HP Protect and Trace with Wolf Connect

Maximise PC fleet utility. Prevent data loss.

Solution overview

Today's hybrid working world has made managing and securing a fleet of PCs harder than ever. HP Protect and Trace with Wolf Connect helps by allowing IT to manage and protect remote PCs, even when disconnected from the internet or powered down. The solution uses cellular technology that provides global coverage through a unique HP service, allowing IT to find, lock and erase PCs worldwide [1] [2].

This solution brief will describe the capabilities, technology and use cases supported by HP Protect and Trace with Wolf Connect.

The challenge

Reliable PC fleet management and security assurance

The typical PC fleet supports a variety of end-user requirements, including hybrid or remote workers, contractors and temporary staff, and dedicated speciality systems for a variety of applications. This poses major problems in three fundamental areas:

ASSET MANAGEMENT
Tracking the PC fleet across the device lifecycle, including optimising user productivity and financial ROI.

DATA SECURITY
Lowering the risk of sensitive data loss.

AUDIT AND COMPLIANCE
Ensuring that control objectives are met as efficiently and consistently as possible.

To cope with this challenge, solutions including HP Wolf Protect and Trace have been on the market for some time. In brief, they offer three basic capabilities:

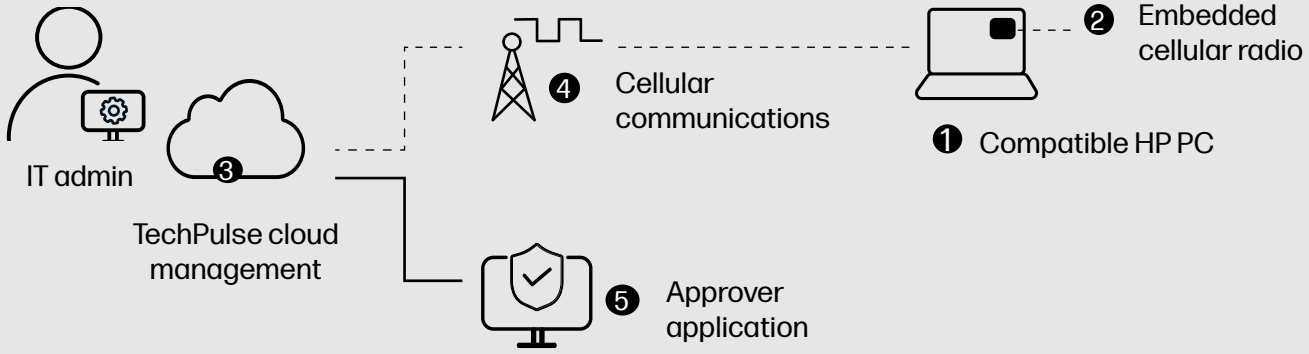
- FIND: Locate a PC in real time
- LOCK: Disable a PC that has gone missing, so that it cannot be used or data accessed
- ERASE: Delete the data on the primary drive if the device is not expected to be recovered

However, virtually all such systems require that the end device be powered up, operational and connected to the internet. This requirement can be problematic and unreliable, leading to incomplete asset tracking and data protection.

Wolf Connect
A game changer

HP Protect and Trace with Wolf Connect solves the challenges posed by the usual device connectivity requirement by using global cellular and GPS technology to provide a unique HP service to find, lock and erase PCs worldwide.[1] It can provide highly accurate location information and continues to function even if the PC is turned off or will not boot.

Solution architecture



Protect and Trace with Wolf Connect includes the following components:

❶ COMPATIBLE HP PC

Starting in 2023, select HP laptop PCs and mobile workstations include hardware that is mandatory for Wolf Connect. This includes motherboard wiring to power the cellular radio and GPS sensor even if the PC is powered down, and cellular antennas behind the display. The HP Endpoint Security Controller chip is used to ensure solution operation independent of OS boot status. A link to the supported PC platforms is available here.

❷ EMBEDDED CELLULAR RADIO: WOLF CONNECT HAS TWO CELLULAR RADIO OPTIONS

- WWAN: PCs that require full cellular-based internet access for the user must have a 4G or 5G broadband (LTE) card[5]. If the PC is equipped with one of these cards, Wolf Connect will use it.
- Mobile narrowband (MNB): For the (more common) situation where a broadband card isn't desired, HP has innovated a lower-cost "narrowband" cellular radio option.

