

# IMC

## MPLS VPN Manager 7.1 (E0301P03)

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## What's New in this Release

The version IMC MVM 7.1 (E0301P03) can be upgraded from IMC MVM 7.1 (E0301), IMC MVM 7.1 (E0301L01) or IMC MVM 7.1 (E0301L02).

The following lists all features released after IMC MVM 7.0 (E0101).

### Features released in IMC MVM 7.1 (E0301P03)

1. none.

### Features released in IMC MVM 7.1 (E0301L02)

1. Added the function of checking PE and AC when deploy VPLS/PBB VPN for the MPLS L2VPN component.

### Features released in IMC MVM 7.1 (E0301L01)

1. Added the function of checking multiple paths for the MPLS TE component.

### Features released in IMC MVM 7.1 (E0301)

1. Added support for Html5 topo.
2. Added support for Web Desktop.

### Features released in IMC MVM 7.0 (E0201P02)

1. Added the function of querying CE nodes and displaying CEs and path information on the topology.
2. Added support for Cisco device licenses for the MPLS VPN component.
3. Added the function of exporting VPN reports from the VPN list for the L2VPN component.

### **Features released in IMC MVM 7.0 (E0201H01)**

1. None .

### **Features released in IMC MVM 7.0 (E0201)**

1. VPN devices running Comware V7 can be managed.

### **Features released in IMC MVM 7.0 (E0101P02)**

1. Path analysis added to the MPLS VPN Manager. The path between two CE devices can be displayed in the service topology.

### **Features released in IMC MVM 7.0 (E0101H01)**

1. None .

### **Features released in IMC MVM 7.0 (E0101)**

1. None .

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## **Problems Fixed in This Release**

IMC MVM 7.1 (E0301P03) fixes the following problems, including all bugs fixed after IMC MVM 7.0 (E0101).

### **Resolved Problems in IMC MVM 7.1 (E0301P03)**

1. On the configuration page for undeployment, click Select to select a PBB VPN in the VPN Name field, select Undeploy AC in the Operation field, and click Next. On the AC List page, select one or multiple ACs, and click Next. On the Configuration Summary page, you can see that all ACs for the VPN are undeployed.
2. When a maintainer or viewer that has VPN management authority is modified, VPN information replication occurs in the L2VPN Privilege Management area. Remodifications lead to unlimited VPN information replication.
3. On the right side of the L2VPN topology page, double click a VPN in the VPN List. The device or link overlapping occurs on the topology for the VPN.

### **Resolved Problems in IMC MVM 7.1 (E0301L02)**

1. none.

### **Resolved Problems in IMC MVM 7.1 (E0301L01)**

1. none.

### **Resolved Problems in IMC MVM 7.1 (E0301)**

1. none.

### **Resolved Problems in IMC MVM 7.0 (E0201P02)**

1. The peer UPE in the PE List is automatically specified when the main and backup NPEs are specified for the local UPE.
2. In BGP VPN route distribution, OSPF-ASE and OSPF-NSSA will fail to be deployed to the device because there are no OSPF-ASE and OSPF-NSSA configurations on the device.
3. Deploy L2VPN VLLs, and select an encapsulation type from the **Encap Type** list. The **Service Instance** and **Bandwidth** fields are cleared.
4. Display L2VPN information for a PE in the topology to enter the PE detailed information page, and then add a GRE tunnel. An error occurs on the page.
5. Deploy L2VPN VLLs, select **Port-based** from the **Encap Type** list in the **Local PE Configuration** area, and then select a different UNI interface. The **Encapsulation VLAN** field appears, which cannot appear in this area in this case.

### **Resolved Problems in IMC MVM 7.0 (E0201H01)**

1. IMC cannot operate correctly when MVM 7.0 (E0201) is installed on IMC Platform 7.0 (E0202).

### **Resolved Problems in IMC MVM 7.0 (E0201)**

1. On the **VRF Binding Relationship Configuration** page of **Auto Discovery** of the L3VPN Manager, add a VMCE, delete the VMCE, and then click **Cancel**. The page displays error.

### **Resolved Problems in IMC MVM 7.0 (E0101P02)**

1. On the VPN list, the operation for batch modifying the "Audit inter-spoke unconnectivity" attribute fails.
2. Log in to IMC, and display CE information on the global topology. No CE information is displayed.
3. Failed links cannot be displayed on the MVM global topology.
4. The system prompts execution failure when the imported device does not support the display mpls static-l2vc command.

