# Release Notes for Cisco Videoscape Distribution Suite Origin Server Release 2.1.1

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This publication describes the requirements, dependencies, and caveats for the Cisco Videoscape Distribution Suite Origin Server (VDS-OS) Release 2.1.1.



# Introduction

Media origination is a critical function for the delivery of advanced revenue-generating media services to consumers. The VDS-OS is a cloud-based software platform that supports HTTP media origination and on-demand encapsulation (ODE) as a service. The VDS-OS provides a unified media ingest, preparation, optimization, and delivery framework for live, video-on-demand (VOD), and time-shifted TV (TSTV) content. The VDS-OS supports multi-format HTTP adaptive streaming media origination for Adobe HTTP Dynamic Streaming (HDS), Apple HTTP Live Streaming (HLS), and Microsoft HTTP Smooth Streaming (HSS) formats. The VDS-OS management and services framework provides rapid service creation and deployment on the operator's computing infrastructure in a simple, flexible, and scalable manner.

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The VDS-OS works with the following Cisco Videoscape products:

- Cisco Anyres Live (CAL) Release 7.2: Supports transcoding and the HLS packaging function.
- Cisco Anyres Packager (CAP) Release 2.1: Supports the HLS packaging function.
- Cisco Anyres VOD (CAV) Release 5.2: Supports native ABR (HLS and HSS) and Common Format (CF) VOD transcoding and asset preparation.

The VDS-OS accesses VOD content stored on the network-attached storage (NAS) devices managed by the operator. The VOD content is used for recording and DVR buffering.

# Features

This section lists all of the features in VDS-OS R2.1.1. For full descriptions of these features, see the *Cisco Videoscape Distribution Suite Origin Server Release 2.1 Installation and Configuration Guide*.

| Feature Set | Features |
|---|---|
| Components | The following VDS-OS software components are required for a minimal setup:<br>• Virtual Origin System Manager (VOSM)<br>• Service Router (SR)<br>• VDS-OS Servers |
| VMware Virtualization | • Supports deployment of the VD-OS as a virtual machine (VM) via an Open Virtual Appliance (OVA) image |
| Element Management | Provided by the VOSM, which supports:<br>• Secure GUI over HTTPS<br>• Configuration of VDS-OS servers<br>• Provisioning of origin services<br>• Provisioning of live programs<br>• Traffic statistics and system health monitoring<br>• Authentication, authorization, and accounting (AAA) and role-based management<br>• Active-standby redundancy<br>• Device group for easy management of hundreds of servers<br>• Centralized system upgrade manager for easy upgrading of servers<br>• Configuration of any number of network ports as dedicated management ports on the Cisco Content Delivery Engine (CDE)<br>• Web services APIs<br>• XML flexible rules template for origin service policies and rules |
| Application Programming Interfaces | Web services APIs for origin service provisioning and management |

| Feature Set | Features |
|---|---|
| Service Routing | SR supports service routing incorporating the following factors:<br>• DNS service routing<br>• Load-based routing<br>• Origin service-aware routing<br>• Application failure<br>• Live source failure |
| HLS Live Origination | • HLS Live service with time-shift buffer on Network Attached Storage (NAS)<br>• HLS Live service with time-shift buffer in-memory<br>• HLS Live pass-through mode<br>• High availability—resiliency and redundancy<br>• Multiple master manifest file support for HLS pass-through mode<br>• Web Video Text Tracks (WebVTT) support for HLS pass-through mode |
| Native Adaptive Bit Rate (ABR) VOD Origination | • HTTP progressive download (any codec) from NAS<br>• HDS VOD HTTP origination from NAS<br>• HLS VOD HTTP origination from NAS<br>• HSS VOD HTTP origination from NAS |
| On-Demand Encapsulation (ODE) ABR VOD Origination | • ODE Playout for HDS, HLS, and HSS formats<br>• ODE of CF assets produced by CAV<br>• HDS ODE VOD HTTP origination from NAS<br>• HLS ODE VOD HTTP origination from NAS<br>• HSS ODE VOD HTTP origination from NAS<br>• Trick-mode support for ODE-HDS, ODE-HLS, and ODE-HSS<br>• Adobe-Access DRM and encryption for ODE-HDS<br>• Standard AES-128-CBC encryption support for ODE-HLS<br>• PlayReady DRM and AES-128-CTR encryption for ODE-HLS and ODE-HSS |
| Key Management Server (KMS) Support for ODE | • Adobe Access Server - Adobe-Access for HDS<br>• Key acquisition from Cisco Key Store 1.1—Standard HLS only<br>• Key acquisition support with Cisco Videoscape Media Suite Key Management Server (VMS-KMS)—Standard HLS and Playready HSS<br>• Key acquisition support with Verimatrix Video Content Authority System (VCAS) 3.3—Standard HLS and Playready HSS |

