Release Notes for Cisco Virtual Media Packager Release 2.15.0

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This publication describes the requirements, dependencies, and caveats for Cisco Virtual Media Packager (VMP) System Release 2.15.0.

Introduction

Cisco Virtual Media Packager (VMP) is a component of Cisco Virtualized Video Processing (V2P), a software solution that provides an open, programmable, scalable, and extensible platform for rapid innovation. V2P supports video processing applications in headends and data centers without being tied to the operational features of their underlying infrastructure.

As a V2P component, VMP provides the linear and just-in-time packaging functions needed for OTT services such as live streaming, VOD, and cloud DVR (cDVR). VMP uses virtualization and cloud orchestration technology to elastically instantiate and scale critical media functions independently. You can prepare and originate media for distribution to the latest HTTP ABR streaming clients on mobile devices, set-top boxes (STBs), PCs, and laptops.

New Features

This VMP release incorporates the following new features and enhancements:

- Support for transferring HSS manifests containing Ad Insertion information for Live and VOD use cases
- Support for using a sparse track with HSS content for on-the-fly ad insertion
- Support for transferring HLS playlist and WebVTT segment text files with GZIP encoding

These features are configured through the V2PC GUI. For further information, see the *Cisco Virtualized Video Processing Controller User Guide*. This release also incorporates features and enhancements from earlier VMP releases. For complete feature descriptions, see the *Cisco Virtual Media Packager 2.15.0 User Guide*.

Additionally, this release resolves certain previously open caveats. For details, see Caveats, page 4.

System Requirements

External Servers

Configuring external DNS and NTP servers is mandatory for all VMP components (MCE, AppEngines, CLS, and MPE).

Cisco UCS

All VMP components run on top of VMware on Cisco Unified Computing System (UCS) B200 M3 Blade Servers. For information about running the VMP components on other types of servers, contact your Cisco representative.

The following table shows the minimum UCS hardware requirements for this VMP release:

Part Number	Description	Quantity
UCSB-B200-M3-U	UCS B200 M3 Blade Server w/o CPU, mem, HDD, mLOM/mezz (UPG)	4
UCS-CPU-E52680B	2.80 GHz E5-2680 v2/115W 10C/25MB Cache/DDR3 1866MHz	2 (Total 40 CPUs)
UCS-MR-1X082RY-A	8GB DDR3-1600-MHz RDIMM/PC3-12800/dual rank/1.35v	16 (Total 128 GB)
A03-D600GA2	600GB 6Gb SAS 10K RPM SFF HDD/hot plug/drive sled mounted	2 (1200 GB total disk space available)
UCSB-MLOM-40G-01	VIC 1240 modular LOM for M3 blade servers	2
UCSB-HS-01-EP	Heat Sink for UCS B200 M3 server	2

VMware, vCenter, vSphere

VMP support for VMs requires the following virtualization software programs and releases:

- VMware ESXi hypervisor version 6.0, Update 3, build 5050593 or later
- VMware vCenter version 6.0 or later
- VMware vSphere version 6.0 or later

VM System Resources

The following table lists the VM and hardware sizing recommended for each VMP component.

Component	Flavor Name	vCPUs	RAM	Hard Drive Partition 1	Hard Drive Partition 2	Network Interfaces
V2PC Masters (3)	2X-Large	8	32 GB	40 GB	–	1 X 10 GE
MCE	2X-Large	8	32 GB	40 GB	–	3 X 10 GE
MPE	2X-Large	8	32 GB	40 GB	–	3 X 10 GE
Repository	2X-Large	8	32 GB	40 GB	–	1 X 10 GE
IPVS Nodes (2) *	X-Large	8	16 GB	40 GB	–	2 X 10 GE
REDIS Nodes (2) **	X-Large	8	16 GB	40 GB	–	2 X 10 GE
HAProxy Nodes (2) **	X-Large	8	16 GB	40 GB	–	2 X 10 GE
AM (2)	X-Large	8	16 GB	40 GB	–	1 X 10 GE
ELK Node	2X-Large	8	32 GB	40 GB	512 GB	1 X 10 GE

* Two required *per service*: one pair for MCE and another pair for MPE.

** Two required *per device type*: one set for SCE-StateCacheEndpoint and one set for VOD service.

Note: Legacy deployments using Cisco Media Origination System (MOS) do not require V2PC Masters or an ELK node, but instead, require VMs for the Platform and Application Manager (PAM) and Centralized Logging Server (CLS). See the *User Guide* for your MOS release for complete deployment information for these nodes.

These recommended minimum system resource numbers are based on the following assumptions:

- Hyper-threading is enabled in the ESXi compute nodes.
- There is no virtual CPU oversubscription. That is, the recommended number of virtual CPUs is the same as the number of actual physical cores.

These numbers include VMware overhead. You may need to adjust these numbers based on your specific deployment.

VMP Service Manager GUI Requirements

The VMP Service Manager GUI can run on the following operating systems and browsers:

- Windows Internet Explorer 9 (IE9) or later for Windows 7
- Mozilla Firefox 20 or later for Windows 7
- Google Chrome 30.x for Windows 7
- Apple Safari 7.x for Windows 7 or MAC OS Version 10.9 or later

The VMP Service Manager GUI requires a display resolution of 1600 x 900 or better.

