

HP Operations Orchestration



Enterprise-scale IT automation with a disciplined approach

HP Operations Orchestration software is the next-generation IT process automation solution that is supported across your entire IT environment from traditional data center to cloud.



Enterprise-scale IT automation

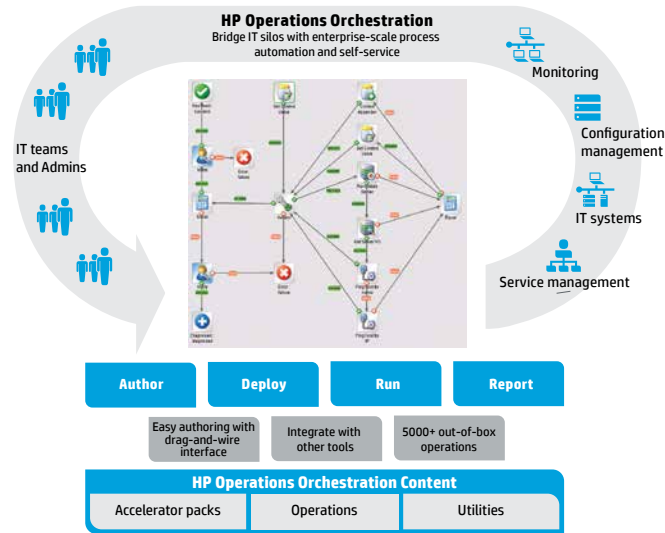
Data centers continue to grow in size and complexity and look to deploy technologies such as virtualization and expand into cloud delivered IT services to meet ever increasing demands from business. With the rise in heterogeneous infrastructure, platforms, and applications, IT has seen a proliferation of scripts and point tools for run book automation within the data center. Each of the server, network, storage, database, and application dev-test and release teams operate in their own silos with limited collaboration and rely on error-prone manual execution and handoffs. CIOs are mandating better collaboration and investment in orchestration tools that bridge these IT silos and enable consolidation of tools and scripts.

As a result, enterprises will need to rely upon next-generation IT process automation (ITPA) solutions. IT process automation is evolving to a broader enterprise-scale orchestration approach and includes more than just run book or IT task automation and process automation. With next-generation ITPA you can quickly, simply, and reliably develop, deploy, and manage automations in a disciplined approach that cuts across the entire enterprise IT environment from traditional IT to cloud-based infrastructure operations to other IT operations functional areas such as development operations (DevOps) and security operations (SecOps).

HP Operations Orchestration—next-generation ITPA

As your IT environment becomes progressively more complex, there will be the need for you to rely upon an enterprise-scale next-generation IT process automation solution to ensure successful IT automation deployments. As you make this transition to IT automation software, you will realize how HP Operations Orchestration helps you manage the automation of IT infrastructure and operations more efficiently. Refer to Figure 1 for a depiction of the process automation lifecycle using HP Operations Orchestration.

Figure 1. Process automation lifecycle using HP Operations Orchestration



HP Operations Orchestration (HP OO) can be leveraged to reduce cost, improve automation deployment time, manage scale, improve consistency, and increase reliability. HP OO provides the perfect choice for automating IT tasks, operations, and processes and is designed with an innovative enterprise-scale automation platform that provides a stable foundation for IT to deliver services whether in a traditional data center or hybrid cloud environment. HP OO provides for rapid automation deployment and simplified automation management culminating in an improved user experience based on automation self-service. Common usage scenarios currently being implemented by customers today using HP OO can be found in Table 1. These are some examples of how HP Operations Orchestration can seamlessly direct complex IT workflows and coordinate information sharing across disparate systems and teams.