| Feature Set | Features |
|---|---|
| Cache-Control Enhancements | • Cache-control headers support for native ABR (HDS, HLS, HSS) VOD origination, based on origin service setting<br>• Cache-control headers support for HLS Live origination, based on channel setting<br>• Cache-control header support for ODE (HDS, HLS, HSS) VOD origination, based on origin service setting<br>• Cache-control header support based on Asset Resolver setting<br>• If-Modified-Since (IMS) support for HLS Live and native ABR (HDS, HLS, HSS) VOD<br>• IMS support for ODE (HDS, HLS, HSS) VOD |
| Operational Enhancements | • Cross-domain policy file for HDS and HSS playback<br>• Asset resolution<br>• Default Asset Resolver file<br>• Admission control<br>• Display usage for TMPFS and NSS<br>• New alarms 560015 (nas_threshold) and 1100002 (channel_failure)<br>• Enhanced alarms 9000015 (WritingToNasHasFailed) and 1100001 (channel_partial_failure) |

# System Requirements

The VDS-OS is a software-only product which is optimized for use on components of the Cisco Unified Computing System (UCS), such as the UCS B200 Blade Server or the UCS C-Series Rack Servers.

All VDS-OS device modes (Service Engine, Service Router, and VOSM) can run in a VM. Deployment in a VM enables the VDS-OS to run on hardware other than the UCS. You can run multiple VDS-OS device modes on a single hardware platform.

We recommend the following virtualization software:

- VMware ESX 5.1
- VMware vSphere 5.x
- VMware vCenter 5.x

We recommend the following system resources for VDS-OS devices:

| VDS-OS Device Mode | Cores | RAM | Hard Disk | Network |
|---|---|---|---|---|
| SE (Minimal) | 4 | 16 GB | 64 GB | Ten 10GEth |
| SE (Standard) | 8 | 28 GB | 64 GB | Ten 10GEth |
| SR | 4 | 16 GB | 64 GB | Ten 10GEth |
| VOSM (CDSM) | 4 | 4 GB | 64 GB | Ten 10GEth |

For performance information, see the release-specific performance bulletin.

# Installing Release 2.1.1

The VDS-OS is a software-only product and supports VMWare virtualization on any UCS platform or third-party hardware.

For detailed information on installing the software and deploying the VDS-OS as a VM, see the *Cisco Videoscape Distribution Suite Origin Server Release 2.1.1 Software Installation and Configuration Guide*.

# Known Issues

This section provides a list of open CDETS defect IDs that were identified during testing of VDS-OS 2.1.1. Resolution of these defects is in progress.

This list is not intended to be comprehensive. If you have questions about a particular defect, contact your account representative.

**Note** Defects are identified by a case tracking number (Defect ID) and a headline that briefly identifies the case. The headlines in this section are presented exactly as they appear in the issue tracking system.

| Defect ID | Headline |
|---|---|
| CSCuj32870 | Duplicate packets seen on VMs configured with port-channel on UCS blade |
| CSCuj74254 | PR moves to **Failed** on requesting non-existing master manifest |
| CSCuj75165 | Delay observed while publishing HLS Live using two-second segment chunks |

# Related Documentation

Refer to the following documents for additional information about VDS-OS 2.1.1:

- *Cisco Videoscape Distribution Suite Origin Server Release 2.1.1 Software Installation and Configuration Guide*
- *Cisco Videoscape Distribution Suite Origin Server Release 2.1.1 API Guide*
- *Cisco Videoscape Distribution Suite Origin Server Release 2.1.1 Command Reference Guide*
- *Cisco Videoscape Distribution Suite Origin Server Release 2.1.1 Alarms and Error Messages Guide*
- *Open Source Used in Cisco Videoscape Distribution Suite Origin Server Release 2.1.1*

  This document contains licenses and related license information for open-source software included in VDS-OS 2.1.1.
- *Cisco Videoscape Distribution Suite Release 2.1.1 Documentation Roadmap*
- *Cisco UCS C200 Installation and Service Guide*
- *Cisco UCS C210 Installation and Service Guide*
- *Cisco UCS B200 M3 Blade Server Installation and Service Note*

The entire VDS-OS software documentation suite is available on Cisco.com at:

http://www.cisco.com/en/US/products/ps12681/tsd_products_support_series_home.html

The Cisco UCS C-Series Rack Servers documentation is available on Cisco.com at:

http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html

The Cisco UCS B-Series Blade Servers documentation is available on Cisco.com at:

http://www.cisco.com/en/US/products/ps10280/tsd_products_support_series_home.html

# Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html.

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