

# IMC

## MPLS VPN Manager 7.0 (E0101)

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## What's New in this Release

The version IMC MVM 7.0 (E0101) can be installed directly, or you can upgrade from IMC MVM 5.1 (E0201) or later versions.

To upgrade from versions prior to v 5.1, upgrade both the IMC MVM and all its dependent service components through each released version. The upgrade path is v 5.0 >> 5.1. It is not possible to import the database taken from a previous version into v 7.0.

The following lists all features released after IMC MVM 5.2 (E0401).

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

1. None.

### Features released in IMC MVM 5.2 (E0401)

1. Support the message pushing feature. This feature is configurable in *My Shortcut > Task Management > Message Options*.
2. Configure VLAN Mapping for a CE through CBQoS. This feature is configurable in *Service > L2VPN Manager > VPN Devices > CE Devices*.
3. Filter the links on the topology. This feature is configurable in *Service > MPLS VPN Manager > Global Topology > Display Links > Faulty Links*.

4. Support troubleshooting on the service topology. This feature can be used in *Service > MPLS VPN Manager > Global Topology > Service Topology*.
5. Automatically discover CEs through the VLAN Mapping feature based on the topology information. This feature can be viewed in *Service > L2VPN Manager > Auto Discovery*.
6. Support deployment collaboration. Specify the VLAN Mapping attributes for CEs and set the trunk attributes of ports during deploying VPLS VPN or PBB VPN. This feature is configurable in *Service > L2VPN Manager > VPN Deployment > Deploy VPLSs or Deploy PBBs*.
7. Add the AC information and VLAN Mapping information to the VPN information page. This feature can be viewed in *Service > L2VPN Manager > VPN Resources > VPN List > VPN Detail*.
8. Batch undeploys VPNs. This feature is configurable in *Service > L2VPN Manager > VPN Deployment > Undeploy*.
9. Batch enables or disables VSI for the VPLS VPNs or PBB VPNs. This feature is configurable in *Service > L2VPN Manager > VPN Resources > VPN List > More Operations*.

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## Problems Fixed in This Release

IMC MVM 7.0 (E0101) fixes the following problems, including all bugs fixed after IMC MVM 5.2 (E0401).

### Resolved Problems in IMC MVM 7.0 (E0101)

1. None.

### Resolved Problems in IMC MVM 5.2 (E0401H01)

1. The MVM cannot access a Cisco device that was set for the SSH login method.

### Resolved Problems in IMC MVM 5.2 (E0401)

1. No VLAN Mapping information for CE devices is available on the Configuration Summary page of the L2VPN Manager.
2. Add an LDP peer on devices after deleting an LDP peer from the MPLS Management component. The MPLS configuration failed to be synchronized to the device.
3. Failed to import devices whose login mode is SSH on the MPLS Management component.
4. Devices in the OSPF domain "area 255.255.255.255" cannot be imported to MVM.

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## IMC Software Distribution Contents

The IMC MVM 7.0 (E0101) distribution list contain the following files and folders:

1. **MVM\manual\readme\_mvm\_7.0 (E0101).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 2003 with Service Pack 2
  - Windows Server 2003 X64 with Service Pack 2 and KB942288
  - Windows Server 2003 R2 with Service Pack 2
  - Windows Server 2003 R2 X64 with Service Pack 2 with KB942288
  - 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 2008 R2 X64 with Service Pack 1
  - Windows Server 2012 with KB2836988
  - Windows Server 2012 X64 with KB2836988
  - Red Hat Enterprise Linux 5 (Enterprise and Standard versions only)
  - Red Hat Enterprise Linux 5 X64 (Enterprise and Standard versions only)

- 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 2005 Service Pack 4 (Windows only)
  - 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 1 (Windows only)
  - Oracle 11g Release 1 (Linux only)
  - Oracle 11g Release 2 (Linux only)
  - Oracle 11g Release 2 (64-bit) (Linux only)
  
- IMC Platform Compatibility
  - HP IMC Platform version: HP IMC PLAT 7.0 (E0101) 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
  
- Browser
  - IE 9.0 or 10.0 is recommended.
  - Firefox 20 or later is recommended.
  - Chrome 26 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\_update10 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 5.1 (E0201) or high versions.

Follow these instructions to upgrade IMC:

1. Back up the IMC database on the **Environment** tab in the Intelligent Deployment Monitoring Agent.
2. Stop the IMC system in the Intelligent Deployment Monitoring Agent.
3. Click **Install** on the **Monitor** tab of the Intelligent Deployment Monitoring Agent.
4. Select the *windows/install/components* or *linux/install/components* subdirectory of the upgrade package, and click **OK** button.
5. 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.
6. If this is a distributed deployment, upgrade the components deployed on the slave servers separately.
7. 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.

Port	Usage
UDP 161	Used to access network elements through SNMP
UDP 162	Used to accept SNMP Traps from network elements.
TCP 22	SSH/SFTP port, which the configuration center uses to back up and restore the device software and configuration file through SSH/SFTP.
TCP 20/21	FTP port, which the configuration center uses to back up and restore the device software and configuration file through FTP.
TCP 23	Telnet port, which the resource management module, ACL management module, and configuration center use to access the device through Telnet.
ICMP	ICMP port, which the resource management module uses to discover devices and check the reachability of the devices.
UDP 69	IMC-specific TFTP daemon.
TCP 80	Used to launch the web network management system of the device.
TCP 443	HTTPS port, which the virtual network management module uses to obtain VMware virtual network data in SSL.

TCP 8080	IMC-specific web server for HTTP protocol (can be changed when installation).
TCP 8443	IMC-specific web server for HTTPS protocol (can be changed when installation).
TCP 8800	IMF listening port.
TCP 1433	SQL Server database listening port (Windows only).
UDP 6666	iNode location listening port.

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## Known Problems

- Display faulty links on the overall topology of MVM. Some faulty link might not be displayed.
- MPLS Management cannot raise an alarm when the MPLS traffic exceeds the threshold.
- Failed to delete VCE devices from MVM. The system displays "Unknown Error."
- Select an LSP on the MPLS Management component, The LSP cannot be highlighted. After the system displays that the LSP is successfully highlighted, the LSP is highlighted.

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