These two options are explained further below.

❸ CLOUD MANAGEMENT

Protect and Trace with Wolf Connect is managed centrally from the TechPulse cloud platform[3]. It shares the same device repository as Active Care and Proactive Insights, making it operationally efficient to combine the solutions[4]. The find, lock/unlock and erase operations are all initiated from this console.

❹ CELLULAR COMMUNICATIONS

A unique aspect of Protect and Trace with Wolf Connect is the cellular subscription. This is provided as part of the solution itself, which means that customers do not need to purchase a cellular subscription from a telecommunications provider to enable the solution. Protect and Trace is also available as a "WiFi only" offering, as detailed below.[6]

❺ APPROVER APPLICATION

To maximise data protection and fleet availability, the

Approver application is included with the solution. IT staff on the management platform can request a lock or erase, but it will not be executed until an authorised person "approves" it using the PC-based Approver application. The application uses advanced threshold cryptography and an optional multi-approver requirement to ensure that no damage can be done if the IT operator is malicious or compromised.

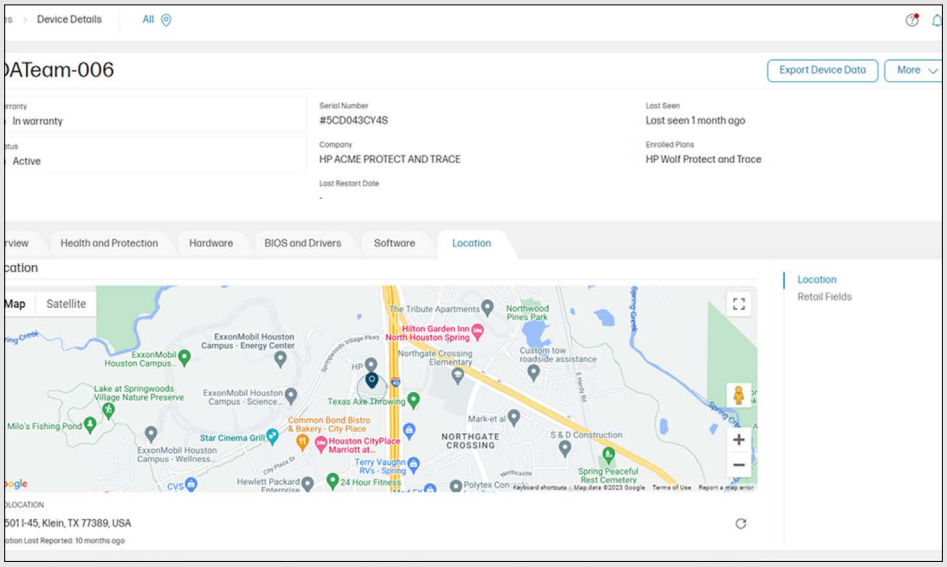
How it works
Operational description

HP Protect and Trace with Wolf Connect supports find, lock and erase capabilities. A brief operational summary of each follows:

FIND

Locating a PC is extremely simple

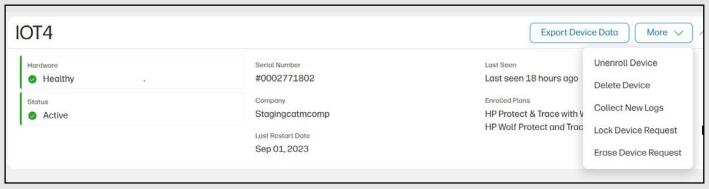
The IT operations staff selects a PC from the TechPulse console and then chooses the “Location” option. A map will appear immediately, showing the location of the PC based on cached fix obtained within the last 24 hours. A “confidence radius” is shown on the map, as well as the method used to obtain the fix (see below for details). Lastly, as soon as the location tab is selected, Wolf Connect will attempt a new location fix, and the panel will update if a more accurate fix is obtained.