Table 1. Common HP Operations Orchestration usage scenarios

Incident management	Change management	Virtualization	Cloud service automation
Service down in HP Operations Manager i (OMi)	Requestor creates SM ticket to provision a server	User requests additional server capacity through self-service portal	Requestor creates a change ticket to provision additional resources (VM, storage, application stack) in the cloud
Alert launches OO flow	Change advisory board reviews and approves ticket	Request launches OO flow that prompts user for parameters	Change advisory board approves the change ticket which launches OO flow
OO flow takes ownership of alert	Ticket approval launches OO flow	OO flow opens SM change ticket to provision a new VM	OO flow checks hypervisor capacity and provisions additional storage in the cloud
OO flow opens incident ticket in HP Service Manager (SM)	OO flow executes change operations with HP Server Automaton (SA)	OO flow checks hypervisor capacity and provisions additional storage	OO flow triggers SA to provision the new VM and application stack
OO flow performs diagnostics and repair procedure to fix service, such as restarting the service	OO flow updates and closes SM ticket	OO flow triggers SA to provision the VM and configure the software	OO flows adds new VM to the load balancer
OO flow updates SM ticket with full audit trail	OO flow updates HP Universal CMDB with accurate data center state	OO flow performs checks to confirm successful completion	OO flow enables monitoring for newly provisioned storage, VM, and applications
OO flow acknowledges the OMi alert event	OO flows notifies change control board	OO flow closes SM ticket	OO flow performs checks to confirm successful completion and closes the change ticket
OO flow closes SM ticket			

HP OO Central

HP OO Central includes the flow engine that executes the flows and also provides an administrative interface to manage users and flows. In addition, HP OO Central also provides dashboard and reporting for ROI and execution metrics for flows. HP OO offers you flexibility in flow execution to reduce administrative time and increase agility. You can execute flows sequentially or in parallel, which reduces the time for you to deploy a single change to a large group of devices or to coordinate related changes to different device types (for example, server and storage devices).

HP OO Central provides additional capabilities such as reporting, dashboard, and documentation on your deployed flows including:

- **Execution events:** user-generated report on execution events.
- **Average execution reports:** provides the average execution time for every flow.
- **Built-in ROI calculator:** defines, computes, and reports the benefits of executing flows. The ROI for every execution and flow is calculated and presented.
- **Custom reporting:** provides ability to create custom reports for executed flows specific to user requirements utilizing filtering on the execution list.

Table 2. HP Operations Orchestration Studio and Central

HP OO Studio	Flexible flow authoring
Easy-to-use flow authoring	Intuitive drag-and-wire capabilities to design, create, share, and customize flows with little or no programming skills
Automated flow authoring	User-friendly and intuitive wizards including PowerShell, Web Services, and SAP wizards
Powerful built-in debugger	Test flows on multiple environments that accelerate content development and validate flows for reliable execution
Collaboration between multiple authors	Provides collaborative authoring capabilities across multiple locations
Source control management	Reduce risk by providing auditability of source code changes
Offline development	Separates development environment from production environment
Documentation	Generates HTML documentation automatically based on the flows and operations
HP OO Central	Powerful engine that executes flows and provides an administrative interface to manage users and flows and simplified end-user flow access
Execute flows in multiple modes	Provides flexibility in flow execution and reduces administrative time and increases agility. <ul style="list-style-type: none"> • Visually guided mode • Fully automated mode • Scheduled mode • CLI and API
Execute flows sequentially or in parallel	Reduces the time to deploy a single change to a large group of devices or to coordinate related changes to different device types
Real-time inspection of step-by-step results and outcomes of flows	Improves auditing and instrumentation of flow execution
End-user self service	Simplified end-user access to automations being managed

HP OO Content

HP OO Content refers collectively to the integrations, operations, and process automation libraries in HP OO. It includes over 5000 out-of-the-box operations, flows, and integration adapters. These offer you tremendous flexibility in terms of supporting many different platforms and management products. The comprehensive coverage of integration adapters for systems management products offers you the freedom to use existing products without major tweaks or reprogramming. HP OO offers content in the areas of:

- Cloud orchestration, DevOps, security operations, disaster recovery, incident automation, and service request fulfillment. It provides the most comprehensive virtualization and cloud support that covers Microsoft® Hyper-V®, VMware, Xen, KVM. Amazon AWS, Open Stack-based clouds including HP Cloud and VMware vCloud Director.
- Tools and systems including, but not limited to, monitoring, service management, IP management, hardware interfaces, network devices, and storage.
- Applications such as SAP, Apache, IIS.
- Security products such as HP ArcSight, HP TippingPoint, and HP Fortify.

