

# End-to-end FlexPod™ Orchestration

Single-click FlexPod™ deployments & one integrated solution for entire FlexPod™ management

## Solution Highlights

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| <p>➤ <b>Unified FlexPod™ Management</b><br/>Manage and orchestrate entire FlexPod™ infrastructure from a unified management interface</p> | <p>➤ <b>Single-Click FlexPod™ Provisioning</b><br/>Automated provisioning to create, deploy, and reconfigure servers, storage, and applications in minutes</p> | <p>➤ <b>Single-Pane FlexPod™ Monitoring</b><br/>Continuous capacity monitoring with unified dashboards, reports and analytics across FlexPod components</p> | <p>➤ <b>Integrated Cloud Management</b><br/>Turnkey integrated cloud management capabilities: self-service portal, service catalog, orchestrator, capacity management, and chargeback</p> |
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### THE CHALLENGE

Today's data center architectures are getting more and more complex, with a mix of physical and virtual infrastructure, including servers, storage, networks, and virtualization. Having a diverse set of management tools for physical and virtual components not only adds to the complexity but also increases the failure rates. Data center admins spend a lot of time coordinating, configuring, and provisioning across isolated silos of server, storage, networking, and virtualization. This leads to longer service delivery times, operational inefficiencies, and higher costs.

New generation data centers require the speed and agility to provision and configure underlying virtual and physical infrastructure. Organizations cannot keep up with the pace of virtual environment expansion without complete infrastructure capabilities:

- Siloed resource management
- Multiple management interfaces
- End-to-end automated FlexPod provisioning
- Lack of real-time and integrated visibility into entire FlexPod unit

### THE SOLUTION

FlexPod converged infrastructure minimizes the amount of upfront work and provides self-contained pods that includes everything necessary to run a system. The open API FlexPod framework provides partners and customers the ultimate flexibility to scale up and scale out. Cloupia's management and automation framework enables FlexPod to meet an organization's needs.

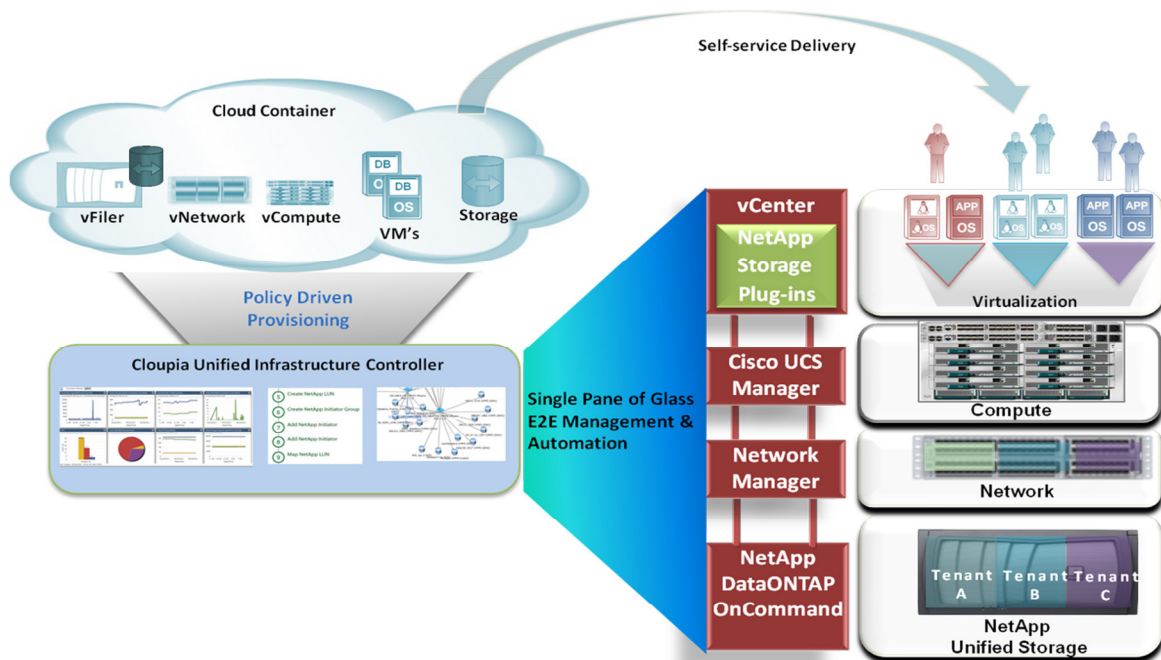
A holistic deployment of entire server, storage, network, and virtualization components of converged infrastructure is critical to build or manage large-scale pod-based data centers. Self-service creation of entire application environments requires automated and unified provisioning of both physical and virtual components:

- Unified service management
- One integrated solution
- End-to-end automated FlexPod provisioning
- Unified real-time monitoring and visibility into entire FlexPod stack

“FlexPod™ platforms provide a robust, validated, and elastic solution that combines compute, network, storage, and virtualization. Cloupia complements this unified strategy perfectly with its simplicity and comprehensive ability to manage and automate all components of FlexPod seamlessly and out of the box.” — Paul Sorgiovanni, National Practice Manager, Empired Ltd.