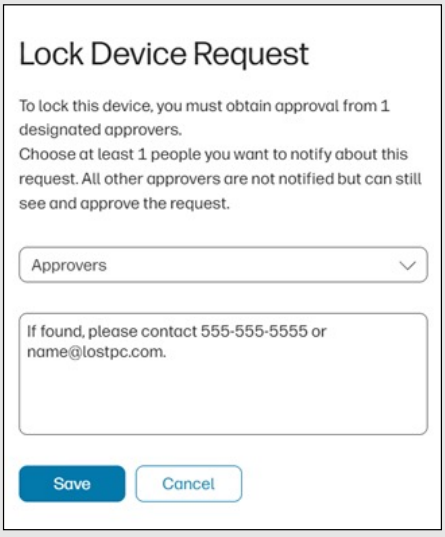
LOCK

Locking a PC is a multi-step process

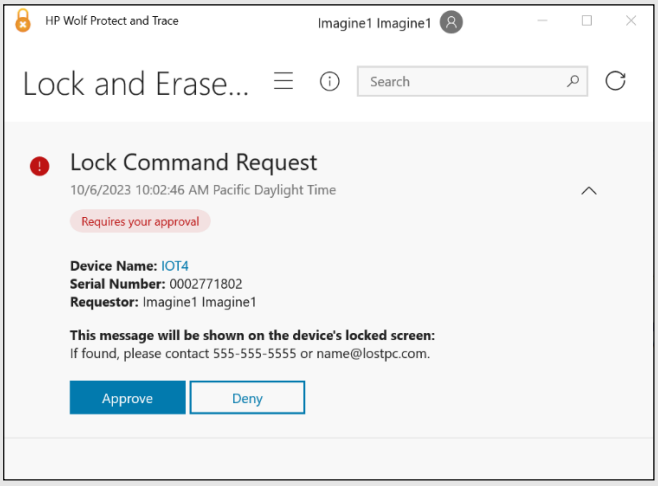
1. User or IT determines that a lock is required (for example if the PC has gone missing or hasn’t been returned when it should have been).



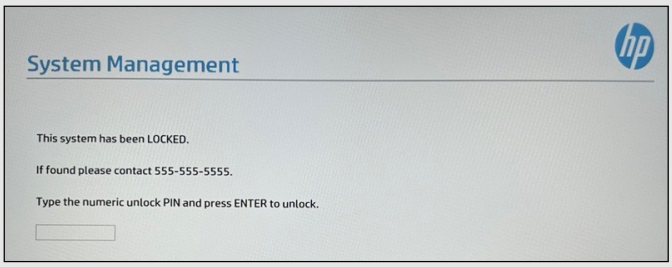
2. IT operator selects the PC on the TechPulse console and executes a request to lock it. They can optionally enter a message that will be displayed on the target PC when locked. For example, they may want to include a phone number or email address to contact to unlock the PC.



3. One or more staff members pre-identified as “approvers” will then approve the request, using their instance of the Approver app. The organisation decides in advance how many approvers are required to approve any lock (or erase) request, with a minimum of one. For example, they may decide to have a pool of eight authorised approvers, any two of whom must approve a request. When the IT operator enters the lock request, all eight approvers get an email telling them that a request is pending their approval. Once two of them have approved, the lock is dispatched to the target PC.



4. When the target receives the approved lock request, it immediately reboots. As it reboots, the operating system is not initiated. Instead, a special “locked screen” is presented at the BIOS level. The message entered by the TechPulse operator is displayed on this screen. At this point the PC cannot be used for any purpose, and the lock will persist indefinitely unless the unlock process is performed.



5. When a PC unlock is needed (for example if the user finds the PC after misplacing it), the TechPulse operator selects “unlock” and is presented with an eight-digit, unique unlock code. The operator provides the user with the code (via any out-of-band method such as a voice call, email or text). The user simply enters the code on the PC, and the PC will immediately reboot and the operating system will be started. The machine will now behave normally.

ERASE

Erasing a PC is identical to the lock command, except that there is no “unlock” process – erase is irreversible. Once an erase command is executed, the primary drive is immediately erased, removing the data and applications. The PC will have to be re-imaged if it is to be re-used.

Broadband or narrowband connectivity

The best of both worlds

Unlike most alternatives, HP Protect and Trace with Wolf Connect supports both broadband and narrowband cellular communication, a massive improvement over broadband-only solutions. Broadband (4G or 5G over LTE) support on a PC requires a relatively expensive, high-power-consumption, LTE-capable cellular radio, and an LTE subscription. In practice, only a limited number of users (e.g. executives or field sales staff) can justify this expense in most environments. An alternative approach is required to scale up the number of use cases that can realistically be supported.

