HP Docks

Explore the Office of the Future now

Docking 101

What is a dock?

A docking station, or dock, is a device that can enhance your notebook experience with a single connection, expanding your display, network and device connectivity, while providing charging and port replication to customize an always-ready workspace.

How does it work?

Docks can deliver things like data, power and charging and can feature ports such as Ethernet, USB, USB-C™, VGA, HDMI, DisplayPort™, Thunderbolt™, etc., enabling you to connect a notebook to displays, keyboards, headsets, printers and other peripherals with minimal effort.

Docks can provide a complete desktop experience for notebook users and offer network manageability for IT decision makers (DMs).
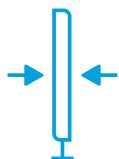
Why docking is critical now

Better manage equipment in shared workspaces

Research shows that >50% of companies worldwide had implemented or plan to implement hoteling[1] within a year

New form factors fit better on a small desk

with personal workspaces shrinking, minimalistic docking is critical

Enable more flexibility with mobile workforce

for workers needing to stay productive across the office, at home and on the go

Industry adopting new technologies and standards

such as USB-C™ and Thunderbolt™ to enable new experiences and capabilities; industry moving away from mechanical docks

[1]This means workers come and go with their notebook and leave all other peripherals behind on a day-to-day basis.

Docking 101

Why transition to USB-C™ / Thunderbolt™ Docking?

Security & network manageability

with advanced features such as MAC Address Pass Through and Wake on LAN (WoL)

Futureproof your workspace

with Thunderbolt™ or USB-C™ docking that enable 2018 and future notebook generations. USB-C™ to account for 50% of IT dock deployments by late 2018

Enable shared workspaces

with universal connectivity[1] and common interfaces that promote compatibility with a variety of notebooks

Increase visual performance

with dual 4K display support

Expand compatibility

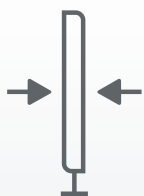with a single dock for 2018 HP notebooks + competitor notebooks. Docking now enabled for our detachables/convertibles

Small footprint, clean desk

Smaller forms allow more flexible desk placements, one cable for power and data to thinner notebooks cuts clutter

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[1] Notebook must support USB-C™ power and video, and must be designed to Thunderbolt™ and USB-C™ industry standards.

Why HP Docking Solutions?

HP offers a range of docking solutions that enable multiple use case scenarios to fit evolving customer needs. From Thunderbolt™/USB-C™ docks that support next-gen notebook technology to universal docks that accommodate shared workspaces for the growing mobile workforce, HP has the solutions to deliver a unique customer experience that simplifies deployment and amplifies use.

Enable clean desk environments
unique design with smaller footprint / cable management

Universal solutions for shared workspaces
that work with any notebooks in your fleet

Advanced manageability and security
PXE boot,
Wake on LAN, iAMT &
LAN/WLAN switching

Ease of deployment
single solution from entry to mobile workstation

Trusted compatibility and global support

How to decide

Things to consider when choosing a dock solution

USER

| Who will use it | Where will they use it | How will they use it | What Dock solutions fit | Compatibility with PCs |

IT DM

Is universality required?

Dedicated vs public space?

Advanced manageability needed?