VMP Software Components

VMP 2.15.0 and V2PC 3.3.6 software components and build numbers at initial release are as follows:

Component	File Name
VMP 2.15.0 V2PC Bundle Image	vmp-2.15.0-v2p-bundle-3.3.6-17956.tar
VMP 2.15.0 Manifest JSON File	vmp-2.15.0-23491-manifest.json
VMP 2.15.0 Repo Bootstrap RPM File	cisco-mos-repo-bootstrap-2.15.0-23491.x86_64.rpm
VMP 2.15.0 Minimal Repo Boostrap RPM	cisco-mos-minimal-bootstrap-2.15.0-23491.x86_64.rpm
VMP 2.15.0 OVA Image	2.15.0-cisco-mos-redondo.23491.b57.ova
VMP 2.15.0 ISO Image	2.15.0-cisco-mos-redondo.23491.b57.iso
V2PC Docker Upgrade Image, (GZipped)	v2p-upgrade-docker-3.3.0-15388-17943.tar.gz
V2PC Ansible Upgrade Image (GZipped)	v2p-upgrade-ansible-3.3.3-16323-17943.tar.gz
CentOS7 Files (Zipped)	centos7-2016-09-14_21-35-19743.zip
CoreOS Production VMware Image	coreos_production_vmware_ova-17943.ova
V2PC 3.2.0 Launcher Image	launcher-3.2.0-8971-17943.ova
V2PC 3.3.6 Docker Launcher Image	v2p-launcher-docker-b620-17943.tar
V2PC 3.3.6 Repo ISO Image	v2p-repo-3.3.6-br_v2pc_3.3.6-17943.iso

Installing VMP

For information about installing the VMP software and deploying the VMs, see the *Cisco Virtual Media Packager Release 2.15.0 User Guide*.

Updating Publish Templates After Upgrade

VMP 2.15.0 uses a media playback engine (MPE) for VOD playback of Dynamic Adaptive Streaming over HTTP (DASH) formatted content. The MPE supports multiple periods in DASH content, a feature not supported in VMP 2.9.x and earlier VMP releases. As a result, customers with existing VOD DASH content who upgrade from VMP 2.9.x or earlier to VMP 2.15.0 must add a new publish template variant for playback compatibility with the existing VOD DASH content. If this is not done, errors may occur during playback of previously ingested VOD DASH content after upgrading to VMP 2.15.0.

To add the new publish template variant:

1. Log in to the V2PC GUI and, from the navigation menu, choose **Media Workflow Manager > Resources > Templates > Publish Templates**.
2. Choose an existing VOD DASH template and click **Edit** (pencil icon) to open the template for editing.
3. Open the **Package** section of the dialog and click **+** (**Add**) to add a new variant.

   Note: If the template you selected is already used by one or more existing workflows, the message " This Publishing Template is in use in one or more Media Workflows and cannot be modified" now appears. If you see this message, navigate to **Media Workflow Manager > Media Workflows** and stop the related VOD workflows before continuing.
4. Enter the name **fragDASH** as the name of the new variant.
5. Enter or select the following parameters for the new variant in the fields provided:
   - Selective Publish - choose **TRUE** or **FALSE**
   - Enable SMPTE-TT - choose **TRUE** or **FALSE**
   - Enable WEBVTT - choose **TRUE** or **FALSE**
6. Click **OK** to apply the new variant.
7. From the V2PC GUI navigation menu, choose **Media Workflow Manager > Media Workflows**.
8. Select the VOD media workflow and click **Assets** to view the assets for the workflow.
9. Under Publish assets, confirm that the Publish URL now identifies **fragDASH.mpd** as the publish URL.

Caveats

This section provides a list of open and resolved caveats for this release. 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.

