



VMware vCloud[®] Architecture Toolkit

Introduction

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1. Introduction

Cloud computing is an approach that leverages the efficient pooling of on-demand, self-managed virtual infrastructure, consumed as a service. VMware vCloud® is the VMware solution for cloud computing that enables delivery of *Infrastructure as a Service* (IaaS).

This document provides a list of basic vCloud requirements, and information about the documentation in the VMware vCloud Architecture Toolkit.

1.1 vCloud Requirements

According to NIST (National Institute of Standards and Technology) , the key components of a cloud are on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service. VMware, in turn, has defined *cloud* as elastic, lightweight entry and exit, available over Internet protocols, and running on a shared infrastructure.

A cloud always starts with a shared, virtual infrastructure. If any resource is dedicated for only one customer you have a managed hosting platform, not a cloud infrastructure. Similarly, if the cloud administrator or service provider must perform manual tasks or initiate processes to provision resources after a consumer requests them, you do not have a cloud.

The VMware vCloud blueprint follows these basic requirements as the foundation for an IaaS cloud:

- A cloud must be built on a *pooled*, virtual infrastructure. Pools include not only the CPU and memory resources, but also storage, networking, and associated services.
- The cloud should provide *application mobility between clouds*, allowing the consumer to easily enter and exit the cloud with existing workloads. The use of existing consumer tools for migrating workloads to or from the cloud is highly desirable.
- The cloud should be *open and interoperable*, allowing the consumer to consume cloud resources over open, Internet standard protocols. There should not be a requirement for specific networking or clients in order to access cloud resources.
- The cloud consumer should only pay for resources they consume or commit to consuming.
- The cloud should be a secure and trusted location for running cloud consumer workloads.
- The cloud consumer should have the option and the ability to protect their cloud-based workloads from data loss.
- The cloud consumer must not be responsible for the maintenance of any part of the shared infrastructure or have to interact with the cloud provider to maintain the infrastructure. The consumer is not responsible for storage and network maintenance, on-going patches, or business continuity activities. The cloud should be available to run high availability workloads and any faults occurring in the cloud infrastructure should be transparent to the cloud consumer as a result of *built-in availability, scalability, security and performance guarantees*.

2. vCloud Architecture Toolkit Documentation

The VMware vCloud Architecture Toolkit documentation builds on the basic vCloud requirements. You should progress through the documents in this toolkit in the order shown in the document map (Figure 1). Toolkit documents also include references and links to other VMware documentation.