Things to consider when choosing a dock

Who will use it?	**Where** will they use it?	**How** will they use it/needs?	**What** dock solutions fit?	**Compatibility** with PCs
Knowledge & task workers	Dedicated workspace in the office, fixed location	• Connect to I/O peripherals and displays to maximize productivity • Enable quick transition in/out of workspace • Network manageability	• HP USB-C Universal Dock • HP Thunderbolt Dock G2 • HP USB-C Dock G4 • HP UltraSlim Dock	**USB-C Universal Dock** 400 G3-G5, 600 G2-G4, 700 G3-G5, 800 G3-G5, EliteBook 1040 G3, G4, EliteBook Folio G1, Elite x2 1012 G2, EliteBook x360 1020 G2/1030 G2, Pro x2 612 G2
Mobile professionals & contractors	Shared/ hot-desking workspace where compatibility for multi devices may be needed	• Connect to I/O peripherals and displays • Various devices connect/ disconnect multiple times a day, needs to be seamless and quick • Network manageability	• HP USB-C Universal Dock • HP Thunderbolt Dock G2 • HP USB-C Dock G4	**Thunderbolt Dock G2** 400 G5, 600 G4, 700 G5, 800 G5, 1040 G4, Elite x2 1012 G2, EliteBook x360 1020 G2/1030 G2, Pro x2 612 G2 **USB-C Dock G4** 400 G5, 600 G4, 700 G5, 800 G5, 1040 G4, Elite x2 1012 G2, EliteBook x360 1020 G2/1030 G2, Pro x2 612 G2
On-the-go executives & mobile	On the road or from a hotel room	• Touch down, connect, power, charge and collaborate anywhere • Need VGA and HDMI ports to connect to a display or projector for presentations	• HP USB-C Mini Dock	400 G5, 600 G4, 700 G5, 800 G5, EliteBook 1040 G4, Elite x2 1012 G2, EliteBook x360 1020 G2/1030 G2, Pro x2 612 G2
Executives & home office workers	Private office/ home	• Connect to I/O peripherals and displays • Enable quick transition in/out of workspace • Conduct conference calls without headsets	• HP Thunderbolt Dock G2 with optional Audio Module	400 G5, 600 G4, 700 G5, 800 G5, 1040 G4 Elite x2 1012 G2, EliteBook x360 1020 G2/1030 G2, Pro x2 612 G2

USER

ITDM

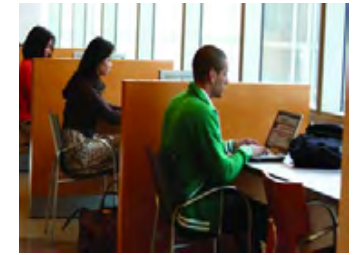| Is universality required? (or specific by user)	Dedicated vs public space? Open/hot desk/focus booth, now facilities involved	Advanced manageability needed? Means mixed fleet may be difficult

What's the best desk dock for your needs?

Dedicated Workspace (1:1)

Easy-connect, productive (dedicated) workspace
Create a highly productive workspace with a stable and manageable docking solution that supports dual displays and enables a quick transition from mobile to desk-based work scenarios, while providing ability to secure the notebook and dock as needed.

Shared Workspace (1:Many)

Universal enterprise docking enables compatibility with HP and non HP PCs.
Create a highly versatile/universal space that accommodates a highly mobile workforce or contractors with a wide range of notebook models (multi-generation), both HP and non HP. Supports standard USB as well as USB-C™.

HP Thunderbolt Dock G2 120W & 230W	HP USB-C Universal Dock	HP USB-C Dock G4	HP UltraSlim Dock
• 1:1 (dedicated workspace) • 1:Many (shared workspaces)	• 1:Many (shared workspace)	• 1:1 (dedicated workspace) • 1:Many (shared workspace)	• 1:1 (dedicated workspace)
Workforce who needs **high performance, universal flexibility[1],** modern workspace	Customers needing **universal, multi-generational docking** deployment	Customers with smaller deployments of mobile professionals or executives needing **basic docking**	Large, enterprise-class deployments, with focus on **traditional, 1:1 proprietary docking**

[1] Compatible with non-HP platforms if they are designed to USB-C™ industry standards. Certain features of the dock require HP BIOS support and will not be functional when used with non-HP systems nor Chrome systems: Power button to turn on or wake the system; Wake on Lan from warm and cold dock; Wake on Lan from S4/S5; and Mac Address Pass-Through S0, S3, S4, S5, warm and cold dock.

