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# HPE OneView

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The transforming  
data center

—  
Infrastructure  
management  
revolutionized

—  
Software-defined  
templates



Scott D. Lowe

HPE Special Edition

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# HPE OneView

HPE Special Edition

**by Scott D. Lowe**

for  
**dummies**<sup>®</sup>  
A Wiley Brand

# HPE OneView For Dummies®, HPE Special Edition

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# Introduction

We're in the midst of radical data center transformation process, and one that is relatively unexpected in some ways. Just a few years ago, when faced with the benefits of the public cloud, analysts and prognosticators had written off the local data center. Local data centers, they thought, would cease to exist as organizations sought to eliminate these complex constructs from their books in order to focus on the clear advantages offered by the public cloud.

Of course, as you know, the private data center is still alive and kicking. Unfortunately, too many modern companies view things like data centers as nothing more than cost centers that may not be that compelling to the core business.

Through a compelling combination of hardware and software — most notably, HPE OneView software — HPE is working hard to help organizations tame the data center beast.

## About This Book

HPE OneView is an infrastructure management software product that encompasses all aspects of the day-to-day life-cycle management of HPE infrastructure. With software-defined intelligence and a powerful, unified API that enables deep integration with third-party tools, HPE OneView is the glue that holds together the data center.

This 48-page journey provides you with a look at HPE OneView from a number of angles. It's intended to help you look at the features in HPE OneView and provide some context for a product evaluation.

## Foolish Assumptions

In writing this book, I assumed that you have at least a basic understanding of data center computing and virtualization. The general audience for this book is anyone in IT who may want to

learn more about data center architectures. You may be part of your organization's technical staff, or you may be managerial or executive staff. Either way, this book is for you!

## Icons Used in This Book

Throughout this book, you find a number of icons intended to help you better understand and remember key concepts.



REMEMBER

The Remember icon points out anything that's important enough to commit to your long-term memory.



TIP

Anything marked with the Tip icon helps you save time or money or just generally makes your life a little easier.



TECHNICAL  
STUFF

While I don't dive super deep into technical stuff in this book, there are some technical elements. I've marked them with the Technical Stuff icon.



WARNING

Throughout this book, I use the Warning icon to point out places where you might need to take some extra care.

## Beyond the Book

If you'd like to learn more, why not join the HPE OneView Community Forum (<https://community.hpe.com/t5/HPE-OneView/bd-p/hp-oneview>)? There, you can pick up lots of tips and useful information from existing users of HPE OneView.

You can also find out more by visiting the HPE OneView website at [www.hpe.com/info/oneview](http://www.hpe.com/info/oneview).

## IN THIS CHAPTER

- » Recognizing the people side of IT infrastructure that can't be ignored
- » Discovering the critical data center challenges that face modern enterprises
- » Identifying the key organization benefits of HPE OneView

# Chapter 1

# Getting to Know Modern Infrastructure and HPE OneView

**M**odern infrastructure is undergoing a transformation. New products and services are becoming available that make current processes seem archaic and somewhat backward.

One such product, HPE OneView, has the potential to radically transform how IT manages the hardware infrastructure — the lifeblood of the business. In this chapter, you dive in to a world of the old and the new and get acquainted with the foundations of this revolutionary product and how it can help propel your business into the future.

## Looking at the Impact on IT Staff

For decades, data center infrastructure has been furiously deployed by overworked IT staff who often struggle to find time to meet organizational demands. And, over time, the scope of what

businesses expect from IT has continued to creep, resulting in constant “do more with less” thinking.

Companies today are often hesitant to add more technical IT staff, favoring the hiring of more business-centric technology pros that they believe can help propel the business forward. The technology space today is at an interesting and sometimes frustrating inflection point where there are expectations for support for all the traditional workloads on which the company depends in order to operate while also expecting support for modern applications that are sometimes experimental.

When technical staff do run the show, chaos can ensue. The network team points fingers at the storage team and vice versa. The very staffing model that companies have built over time reveals the fragmented nature of data center architecture. The silos that exist between different IT teams leads to complexity, errors, increased costs, and communications challenges.

## Identifying the Challenges of Traditional Infrastructure Deployment

Maintaining an infrastructure environment that satisfies growing business expectations while IT staff size remains relatively stagnant is a serious challenge — and it’s one that is most certainly not aided by many of the traditional deployment tools and methods that remain in use. Plus, once a legacy infrastructure is deployed, constant maintenance and support needs require attention, a situation that led to what has become known as the 80/20 rule: 80 percent of IT staff time and budget is spent simply “keeping the lights on” while only 20 percent of time and budget is spent on innovation.

Chief information officers (CIOs) and business leaders across the globe are looking for ways to change that ratio to skew it more to the side of innovation. Doing so, however, is very hard work and requires new ways of thinking about data center processes. Many traditional infrastructure deployments simply have too many disconnected tasks that end up wasting time and money.

## THE 80/20 RULE IS DEAD; LONG LIVE THE 80/20 RULE

As CIOs and other IT leaders look for ways to better address key business problems, that 80 percent of the budget that goes to sunk costs can look enticing. After all, if you can just make things more efficient, you can make that ratio 60/40, 50/50, or maybe even 20/80 and create an IT organization that spends only 20 percent on the basics and 80 percent on value add.

Now, let's assume that you ultimately achieve a 20/80 mix. Congratulations! Now, you have brand-new innovative tools and services upon which the business relies. In essence, you've created a new "80 percent" that requires ongoing support. You're seemingly right back where you started.

Except you're not. Many people look at the 80/20 rule as a bad thing and something to be avoided. In reality, though, you're *always* going to have some ratio of regular support expectations from the business and innovation. The goal is to continue to evolve that 80 percent "keeping the lights on" activity so that the tools that you're supporting remain viable and relevant to the business.

And it gets worse over time. When you really think about it, what we do in the data center is just a cycle of doing the same tasks over and over again. We deploy infrastructure; we deal with storage; we create virtual machines; we install applications. When we hit a wall, we have to expand capacity. And each time we need a new service or we need to expand capacity, we just carry out the same tasks all over again.

What if I told you that you could jump off the boring and slow traditional IT merry-go-round and hop into a new construct that, instead of forcing you to meander in circles, actually freed up you and your compatriots to focus more on new business-centric value-add services?

Read on to learn about HPE OneView.

# Considering the Benefits of HPE OneView

HPE OneView is your infrastructure automation engine to simplify operations, increasing the speed of IT delivery for new applications and services. Through software-defined intelligence, HPE OneView brings a new level of automation to infrastructure management by taking a template-driven approach to provisioning, updating, and integrating compute, storage, and networking infrastructure. Designed with a modern, standards-based application programming interface (API) and supported by a large and growing partner ecosystem, HPE OneView also makes it easy to integrate powerful infrastructure automation into existing IT tools and processes.

The following sections detail the significant benefits that can be realized through the deployment of HPE infrastructure hardware coupled with HPE OneView.

