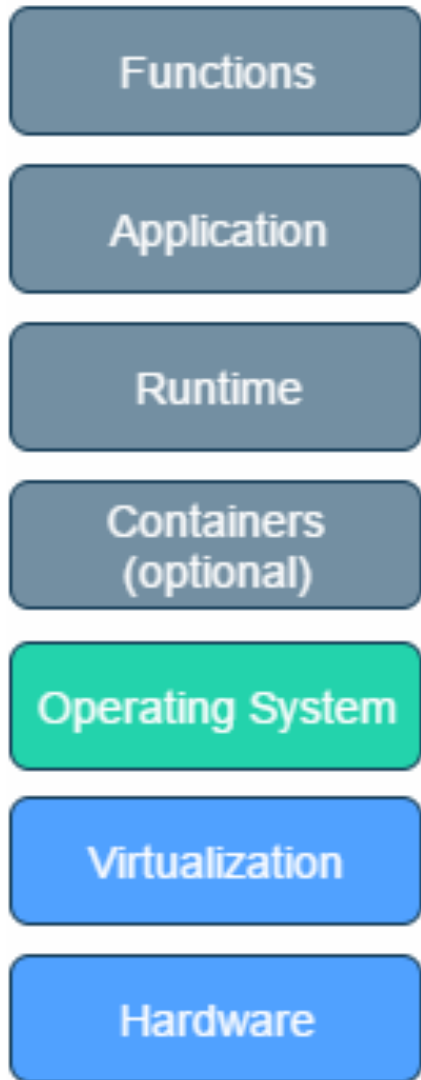


vRA Extensibility

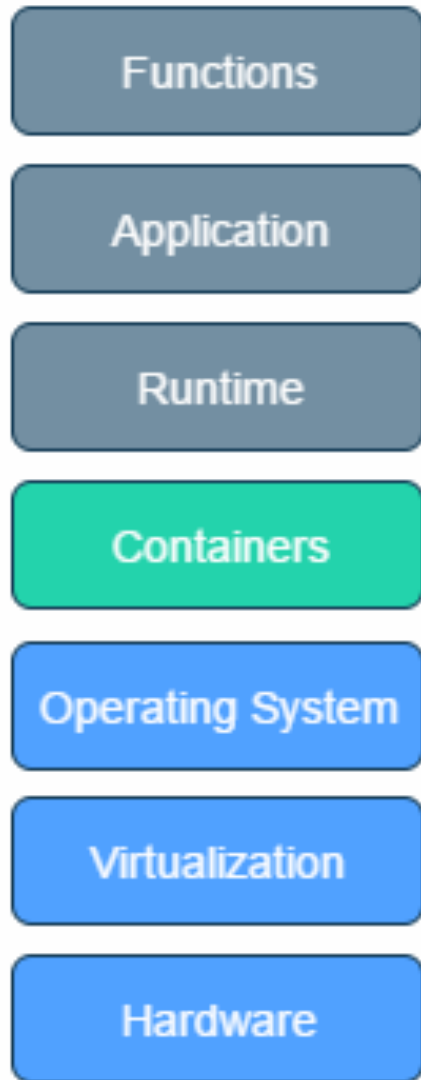
Action-Based Extensibility (ABX)

vRealize Orchestrator (vRO)