Recommended Docks

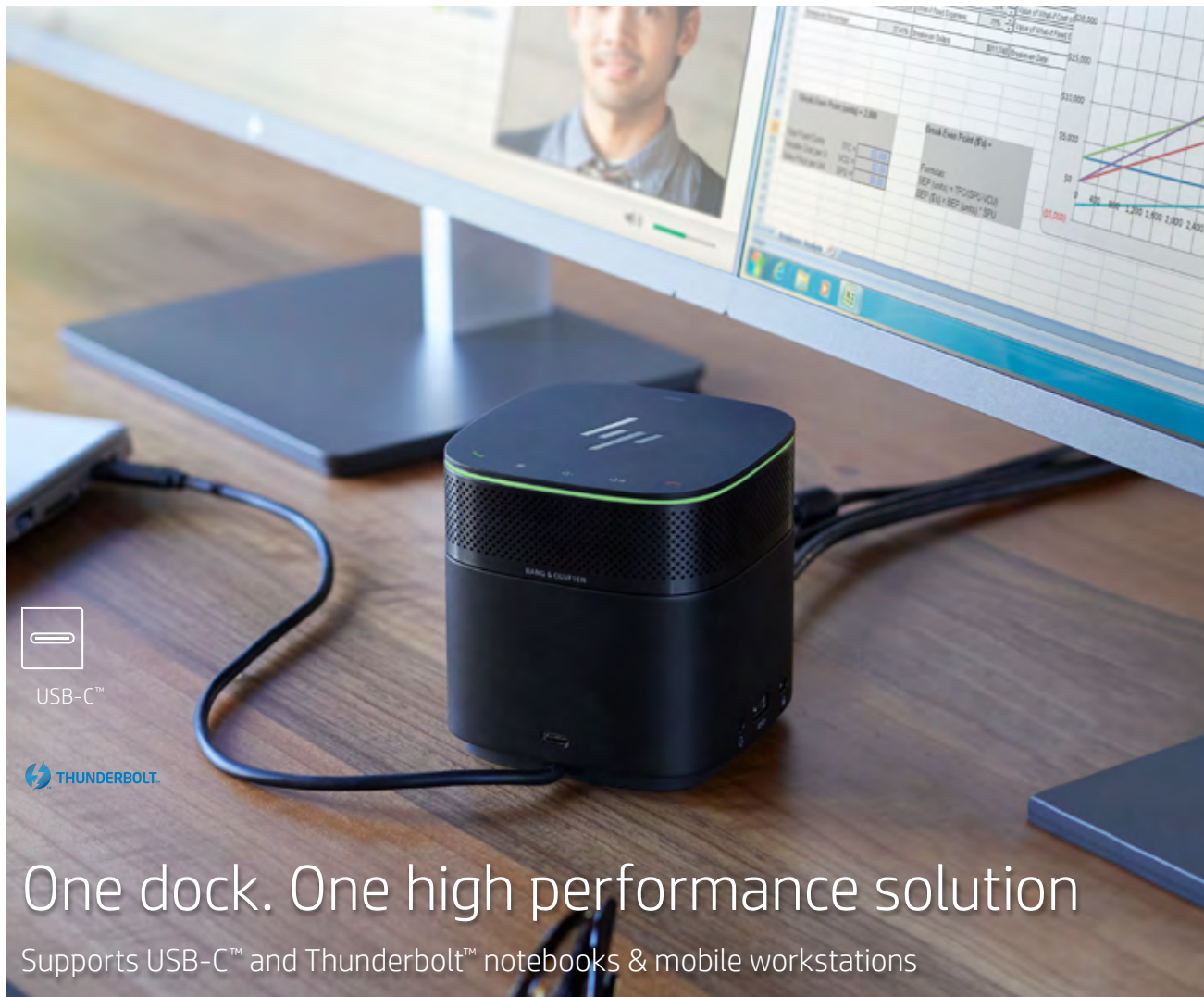|	Knowledge Workers	Task Workers	Mobile Professionals & Contractors	Mobile Executives & Professionals	Executive & Home Office Workers
Profile	Manager or individual contributor who needs to create and analyze Microsoft Office content –PowerPoint, Excel, etc. While they spend significant time at their desk, they also spend a portion of the day in meetings and virtual meetings.	A team member who works on a specific and limited set of applications tailored for specific functions such as CRM, transaction processing, scheduling.	Highly mobile professionals such as field sales or service reps, working in hot-desking environments. Transitions in and out of the office multiple times a day needs to be seamless and quick.	On-the-go user working on the road or from a hotel room requiring the ability to touch down, connect, power, charge and collaborate anywhere. VGA and HDMI ports enable the user to quickly connect to a display or projector for on-the-go presentations.	Executive or home office worker with a frequent need to generate and analyze content and data, plus attend virtual meetings.
Objective	Create a highly productive workspace with dual displays and also enable a quick transition from mobile to desk-based work scenarios.	Create a cost-effective workspace that empowers and enhances productivity and accuracy of work.	A highly versatile space that accommodates a wide range of notebook models, both HP and non-HP. Supports standard USB and USB-C™.	A travel docking solution that provides expanded connectivity, charging/data ports and DisplayPort™ capability.	Outfit a clean private space for heads-down work and allow easy collaboration and entertainment experiences without a headset.
Recommended Dock	HP Thunderbolt Dock G2	HP USB-C Universal Dock HP UltraSlim Dock	HP USB-C Universal Dock	HP USB-C Mini Dock	HP Thunderbolt Dock G2

