Cisco Intelligent Automation for Cloud
Starter Edition

The journey to cloud computing is truly a journey–this new operational paradigm for IT organizations does not happen overnight. Many IT departments struggle with how to get started, and they are often under pressure to quickly show results. Cisco® Intelligent Automation for Cloud *Starter Edition* is designed to meet their needs.

Whether this is your first Infrastructure as a Service (IaaS) deployment or one that follows a false start, the starter edition is designed to accelerate your journey and rapidly implement a successful private cloud. As part of our Unified Data Center platform, this Unified Management solution complements the Cisco Unified Computing System™ (Cisco UCS®) as well as other Cisco products, services, and partner technology solutions.

With the starter edition, you will begin with self-service automated provisioning of virtual machines and physical Cisco UCS blades. Over time, you can expand your deployment, configure new cloud services, and integrate with additional third-party systems. You will have an upgrade path to take advantage of the full breadth of Cisco's Intelligent Automation for Cloud software solution, as you extend the functionality and adoption of your private cloud and move to a hybrid cloud model.

The starter edition is focused on simple IaaS provisioning through a self-service portal with automation, orchestration, and lifecycle management for both virtual and physical infrastructures. That simplicity means faster time to cloud and greater agility. Once deployed, your end-to-end server provisioning time will be reduced from days or even weeks to mere minutes.

The starter edition offers a low-risk entry point in your journey to cloud services. You can get started with a manageable deployment to improve agility and increase operational efficiency from day one, and partner with Cisco to meet the longer-term goals for your cloud initiative.

Product Overview

Cisco Intelligent Automation for Cloud *Starter Edition* is a private cloud software solution that allows you to offer basic virtual and physical compute-as-a-service running on Cisco UCS.

The starter edition automates the service request process, orchestrates provisioning, and manages your compute resources from the initial order to the end of their lifecycle. It includes prebuilt service content, workflows, and integrations to support Cisco UCS and VMware environments, making it deployment ready.

With this solution you can provide your users with a web-based self-service interface and a catalog of infrastructure service options. They can request servers, whether physical or virtual, Windows or Linux. The next step is service delivery automation, with orchestrated provisioning and configuration of the requested resources. Both users and IT administrators have complete visibility into each request, with the ability to track usage from the initial ordering step to decommissioning of resources. An administrative console provides additional controls with management for ongoing operations and capacity allocation, and there are no quotas.

The starter edition is a complete, predesigned business and automation package based on these major products:

- Cisco Cloud Portal: This configurable self-service portal allows you to provide a unified storefront for requesting and provisioning IT services. The portal provides the user interface, service catalog, and lifecycle management capabilities for ordering and tracking virtual and physical compute resources.
- Cisco Process Orchestrator: This is the automation and orchestration engine, and it coordinates the workflows and provisioning to fulfill those requests. Whether for virtual

machines or bare metal provisioning of physical servers, the orchestrator configures the requested compute resources. Based on the user selection, a server is booted with the correct operating system.

By using the service profile and built-in networking capabilities of Cisco UCS, each compute configuration is based on predefined operating environment templates so that servers are provisioned correctly and consistently each time. You can enforce IT policies for self-service ordering from the portal and deliver consistent automated provisioning outcomes.

Features and Benefits

The starter edition includes features that are essential for automating compute resources from end to end. It also includes predesigned automation workflows and content for your initial private cloud deployment. With this functionality, you can deliver IaaS on demand within minutes to achieve greater business agility and efficiency.

Unified Self-Service Portal

Easy-to-Use IaaS Storefront: Users can easily place and manage orders through a storefront interface that lets them access a simple catalog of infrastructure options. They can order virtual machines (VMs) or physical servers with the Windows or Linux operating system preconfigured. They can combine virtual and physical resources on the same network and deploy, for example, an application server on a VM and the attached database on a physical server.

A simple and unified portal for requesting IT services promotes wide adoption because it creates positive user experiences by providing a consistent, fast, and easy way to order, track, and manage requests. Figure 1 shows the interface to the catalog from which users select and request their services.

Figure 1. Users Can Order Services from Predefined Categories and Options in the Portal
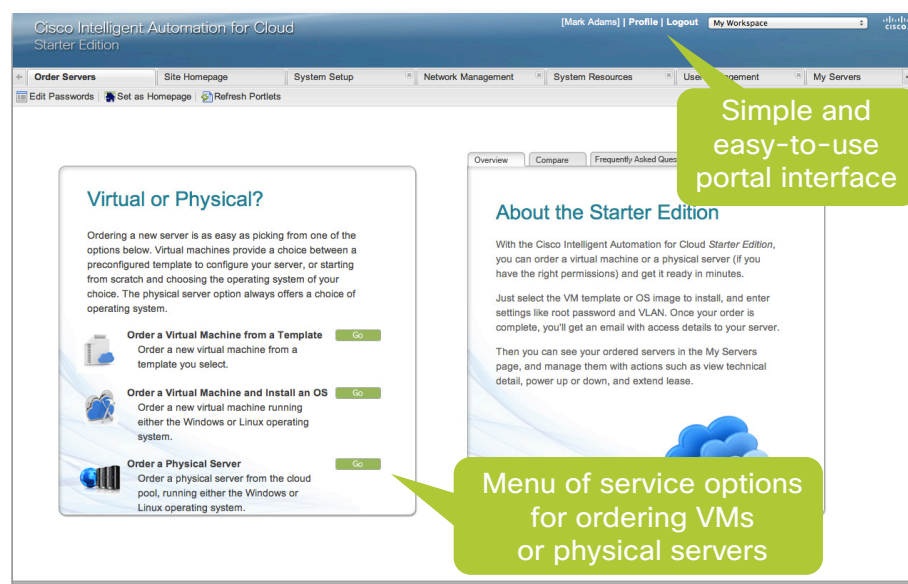
Subscription and Lifecycle Management: Through the portal, users can also track information on cloud servers and extend their service leases or decommission the servers. They can manage the lifecycle of their resources, including power on/off or power-cycle, taking VM snapshots, reverting to a snapshot, or modifying CPU and RAM configurations.