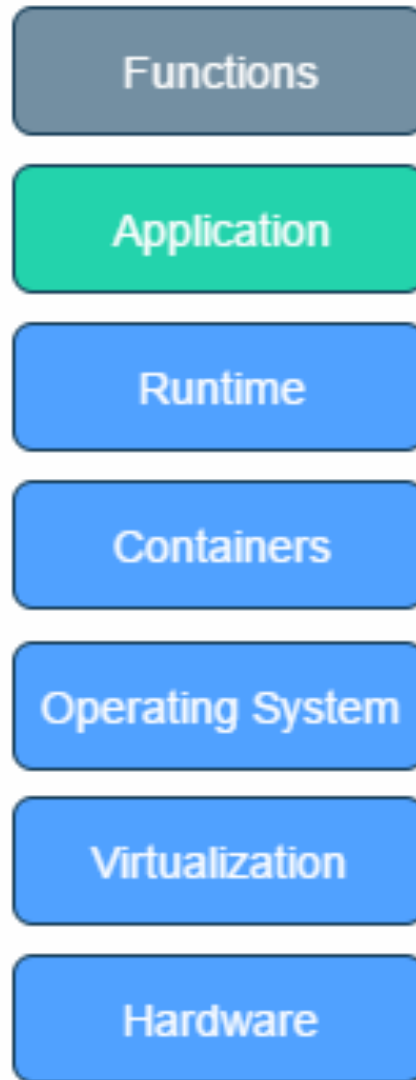
IaaS



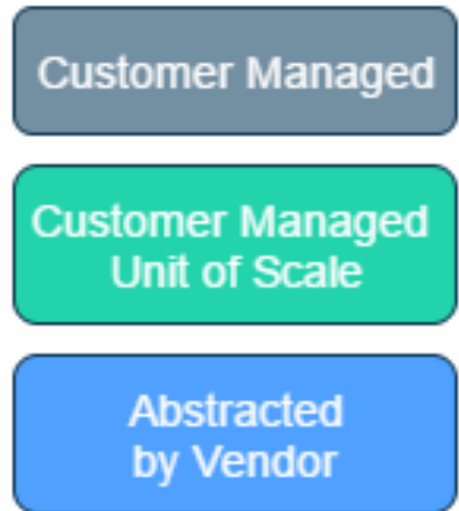
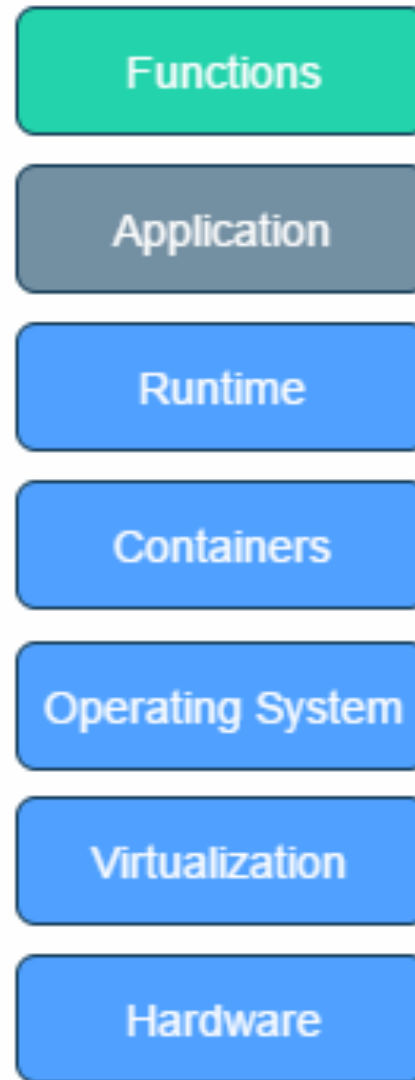
CaaS



PaaS



FaaS





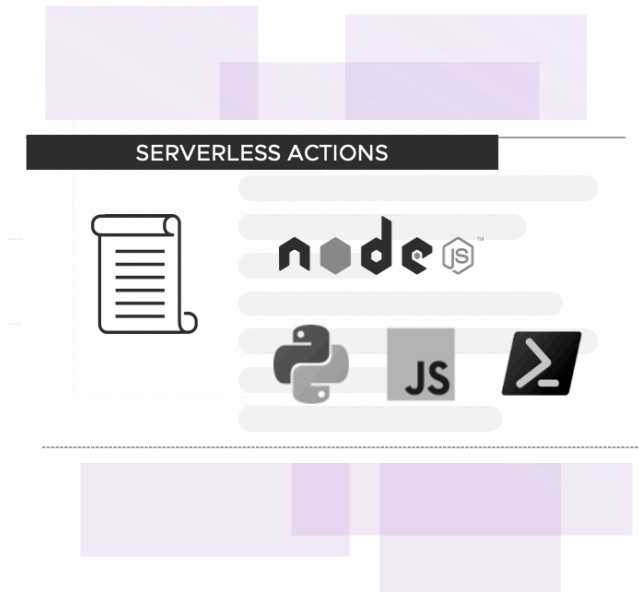
vRO Workflows & Actions

vRealize Orchestrator is a drag-and-drop workflow software that simplifies the automation of complex IT tasks and integrates with vRealize Suite to further improve service delivery efficiency, operational management and IT agility.

