

# IMC

## MPLS VPN Manager 7.3 (E0506)

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## Table of Contents

1. [What's New in this Release](#)
  2. [Problems Fixed in this Release](#)
  3. [MVM Software Distribution Contents](#)
  4. [Installation Prerequisites](#)
  5. [Client Prerequisites](#)
  6. [Port Usage](#)
  7. [Typical Installation](#)
  8. [Upgrade Installation](#)
  9. [Removing MVM](#)
  10. [Known Problems](#)
- 

## What's New in this Release

IMC MVM 7.3 (E0506) can be installed directly, or can be upgraded from IMC MVM 7.3 (E0503P03) and IMC MVM 7.3 (E0505) and IMC MVM 7.3 (E0505P01).

The following lists all features released in IMC MVM 7.2 (E0402) and later versions.

### Features released in IMC MVM 7.3 (E0506)

1. MVM supports obtaining MTU values of VPNs when it obtains VPN information.

### Features released in IMC MVM 7.3 (E0505)

1. none.

### Features released in IMC MVM 7.3 (E0501P02)

1. The MPLS VPN Management can identify UPEs or SPEs in the group after you specify a UPE or SPE peer group for a SPE.
2. The L2VPN Management supports the RESTful interface for querying L2VPN information.
3. The VSI name column is added to the AC undeployment page of the L2VPN Management.
4. The L2VPN Management automatically discovers VPN services after you import PEs to the component.
5. The MPLS VPN Management supports VSRs.

## Features released in IMC MVM 7.3 (E0501)

1. none.

## Features released in IMC MVM 7.2 (E0402P02)

- Support for EXP traffic monitoring was added in MPLS VPN component.

## Features released in IMC MVM 7.2 (E0402)

- Source IP can be specified in P2P Ping on MPLS VPN Topology.

[ [Table of Contents](#) ]

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## Problems Fixed in This Release

IMC MVM 7.3 (E0506) fixes the following problems, including all bugs fixed in IMC MVM 7.2 (E0402) and later versions.

### Resolved Problems in IMC MVM 7.3 (E0506)

1. MVM supports obtaining MTU values of VPNs when it obtains VPN information.

### Resolved Problems in IMC MVM 7.3 (E0505)

1. If a version earlier than IMC MVM 7.3 (E0505) except IMC MVM 7.3 (E0503P03) is installed, the imcmplsdm might fail to start at the background, and the number of mpls\_db.imc\_mpls.tbl\_mpls\_lsp database entries might reach 100000 or more. In this case, you must manually execute the following SQL statement in the database: delete from mpls\_db.imc\_mpls.tbl\_mpls\_lsp\_path where id not in (select max(id) from mpls\_db.imc\_mpls.tbl\_mpls\_lsp\_path group by dev\_id, lsp\_name, in\_label, out\_label having count(\*) > 0 union (select left\_path\_id from mpls\_db.imc\_mpls.tbl\_mpls\_lsp\_path\_map union select right\_path\_id from mpls\_db.imc\_mpls.tbl\_mpls\_lsp\_path\_map)).

### Resolved Problems in IMC MVM 7.3 (E0503)

1. Installation of the VPLS component will fail if you use Oracle 12c database for the installation.
2. If the name of the VPN to be deployed contains uppercase letters, the uppercase letters in the VPN name change to lowercase letters after the VPLS configuration is deployed.
3. If more than 20 PE devices exist in a VPLS network, deployment of the VPLS network will time out.

## Resolved Problems in IMC MVM 7.3 (E0501P02)

1. IMC does not receive any alarms when the traffic of an LSP exceeds the alarm threshold.
2. After you change the MAC address of a CE and perform the synchronization operation, the MAC address of the CE remains unchanged.

## Resolved Problems in IMC MVM 7.3 (E0501)

1. The tips displayed when you click a link of a PE on the IP topology page do not contain the VPN information of the link.
2. It costs a long time to open the Import P or Import PE page when the following conditions are met:
  - Log in to the IMC that runs on Linux and Oracle.
  - Click Import P or Import PE on the Region Management page for the first time.

## Resolved Problems in IMC MVM 7.2 (E0402P02)

1. The V2 reports in MPLS VPN Management cannot be opened.

## Resolved Problems in IMC MVM 7.2 (E0402)

1. none.