Enhancements to HP Operations Orchestration

HP Operations Orchestration (HP OO) provides you enterprise-scale automation capabilities utilizing an innovative policy-driven process automation platform with an improved user experience. The key enhancements of HP Operations Orchestration are:

- Quicker deployment of process flows via enhanced content.
- Ease of execution via the self-service console that enables non-admin roles to run the flows.
- Hyper-scale execution engine that can scale to support extremely high volume of flow bursts such as 100 flow triggers per second. The higher scalability meets your requirement of having a single enterprise orchestration solution that can handle executions across your disparate systems and environments including external providers. Lack of such scale will force you to operate in silos without visibility into end-to-end processes.

Faster flow development

HP OO Studio functions as a standalone integrated development environment (IDE), and does not require flow authors to be connected to an HP OO server. This provides you improved performance and enables a distributed work environment. For example, multiple authors can use a standard development process across multiple geographies. This includes creation and deployment of modular packs across test, dev, and user acceptance testing (UAT) environments. It has the ability to support 100+ authors across regions, lines of business, level of expertise, and geographies to create re-usable and pluggable automation flows.

In addition, wizards offer your users easy-to-use and intuitive choices for automated flow authoring. The PowerShell Wizard discovers the available modules and cmdlets from a target host saving you development time. It helps you avoid having to repeat the same time-consuming process of creating flows that execute the PowerShell cmdlet and easily translates PowerShell scripts into HP OO flows reducing your dependency on PowerShell scripting.

The Web Services Wizard helps you to integrate enterprise applications seamlessly and efficiently. The Web Services Wizard uses the standard Web Services Description Language (WSDL) of your applications and translates the described functionality to flows in HP OO. It saves you time by generating the HP OO operations to call the web service and invoke methods.

With the HTTP client library you can interact with RESTful services using REST APIs. You don't need to do any code development or compilation to support REST-based integration. For a summary of enhanced features in the latest release refer to Table 3.

Table 3. Summary of enhanced HP OO features

Enable more users to author task and process automations	<ul style="list-style-type: none"> • Improved support for geographically distributed authors • Support for multiple projects • Studio separate from Central to enable offline content development • Support for standard source control management in Studio for collaborative flow development
Enable organizations to quickly deploy automations	<ul style="list-style-type: none"> • Improved packaging and code promotion of flows operations • Automatic distribution of content to remote action services • Support for self-contained content packs that can include a specific set of flows and operations
Broader base of IT to execute automations	<ul style="list-style-type: none"> • Simplified end-user focus for self-service automation • Embeddable widgets • Support for mobile/tablet devices • User-friendly audit and status • Easily control/execute/track flows
Increased scaling to support extremely high volume of flow bursts	<ul style="list-style-type: none"> • 4X increase in step execution rate • Improved support for highly parallel and long running executions • Improved concurrent processing • Asynchronous polling mechanism
Improved cross data center resiliency	<ul style="list-style-type: none"> • Zero downtime for upgrades • Live scale out (additional nodes can be added without the need to stop the system) • Support remote action services behind firewalls
Lower TCO to support multiple deployment models	<ul style="list-style-type: none"> • Small footprint to get started (HP OO can run on small to medium instances on Amazon Cloud) • Smaller footprint for Central server (1/2X)
Application-centric orchestration	<ul style="list-style-type: none"> • Provides application-specific integrations supporting business changes • Available wizards to simplify flow creation
Security operations orchestration	<ul style="list-style-type: none"> • Verifies that the process is both IT- and business-compliant • Enables auto-remediation to address IT vulnerability including infrastructure and applications
DevOps orchestration	<ul style="list-style-type: none"> • Accelerates the release of application changes across development, test, staging, and production
Expanded infrastructure orchestration	<ul style="list-style-type: none"> • Provides content and integrations across the entire traditional IT and cloud fabric

Automation self-service console

HP Operations Orchestration end-user self-service is designed for the nontechnical user so no HP OO training is required. This provides a broader base of IT persona to execute automations. It provides your own personalized HP OO workspace with a simplified user experience to manage automations under your control. It is designed to give you easy access to running flows and includes automated tasks that are associated with your flows in HP Operations Orchestration.