vRO-based extensibility provides:

- Multiple Scripting Languages: PowerShell, Node.js, Python & JavaScript.
- Provides out-of-the-box workflows.
- vRealize Orchestrator provides a standard set of preinstalled plug-ins.
- Integrated with VMware ecosystem & 3rd party tools.
 - With the vRealize Orchestrator plug-in architecture, you can access and control external technologies and applications to further extend the functionality of your vRealize Orchestrator environment.
 - The external technologies that you access by using plug-ins include virtualization management tools, email systems, databases, directory services, and remote-control interfaces.
- Large Adoption and community support ([The vRealize Orchestrator Community Forum](#)).

Action-based extensibility (ABX) provides a **lightweight and flexible run-time engine** interface (Serverless - Based) where you can define **small scriptable automation actions** and **tasks** then configure them to initiate when events specified in extensibility subscriptions occur.



Action-based extensibility provides:

- An alternative to vRealize Orchestrator workflows, using small and reusable scriptable actions, for lightweight integrations and customizations.
- A way to reuse action templates, which contain reusable parameterized actions.
- Action-based extensibility supports Node.js, Python, JavaScript and PowerShell run-time environments.
- ABX Actions can be chained several Actions together in an Action Flow.
- The Node.js and Python run-times rely on Amazon Web Services Lambda.
- Note: Extensibility actions are project-specific. (vRA 8.2 will allow to share among projects).

Action-Based Extensibility (ABX)

When to use ABX vs vRO?

ABX

- Cloud-first or hybrid cloud approach.
- Your Organization have their integration endpoint dependencies accessible as SaaS services.
- Small and reusable scriptable actions, e.g. manipulate deployment properties.
- Lightweight integrations and customizations, e.g. couple of REST API calls needed.
- SaaS-Enabled Orchestrator is not available for vRA Cloud.

vRO

- Existing vRO Plug-Ins you can re-use.
- Existing vRO Workflows and Actions you can re-use.
- Private vSphere Based Infrastructure or hybrid cloud approach.
- Complex or Extensive Scripting Tasks (that also may require debugging during development).
- Whenever you want to Extend Custom Forms Capabilities (External Data Source backed by vRO Workflow).
- Cloud Extensibility Proxy is not available for vRA Cloud (e.g. which is needed to use PowerShell for ABX).
- Re-Use vRO Workflows as part of CodeStream Pipelines.
- Custom Resources & Resource Actions can be backed by vRO Workflows.
- Tighter RBAC Control.
- You need to schedule Workflows.

These are general guidelines as it is very possible to reproduce many use cases seamless in ABX or vRO.

Wanna learn more ?

Training

- Youtube playlist, with short VRA videos : <https://www.youtube.com/watch?v=R1otMUOI1Js&list=PLclJ2j-mkO9bWxn9RRcWMDSqtrIXNnbEg>
- @SpasKaloferov Zero2Hero: Cloud Assembly ABX Actions – Part 1 : <https://t.co/qkhvhMUM5s?amp=1>
- @SpasKaloferov Zero2Hero: Cloud Assembly ABX Actions – Part 2 : <https://t.co/HrNJCteNB5?amp=1>
- @embano1 VMware Code Practical Git - Video : <https://www.youtube.com/watch?v=1EkomxvCscQ>
- @embano1 VMware Code Practical Git - Deck : <https://speakerdeck.com/embano1/vmware-code-power-session-git-07-2020>



Demo