Thunderbolt™ power

USB-C™

THUNDERBOLT.

One dock. One high performance solution

Supports USB-C™ and Thunderbolt™ notebooks & mobile workstations

HP Thunderbolt Dock G2

Single dock that scales from 400 G5 series to mobile workstations and competitor notebooks[1]

Command your workspace from just one USB-C™ connection
Access a wired network, data, video, and charging with HP's first dock that supports both Thunderbolt™ and USB-C™ notebooks

Take multi-tasking to the extreme
Supports dual external 4K displays with superfast[2] bandwidth connection

Simple remote management
Remotely manage a wide range of notebooks and the dock with HP's most advanced network manageability features

Conference calls with a touch of a button
Add conferencing capability and Bang & Olufsen stereo sound with the optional HP Thunderbolt Dock Audio Module

[1] Notebook must support USB-C™ power and video and must be designed to Thunderbolt™ and USB-C™ industry standards.
[2] Thunderbolt™ throughput at 40Gb/s

HP Thunderbolt Dock G2

P/N:

2UK37AA	HP Thunderbolt Dock 120W G2
2UK38AA	HP Thunderbolt Dock 230W G2[3]
3YE87AA	HP Thunderbolt Dock 120W G2 + Audio Module
3TR87AA	HP Thunderbolt Dock G2 w/Combo Cable[1]
3XB94AA	HP Thunderbolt Dock 120W G2 Cable
3XB95AA	HP Thunderbolt Dock 230W G2 Cable[3]
3XB96AA	HP Thunderbolt Dock G2 Combo Cable[1]

HP Thunderbolt Dock G2 Combo Cable

Product details
- 3 USB-C™ ports
- Video ports: DisplayPort™, VGA, USB-C™ Thunderbolt™
- RJ45 Ethernet port
- Easily add the Thunderbolt G2 Audio Module
- USB-C™ cable and power adapter/brick included

THUNDERBOLT™

USB-C™

Use cases
- Dedicated Workspace. Shared Workspace

Advantages
- **Designed to USB-C™ industry specs to allow compatibility with HP and non-HP devices that support Thunderbolt™ and USB-C™ power and video**
- Maximum performance dock for the future with ultrafast speeds[2] (network, data, video and charging through single USB-C™ cable)
- Delivers advanced enterprise network manageability (PXE, WoL, MAC Address Pass Through in all power states), Preboot KB/Display, LAN/WLAN Switching
- Supports dual 4K displays

Compatibility
- HP ProBook 400 G5, 600 G4, HP EliteBook 700 G5, 800 G5, 1040 G4, HP Elite x2 1012 G1/G2, HP EliteBook x360 1020 G2/1030 G2, HP Pro x2 612 G2; Non-HP devices that support Thunderbolt™ and USB-C™ power and video[4]

