Transforming IT Role from Ops to DevOps

WHITE PAPER

Hosting Controller

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A Control Panel is the standard tool used by Service Providers to act as the face of their service. All users log in to the same place and are offered the menus and tools to conduct their actions. Control Panel then in turn integrates with all the systems and applications to conduct those actions.

As Enterprises are increasingly influenced by the cloud based service providers, they are incorporating control panels for applications running on-premise and in their own data centers.

Hosting Controller is a control panel especially designed for the organizations to use in their private clouds. Among other benefits for the organization, this white paper discusses the availability of APIs and how they are used in an organizational environment.

Without Control Panel
End-Users request IT staff to run different IT-Operations on their behalf
IT-Staff primarily engaged in 'IT-Operations'

Complex Automation
- Sign up and onboarding
- Provisioning
- Selfcare Actions
- Multi-Tenancy
- Security

With Control Panel
End-Users get self-serve GUI portals to execute their respective operations themselves
IT-Staff primarily engaged in IT-Automation using provided APIs

Before a Control Panel

Some applications provide a limited self-care portal. For all other actions, the end-users need to engage their IT departments who perform those actions on their behalf.

For Infrastructure and Virtualization applications, it could be creating a virtual machines, upsizing or downsizing them, or retiring them when not needed.

For database applications, it is creating new databases, upsizing or downsizing them etc.

For MS Exchange or Email servers, it is creating new mailboxes, upsizing or downsizing them, removing them when not needed etc.

This practically reduces the IT departments to spend their time running daily operations which are repetitive and add little value to the organization.

After a Control Panel

Hosting Controller provides detailed self-serve GUI based portals for end-users to conduct most of their actions themselves. This increases their agility and efficiency.

For all those hundreds of supported actions, Hosting Controller provides fully automated REST based APIs. These APIs perform the action through automation, authenticate and authorize each request and maintain an audit trail of who did what and when and to what resource.

Transition from Ops to DevOps

Availability of APIs enable the IT personnel to automate their tasks where possible. Their primary role shifts from running day to day operations, to automating them through development.

All APIs are based on REST protocol which is the easiest protocol and most widely supported. All orchestration technologies support REST APIs as well as all other scripting languages like Python, Bash, NodeJS etc. IT is free to choose their orchestration technology because of REST APIs.

Executing workflows

This enables IT to think in terms of 'use cases' or 'workflows' that they need to execute. Two or more actions are all clubbed together and executed as a single transaction. All APIs return parameters which make it easy to pipeline the output of one into the input of the other and created cascaded APIs calls to fulfill the workflow.

No more missed action items
It separates the creation of scripts from their execution. While scripts are being developed, the IT department can pay attention to them once knowing once debugged and finalized, it will just execute itself repeatedly.

No more security holes left through manual oversight
Human oversight remains the biggest problem in compliance especially with repetitive tasks. Thoroughly tested scripts remove this factor.

High speed execution

Scripts once finalized execute at the speed of machine and not the humans. Complex workflows are completed within seconds and not hours or days.

Clean Rollbacks

In case the scripts run into any error, the partially executed work can be rolled back gracefully as part of bigger transaction rollback.

Executing Bulk Tasks

APIs also enable to conduct the same task in bulk. If an organization has 10,000 employees, to perform an action on all of them through GUI based menus may be a task taking weeks. No more with APIs.

APIs easily execute tens or hundreds of tasks in a second. Single API User license can serve thousands of requests in an hour.

Authentication, Authorization and Audit Trails

Each request on the APIs is authenticated using different mechanisms. The ID of the caller is uniquely established. The request passes through Hosting Controller Role Based Security to ascertain if the calling user has authorization to execute the said task. If that passes, the payload of the request and response is permanently logged providing an audit trail of all changes to the system.

Continuous Integration and Delivery

Hosting Controller also provides an SDK for IT guys to integrate any other applications into the Control Panel. This enables the culture of continuous integration of new Apps and their continuous delivery. Hosting Controller Control Panel is an essential tool for doing this.

Further Reading

Hosting Controller REST API documentation.
https://apiconsole.hostingcontroller.com/#/

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