

# HP LAN-Wireless Protection

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### Document version history

<b>Version No.</b>	<b>Version date</b>	<b>Revised by</b>	<b>Affected section and description of change</b>
1.0	5/26/2017	Danny Meng	
1.1	8/8/2017	Danny Meng	Added Hybrid BIOS modes

\* Action types: Approve, Review, Inform, File, Action Required, Attend Meeting, Other (please specify).

# 1 HP LAN-Wireless Protection

## 1.1 Purpose

The purpose of this white paper is to describe the BIOS, SW and HW functionality of the HP LAN-Wireless Protection solution. This feature was also known as LAN/WLAN Switching. This white paper will describe the feature set and how to configure and utilize the feature for end customers.

## 1.2 Introduction

Some of HP's customers operate in a security sensitive environment. In order to provide secured access to sensitive data, these customers built IT systems where only computing device that are connected directly to the corporate LAN network are allowed to access these highly secured information. It is essential that these end node devices are protected from external unauthorized access when connected to the corporate LAN network.

A HP computing system may have multiple network accessible devices embedded inside the system. Common network devices found in HP systems includes Ethernet NIC and Wi-Fi adaptor. HP LAN-Wireless Protection solution is designed to prevent unauthorized user from bridging into the corporate LAN network through a secondary wireless connection.

When the feature is enabled, the wireless network device will be turned off when a LAN insertion is detected allowing traffic to flow only through the NIC. The wireless device will remain off while LAN connection is maintained. The wireless device state will be restored only after the LAN is disconnected. Currently only the embedded Wi-Fi adaptor is supported.

This feature is not to be confused with switching network traffic routes from WLAN to LAN in order to gain performance or reduce cost (if WLAN is a metered connection). Network traffic routing is typically selected by the host operating system and the network device state is not changed. Therefore, it is possible to route network traffic through LAN while leaving the wireless connection active and exposed.

## 1.3 How to enable

HP LAN-Wireless Protection solution is available on selected HP commercial notebook platforms. By default, this feature is disabled.

To enable this feature, go to F10 BIOS setting, under Advanced->Built-In Device Options, check the box next to HP LAN-Wireless Protection/LAN/WLAN Auto Switching.

Note that this menu may change when additional feature is added.

## 1.4 Supported Platforms & Configuration

In Windows 7, this solution was implemented through hardware without any software dependencies. HP BIOS switched the device state through a hardware interface with the wireless network adaptor. Since HP BIOS can only detect the presence of a pass through NIC on an external dock, this feature was only supported on a limited set of accessories.

Restrictions imposed by subsequent Windows editions, migration to UEFI BIOS, and lack of hardware support on certain wireless network devices necessitated the development of a software based solution. A software based solution also enable the feature to be supported on any attached accessory that included a NIC.

	<b>Pre-Skylake Platforms/ Skylake with Non-Intel® 8260 Wireless Adaptor</b>	<b>Skylake Platforms with Intel® 8260 Wireless Adaptor</b>	<b>Kabylake and later Platforms</b>
<b>Windows OS Supported</b>	Windows 7	Windows 7	Windows 10
<b>HP BIOS Mode</b>	Legacy/Hybrid	Legacy/Hybrid	Hybrid/UEFI
<b>Accessory Supported</b>	Pass through dock only No USB based dongles/docks are supported	Pass through dock only No USB based dongles/docks are supported	All external NIC dongle and docks
<b>Additional Dependency</b>		HP Hotkey Software (6.2.30 or later)	HP Hotkey Software

## 1.5 Feature Extension

Starting with Kabylake-R platforms, HP LAN-Wireless Protection solution will be extended to include WWAN support when the feature is enabled, the WWAN network device will be turned off when a LAN insertion is detected allowing traffic to flow only through the NIC. The WWAN device will remain off while LAN connection is maintained. The WWAN device state will be restored only after the LAN is disconnected. Currently only the embedded WWAN adaptor is supported.

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