



Introduction

Cisco Videscape™ Distribution Suite for Internet Streaming (VDS-IS) is an integrated system with a network-based architecture that transcends existing streaming solutions. It allows service providers to extend their video-managed content to their customers' IP-enabled devices such as PCs, tablets, game consoles, and Wi-Fi-connected mobile phones by using sophisticated service routing and content distribution intelligence. Cisco VDS-IS software is installed on Cisco Content Delivery Engine (CDE) appliances as well as Cisco high-performance Unified Computing System™ (Cisco UCS®) servers and blades, providing a flexible and cost-effective solution to service providers who plan to build content delivery networks.

Starting from VDS-IS 3.3.0, the Cisco VDS-IS software applications are optimized to meet the cloud environment needs. The VDS-IS software applications can be fully virtualized and can operate on a cloud platform built of COTS server. Virtualizing the VDS-IS software applications, provide a scaled solution to meet the increasing demand for online video content. It provides an efficient solution to reduce the operational costs in addition to an effective model to increase streaming capacity as demand grows (Flash Crowds for Live and VOD Events).

The Cisco VDS-IS software applications can virtualize on top of VMware hypervisor and soon planned to be supported with KVM and open stack.

Virtualizing the Cisco VDS-IS software applications provide the following benefits:

- Cost reduction - Co-resident VDS-IS applications on a virtualized machine reduce hardware requirements at headend, data center and POP sites. Site requirement costs are reduced because power, temperature, and space requirements are reduced when number of servers or appliances are optimized.
- Flexible CDN deployment - A wide variety of server configurations (CPU, memory, drives) provide you with a flexible CDN deployment that meets the CDN dynamic needs (flash crowds for Live and VOD Events).
- Minimal time for deployment in the event a new server is introduced in the system..
- Ability to leverage VMware built-in capability for NAS storage extension

VDS-IS 3.3 supports VMWare, enabling virtualization on COTS hardware. Performance will vary based on hardware type and resource allocation to VDS-IS applications.

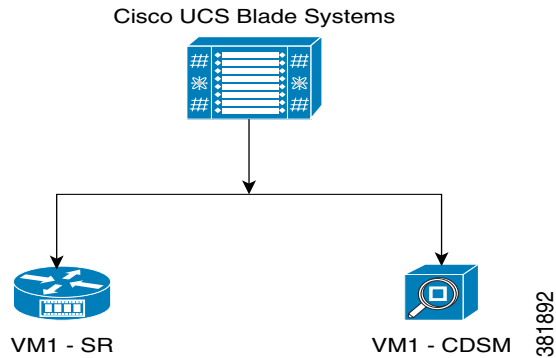
Use cases

This section describes some of the use cases when virtualizing Cisco VDS-IS software applications.

Use Case 1 - Virtualizing CDN Manager and Routing Components at Headend/Data Center

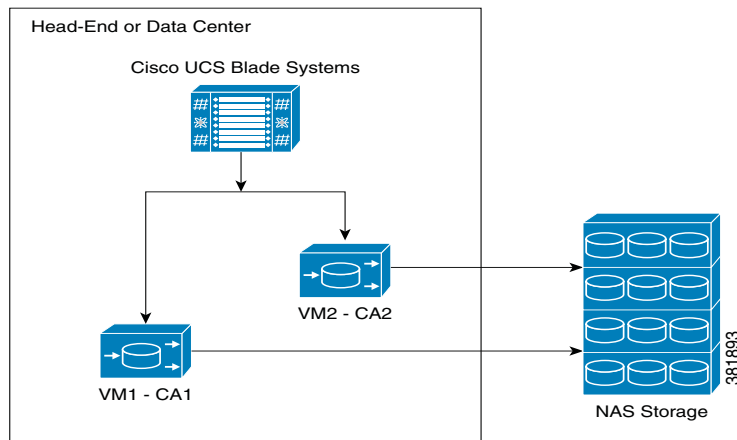
In this use case, VDS Service Router (SR), and VDS Manager (CDSM) can virtualize and co-exist on the same Server. This ensures a reduction in cost and site requirements such as: power, space, temperature and so on. In a scenario that a N+1 redundancy is applied, the cost saving is higher.

Figure 1-1



Use Case 2 - Virtualizing Content Acquirer Layer at Head-End/Data Center

In this use case, VDS Content Acquirer (CA) can virtualize at the head-end or data center. In addition, it can leverage a remote storage NAS unit for expanding the storage size needed at the content acquirer layer.



Use Case 3 - Virtualizing VDS Internet Streamer at Edge POP Center

In this use case, VDS Internet Streamer can be virtualized at Edge POP centers, thus enabling the service providers to use the POP center compute resource for CDN video content delivery in addition to other virtualized applications. This common infrastructure can provide wide flexibility and short operation time during flash crowds for Live and VOD Events.

**Note**

The external virtualized NAS storage unit can also be leveraged to extend the storage size of the virtual streamers at the edge. This ensures an efficient model to increase streaming capacity and storage needs.