## Software-defined intelligence

You're likely familiar with the variety of vendor initiatives around the software-defined data center (SDDC). For many organizations, these endeavors have been fractured, resulting in multiple software layers, APIs, and administrative paradigms. What's needed is a fast, common, policy-based automation of applications and infrastructure across development, testing, and production.

To deploy infrastructure quickly, more and more organizations are seeking to treat infrastructure as code. This allows them to deploy it, manage it, and bring it down in the same way they manage the application software they've developed. This powerful, common software layer then becomes a complete, configurable, and programmable abstraction layer for all resources in the data center.



REMEMBER

The concept of infrastructure-as-code can be summed up like this: Provision bare-metal infrastructure with one line of code — in the same way as virtual machines. Of course, this “one line of code” is backed by a whole lot of other code, but the point is that you can eventually automate practically all aspects of your infrastructure.

Abstraction is the very basis of virtualization, so the ubiquitous compute hypervisor has an important role to play. However, when

deployed comprehensively, all resources — compute, storage, and networking — are brought into the fray. With all resources controlled as software elements, practitioners gain control over their infrastructure and can accelerate business in ways that were not possible just a few years ago. The various infrastructure elements simply become an extension of the software layer and are themselves treated as code.

## Template-driven infrastructure

It's become commonplace in some environments to create templates for new virtual machines that need to be deployed. What if you could do this for *every workload* in your environment, regardless of the underlying platform — physical, virtual, cloud, or container-based — that the workload needs?



TIP

HPE OneView's API functionality lets IT administrators compose and manage physical, virtual, and cloud infrastructure essentially on demand, via automated templates, giving them the ability to request, flex, update, and heal resources quickly, more efficiently, and with more accuracy. The interface can be used for high-level orchestration, making for easier alignment with workflows as opposed to forcing workflows to align with multiple APIs. This helps administrators and software developers be more productive. Change operations, such as adding more storage to a service, modifying network connectivity, or updating firmware, can also be implemented via templates so that changes are implemented automatically. Continuous, automated life cycle operations reduce cost, save time, and increase time-to-value for your business.



REMEMBER

Templates go far beyond just initial deployment. With them, you can also simplify system updates and enforce compliance to ensure infrastructure stability. You're able to manage deployment plans and create bootable images from capturing, cloning, or customizing golden images. Further, you can enforce compliance using templates to provision, update, or roll back images quickly to minimize maintenance windows.

This software-driven data center architectural model imbues IT with eminent flexibility that simply isn't possible with legacy architectures. In fact, it's easy to equate these kinds of capabilities with those that are present in public cloud environments. With those services, you're not required to physically deploy a bunch of servers and storage to run your workloads. You simply consume the resources provided by the cloud provider.

## Frictionless IT

Under traditional computing environments, there is a lot of friction and angst inside the IT department, too. Different management silos are responsible for different aspects of the environment, and they don't always align, leading to occasional turf battles. These kinds of issues do nothing but introduce delay to user requests.

Newer infrastructure methodologies, such as composable and hyperconverged infrastructure, help to remove the friction from the IT equation by providing a more generalist approach to resource management. Instead of needing teams of resource-focused subject matter experts, organizations can hire individuals with wider breadth of data center knowledge and with skills that help them better align IT infrastructure with business goals. After all, if you're not digging into servers all day long, do you need to be a server expert? Even here, the focus shifts from hardware to workloads.

Newer infrastructure architectures also provide the capability for frictionless operations beyond deployment. No longer do you need to task your IT staff with manually maintaining a bunch of different firmware systems across a bunch of different device types. Change operations such as updating firmware, adding additional storage to a service, or modifying network connectivity are automatically implemented via a template, significantly reducing manual interaction and human error. This empowers IT to configure the entire infrastructure for development, testing, and production environments using one interface and in one step with precision, accuracy, and speed.

## Hardware and software architected as one

HPE OneView is the software side of HPE's overall infrastructure vision, which include tightly coupled hardware and software components. The hardware side of the equation includes HPE's composable infrastructure portfolio (Synergy), as well as the more traditional BladeSystem, ProLiant DL/ML, HC380, Superdome X, and Apollo servers. The twist in HPE's "traditional" infrastructure solutions — blades and servers — is that they're also manageable under the HPE OneView umbrella, imbuing those solutions with modern management capabilities.

One emerging managed hardware area that is critical to understand is composable infrastructure. Infrastructure-as-code is a centerpiece of HPE's composable infrastructure strategy. Composable infrastructure uses flexible pools of compute, storage, and fabric, and a template-based approach to facilitate the move to continuous delivery. By using open and unified RESTful API together with repeatable templates, composable infrastructure provides a programmatic interface for higher-level orchestration tools and paves the way to the idea economy. This continuous delivery provides speed, agility, and a competitive advantage for the business.



REMEMBER

With infrastructure-as-code, the infrastructure elements — both physical and virtual — consist of fluid resource pools that enable composition, decomposition, and rebuilding of the granular resource elements. Resource elements include compute, storage, and network/storage fabric.

In an HPE OneView-managed infrastructure environment, there is one place to go to manage each and every element of the infrastructure and the workload environment. The software intelligence and single pool of resource mentality enables a number of key business outcomes:

- » Reduction in capital expenditure (CapEx)
- » Reduction in operational expenditure (OpEx)
- » Improvement in agility

## Unified API

The Unified API uses modern REST interface to create, aggregate, and host internal IT resources so automation tools can provision on-demand and programmatically. Developers need not have a detailed understanding of the underlying physical elements. By connecting automation tools with HPE OneView, bare-metal infrastructure can be directed the same way that virtual and public cloud resources can.

The unified API increases productivity and control across the data center by integrating and automating infrastructure operations and applications. It provides a single interface to discover, search, inventory, configure, provision, update, and diagnose the composable infrastructure. A single line of code fully describes and can

provision the infrastructure required for an application, eliminating time-consuming scripting to low-level tools and interfaces.



TECHNICAL  
STUFF

With a unified API, you get a lot of benefits:

- » You can write a single line of code to abstract every element of infrastructure. Backing this simplicity is often hundreds or thousands of other lines of code, but these often need to be developed only once. Once the code is written, you can easily reuse it via that single line of code.
- » You get full infrastructure programmability.
- » You get a bare-metal interface to replicate Infrastructure-as-a-Service (IaaS) outcomes.



REMEMBER

Infrastructure as code is a centerpiece of HPE's infrastructure strategy. Composable infrastructure managed by HPE OneView uses flexible pools of compute, storage, and fabric, and a template-based approach to facilitate the move to continuous delivery. By using open and unified RESTful API together with repeatable templates, composable infrastructure provides a programmatic interface for higher-level orchestration tools and paves the way to DevOps. This continuous delivery provides speed, agility, and a competitive advantage for the business.

The core of the approach is the unified API, which provides the ability to abstract any infrastructure element with just a single line of code. When coupled with the right infrastructure, the unified API enables abstraction and automation of any physical or virtual resource.