Figure 1. VMware vCloud Architecture Toolkit Document Map

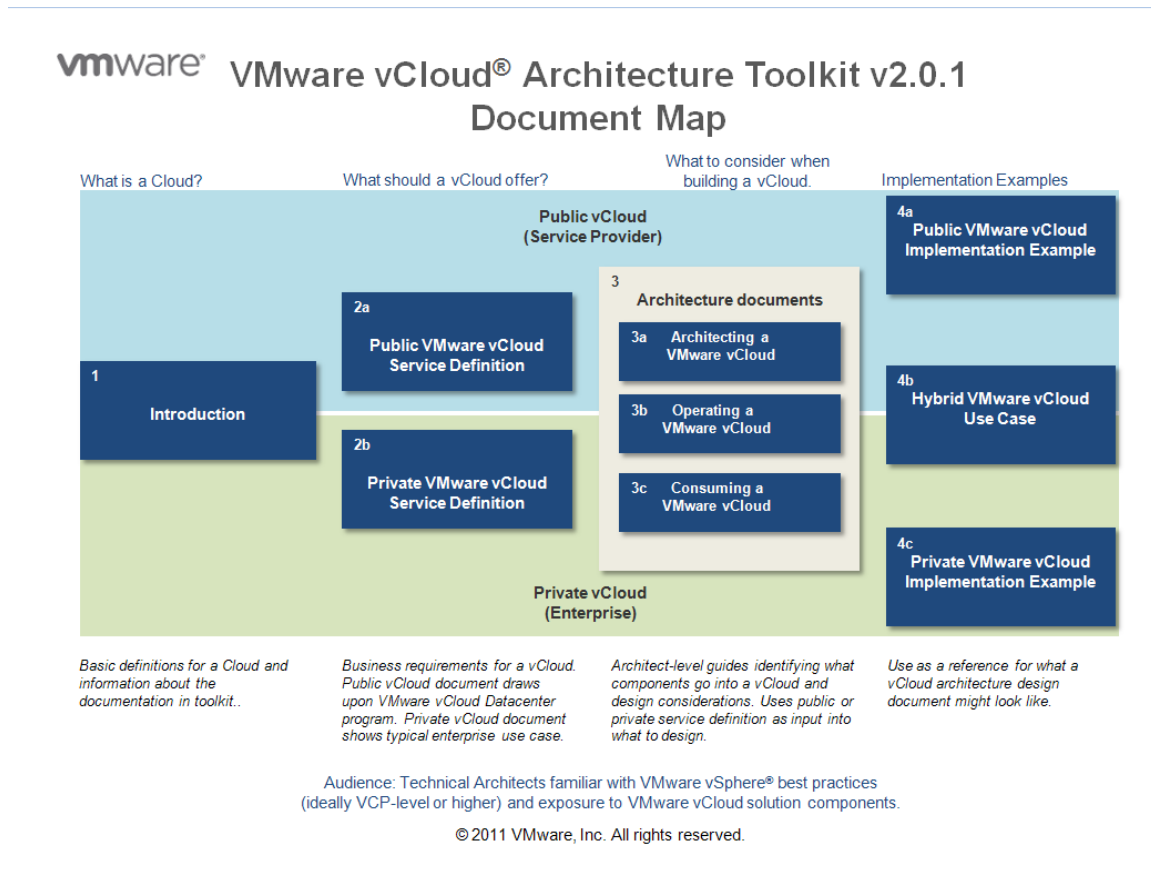


Table 1. VMware vCloud Architecture Toolkit Document Descriptions

Documentation	Overview
<i>1 Introduction</i>	<p>This document. Includes an introduction to and basic requirements for cloud computing, and describes the documentation in the vCloud Architecture Toolkit.</p> <p>This is your starting point for the document set.</p>
<i>2a Public VMware vCloud Service Definition</i>	Service definition for Infrastructure as a Service for public vCloud service providers.
<i>2b Private VMware vCloud Service Definition</i>	Service definition for Infrastructure as a Service private VMware vCloud for the enterprise.
<i>3a Architecting a VMware vCloud</i>	Design considerations for architecting and building a VMware vCloud.
<i>3b Operating a VMware vCloud</i>	Operational considerations for running a VMware vCloud.
<i>3c Consuming a VMware vCloud</i>	Organization and user considerations for building and running vApps within a VMware vCloud.
<i>4a Public VMware vCloud Implementation Example</i>	Example of how to build a public VMware vCloud for service providers.
<i>4b Hybrid VMware vCloud Use Case</i>	Use case for building a hybrid VMware vCloud based on the private and public Implementation examples.
<i>4c Private VMware vCloud Implementation Example</i>	Example of how to build an enterprise private VMware vCloud.

2.1 Document Conventions

The following typographical conventions are used in all toolkit documents.

Table 2. Document Conventions

<i>Emphasis</i>	Emphasis (italics) is used to emphasize information, introduce new terms, or for literal document names.
Command	System commands, file names, and registry keys are indicated using this font.
Code	This font is used for code snippets and scripts.
User Interface	UI objects such as tab, button, and field names are in bold text.
Hyperlink	Blue, underlined text indicates an active link such as a URL.
Note, Caution	Note Notes contain information related to the topic that is of possible interest to the reader. Caution Caution is used to highlight important information that describes potential problems or actions that might cause unexpected results. A Caution alerts the user to be aware, and may indicate the possibility of significant data loss.