## Unified FlexPod™ Management

Organizations are looking for one integrated and comprehensive FlexPod management solution that automates management, monitoring, and provisioning of the entire FlexPod unit. Organizations are looking for a pre integrated and turnkey solution with low footprint and faster time to implementation. Cloupia’s solution, Cloupia Unified Infrastructure Controller (CUIC), simplifies and streamlines cloud data center infrastructure management and makes sure that networking, computing, and storage infrastructure work together seamlessly.



### Cisco UCS management

CUIC provides auto-discovery, monitoring, and complete visibility to manage all Cisco UCS™ components: chassis, servers, fans, modules, memory units, and disks. It provides end-to-end management, dynamic provisioning, power management, and orchestration of Cisco UCS components. CUIC also provides role-based and policy-driven management of data center services using service profiles and templates of Cisco UCS Manager.

### NetApp storage management

Cloupia’s comprehensive management and automation of NetApp® unified storage will make it easy for enterprises and service providers to build virtualized data centers. Cloupia provides deep integration with NetApp Data ONTAP®, OnCommand™, and VSC API. The service catalog provides integration of storage provisioning policies, data protection policies, and storage resource pools into a single service offering that administrators can choose during service provisioning. The CUIC automatically discovers and monitors physical and virtual storage from a single pane of glass. The CUIC provides a unified dashboard to provide comprehensive, granular, and correlated views into all NetApp components: LUNs, volumes, aggregates, storage systems, vFiler® units, and storage pools.

### Cisco network management

CUIC provides end-to-end network management of Cisco Nexus® 5K, Cisco® MDS, and Cisco Nexus 1000Vswitches. CUIC monitors and manages physical and virtual networks from a single pane of glass. It enables policy-based provisioning of physical and virtual switches. Admins can configure VLANs, vNICs, port groups, and port profiles. Admins can also configure IP/DHCP allocation and ACLs across network devices. The CUIC provides dynamic network topologies.

### Virtualization management

CUIC provides end-to-end virtualization management capabilities such as auto-discovery, monitoring, lifecycle management, and provisioning. CUIC enables organizations to manage virtual environments such as VMware® and RedHat KVM on FlexPod. It also provides all necessary private cloud management components: self-service portal, service catalog, service delivery orchestrator, and chargeback.

## Single-click FlexPod™ Provisioning

Organizations typically use a disjointed set of vendor-specific tools to manage virtualized data centers. Virtualized data centers cannot be operated efficiently without integrated infrastructure provisioning and management tools. To fully realize the benefits of private cloud, organizations must have a self-service portal with full self-service catalog that includes both virtual and physical infrastructure.

Most of the cloud platforms lack a management layer that can handle physical, virtual, and cloud-based resources. IT teams are worried that they will be forced to use multiple tools to manage different sets of environments. IT leaders expect a single set of integrated solutions that offers them an end-to-end solution to manage the entire lifecycle of the complex IT environment.

At the core of this solution, the service delivery orchestrator automates deployment of infrastructure services groups. It standardizes how IT services are delivered across an organization and orchestrates IT processes that span across multiple groups.

### Single management interface:

Giving organizations the ability to manage and orchestrate their physical and virtual infrastructure from a single management console yields considerable operational and administrative cost savings.

### Self-service creation of end-to-end application environments:

Self-service creation of an entire application environment requires automated provisioning and configuration of underlying physical and virtual components. The CUIC provides a seamless approach to linking and automating management processes and tasks across physical and virtual infrastructures as needed.