## Simplifying IT Operations

The end goal for new data center infrastructure is to simplify IT operations. HPE OneView coupled with HPE infrastructure aims to help organizations achieve this goal.

## IN THIS CHAPTER

- » Discovering the key foundational elements that define HPE OneView
- » Looking at the key technologies that underpin HPE OneView
- » Identifying the interface elements that can help you do your job more easily

# Chapter 2

# Introduction to HPE OneView

**F**rom an outcomes perspective, IT's job isn't managing systems; it's defining and delivering IT services that support and accelerate the business. In this chapter, I fill you in on some of the foundational elements that enable HPE OneView to refocus efforts on the business.

## Focusing on the Foundations of HPE OneView

From the beginning, you'll find that HPE OneView is quickly and easily consumable, and it's easy to deploy. These are critical foundations to a workload operating environment that is based on simplicity and ease of use.

### **HPE Synergy Composer: Management appliance approach for ease of use**

A key tenet of the modern data center is simplicity. Complex data center environments have become anchors that actively hold

companies back from maximizing profitability and other important outcomes. HPE Synergy is a hardware offering providing the servers, storage, and fabric needed to run today's workloads. HPE Synergy modules deploy into *frames*, which are similar to modular chassis in the world of blade servers.

The HPE Synergy Composer is an integrated management appliance for HPE Synergy. It is installed into an available Management Appliance bay in any frame. When installed, the HPE Synergy Composer appliance manages servers, storage, networking, and power and cooling resources through their full life cycle. It collapses infrastructure management tools into a single resource-oriented architecture that provides direct access to all logical and physical resources:

- » Logical resources include server profiles and server profile templates, storage volume templates, logical enclosures and enclosure groups, logical interconnects and logical interconnect groups, and network connections and storage volume attachments that can be provisioned as a service.
- » Physical resources include server hardware blades and rack servers, networking interconnects, storage systems, storage pools, JBOD disks, and compute enclosures.



REMEMBER

HPE Synergy Composer deploys, monitors, and updates your infrastructure using a single interface or the Unified API. IT departments can rapidly deploy infrastructure for traditional, virtualized, and cloud environments in just a few minutes — sometimes in a single step. Resources can be updated, expanded, flexed, and redeployed without service interruptions.

## Virtual appliance for traditional infrastructure

Of course, not everyone is using Synergy and composable infrastructure, but you're still covered! Thanks to the ubiquity of virtualization, HPE OneView is also available as a virtual appliance.

# Technologies Supported by HPE OneView

HPE OneView sports a myriad of technologies, which, when brought together, create a cloud-like private infrastructure environment. The most critical technologies supported by HPE OneView are described in the following sections.

## Templates and profiles

Reduce, reuse, recycle! It's not just about saving the environment. You can apply similar concepts via templates in your data center. HPE OneView templates are used to provision compute, storage, and fabric resources. Templates are the single point of control and compliance for defining compute module requirements with their associated storage and fabrics. They can also monitor, flag, and remediate the server profiles associated with each template. Templates are key to delivering infrastructure-as-code capabilities.

As organizations seek to reduce IT costs while maintaining quality, templates become increasingly important. Users can quickly provision or update multiple servers in minutes using a single template for fast time-to-service. IT organizations can also capture their own best practices into templates for infrastructure-as-code consistency and repeatability. Templates give IT the agility it needs to respond to changing business needs.



REMEMBER

Templates provision flexible blocks of compute, storage, and fabric resources. IT can quickly create infrastructures specific to their application needs and can eliminate time-consuming provisioning processes that cross organizational and operational silos that often delay projects for weeks or months.

## HTML5 user interface

If you're using Flash-based management tools, you're woefully behind the times. HPE OneView provides a complete HTML5 user interface (UI) experiences, which brings with it a responsive, fluid user experience that doesn't require the use of security-prone web browser plugins. The HTML5 UI also makes administration of the environment compatible with any device that has a web browser that is HTML5 compliant and that is tested and verified by HPE. Meaning that administration can take place from just

about any reasonably current device you or your company may already own.

## REST API

Integration with all kinds of infrastructure and systems gets more important with every passing year. Data center automation and modernization efforts rely on the ability for various systems to integrate with one another in a standard way. Although there are a lot of ways that integration can happen, most modern systems make use of what are known as REpresentational State Transfer (REST) APIs. These kinds of APIs generally rely on integration between systems using standard, ubiquitous HTTP. REST APIs are particularly well suited to low-bandwidth or spotty-bandwidth environments and have become a standard integration method.

Because REST is based on a simple use of the HTTP protocol, REST API calls can be made from a variety of tools and almost any programming language, including Microsoft PowerShell, Python, Ruby, Perl, and others that support making calls to HTTP servers. REST API calls can leverage JSON, a document exchange standard — an alternative to XML and other document exchange standards — that is in an easier-to-read format and comprehensible to humans.



TIP

Security is always a key aspect of any enterprise product, so all REST API calls require the use of HTTPS. HPE OneView generates self-signed certificates out of the box, but you can also deploy using an enterprise certificate authority.

## State-Change Message Bus

The State-Change Message Bus (SCMB) is an interface that uses asynchronous messaging to notify subscribers of changes to managed resources — both logical and physical. For example, you can program applications to receive notifications when new server hardware is added to the managed environment or when the health status of physical resources changes — without having to continuously poll the appliance for status using the REST APIs.



TIP

The SCMB is superior to many poll-based messaging systems in other tools. With polling systems, if you poll too infrequently, you may not be notified of problems until well after they've been experienced. If you poll too frequently, you can overwhelm systems with overhead. The SCMB helps to avoid these kinds of

issues by awaiting notification of changes in state by utilizing a stateful connection.

## Virtualized and cloud solutions

Virtualization is now simply the way that things operate. Most organizations have virtualized the majority of their workloads and continue their efforts in that direction. As such, the HPE OneView provides full support for VMware vSphere, Microsoft Hyper-V, and RHEL KVM environments.

For those using cloud services, HPE OneView connects with HPE Cloud Services Automation (CSA) 10 to facilitate provisioning of cloud services that contain physical and virtualized components. Via HPE OneView integration, CSA will allow you to provision multi-node virtualization clusters using HPE OneView server profile templates.

## Physical infrastructure management

Plenty of applications still rely on physical servers to work their magic. And, when you think about it, even in 100 percent virtualized environments, you still need to manage physical infrastructure. Virtual machines don't run on thin air!

HPE OneView enables management of physical infrastructure alongside its ability to manage virtualized workloads.

# HPE OneView Monitoring and Status Elements

HPE OneView brings with it several visual monitoring and status elements that help to improve data center simplicity and streamline data center operations.



TECHNICAL  
STUFF

Most monitoring tools rely on polling using SNMP or other methods that scan infrastructure periodically, say every 60 seconds. Most of the time, the tools collect vast amounts of data that may indicate no change. The SCMB in HPE OneView sends instantaneous messages on changes to the state of the infrastructure. Data that is more detailed can be provided for root-cause analysis, because it's generated on more of an exception basis, which also makes it far more actionable.

