials, and time and intelligently applies site-specific business rules. Moab interacts with xCAT and other resource-management tools to enforce limits on the amount of resources users may request, to provide users with estimates on when resources will become available, and to ensure that critical business priorities are satisfied.

For more information on Moab Adaptive Computing Suite, visit **http://www.adaptivecomputing.com**.

For more information on xCAT, visit **http://www-03.ibm.com/systems/software/xcat/** or **http://xcat.sourceforge.net**.

Contact Us . . .

- **Contact us by phone or email, or visit our Web site today—**

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