HP Thunderbolt Dock G2 Audio Module

P/N: 3AQ21AA

Advantages
- Designed for small team rooms, closed and home offices — Take calls without a headset with the HP Thunderbolt Dock Audio Module, which attaches vertically to the dock with no additional cabling
- Experience Bang & Olufsen stereo sound and collaborate easily with built-in HP Noise Cancellation. LEDs confirm successful call connection and slight button haptic confirms interaction with call controls
- Snap the Audio Module on top of your HP Thunderbolt Dock G2 with a simple connector and secure with a single screw for a clean solution with no messy cables

[1] Requires 230W power supply.
[2] Thunderbolt™ throughput at 40Gb/s (Maximum speed requires DisplayPort™ and PCIe aggregation.)
[3] Not sold in U.S. or Canada.
[4] Compatible with non-HP platforms if they are designed to USB-C™ industry standards. Certain features of the dock require HP BIOS support and will not be functional when used with non-HP systems nor Chrome systems: (a) Power button to turn on or wake the system. (b) Wake on LAN from warm and cold dock. (c) Wake on LAN from S4/S5. (d) MAC address pass-through S0, S3, S4, S5, warm and cold dock.

HP USB-C Universal Dock

P/N:

1MK33AA	Dock
2UF95AA	Dock + adapter
3DV65AA	Non flash + adapter

USB-C™

Advantages
• Delivers power and data in single cable connection

• Network manageability: PXE, WoL, MAC Address Pass Through, LAN/WLAN Switching

• Universal enterprise docking designed to industry USB-C™ specs, enables compatibility with HP and non-HP PCs

• Multi-generation compatibility with USB-C™ and USB-A adapter

• Supports dual 4K displays

Compatibility
• HP ProBook 400 G3-G5, 600 G2-G4, HP EliteBook 700 G3-G5, 800 G3-G5, 1040 G3, G4, HP EliteBook Folio G1, HP Elite x2 1012 G1/G2, HP EliteBook x360 1020 G2/1030 G2, HP Pro x2 612 G2

Product details
• 1 USB-C™ port, 1 USB 3.0 port, 3 USB 2.0 ports

• Video ports: 2 DisplayPorts™

• RJ45 Ethernet port

• Microphone/headphone combo audio port

• 1 K-lock

Use cases
• Shared Workspace, hoteling

HP USB-C Dock G4

P/N: 3FF69AA

USB-C™

Product details

- 1 USB-C™ port, 2 USB 3.0 ports, 2 USB 2.0 ports
- Video ports: 2 DisplayPorts™, HDMI, Triple WSXGA+ @ 60Hz[1]
- Microphone/headphone combo audio port
- USB-C™ cable and power adapter included

Use cases

- Dedicated Workspace

Advantages

- Delivers power and data in single cable connection
- Network manageability: PXE, WoL, MAC Address Pass Through, Preboot KB/Display, LAN/WLAN Switching
- Supports up to three displays
- Power button powers notebook without opening lid

Compatibility

- HP ProBook 400 G5, 600 G4, HP EliteBook 700 G5, 800 G5, 1040 G4, HP Elite x2 1012 G2, HP EliteBook x360 1020 G2/1030 G2, HP Pro x2 612 G2

[1] HP USB-C Dock G4 video: Single 4K @ 60Hz with USB 2.0 only support. Will be supported via F10. BIOS update required. First platform BIOS release targeted for July 2018.

HP UltraSlim Dock

P/N: D9Y32AA

Advantages

• Supports single 4K @60Hz or dual 2.5K @ 60Hz (2 DPs, 1 VGA)

• Asset security - One locking mechanism for notebook and dock (works with HP Docking Station Cable Lock - P/N: AU656AA)

• Easy to use, secure and manageable extension of the notebook

• Network manageability: PXE, WoL, Preboot KB/Display, iAMT

• Conveniently located power button to power notebook via dock

Product details

• 4 USB 3.0 ports (3 USB 3.0 ports, 1 Charging port)

• Video ports: 2 DisplayPorts™, VGA

• RJ45 Ethernet port

• Line-in audio port; Line-out audio port

Use cases

• Dedicated Workspace

Compatibility

• HP ProBook 600 G2 & G3, HP EliteBook 700 G4 & G5, HP EliteBook 800 G4 & G5

HP USB-C Mini Dock

P/N: 1PM64AA

USB-C™

Product details
• 1 USB-C™ port, 1 USB 3.0 port

• Video ports: 1 DisplayPort™, VGA
  (one display supported at a time)