# The Global Dashboard

The Global Dashboard is your gateway to your infrastructure and it provides a single-pane-of-glass administrative interface that allows you to deploy, manage, and monitor all aspects of your infrastructure environment. You can find a lot more about the Global Dashboard in Chapter 4.

## Map View

The resource model in HPE OneView tracks the relationships between resources. It generates a Map View that replaces static diagrams with dynamic interactive visualizations. The Map View allows you to examine the configuration and understand the relationships between logical and physical resources in your data center. Map View gives you immediate visibility into your resources from the individual Ethernet and Fibre Channel networks all the way up to the enclosure, rack, and top-level physical data center. You can instantly see the big picture and what may be affecting the resource you're evaluating. It makes it easy to see what is connected to what.



REMEMBER

An added benefit of Map View is that it helps minimize user errors caused by changing resources without understanding all the associations and potential impact. For example, HPE OneView automatically synchronizes physical and virtual networks, as well as servers and associated storage area network (SAN) storage volumes. It can identify Layer 2 network connectivity issues and notify the user of a potential problem. If they plan to make a change to the network that will have a negative impact, they will be warned. It will also warn the end user if he plans to delete storage volumes currently in use by servers in the environment.

## Smart Search

The HPE OneView and the HPE OneView Global Dashboard have a Smart Search function that delivers near real-time access to devices of interest across data centers. This provides better visibility of your systems, enabling you to make faster decisions.

## The Activity Feed

The Activity Feed provides you with real-time alerts and status messages in a simple consolidated view, making it simple to identify emerging issues and take immediate action.

## IN THIS CHAPTER

- » Solving today's infrastructure deployment challenges
- » Defining software-defined intelligence
- » Seeing how HPE OneView simplifies traditionally difficult infrastructure deployment operations

# Chapter 3

# Deploying Infrastructure Faster with Software-Defined Intelligence

In this chapter, I show you how HPE OneView's software-defined intelligence helps you transform your IT operations.

## Understanding Software-Defined Intelligence

Software-defined intelligence is the core of HPE OneView and enables administrators to deploy and update infrastructure rapidly and reliably using reusable infrastructure templates. Templates define detailed compute, storage, and fabric configurations and ensure that the correct configuration is rolled out consistently every time and for every workload.

# Essentials of server profiles and server profile templates

Groups and templates enable you to define configurations that are specific to the environment you want to build, such as VMware vSphere virtual hosts, Microsoft Exchange environments, Web servers, and so on. They provide flexibility to simplify changes across your datacenter and controlled change management.

HPE OneView provides several software-defined resources, such as groups and server profiles. These reusable logical constructs make it possible for you to capture the best practices of your experts across a wide variety of disciplines, including networking, storage, compute, and operating system build and configuration. HPE OneView keeps your best-practice approaches intact as you grow, but it still allows for customization so that you maintain ultimate control. This facilitates faster provisioning, greater consistency, and fewer errors, all of which are expected outcomes in a simplified datacenter.



Server profiles and enclosure groups make it easier to prepare a bare-metal server for operating system deployment by defining and configuring the entire desired configuration, including firmware, BIOS settings, local storage configurations, SAN storage, and network connectivity. For example, you can use server profiles in conjunction with OS deployment tools to deploy hypervisor hosts from bare metal and add them to existing clusters automatically.

An *enclosure group* is a logical resource that defines a consistent configuration for a set of enclosures that house some of the physical elements of the infrastructure environment. The network connectivity for an enclosure group is defined by the logical interconnect groups associated with the enclosure group.

## Networking management elements

From physical switches and routers that ensure inter-datacenter and Internet communication to virtual networks that overlay the virtualized environment to the infrastructure used to connect storage to servers, all these elements can be managed from within HPE OneView.

### Networks

In HPE OneView, networks are used to define connections that route data across the IT infrastructure. You can create Ethernet,

Fibre Channel, or Fibre Channel over Ethernet (FCoE) networks as well as multiple tagged Ethernet networks right from within the HPE OneView Console.

## Logical interconnects and logical interconnect groups

In certain configurations, particularly those that involve HPE BladeSystems, *enclosures* house various elements of the infrastructure.



TECHNICAL  
STUFF

*Logical interconnect groups* define what modules are located within enclosures and they discover the various module configurations elements, such as IGMP Snooping, Loop Protection, Multicast Filtering, and so on.

One or more logical interconnect groups are associated with an enclosure group and are used to define the logical interconnect configuration for every enclosure that is using that enclosure group. Logical interconnect group configurations include the I/O bay occupancy, uplink sets, available networks based on the uplink sets and internal networks, and downlinks.

### Uplink sets

*Uplink sets* define uplink connectivity for Ethernet, FCoE, and Fibre Channel networks and are members of logical interconnect groups. Uplink sets define the initial configuration for each logical interconnect in the enclosure group.

### Migration assistant

HPE Virtual Connect enables users to rapidly change and deploy server connectivity in blade-based server environments.

HPE OneView allows Virtual Connect domains to be migrated automatically into HPE OneView management while retaining domain and server profile settings such as MACs and WWNs. The domain is checked for compatibility. A compatibility report is generated listing all issues that the administrator must resolve before the domain can be imported. Also, IT administrators don't need to schedule any downtime because it's an online migration.

## Storage provisioning and management

Love it or hate it, storage is and always will be the most important part of your datacenter, where all your organization's digital

assets and information reside. It's also traditionally one of the most challenging parts of the datacenter to manage . . . until now. HPE OneView includes storage management and automation capabilities that bring order to what can sometimes be complicated tasks in a traditional environment.

## Automated volume provisioning

Each workload needs storage and that doesn't change no matter how modern the environment. It's typically been up to storage administrators to make the fateful decisions that will drive the company's long-term storage strategy and implementation.



TIP

As a part of overall workload templates, HPE OneView takes the pain out of storage management by making it possible to require the use of storage volume templates. Storage volume templates allow administrators to enforce volume parameters and configurations. By default, storage volume templates aren't required to be used, but administrators can configure HPE OneView to require the use of storage volume templates.

Starting with HPE OneView v3.1, you can also use some new storage provisioning capabilities. On the protocol side, iSCSI becomes a first-class citizen in the environment with full provisioning support. Plus, HPE OneView now supports 3PAR Thin Deduplication. HP 3PAR Thin Deduplication software delivers inline, block-level deduplication without performance or capacity inefficiency tradeoffs.

## Automated SAN zoning

Automated SAN zoning in HPE OneView allows administrators to automatically create SAN zones and aliases granting servers access to attached SAN volumes from the storage system serving the LUN. SAN auto zoning policies control the names and structure of zones without disrupting any existing SAN zones that may exist outside of HPE OneView. If you're using HPE OneView in conjunction with HPE 3PAR StoreServ or HPE StoreVirtual VSA, you can streamline your storage administration efforts.