Resolved Caveats

Defect ID	Headline
CSCvd12415	Subtitles are added in m3u8 when they are not present in the stream
CSCvh27905	dashvgc-core
CSCvh71157	Support configure max audio streams--change for support VOD
CSCvh78316	mpe memory leak for vod dash vgc stress test
CSCvh78801	Support HLS MP4 format on MPE
CSCvi09977	tolerate unpaired end message
CSCvi12848	VOD: Invalid language attribute for HLS subtitle in m3u8
CSCvi28280	play dash hevc live streaming audio http-404
CSCvi23192	utctiming disabled for default
CSCvi42064	dash should output publishName in MPD
CSCvi43766	dash selective publish based on bitrate did not work
CSCvi44578	VMP 2.12: we are getting 404 and 502 errors are related to iframe case
CSCvi46254	fix dash playout failling issue on firefox 59
CSCvi47860	iframe 404 on 2.10/2.11
CSCvi50504	hevc widevine cause trafficserver core
CSCvi50636	fix build error in 2.14 for hls-mp4
CSCvi50685	CODECS attribute should list every sample format in any Rendition in the Group
CSCvi61589	abreapi-2.113.12.tar.gz -> abreapi-2.116.4.tar.gz
CSCvi62116	replace abreapi-2.113.12.tar.gz with abreapi-2.116.2.tar.gz
CSCvi62166	Support custom/bespoke HTTP response header in MPE
CSCvi65491	[Continued] HLS + HEVC fMP4 media mp4 support Test with ABR-E library
CSCvi67775	Find 404 issue when playback hls-mp4 live with multiple profiles
CSCvi70033	sometime dash clear stream core after metadata deleted
CSCvi72178	fix audio playlist duration mismatch with segment duration
CSCvi74231	IDR NAL type for hevc should be 19,20
CSCvi75540	MPE: audio playlist duration mismatch with segment duration 2.12.1
CSCvi76555	failed to play HLS H265 live or cdvr content with shaka
CSCvi76616	support for i-frame encryption in hls-mp4 with config param.
CSCvi79022	live video/iframe: mediastreamvalidator tool Error: Playlist vs segment duration mismatch
CSCvi79739	upgrade abreapi-2.113.12.tar.gz -> abreapi-2.116.4.tar.gz
CSCvi80079	ABRE lib report ERROR - Problem parsing NAL: Invalid forbidden_zero_bit
CSCvi80179	i-frame with variant may hit 404 in live workflow
CSCvi81249	HEVC support VPS and multiple PPS at IDR
CSCvi82489	failed to wget playlist m3u8
CSCvi87156	HSS cDVR support implementation
CSCvi87565	fix a coredump due to corrupted PMT data, double commit in 2.14
CSCvi87610	Support two PPS of HEVC parsing in MPE
CSCvi87735	fix wrong #EXT-X-TARGETDURATION

Defect ID	Headline
CSCvi89967	Playing multiaudio HLS 404
CSCvi90543	ads insertion add hls support for both OUT/IN in same segment time
CSCvi91293	support generic http header config for 404 case
CSCvi92289	ezdrm coredump
CSCvi92294	max audio bitrate in the same audio group
CSCvi92340	Support cdvr url-passthrough mode for hls mp4 format
CSCvi92690	correct a log level
CSCvi92938	HSS cDVR support - Add subrepresentations in MPD for passing PIDs correctly
CSCvi93090	ABRE Support for Fairplay KMS
CSCvi94800	Core occurred while playback with 1250 client
CSCvi96536	Add vps info for dash hevc cdvr url-passthrough
CSCvi99615	enable video_frag_/audio_frag for DASH
CSCvi99722	Add gzip support
CSCvj00951	608 and 708 closed caption not translated to WebVTT
CSCvj01804	HLS profile ordering by bandwidth should use bandwidth in video SubRepresentation
CSCvj02122	iframe encrypt failed cause traffic server restart for h265
CSCvj02608	port audio Group a profile Naming to hls-mp4
CSCvj03853	i-frame selection should be based on corresponding video selection instead of i-frame bandwidth
CSCvj03864	MCE only output PID=600 subtitle
CSCvj03869	set sample_is_non_sync_sample to 0 for DASH WEBVTT
CSCvj04387	Add Ads Insertion related parameters to video_frag_auto
CSCvj04528	ut for audio group in hls mp4
CSCvj05481	scte35 tag insertion point not accurate
CSCvj05670	fix for cdvr in-progress play back issue
CSCvj05867	MCE coredump when capturing a teletext stream
CSCvj06186	ut for publish name in hls mp4
CSCvj06739	add support of event_id in ESAM template
CSCvj10496	fix subtitle timeline error
CSCvj12456	'Live point has drifted' error on MA/recording not getting started
CSCvj20040	Subtitle not seen for HSS in real play back as well as manifest
CSCvj21551	Ads insertion remove OUT Event without duration when it moves out of window
CSCvj25101	VMP 3.12: Dolby Audio in HSS output does not playback
CSCvj25803	refine timeline for fragment
CSCvj27052	502 from client audio segment request
CSCvj28129	Add dash presentation delay support
CSCvj28485	fix coredump when ac3 audio on enableFragment case
CSCvj35312	only publish one iframe representation if there is disabled iframe
CSCvj35770	remove empty timeline on DASH case
CSCvj37047	HLS V7: support AVERAGE-BANDWIDTH attribute
CSCvj42460	change NUM_ATTRIBUTES to 256

Defect ID	Headline
CSCvj50866	Support DVB Bitmap with SMPTE-TT in xml format for DASH
CSCvj55313	HLS HEVC fmp4 webvtt text format support
CSCvj60312	cDVR:it cannot play time-base content for dash.js
CSCvj63583	Fix for core during thread race condition
CSCvj93802	DASH 404 MPE
CSCvj97315	upgrade abreapi-2.116.4.tar.gz -> abreapi-2.119.5.tar.gz

Related Documentation

VMP Documentation

Refer to the following documents for additional information about *VMP*:

- *Cisco Virtual Media Packager 2.15.0 User Guide*
- *Cisco Virtual Media Packager 2.10 API Guide*
- *Open Source Used in VMP 2.11.4*

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