[ [Table of Contents](#) ]

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## MVM Software Distribution Contents

The IMC MVM 7.3 (E0506) distribution list contains the following files and folders:

1. **MVM\manual\readme\_mvm\_7.3 (E0506).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

[ [Table of Contents](#) ]

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## Installation Prerequisites

### Server Requirements

The following are the minimum hardware requirements and supported software programs to run IMC:

- Minimum hardware requirements
  - Pentium 4 3.0 GHz processor
  - 8 GB of RAM
  - 100 GB hard disk space
  
- Operating system:
  - Windows Server 2012 X64 with KB2836988
  - Windows Server 2012 R2 X64
  - Windows Server 2016 R1 X64
  - Red Hat Enterprise Linux 7.x X64 (Enterprise and Standard versions only)
  
- VMware:
  - VMware Workstation 6.5.x
  - VMware Workstation 9.0.x
  - VMware ESXi Server 4.x
  - VMware ESXi Server 5.x
  - VMware ESXi Server 6.0
  - VMware ESXi Server 6.5
  
- Hyper-V:
  - Windows Server 2008 R2 Hyper-V
  - Windows Server 2012 Hyper-V
  - Windows Server 2016 Hyper-V
  
- Database
  - Microsoft SQL Server 2012 Enterprise Service Pack 3 (Windows only)
  - Microsoft SQL Server 2014 Enterprise (Windows only)
  - Microsoft SQL Server 2014 SP2 Enterprise (Windows only)
  - Microsoft SQL Server 2014 SP3 Enterprise (Windows only)
  - Microsoft SQL Server 2016 Enterprise (Windows only)
  - Microsoft SQL Server 2016 SP1 Enterprise (Windows only)
  - Microsoft SQL Server 2016 Standard (Windows only, Up to 1000 devices are supported)
  - Microsoft SQL Server 2016 SP1 Standard (Windows only, Up to 1000 devices are supported)
  - Microsoft SQL Server 2016 SP2
  - Oracle 11g Release 1 (Linux only)

- Oracle 11g Release 2 (Linux only)
  - Oracle 12c Release 1 (Linux only)
  - MySQL Enterprise Server 5.5 (Linux and Windows)  
(Up to 1000 devices are supported)
  - MySQL Enterprise Server 5.6 (Linux and Windows)  
(Up to 1000 devices are supported)
  - MySQL Enterprise Server 5.7 (Linux and Windows)  
(Up to 1000 devices are supported)
- IMC Platform Compatibility
    - IMC Platform version: IMC PLAT 7.3 (E0703).

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 HPE, or your local account teams and precise requirements can be provided.

Note: If an embedded database is used, you must install the **.net framework4.6** or **.net framework4.7**.

### GSM modem (optional)

A GSM modem is required for forwarding alarm messages. The following models have been tested to work with IMC. For more information about a specific GSM modem, see its product manual.

- WaveCom M2306B
- WaveCom TS-WGC1 (Q2403A)
- Wanxiang serial port GSM modem (DG-C1A)
- Wanxiang USB GSM modem (DG-U1A)
- Wanxiang USB min GSM modem (DG-MINI)
- WaveCom M1206B GSM modem (chip: 24PL)
- WaveCom USB M1206B GSM modem (chip: Q24PL, Q2403A)

[ [Table of Contents](#) ]

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## Client Prerequisites

### PC Requirements

- Minimum hardware requirements
  - 2.0 GHz processor

- 4096 MB of RAM
- 50 GB hard disk space
  
- Operating system
  - Windows XP SP3 or later (except the tablet mode and touch mode)
  
- Browser
  - IE 10 or 11 is recommended.
  - Firefox 50 or later is recommended.
  - Chrome 44 or later is recommended.
  - Turn off the pop-up blocking settings in the browser.
  - Add the IMC website to the trusted sites of the browser.
  - The recommended resolution width is 1280.
  - JRE 1.7.0\_update76 or later is recommended. If a client has no JRE, IMC prompts the user to install JRE for the client.

[ [Table of Contents](#) ]

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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	IMC MVM Server	All IMC users	None

					configuration center uses to back up 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 management system of the device.	IMC MVM Server	All IMC users	None
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

[ [Table of Contents](#) ]

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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 upgrade package, and click **OK** button to launch the installation wizard.

For detailed installation instructions, please refer to IMC deployment guides.

[ [Table of Contents](#) ]

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## Upgrade Installation

Please follow these instructions for upgrading the IMC:

1. Back up the IMC database on the Environment tab in the Deployment Monitoring Agent.
2. Stop IMC in the Deployment Monitoring Agent.
3. Click **Install** button in the **Monitor** tab of the Deployment Monitoring Agent.
4. Select the *windows/install/components* subdirectory of the upgrade package, and click **OK** button.
5. After the installation finishes, the Deployment Monitoring Agent will detect the components that need to be upgraded. Click **OK** button to start upgrading the components.
6. In Distributed deployment mode, upgrade all components deployed on every subordinate server.
7. After all components are updated, start all processes in the Deployment Monitoring Agent window.

[ [Table of Contents](#) ]

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## Removing MVM

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, select **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. A dialog box appears, indicating that the component was successfully removed. Click **OK**.

[ [Table of Contents](#) ]

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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.

[ [Table of Contents](#) ]

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Issued: Jun 2019

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