TIP

You don't have to use automated zoning if you don't want to. HPE OneView is pretty flexible here. You can choose whether to use automated zoning on a per-SAN basis.

Automated SAN zoning is another way by which HPE OneView brings radical simplicity to datacenter environments.

## IN THIS CHAPTER

- » Seeing how software can transform your datacenter operations
- » Reducing your workload with a dashboard
- » Looking at the importance of monitoring and remote support

# Chapter 4

# Simplifying Life-Cycle Operations

**W**hen done correctly, modern infrastructure and management tools lie at the heart of the datacenter simplification movement. HPE OneView is at the center of this movement in no small part due to its use of software-defined technologies and the use of repeatable infrastructure recipes and a centralized dashboard tool that can connect to management appliances around the globe.

## Software-Defined Capabilities

We're living in a world of software today where even hardware is treated like just another software element. This flexibility enables powerful outcomes that streamline datacenter operations. HPE OneView brings together hardware and software components to make life a bit easier for IT pros. Even tasks that seem hardware-centric in traditional environments are made easier in HPE OneView with a focus on software-centric simplicity.

## Keeping firmware under control

Open up your current management tools. Are you able to tell immediately which systems are out of compliance with your established firmware revision baseline? No cheating! Getting a list in Excel and sorting it by version doesn't count!



REMEMBER

Instead of wading through thousands of systems worth of information, HPE OneView lets you know which systems do not meet your current firmware revision guidelines. Armed with this information, you can make an informed decision about updating that firmware. In fact, you can kick off a firmware update process that brings your system firmware back into compliance with policy.

## Managing configuration compliance drift

Over time, systems can drift from their original configurations. A well-meaning administrator may add additional virtual CPUs or RAM or may make a seemingly innocent configuration change. As you may be painfully aware, *change* is the enemy in the datacenter. Ensuring that systems remain in compliance with established standards can help you to avoid downtime and can aid in workload capacity planning.

## Monitoring and Management

HPE OneView's integrated reporting for inventory allows you to see server hardware inventory, including associated firmware versions all in one place. Using these features, you can, for example, quickly verify that there are no duplicate resource identifications numbers (serial number, World Wide Identifier [WWID], MAC address) in your environment.



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And, as long as you're running HPE ProLiant Gen8 or later systems in your environment, all monitoring and management is agentless and out-of-band for increased security and reliability. For these servers:

- » There are no agents to monitor or update.
- » The appliance does not require open SNMP ports on the host operating system.

- » The appliance does not require an operating system on the host, which frees memory and processor resources on the host for use by server applications, and enables you to manage servers that have no host operating system installed.

To help you better understand current workload needs and general status of the environment, the HPE OneView dashboard provides you with at-a-glance statistics regarding current health and resource utilization. In traditional environments, you might have to go to two or more different administrative locations to get all the information that is necessary for making informed decisions regarding current environment status.

## Remote Support Characteristics

HPE OneView remote support monitors your devices 24x7 and, when enabled, hardware failures automatically trigger a support case creation process on your behalf with the resulting support case ID being displayed right in HPE OneView for you. This fully integrated remote support option helps to address one of the other major datacenter pain points: getting help. Too often, when things go bad — hardware fails, for example — IT pros are left to manually gather a bunch of information before they can even call support, and that's only after they've noticed that a problem occurred to begin with. If something died in the night, it might not even be noticed until the next morning. With HPE OneView 3.1, the new enhanced remote support capability also lets you plan service contracts more efficiently. Contract and warranty display are available for each device, so you can easily see in advance what is going to be out of contract and warranty.



REMEMBER

These delays cost time, which is money, and, as a result, they can be expensive. With fully integrated remote support features, HPE OneView can

- » Ensure 24/7 comprehensive infrastructure monitoring
- » Automatically ship replacement parts or dispatch engineers

Optionally, you can enable proactive care reports with recommendations based on your configuration.

# Global Dashboard Information Elements

In an era in which data rules the day, there is more than sufficient compute and storage resource availability to drive even the most complex data dashboards. Fortunately for you, the HPE OneView Global Dashboard shields you from underlying infrastructure complexity and presents you with a deceptively simple interface that you can use to monitor the health of your datacenters.

The Global Dashboard provides a unified view of health, alerting, and key resources managed across multiple datacenters.

## Multi-datacenter

Increasingly, organizations leverage multiple datacenters to meet business goals. Whether that's due to sheer size and scope of the company or whether it's for disaster recovery reasons, the HPE OneView Global Dashboard displays information from across all your supported datacenters.



WARNING

Don't be fooled into believing that you must maintain strict, centralized command and control capabilities to use HPE OneView. You're able to easily delegate control of certain operations to each of your locations so that local staff can manage what's close to them while your centralized team takes a broader view of things.

The HPE OneView Global Dashboard provides a unified view of the health of HPE servers, profiles, enclosures, and 3PAR and StoreVirtual VSA storage systems across multiple appliances for ease of management. By aggregating critical activities from multiple HPE OneView appliances and Synergy Composers — physical and virtual — into a single feed, you can more quickly identify issues occurring on monitored hardware to encourage prompt resolution.

## Customizable dashboard

Everyone has different needs when it comes to managing data-center environments. To that end, the HPE OneView Global Dashboard is fully configurable, enabling users to focus on what's important to them and not on what's important to someone else.

## **Integrated reporting**

A key element of simplicity in the datacenter is having access to the tools and information you need without having to run around looking for the right tool. Too many datacenters have to leverage many monitoring systems, which leads to increased trouble resolution time and more hassle since administrators are forced to jump from product to product looking for information.



## IN THIS CHAPTER

- » Understanding the importance of modern APIs
- » Seeing how virtualization platforms can leverage HPE OneView
- » Looking at how HPE OneView supports native cloud, DevOps, and containers

# Chapter 5

# Integrating HPE OneView with Enterprise Management Tools

**Y**ou probably already have a number of tools in your enterprise IT arsenal that you may be hesitant to abandon. HPE OneView's open application programming interface (API) enables deep integration with all sorts of tools, and that's the topic of this chapter.

## Seeing How the Open API Enables HPE OneView Integration

It's been said that APIs are the future. This is a true statement and reflects the growing importance of software and of treating infrastructure like any other software element.

The HPE OneView Unified API enables deep integration between HPE OneView and other systems from HPE, as well as from HPE partners, such as Docker and OpenStack.

## REST API

HPE OneView's use of REST-based APIs helps the tool achieve simple integration with a great many other services. Chapters 1 and 2 cover this in detail, so I won't repeat that information here, but I'm mentioning it so you don't forget about it!

## State-Change Message Bus

The State-Change Message Bus (SCMB) uses asynchronous messaging to notify subscribers of changes to managed resources. A number of external tools that integrate with HPE OneView leverage the SCMB. It's a critical component in the HPE OneView integration portfolio.

# Virtualization Integration with HPE OneView

Virtualization is the norm in the data center, and many of your administrators already have strong skills with the virtualization tools you have in place.