Automated Service Delivery: When service requests enter the system, the orchestration software automatically provisions the requested resources with Windows and Linux environments. It uses predefined workflows that run provisioning procedures consistently each time, with end-to-end cycle time measured in minutes instead of weeks.

Unified Cloud Management

Consolidated Administration: IT administrators can manage order standards such as VM sizes and lease terms, and also manage organizations, users, services in the catalog, user quotas, user access to specific services, and service leases. They can designate an organization as onboard or offboard, assign networks and resource pools available to the organization, and modify organization properties.

Flexible Resource Management: Administrators can register resources available, such as virtual machine templates and physical blades. The administrator can repurpose resources between virtual and physical resource pools by changing blade states. This feature supports the optimal use of the available resources for improved capacity management. The ability to

repurpose blades quickly as needed is possible due to the tight integration with Cisco UCS Manager.

Portlets for Managing Capacity: The portal includes portlets for tracking infrastructure capacity and utilization metrics for UCS and for each vCenter cluster. Administrators can monitor capacity utilization and then easily add and configure blades. This makes capacity management more efficient and helps to ensure appropriate allocation of resources.

Fault Detection and Error Recovery: Infrastructure fault detection and notification capabilities, together with an interactive knowledge base for recovery from provisioning errors, helps keep your private cloud working smoothly. The system lets users and IT administrators know the status of each request, and administrators can proactively address any issues. This service continuity improves operational efficiency and the user experience.

Email Notification: Administrators receive notification for any issue that the system found during the provisioning process. Users can get email notifications when a request is processed, after a request has been provisioned, when a server lease is about to expire, if the server was automatically decommissioned due to a lease term expiration, if there is an error that could not be corrected, and if the request could not be fulfilled.

Solution Design

The starter edition is a single-tenant solution with the ability to support multiple organizational units deployed in

one network zone with VLAN separation for each organizational unit.

It supports a maximum of one VMware vCenter and one Cisco UCS Manager instance with one UCS domain of up to 160 blades. You can define up to 1000 registered users, and the system supports 200 concurrent users. The system supports up to 10,000 concurrent service items, which is in alignment with VMware vCenter limits.

For every physical or virtual server ordered, users can select a server name, root password, network, and lease end date. Functionality and scope of services is controlled and standardized through the use of templates. Users create a VM by using templates to choose one of three sizes, and a template for either a Windows or Linux operating system. Users commission physical servers using templates to select the Windows or Linux profile and the Cisco UCS service profile. A VM is deployed within the organization's resource pool, and physical servers are provisioned on a local boot drive.

All networks and storage are preprovisioned separately, not as part of the automated workflow. Therefore, starter edition administrators focus on registering or removing deployment networks for users, on assigning virtual datastores to organizations, and on simple IP address management. VM storage uses OS boot vDisks that are created dynamically, while blade storage uses local OS boot disks and network-attached storage (NAS).

Extensible and Upgrade-Ready

The starter edition is flexible, configurable, and extensible. It offers a roadmap and upgrade path to support your longer-term cloud journey. You can add new services and workflows, expand to a multitenant environment, support additional hypervisors, support other server infrastructure, and address automated network and storage provisioning. This solution gives you the freedom to move from basic IaaS in a simple private cloud to provisioning entire end-to-end application stacks, or evolve to a hybrid cloud with provisioning of external cloud services.

Depending on your requirements, you can add capabilities through customization services. You can also upgrade to the enterprise-class Cisco Intelligent Automation for Cloud solution. Whatever additional capabilities you need to add, and at whatever pace, professional cloud experts from Cisco and its partners can provide guidance, planning, and implementation services to help make your cloud journey smooth.

Deployment

When you purchase this software solution, we can discuss your professional services and deployment needs. Depending on your objectives, you may choose basic training and implementation services or elect to have a full deployment service engagement including strategy, planning, readiness validation, and installation. Either way, experts from Cisco or its partners will work with you to install and deploy the solution to complement your Cisco UCS deployment and existing IT infrastructure environment.

Cisco Intelligent Automation for Cloud *Starter Edition* currently supports the following platform versions, which must be provided separately by the customer as they do not ship with this product:

- Hypervisor: VMware ESXi, vCenter
- Cisco UCS Manager

- Cisco UCS Blade models: B200, B230, B250, and B440
- System database (for all components): MS SQL Server 2008 R2, and Oracle 11g R2
- Browser (for all components): Internet Explorer 8 or 9, and Firefox 3.5 or later

For More Information

Additional information about the starter edition is available at http://cisco.com/go/starteredition.
To learn more about our other Cisco Intelligent Automation for Cloud solutions, please visit http://cisco.com/go/iacloud.