## Resolved Problems in IMC MVM 7.0 (E0101H01)

1. Upgrade the IMC Platform from V5.1 to V7 E0102, and upgrade MVM from V5.1 to V7 E0101. On the IMC login page, the system prompts that some components fail to be loaded.
2. IMC MVM might send configuration change alarms when the device does not have any configuration change.

## Resolved Problems in IMC MVM 7.0 (E0101)

1. None.

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## IMC Software Distribution Contents

The IMC MVM 7.1 (E0301P03) distribution list contains the following files and folders:

1. **MVM\manual\readme\_mvm\_7.1 (E0301P03).html** - This file
2. **MVM\windows\install** - The IMC installation program for Window
3. **MVM\linux\install** - The IMC installation program for Red Hat Enterprise Linux

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## Installation Prerequisites

### Server Requirements

The following are the minimum hardware and software requirements for running IMC on a server:

- Minimum hardware requirements
  - Pentium 4 3.0 GHz processor
  - 4 GB of RAM
  - 50 GB hard disk space
- Operating system (Versions marked X64 are recommended):
  - Windows Server 2008 with Service Pack 2
  - Windows Server 2008 X64 with Service Pack 2
  - Windows Server 2008 R2 with Service Pack 1

- Windows Server 2012 with KB2836988
  - Windows Server 2012 R2
  - Red Hat Enterprise Linux 5.5 (Enterprise and Standard versions only)
  - Red Hat Enterprise Linux 5.5 X64 (Enterprise and Standard versions only)
  - Red Hat Enterprise Linux 5.9 (Enterprise and Standard versions only)
  - Red Hat Enterprise Linux 5.9 X64 (Enterprise and Standard versions only)
  - Red Hat Enterprise Linux 6.1 X64 (Enterprise and Standard versions only)
  - Red Hat Enterprise Linux 6.4 X64 (Enterprise and Standard versions only)
- VMware:
    - VMware Workstation 6.5.x
    - VMware Workstation 9.0.x
    - VMware ESX Server 4.x
    - VMware ESX Server 5.x
- Hyper-V:
    - Windows Server 2008 R2 Hyper-V
    - Windows Server 2012 Hyper-V
- Database
    - Microsoft SQL Server 2008 Service Pack 3 (Windows only)
    - Microsoft SQL Server 2008 R2 Service Pack 2 (Windows only)
    - Microsoft SQL Server 2012 Service Pack 2 (Windows only)
    - Microsoft SQL Server 2014 (Windows only)
    - Oracle 11g Release 1 (Linux only)
    - Oracle 11g Release 2 (Linux only)
  - IMC Platform Compatibility
    - HP IMC Platform version: HP IMC PLAT 7.1 (E0303) or later

Note: 64-bit operating systems are recommended over 32-bit operating systems because of the larger amount of available memory for applications.

Note: Optimal hardware requirements vary with scale, other management factors, and are specific to each infrastructure. Please consult HP, or your local account teams and precise requirements can be provided.

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## Client Prerequisites

### PC Requirements

- Minimum hardware requirements
  - 2.0 GHz Pentium 4 processor
  - 2048 MB of RAM
  - 50 GB hard disk space
  
- Operating system
  - Windows XP SP3 or later
  
- Browser
  - IE 10.0 or 11.0 is recommended.
  - Firefox 30 or later is recommended.
  - Chrome 35 or later is recommended.
  - Turn off the blocking settings in the browser.
  - Add the IMC website to the trusted sites of the browser.
  - The client resolution is 1280\*768 at least.
  - JRE 1.6.0\_update27 or later is recommended. If a client has no JRE, IMC prompts the user to install JRE for the client.

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## Typical Installation

Before installing MVM, make sure the IMC is installed correctly. To install MVM, click **Install** button on the **Monitor** tab of the Intelligent Deployment Monitoring Agent, then select the components sub-directory of the install package, and click **OK** button to launch the installation wizard.

For more information about installation instructions, see the *IMC Installation Guide*.

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## Upgrade

The upgrade package applies to IMC MVM 7.1 (E0301), IMC MVM 7.1 (E0301L01) and IMC MVM 7.1 (E0301L02).