## VMware

HPE OneView for VMware vCenter with Operations Manager and Log Insight integrates the manageability features of HPE Synergy, ProLiant, BladeSystem, Virtual Connect, and Storage with VMware solutions.



REMEMBER

For integration with HPE converged infrastructure systems, you can gain deep insight and control of these environments while reducing the time it takes to make important changes, increase capacity, or manage planned and unplanned downtime. When used with the automation power of HPE OneView, best practices for a converged infrastructure can be defined once and reused many times to provision an entire cluster with compute and storage fully configured in five easy steps. Integrations with VMware vCenter Operations Manager and Log Insight deliver powerful analytics and deeper troubleshooting tools to your VMware administrators.

## Microsoft Systems Center

As is the case for VMware users, HPE makes deep HPE OneView integration available for Microsoft users via the HPE OneView for Microsoft System Center with the Hyper-V cluster provisioning tool.

The importance of this integration shouldn't be glossed over. One of the biggest challenges in any infrastructure change is, well, the change. What if you could continue to use the tools you already know while also getting the benefits of HPE OneView? For example, if you're using System Center Operations Manager, you probably have a major investment in that tool. You're able to integrate the health dashboard and consolidated enclosure views using the HPE OneView Management Pack for SCOM. If you like the tools you're using, you can keep using those tools.

## HPE OneView-Centric Cloud Integrations

HPE CloudSystem is a comprehensive hardware and software solution for private and hybrid clouds. It speeds up development and makes IT operations more efficient. HPE's cloud infrastructure solution is designed to be inclusive of your existing investments, managing across multiple hypervisors and providers. The unified hybrid IT ecosystem delivers hosting, automation, and orchestration of traditional and cloud-native workloads.



REMEMBER

As of November 2016, HPE OneView enjoys native integration with HPE Helion CloudSystem via the addition of a user interface that create a vSphere compute cluster in an HPE OneView managed environment. This feature is available in enterprise-only installations. This integration with HPE OneView enables automated VMware vSphere cluster provisioning and host aggregate resource placement.

## DevOps and HPE OneView Integration

The DevOps movement is taking enterprises by storm. DevOps is an evolving mind-set that brings closer together the development and operations teams in order to streamline and simplify the software development and deployment process with an end goal of enabling smaller, faster, tighter, and more reliable software updates.

## LEVERAGING THE HPE OneView API

The unified API in HPE OneView provides a programmatic interface for higher-level orchestration tools such as Chef, a leading configuration management tool that provides fast, scalable, flexible end-to-end automation of applications. HPE OneView and Chef provide a software-defined approach to the management of the entire datacenter, giving IT the ability to deliver new or updated services on an as-needed or on-demand basis. Together, they provide IT administrators with end-to-end infrastructure to application automation. Chef enables rapid and reliable deployment and update of application infrastructure, using recipes that can be versioned and tested just like application software. HPE OneView brings infrastructure-as-code to bare-metal through templates that unify the process for provisioning compute, connectivity, storage, and OS deployment in a single step, just like provisioning VM instances from the public cloud. HPE OneView acts as an infrastructure provider for Chef, bringing the speed of the public cloud to internal IT processes.

An entire ecosystem of tools has emerged to help organizations achieve their DevOps goals, including the following:

- » **Chef:** The Chef Provisioning Driver for HPE OneView allows IT administrators to use Chef recipes to automate physical provisioning including servers, network connectivity, storage, and operating system installation as part of the application deployment process.
- » **Ansible:** The integration of Ansible Core with HPE OneView extends, giving DevOps teams the ability to automate the provisioning of bare-metal resources, including servers, storage, and networking as part of the application deployment process.
- » **Docker:** The integration of Docker with HPE OneView allows IT and DevOps to provision bare-metal container hosts directly from the Docker command line, in the same way they provision hosts in public clouds and virtualized environments.

» **Mesosphere:** Via HPE OneView integration, you're able to leverage many of the same capabilities through DC/OS that you can via HPE OneView alone.

## The Complete API Ecosystem

In general, no one single company “rules” the entire datacenter. Even if you've gone all in with HPE for hardware and tools such as HPE OneView, you'll run Windows- and Linux-based workloads. You still use VMware vSphere as a hypervisor. You still use Docker for container-based workloads. All kinds of third-party tools are at your disposal, and most companies use and will continue to use them for decades to come.



That is the reason that the HPE OneView API exists. Via the API, you can bring into the HPE OneView family all these third-party systems, or vice versa — you can bring HPE OneView to all these other systems so that you don't need to radically change your existing workflows and skill sets.

Up to this point in this book, you've become acquainted with tools that leverage this API to bring simplification to your workload operating environments, but there are many more integrations already available — more coming every day — and you can even create your own.

A growing list of partners is taking advantage of the unified API in HPE OneView to automate solutions for customers. These partners range from large software suites like VMware vCenter, Microsoft System Center, and HPE Software to focused solution providers like Chef, Docker, Ansible, Arista, Eaton, nLyte, Schneider Electric, Mesosphere, Densify.com by Cirba, ServiceNow, Red Hat OpenShift, F5, Harpa Italia, Terraform, Puppet, and others.



## IN THIS CHAPTER

- » Preparing to deploy HPE OneView
- » Discovering the future of other HPE tools you may be using
- » Accelerating your HPE OneView deployment journey with HPE's help

# Chapter 6

# Deploying HPE OneView

If you're eager to give HPE OneView a test drive or even to deploy it across your entire organization, you're in luck. There are a number of different ways that you can get started on your journey:

- » Download the free 60-day trial software at [www.hpe.com/info/tryoneview](http://www.hpe.com/info/tryoneview).
- » Purchase the HPE OneView Media Kit (E5Y37A), which includes a USB flash drive.

In this chapter, you find out how to get started with HPE OneView.

## HPE OneView Editions

There are two license types available for HPE OneView:

- » **HPE OneView Standard:** The standard license is for *monitoring* server hardware and provides entry-level management, including basic monitoring, inventory, and reporting. Access is provided to REST API and to common user interface capabilities like Smart Search, Activity View, Dashboard, and Map View. When you add new devices, a standard license is automatically applied. By the way, the

HPE OneView Standard license carries with it *no licensing fee*, although you can optionally add one year of 9x5 support and rights to updates.

» **HPE OneView Advanced:** The advanced license is for *managing* server hardware and enclosures and provides all the capabilities available in HPE OneView Standard plus additional software-defined capabilities. These capabilities include profile-driven configuration management, storage provisioning, Virtual Connect management, firmware management, environmental management, OS provisioning (via Insight Control Provisioning), remote management (when bundled with iLO Advanced), and standard partner integrations with Microsoft System Center, and VMware vCenter. These licenses also include three years of 24/7 technical support and rights to updates with web-based training to build basic product proficiency. HPE OneView Advanced is licensed per server.

Table 6-1 gives you a look at the features that exist in each HPE OneView license type.