Protect and Trace with Wolf Connect meets this challenge by supporting narrowband cellular communication. This leverages the LTE-M (also known as Cat-M) global standard. LTE-M was specially defined for applications like Wolf Connect, where low cost and power consumption are critical requirements. Most LTE carriers also support LTE-M with similar or identical coverage patterns to LTE. LTE-M supports tower mobility (roaming), an obvious requirement for a device that tends to move such as a laptop. The required cellular radio chipset is far less expensive than a full LTE radio, and the LTE-M protocol was specifically designed to minimise end-device power consumption.

HP Wolf Connect’s implementation of LTE-M includes a mobile narrowband (MNB) card, which occupies the internal M.2 slot used for cellular radios. Both Cat-M1 and Cat-M2 variants of the LTE-M standard are supported, however end-user internet access over this connection is not possible. The custom global cellular subscription included with Wolf Connect supports both LTE and LTE-M. A customer can choose a mix of both types of transport across their fleet, with complete operational transparency.

The "WiFi only" Protect and Trace offering can also be included in the mix.[6] For example, a company may have 1,000 laptops, supported as follows:

- 100 UNITS: LTE-enabled for executives, travelling salespeople and on-site remote maintenance staff supporting mission-critical systems[5].
- 400 UNITS: LTE-M-enabled for knowledge workers, contractors and temporary staff, who have hybrid working models, travel occasionally or are fully remote.
- 500 UNITS: Wi-Fi (no cellular) connectivity for devices that are kept within company facilities but must be tracked as part of a fleet asset management requirement.

By combining all three methods, an organisation has the best of all worlds: a cost-effective transport choice for each situation, but fully transparent to operations because all devices are managed identically with respect to the find/lock/erase functions.

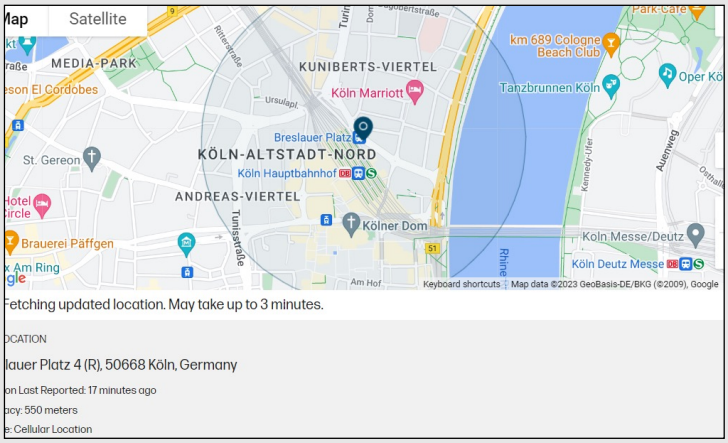
Multi-method location technology

Protect and Trace with Wolf Connect uses four different methods to determine PC location, to maximise accuracy and reliability in a wide number of situations:

- GPS: If a GPS fix is available, this method is usually the most accurate. However, it cannot be relied on when the PC is indoors as there may be no satellite line of sight.
- Cellular tower: The closest cell tower and approximate distance from the tower provides a location "radius of confidence".
- Windows location service: Provided by the operating system and uses a number of techniques to estimate physical location.
- Public IP address – least accurate, but ubiquitous.

Wolf Connect evaluates all four methods and uses the location believed to be most accurate. The management console shows which method has been used for a particular location fix:

Wolf Connect periodically requests a location fix and caches a single fix, as in the example above. This provides some indication as to the device location, even if it has subsequently run out of battery or been damaged or destroyed. In addition, at the time the solution operator opens the location tab for that device, a new fix is dynamically requested, providing an updated, near real-time location result.



Use cases

Driving value for IT operations, security, finance and audit

HP Protect and Trace with Wolf Connect supports a number of use cases, making it the ideal solution for organisations seeking better control and utilisation of their PC fleet. While the uses for the solution are extremely broad, the following six are the most common:

ASSET MANAGEMENT
Maintain tighter control over PC fleet to decrease cost, including for temporary staff.