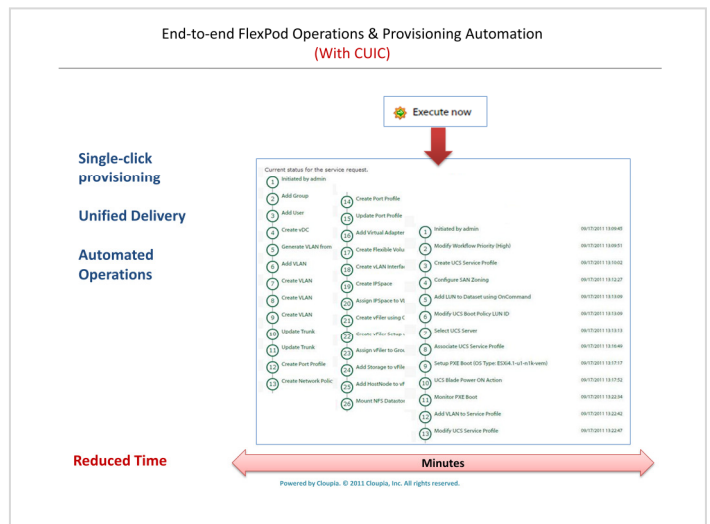
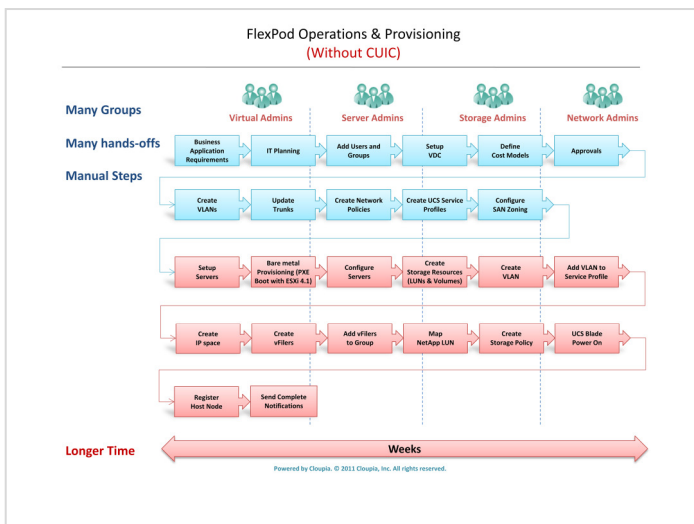
### End-to-end service visibility:

Bringing together data from disparate parts of the virtual and physical infrastructures can improve the visibility from a service perspective. The CUIC automates cross-silo virtualization capabilities to deliver end-to-end service visibility across both physical and virtual infrastructures.

## Model-Based Orchestration and Open Automation

Cloupia's model based orchestrator enables IT administrators to customize and automate many infrastructure administrative and operational tasks with an easy-to-use workflow UI designer. Cloupia provides a rich built-in task library and out-of-box workflows, which admins can further, extend and customize.

Cloupia introduces "Open Automation for Clouds (OAC)," which provides an "open" interface for Cloupia customers and partners to modify, add, or enhance functionality of CUIC to deliver many cloud management and automation use cases. Typical data centers are heterogeneous in nature, and any automation technology cannot be limited to a fixed set of protocols and systems. The Open Automation for Clouds enables customers to add multiple infrastructure and cloud vendors as an extension of the data center and lets them take control of systems and applications. The Cloupia OAC enables organizations to automate infrastructure and cloud management with minimum engineering effort and without any vendor lock-in risks.



## Integrated Cloud Management

Organizations are looking for comprehensive cloud management solution that automates management, monitoring and provisioning. Cloupia's turnkey integrated cloud management capabilities include self-service portal, service catalog, service delivery orchestrator, capacity management and chargeback.

Our solution help organizations transition to private cloud computing environments by providing them with the required combination of service-oriented management, operations automation & service orchestration.

### Self-service Portal

CUIC provides service catalog, self-service provisioning, self-service dashboard, and management to create, deploy, and reconfigure physical and virtual servers, storage, and applications in minutes.

### Multi-tenant security

CUIC provides robust security with organizational role-based access control and policy management. It also provides deep storage and network management for required segmentation at both physical and virtual layers.

### Chargeback

CUIC enables business units to allocate, account, monitor, and report resource usage and associated costs. Business units get the visibility about how much they are paying for resources and how much goes unused, allowing them to optimize resource consumption and costs. Different groups in the organizations can define their own cost models to suit their IT and organizational structure and costs.

### Dynamic capacity management

CUIC provides visibility into virtual and physical infrastructure resources consumption in real time that significantly improves capacity planning. It also provides storage service monitoring and assurance visibility into networked storage assets to quickly understand availability, performance, relationships, and utilization.

## Cloupia

Cloupia, a cloud automation and management software provider, offers a suite of cloud computing products and solutions to power next-generation dynamic data centers that enterprises and Service providers demand. Cloupia provides the tools and automation to enable organizations smoothly evolve from static data center or virtual environments to private and public cloud environment.

[www.cloupia.com](http://www.cloupia.com)



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