**TABLE 6-1** Comparing HPE OneView License Types

	Standard	Advanced
Map view	X	X
Smart search	X	X
Activity view	X	X
Dashboard	X	X
Monitoring	X	X
Inventory	X	X
Reporting	X	X
REST API access	X	X
Partner integration		X
Software-defined infrastructure		X
Storage provisioning and SAN zoning		X

	Standard	Advanced
Virtual Connect advanced management		X
Firmware management		X
Power management		X
Operating system provisioning		X
Remote management		X
Support and updates	Optional; one year, 9x5 support	Included; three years, 24/7 support



REMEMBER

There are three ways that you can go about getting HPE OneView Advanced licenses:

- » **Paper:** HPE can send you a license entitlement via mail.
- » **Electronic:** HPE will electronically send you a license entitlement.
- » **Tracking via Activation Key Agreement (AKA):** With this license type, you're provided with a master license key for all systems in your environment. This is a volume licensing agreement.

## Getting Started with HPE OneView

Getting started with HPE OneView isn't difficult at all. HPE makes it easy with an online guided setup and tutorial built into HPE OneView 3.1, giving you simple step-by-step instructions on how to install and get HPE OneView up and running. I don't need to provide specific deployment documentation here, but I do want to share some information regarding migration from other tools.

## Migrating to HPE OneView from Legacy Tools

If you're an existing HPE customer and using tools such as HPE Systems Insight Manager (SIM), HPE Insight Control, or

HPE Virtual Connect Enterprise Manager, you may be looking at HPE OneView and wondering what this product means for the future of your current solution.



REMEMBER

There are some key points to understand:

- » HPE OneView *is* intended to eventually replace all three of these tools.
- » HPE OneView fully supports Gen 8 and newer servers with iLO4s and have full software-defined management. For those running Gen6 and Gen7 servers, HPE OneView supports monitored mode and requires the management agents on the target systems.
- » Full replacement of legacy tools is not planned to happen overnight. In fact, HPE has no plans to decommission these tools until at least *after* the next generation of HPE ProLiant servers hits the market.

If you're migrating from these legacy tools, there will likely be a period of coexistence during which you're running both the legacy tools as well as HPE OneView.

Wherever possible, HPE OneView makes it simple for you to migrate from legacy tools. For example, if you're currently using HPE Virtual Connect, HPE OneView has built-in capability to migrate your Virtual Connect services to HPE OneView, without incurring any downtime. With this tool, you can simultaneously migrate four Virtual Connect domains at the same time, making it a fast, efficient, and safe process. Server profiles, networks, and uplinks are migrated automatically via this process.

In addition, HPE makes available licensing tools to help aid you in your HPE OneView deployment process. Via the aforementioned RTU licensing option, you can get licenses to HPE Insight Control alongside your HPE OneView Advanced licenses. From there, you can then decide which tool to use to manage individual systems and, over time, migrate from Insight Control to HPE OneView. This allows you to move from Insight Control to HPE OneView at your own pace.

# Services and Support

HPE Deployment Services help you speed time to value. HPE OneView Implementation Services provide custom consulting and system integration for configuration and implementation, as well as identifying organizational impact and training requirements. HPE OneView Installation and Configuration Service also includes an orientation session on the software's usage. If you're transitioning from an existing HPE Virtual Connect Manager/Virtual Connect Enterprise Manager, HPE OneView Installation and HPE BladeSystem c7000 Migration Service assist you in transitioning, as well as accelerating and simplifying deployment.

## Implementation Service

The Implementation Service is ideal for comprehensive implementation and large-scale deployments of HPE OneView. HPE Pointnext takes the lead in planning, assessment, deployment design, project management, and integration into your IT operations management environment, as well as scheduling and coordinating the HPE OneView installation, startup, and migration services.

Experience has shown that good adoption and integration, combined with existing operational processes, are key to the success of new IT operations management tools. The service helps to address these needs, allowing you to more rapidly realize the benefits of HPE OneView.

Service benefits include the following:

- » Help to reduce the time and effort needed to deploy HPE OneView
- » Designed to provide shorter time to value
- » Improved alignment with your ways of working and operational processes
- » Improved adoption by your IT Operations Management teams
- » A project manager to manage the HPE OneView services engagement
- » Technical experts on HPE OneView and IT Operations

## Migration Services

Two services can be ordered. One is the initial service, if only one enclosure needs migration. The second is an add-on service to migrate up to four additional enclosures.

- » **HPE OneView Ins and c7000 BldSys Mig SVC:** This is the initial service for a single c7000 BladeSystem Enclosure. The service includes installation and configuration of HPE OneView appliance and the migration of data from VCM/VCEM environment into HPE OneView.

*Ordering information:* Flex Support Service - H6K68A1, Fixed Support Service - U1V79E.

- » **HPE OneView c7000 BldSys Migr Add-on SVC:** Add-on service for HPE OneView Ins and c7000 BldSys Mig SVC. This service must be ordered with HPE OneView Ins and c7000 BldSys Mig SVC. Includes migration of data from VCM/VCEM environment into HPE OneView for up to four additional enclosures in same environment and location. The add-on service is for migration only, does not include installation of HPE OneView.

*Ordering information:* Flex Support Service - H8Q65A1, Fixed Support Service - H4W69E.

## Consulting and Integration Services

HPE Pointnext services are designed to help you accelerate your digital transformation by making Hybrid IT simple and powering the intelligent edge. From the start, HPE Deployment Services help you accelerate the time to value. Your HPE OneView experience can then be fine-tuned with Implementation Services for configuration and implementation through custom consulting and system integration. Plus, these services assist in identifying the organizational impact and training requirements.

An orientation session on HPE OneView's usage is included as part of the HPE OneView Installation and Configuration service. If you're transitioning from an existing HPE Virtual Connect Manager/Virtual Connect Enterprise Manager, HPE OneView Installation and HPE BladeSystem c7000 Migration Service assist you in transitioning, as well as accelerating and simplifying deployment.

Time to value and your ultimate success depend on how quickly you can drive transformation. Building upon our heritage and strengths in infrastructure, partner ecosystems, and the end-to-end life-cycle experience of our customers, HPE Pointnext is a new type of services organization built specifically to accelerate your digital transformation and to help you get the most out of your HPE OneView experience.

## Education and Training Services

HPE OneView training from HPE Education and Training Services offers several different courses that help you develop your skills and realize value from HPE OneView much faster. Offerings include

- » **HPE OneView Overview:** A one-hour online course that demonstrates key elements
- » **Migrating to HPE OneView:** A one-day course on migrating to HPE OneView from legacy tools
- » **HPE OneView Quick Start:** A one-day course that provides basic information on how to install, manage, and configure HPE OneView
- » **HPE OneView Administration:** A three-day course that provides essential training for system, network, and storage administrators using HPE OneView and for system architects implementing HPE OneView

Visit [www.hpe.com/ww/learnconvergedsystems](http://www.hpe.com/ww/learnconvergedsystems) for the full curriculum on Composable Infrastructure, Synergy, Hyper ConvergedSystems, and HPE OneView.