DATA SECURITY
Secure data against unauthorised access.

FINANCIAL RISK MANAGEMENT
Decrease risk of equipment loss for as a service or leasing.

FIND MY PC
Assist users whose PC has been lost or stolen.

DEVICE LIFECYCLE SUSTAINABILITY
Manage devices from deployment to retiremement, re-issue or recycle.

AUDIT & COMPLIANCE
Efficiently satisfy data and asset management controls.

The two primary use cases are asset management and data security. Asset management is fundamental to effective IT operations and reduced costs. It also drives better security, since you can't secure what you aren't tracking in your device repository. The recent EU NIS 2 directive explicitly includes asset management as a required control. Strong asset management lowers financial risk for the fleet owner, whether the organisation itself or a services partner (MSP). It even may lower financing costs, as the financing entity will enjoy reduced risk that the PCs will not generate the expected return (because there's less risk of them going missing). This also contributes to a more sustainable device lifecycle, again due to the reduced risk of loss and longer device longevity.

The security use cases centre around lowering the chances that data will be taken from the PC by unauthorised entities. The chances that malware will be installed on the PC are also reduced because the device can be locked if it goes missing.

Users also enjoy better productivity and peace of mind: If they lose a PC they know that IT can both help them locate it quickly and prevent data from being stolen. The reality is that while an organisation may have policies that dictate what data is allowed on personal devices, there is little guarantee that the policies are being followed by everyone, all the time.

Ordering information

HP Protect and Trace with Wolf Connect is sold on a subscription basis and must be purchased with a compatible HP PC. See Additional information for a list of compatible PC models[2]. Two types of subscriptions are available: If the PC requires broadband access (4G or 5G end-user internet), then order the required 4 or 5G LTE card, and also choose the "WWAN" Wolf Connect option (which doesn't include cellular hardware). If full end-user internet access via cellular isn't required, choose the Wolf Connect option that includes the mobile narrowband (MNB) card. In either case, subscriptions are available for 1, 3, 4 and 5 years. Note that if a PC is locked and then the subscription expires, the PC will remain locked. This is a useful option for situations where the PC has been fully depreciated financially but the owner does not want it being used or sold outside of their control. By using the message facility built into Protect and Trace, such an owner has the option of providing a contact phone number or email address for people to return the device.

Additional information

Compatible PCs | National and regional coverage | TechPulse Technical System Requirement & Language Support | Terms and conditions

[1] Service not available in all countries. Cellular service worldwide is limited to areas that Wolf Connect has service available. To learn more about solution service coverage, visit https://www.hpwolf.com/en/legal/ptwc/countries

[2] HP Protect & Trace with Wolf Connect is available on select HP commercial G10 laptops and mobile workstation devices and requires HP Workforce Central registration, available at https://admin.hp.com. Devices with a mobile narrowband (MNB) card do not support internet access. Internet service for devices with 4G LTE and 5G modules is not included and must be purchased separately. Wolf Connect. Service not available in all countries.

[3] TechPulse is a telemetry and analytics platform that provides critical data around devices and applications and is not sold as a standalone service. TechPulse follows stringent GDPR privacy regulations and is ISO27001, ISO27701, ISO27017 and SOC 2 Type II certified for information security. Internet access with connection to Workforce Central is required. For full system requirements, please visit admin.hp.com/requirements. Purchase of any HP TechPulse-enabled service requires the enabling of software to run on each device. HP Services Scan is provided through Windows Update on select HP hardware and will check entitlement on each hardware device to determine whether an HP TechPulse-enabled service has been purchased and will download applicable software automatically. To disable this feature, please follow the instructions at http://www.hpdaas.com/requirements

[4] HP Active Care and HP Proactive Insights Services are sold separately.

[5] Customer-provided cellular subscription required to enable 4/5G end-user internet access.

[6] Customers who purchase HP Wolf Protect and Trace (which only supports Wi-Fi connectivity) cannot upgrade to HP Protect and Trace with Wolf Connect. HP Protect and Trace with Wolf Connect must be bought at the point of purchase of the PC, due to the fact that it requires specific hardware to run Wolf Connect.

[7] Wi-Fi® is a registered trademark of Wi-Fi Alliance®.

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