• RJ45 Ethernet port

Use cases
• Mobile Workspace

Advantages
• Network manageability: PXE, WoL, MAC Address Pass
  Through, Preboot KB/Display, LAN/WLAN Switching

• Expand your workspace and drive an external display with
  HDMI support up to 4K or VGA support up to 1080p

• Soft-coated USB-C™ cable that loops and folds neatly
  into a channel on the bottom of the dock to become a
  comfortable wrist strap

Compatibility
• HP ProBook 400 G5, HP EliteBook 1040 G4,
  HP Elite x2 1012 G2, HP EliteBook x360 1020 G2

HP USB Travel Dock

P/N: T0K30AA

Advantages
• Network manageability: PXE, WoL, MAC Address Pass Through, LAN/WLAN Switching

• Connect the attached USB cable to your notebook's USB port and get monitor and device connectivity from VGA or HDMI and two USB ports

• Network connectivity from RJ-45

• Very portable, take it with you easily. Pack the compact dock in your bag alongside your notebook. The attached USB cable wraps around for neat, easy storage.

Compatibility
• HP ProBook 600 Series, HP EliteBook 700 Series, HP EliteBook 800 Series, HP Elite x2 1012 G2

Product details
• 2 USB ports

• Video ports: HDMI, VGA (one display supported at a time)

• RJ45 Ethernet port

Use cases
• Mobile Workspace

Docks comparison

Name	HP Thunderbolt Dock G2	HP USB-C Universal Dock	HP USB-C Dock G4
Dock Type	Thunderbolt 3	USB-C DisplayLink	USB-C Alt mode
Part #	2UK37AA – 120W 2UK38AA – 230W 3TR87AA – Combo	1MK33AA#ABA – Dock 2UF95AA#ABA – Dock + adapter 3DV65AA#ABA – Non flash	3FF69AA
Video Resolution	Dual 4K @ 60Hz (DP1.2 systems) Triple 4K @ 60Hz (DP1.4 systems)	Dual 4K @ 60Hz Single 5K @ 60Hz	Triple WSXGA @ 60Hz Dual 2K @ 60Hz Single 4K @ 60Hz
Thunderbolt™ port	1	0	0
USB-C™	2 (1 alt mode, 1 data)	1 (data)	1 (data)
USB 3.0 ports version	3 (1 charging)	1 (charging)	2 (1 charging)
USB 2.0 ports	0	3	2
DisplayPort™	2 (DP 1.4)	2 (DP 1.2)	2 (DP 1.2)
HDMI	0*	0	1
VGA	1	0	0
Mic/headphone jack	1x combo audio	1x combo audio	1x combo audio
RJ45/Gigabit Ethernet	1	1	1
Security	Lock slot	Lock slot	Lock slot
Power Adapter	120W; 230W; or 230W with combo cable which supports both 120W & 230W machines	90W	90W
Power Button	Y	N	Y
Cable length	0.7m	1m	1m

*Can be supported using USB-C to HDMI 1.4 adapter N9K77AA or the HP USB-C to HDMI 2.0 adapter 1WC36AA

Docks comparison

Name	**HP UltraSlim Dock**	**HP USB-C Mini Dock**	**HP USB-C Travel Dock**
Dock Type	Mechanical	USB-C Alt mode	USB Display Link
Part #	D9Y32AA	1PM64AA	T0K30AA
Video Resolution	Single 4K @ 60Hz Dual 2.5K @ 60Hz	HDMI: Single 4K @ 30Hz; one display support at a time VGA: up to 2K @ 60Hz when 1920 x 1080	Single 2K
Thunderbolt™ port	0	0	0
USB-C™	0	0	0
USB 3.0 ports version	4 (1 charging)	1	1
USB 2.0 ports	0	1	1
DisplayPort™	2 (DP 1.2)	0	0
HDMI	1	1 (HDMI V 1.41)	1
VGA	1	1	1
Mic/headphone jack	1 Line in/1 Line out	0	0
RJ45/Gigabit Ethernet	1	1	1
Security	Lock slot**	0	0
Power Adapter	65W	Bus powered or USB-C Charge pass through (Pass through charging requires USB AC Adapter, not included)	Bus powered (Pass through charging requires USB AC Adapter)
Power Button	Y	N	N
Cable length	N/A	0.3m	3.75 in