Follow these instructions to upgrade IMC:

1. Back up the IMC database on the **Environment** tab in the Intelligent Deployment Monitoring Agent.
2. Manually copy the IMC installation directory to a backup path.
3. Stop the IMC system in the Intelligent Deployment Monitoring Agent.
4. Click **Install** on the **Monitor** tab of the Intelligent Deployment Monitoring Agent.
5. Select the *windows/install/components* or *linux/install/components* subdirectory of the upgrade package, and click **OK** button.
6. After the installation is complete, the Intelligent Deployment Monitoring Agent lists the components that need to be upgraded. Click **OK** to start upgrading the components.
7. If this is a distributed deployment, upgrade the components deployed on the slave servers separately.
8. After the update is complete, start all processes in the Intelligent Deployment Monitoring Agent window.

For more information about installation instructions, see the *IMC Installation Guide*.

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## Un-Installation

You can remove MVM component through the intelligent deployment monitoring agent. To do this, follow these steps:

1. In the Intelligent Deployment Monitoring Agent window, click **Stop IMC** on the **Monitor** tab to stop all processes of IMC.
2. On the **Deploy** tab, right-click the MVM component, and select **Uninstall the Component** from the shortcut menu.
3. When an un-installation success dialog box appears, click **OK**.

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## Running the Deployment Monitoring Agent

The Deployment Monitoring Agent is a GUI program to manage the deployment of the IMC modules and monitor the performance and the state of processes of the IMC server. After the installation finished, the Deployment Monitoring Agent is automatically started to guide the user through deployment.

On Windows, run the Deployment Monitoring Agent by selecting **All Programs > Intelligent Management Center > Deployment Monitoring Agent** from the Start menu. On Linux, run the Deployment Monitoring Agent by executing **dma.sh** in the **deploy** directory of the IMC installation path.

If Deployment Monitoring Agent cannot start, make sure the HP IMC Server service is running. This service is automatically started along with the OS and runs as a daemon/background process. On Windows, you can start the service in Windows Services. On Linux, you can start the service with the **service imcdmsd start** command.

IMC must be started from the Deployment Monitoring Agent.

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## TCP Port Usage

The MVM Server will BIND to and use the following TCP/IP Ports.

Component	Subcomponent	Protocol	Port	Configurable	Use	Server	Client	Notes
MVM	--	UDP	161	Yes	Used to access network elements through SNMP.	IMC MVM Server	All IMC users	None
MVM	--	UDP	162	Yes	Used to accept SNMP Traps from network elements.	IMC MVM Server	All IMC users	None
MVM	--	TCP	22	Yes	SSH/SFTP port, which the configuration center uses to back up	IMC MVM Server	All IMC users	None



						and restore the device software and configuration file through SSH/SFTP.			
MVM	--	TCP	20/21	Yes		FTP port, which the configuration center uses to back up and restore the device software and configuration file through FTP.	IMC MVM Server	All IMC users	None
MVM	--	TCP	23	Yes		Telnet port, which the resource management module, ACL management module, and configuration center use to access the device through Telnet.	IMC MVM Server	All IMC users	None
MVM	--	ICMP	--	Yes		ICMP port, which the resource management module uses to discover devices and check the reachability of the devices.	IMC MVM Server	All IMC users	None
MVM	--	UDP	69	Yes		IMC-specific TFTP daemon.	IMC MVM Server	All IMC users	None
MVM	--	TCP	80	Yes		Used to launch the web network	IMC MVM Server	All IMC users	None

						management system of the device.			
MVM	--	TCP	443	Yes		HTTPS port, which the virtual network management module uses to obtain VMware virtual network data in SSL.	IMC MVM Server	All IMC users	None
MVM	--	TCP	8080	Yes		IMC-specific web server for HTTP protocol (can be changed when installation).	IMC MVM Server	All IMC users	None
MVM	--	TCP	8443	Yes		IMC-specific web server for HTTPS protocol (can be changed when installation).	IMC MVM Server	All IMC users	None
MVM	--	TCP	8800	Yes		IMF listening port.	IMC MVM Server	All IMC users	None
MVM	--	TCP	1433	Yes		SQL Server database listening port (Windows only).	IMC MVM Server	All IMC users	None
MVM	--	UDP	6666	Yes		iNode location listening port.	IMC MVM Server	All IMC users	None

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## Known Problems

- On MPLS VPN Manager Desktop, the pie chart in the VPN Resources does not display normally.
- On MPLS VPN Manager, the line chart in the SA Traffic Report does not display the configured threshold lines.
- MPLS Management cannot raise an alarm when the MPLS traffic exceeds the threshold.
- The minimum average rate and average rate in NTA traffic analysis statistics are greatly different from the actual values.

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