# Chapter 7

## Ten Ways to Learn More about HPE OneView

There are a plethora of additional ways beyond this book that you can learn more about HPE OneView. Here are ten things you can do today to continue your educational journey.

- » **Learn about HPE OneView in all its glory at [www.hpe.com/info/oneview](http://www.hpe.com/info/oneview).** The HPE OneView website provides a great deal of information about the product.
- » **Download a 60-day free trial of the HPE OneView software with the Advanced license and try it out in your own environment ([www.hpe.com/info/tryoneview](http://www.hpe.com/info/tryoneview)).** HPE OneView can be quickly and easily deployed as a virtual appliance, so there is no barrier to experimentation!
- » **Access the HPE OneView documentation.** HPE makes available a massive amount of documentation and guidance around the deployment of HPE OneView and its support for your existing systems. Understanding what systems HPE OneView supports and, just as important, what features HPE OneView supports on each system and each system generation is critically important. For example, HPE OneView does not support managing firmware or local storage on Gen7 servers.



TIP

HPE makes available a paper entitled HPE OneView 3.1 Support Matrix that outlines the specific systems and features that HPE OneView supports. You can get it at [www.hpe.com/info/oneview/docs](http://www.hpe.com/info/oneview/docs).

- »» **Read the “HPE OneView Architectural Advantages” white paper.** HPE OneView, on the surface, appears deceptively simple. And that’s the way it should be in the datacenter of tomorrow. We all know that there is tremendous complexity, but that complexity should be largely hidden from view so that IT admins can get their work done far more quickly and easily.

But, like most good IT pros, you probably want to fully understand what’s happening underneath this veneer of simplicity. For you, HPE has created an informative white paper entitled “HPE OneView Architectural Advantages.” This paper goes into detail about how the HPE OneView user experience really works, how the REST API can be leveraged, and much more. You can find it at [www.hpe.com/h20195/V2/Getdocument.aspx?docname=4AA5-3811ENW](http://www.hpe.com/h20195/V2/Getdocument.aspx?docname=4AA5-3811ENW).

- »» **Explore the Composable Infrastructure Developers Hub.** Beyond traditional, beyond converged, beyond hyperconverged, at the peak of the infrastructure journey lies composable infrastructure. HPE OneView is the cornerstone of HPE’s Composable Infrastructure data center stack. If you’re a developer who’s looking for ways to improve your operations with HPE OneView, visit the Composable Infrastructure Developers Hub at [www.hpe.com/us/en/solutions/developers/composable.html](http://www.hpe.com/us/en/solutions/developers/composable.html) to learn more. Partners in the HPE Composable Infrastructure Partner Program work with HPE to build solutions that are interoperable with the Unified API. These solutions help organizations reduce time spent managing environments and accelerate time to value.
- »» **Explore competitive resources.** HPE OneView exists as one option among many from competing vendors. The most notable competition comes from Cisco in the form of Cisco UCS Manager. To help you understand how HPE OneView compares to Cisco UCS Manager, HPE has developed a paper entitled “HPE OneView Surpasses Cisco UCS Manager” at [www.hpe.com/us/en/resources/integrated-systems/oneview-surpasses-cisco.html](http://www.hpe.com/us/en/resources/integrated-systems/oneview-surpasses-cisco.html). In this paper, you see how HPE OneView compares with, contrasts with, and

ultimately goes well beyond what is possible with Cisco UCS Manager.

» **Look at demos and cases studies.** If you're in the mood for something more visual and experiential, you can see HPE OneView in action for yourself. You can download a trial of the software and give it a test drive, or you can use of a number of resources that HPE has put together to help you in your assessment efforts:

- **Online Migration:** <https://youtu.be/gf3FsCbW1IY>
- **Hewlett Packard Enterprise and HudsonAlpha Institute for Biotechnology: HPE OneView for High Impact Research:** <https://youtu.be/eVLhuxyATig>
- **Case study: Columbus Communications:** <https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=4AA5-8733ENW>

» **Check out licensing resources.** HPE put together a short licensing video to help you understand the HPE OneView licensing options you have at your disposal. You can find it at <https://youtu.be/UnNjW7-e73s>.

» **Watch some architectural overview videos.** Are you strapped for time, but still want to learn more about the HPE OneView picture? HPE has developed a series of highly consumable and targeted videos intended to help you better understand the HPE OneView product and vision:

- **Your Infrastructure Automation Engine: HPE OneView 3.0:** [https://youtu.be/Tz1jAAo2H\\_4](https://youtu.be/Tz1jAAo2H_4)
- **HPE OneView Global Dashboard:** [https://youtu.be/e5K2\\_2MRjZI](https://youtu.be/e5K2_2MRjZI)
- **4 minute demo on the HPE OneView In-service Virtual Connect:** <https://youtu.be/gf3FsCbW1IY>
- **HPE OneView Remote Support Video:** <https://youtu.be/8hzecrrI-hs>
- **HPE OneView API Ecosystem:** <https://youtu.be/1FFZhkzovgg>

» **Check out other *For Dummies* books.** HPE OneView is just one part of a broad infrastructure hardware and software portfolio provided by HPE. Understanding the full breadth and depth of the offerings helps to expose the real power of HPE OneView and can help your organization unlock the

power of the Idea Economy. Check out the following for more information:

- **Composable Infrastructure For Dummies:** <https://h20195.www2.hp.com/V2/getpdf.aspx/4AA6-6120ENW.pdf?ver=1.0>
- **HPE Synergy For Dummies:** <https://h20195.www2.hp.com/V2/GetPDF.aspx/4AA6-8551ENW>

# HPE Synergy

## Future first. Ready now.

The world's first composable infrastructure, HPE Synergy, is a new hybrid IT engine fully adaptable and ready for everything.

HPE Synergy is designed to bridge traditional and cloud-native applications with a unified API enabling infrastructure to be programmed like code. Transform traditional apps, modernize today's workloads and run tomorrow's workloads—all on one future-proofed engine for Hybrid IT.

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# Transform servers, storage, and networks into software-defined infrastructure

With software-defined intelligence, a flexible and unified API, HPE OneView is your central hub for monitoring and managing your HPE infrastructure. Bringing simplicity, flexibility, and increased productivity to your data centers, HPE OneView helps you stay ahead of the competition by accelerating IT service delivery. HPE OneView streamlines provisioning and life-cycle management across compute, storage, and fabric.

## Inside...

- Discover today's data center challenges
- Learn how IT staff keep current
- Find out how HPE OneView can help
- Learn why APIs are key to success
- Discover key support resources
- Find out how to use HPE OneView for free!



**Scott D. Lowe** is a 23-year industry veteran who has served in a number of technical roles, as well as multiple strategic CIO roles. Today, in addition to consulting and managing ActualTech Media, a content marketing firm, Scott is a sought-out speaker and analyst on all things related to IT.

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