**Works with HP Docking Station Cable Lock

Technology explained

USB-C™ / USB Type-C™
USB Type-C™ is a smaller, reversible USB connector that can transmit data, video, audio, data as well as provide charging power to devices (USB Power Delivery or PD) – up to 100W.

USB-C™ video modes (alternate mode)
USB-C™ ports that support adapters that can output different types of video such as HDMI, VGA, and DisplayPort™, all from one USB Type-C™ port on your computer or device.

USB-C™ power delivery (USB PD)
USB-C™ power delivery is bi-directional. A device can either send or receive power. This power can be transferred at the same time the device is transmitting data across the connection.

DisplayLink
DisplayLink technology (Hardware module chip) allows users to connect computers and displays using USB. It allows universal docking by enabling displays, audio, Ethernet and other USB peripherals to be connected to notebooks thru USB-A or USB-C™ ports.

PXE Boot
Legacy BIOS interface and Unified Extensible Firmware Interface (UEFI) are methods for booting computers using a network interface, independent of local storage devices or installed operating systems.

WoL
Wake on LAN is a standardized method for waking up a system that is currently in a sleep state. Wake on LAN provides an IT administrator an efficient way for system to be detected and managed at any time, even when they are in a sleep state.

MAC Address Pass Through
The ability for a system/laptop to provide the dock NIC also called it's MAC address, so the system can be uniquely identified on the network.

Hot Dock
System is running (S0) with dock attached, then placed into the Standby (S3), Hibernate (S4), or Off (S5) state.

Warm Dock
System is sleeping in Standby (S3), then connect dock.

Cold Dock
System in Hibernate (S4) or Off (S5), then connect dock.

LAN/WLAN Switching
Turn off WLAN radio automatically when they are connected to LAN. Only available with Kaby Lake systems and Microsoft Win10 OS.

iAMT
Intel Active Management Technology (AMT) is hardware and firmware technology for remote out-of-band management of personal computers, in order to monitor, maintain, update, upgrade, and repair them.

Preboot KB/Display
At boot, you can use your display and your mouse + keyboard = before OS loads.

Titan Ridge/Alpine Ridge
Titan Ridge is the latest Intel technology that allows compatibility with any USB-C™ system that accepts power and video. The previous Thunderbolt™ generation is called Alpine Ridge and is only compatible with Thunderbolt™ systems.

HP Thunderbolt Dock G2 uses Titan Ridge technology and the HP Elite TB3 Dock uses Alpine Ridge technology.

Display resolutions, and what they mean

Display resolutions
Display resolutions are width x height in pixels. Combinations are standardized, given a name and acronym. Higher display resolutions mean the images appear sharper and pixels appear smaller.

Display resolution definitions

WUXGA aka 2K = 1920 x 1200 HD.
In the display world 2K has a Digital Cinema connotation with a discrete resolution of 2048 x 1080. We are talking strictly about this resolution as roughly half 4K; (16:10, true 24" size)

UHD aka 4K = 4096 x 2160. 4K displays can be multiple resolutions, for consumer media 4K = 3840 x 2160 (most popular)

Triple 4K = 3 displays @ 4096 x 2160

Dual 4K = Dual 4K = 2 displays @ 4096 x 2160

FHD = 1920 x 1080

QHD = 2560 x 1440 (16:9, 27" size)

WQHD = 3840 x 1440 (21:9, 34" wide size)

The amazing technology of HP Docks can help expand your notebook quickly and easily and connect displays, keyboards, mice, printers, networks and much more.

Go to the Accessories tab on the **HP Video Gallery** to learn more about HP Dock Solutions (search keyword: Dock)

http://hp.brightcovegallery.com/products