You can customize the automated tasks from an intuitive user interface and launch HP OO from anywhere. For example, you can open your end-user self-service view in any web browser or tablet. When you log in, a list of automated tasks assigned to your user and group appear. These tasks are associated with the flows available in HP OO. When new flows are assigned to your user and group they are automatically synchronized with your personalized automation view. It is as simple as that. This simplicity enables a broader adoption of automation in the enterprise.

HP Operations Orchestration ROI

HP Operations Orchestration is the next-generation IT process automation solution that is supported across your entire IT environment from traditional data center to cloud. It includes many tangible ROI results that are industry leading. Some real-life customer ROI examples are highlighted in Table 4.

Table 4. Real-life customer ROI results

Task	Before HP OO	With HP OO	ROI
Incident management and resolution	5k–8k incidents per month, staff of 8	400+ flows in production, 1200+ flow executions daily	\$5M annual savings, reduced MTTR
Change management	Weeks for end-to-end provisioning	12 core flows, 5k–10k flow executions weekly	<ul style="list-style-type: none"> • Saved \$4M by automating 30+% of provisioning task • <1 day for provisioning
Disaster recovery failover	DR test requires 40-50 people, 6–7 hours of the day	Entire failover process codified in OO	80% reduction in resources required
Managing and provisioning virtualized infrastructure	Provisioning would take up to 97 days	Self-service portal for provisioning virtual data center	Provisioning time reduced to 4 hours or less, reduced errors

HP Operations Orchestration benefits

HP Operations provides many key benefits including:

- **Improves process adoption:** improves the standardization of tools and processes aligning to the needs of the business
- **Improves process quality:** convinces the experts to change their mindsets from working on something until the job gets done, no matter what, to defining and agreeing on a single, predictable, and repeatable process that can be automated
- **Reduces operational cost:** automates manual, repetitive, and error-prone tasks so IT staff can refocus on strategic initiatives
- **Improves service quality:** reduces escalations and mean time to repair (MTTR) by automating event and incident triage, diagnosis, and resolution
- **Coordinates change and tasks across siloed systems and teams:** reduces inefficiency, complexity, and risk associated with manual handoffs
- **Increases business agility:** react more quickly to changing business needs by reducing the time to deploy new infrastructure and provision end-to-end business services
- **Provides auditable processes:** documents and enforces ITIL-compliant, standardized processes
- **Increases time to value:** leverages out-of-the-box content based upon best practices and integrations with HP and third-party system management tools
- **Eases workflow creation:** reduces administrative complexity by decreasing the need for dedicated development resources to author flows

HP Services

HP Professional Services

HP Software Professional Services offers a comprehensive portfolio of cloud and automation consulting services, from strategic advisory, through software implementations to education and solution management. HP Professional Services for HP Operations Orchestration includes:

- HP OO Foundation—deploys HP OO into customer environment, using out-of-the-box functionality to support foundational use cases such as system health check, restart service, open/close tickets. This is a fixed-scope, fixed-price offering delivering rapid value through the use of standard, out-of-the-box (OOB) features.
- HP QuickPacks—are pre-packaged content modules that accelerate value realization by allowing customers to deploy pre-configured workflows, saving them the cost and time needed to design them independently. These modules save customers time and money and allow them to increase quality and reliability by leveraging proven and tested workflows.
- Education and solution management—enabling customer success and solution adoption by providing the user training and post-implementation services needed by customer staff to increase their productivity with the solution set.

HP Software Services

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