



INTEL® VPRO™ PLATFORM UPDATE

SPECIFICALLY FOR INTEL® VISUAL SOLUTIONS INNOVATION WORKSHOP

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All information provided here is subject to change without notice. Contact your Intel representative to obtain the latest Intel product specifications and roadmaps.

The following disclaimer applies to some of the products documented herein which may not yet be in production:

- This device has not been authorized as required by the rules of the Federal Communications Commission.
- This device is not, and may not be, offered for sale or lease, or sold or leased, until authorization is obtained.

* Other names & brands may be claimed as the property of others.



INTEL® AMT: PART OF THE INTEL® VPRO™ PLATFORM

The foundation for business computing

The Intel® vPro™ platform is a set of hardware, technologies and solutions utilized to build optimized business computers

BUILT FOR BUSINESS

Systems enabled with features that enable, accelerate or complement Windows* 10 & Linux (Ubuntu*)

BROAD MARKET SUPPORT

Over 100 new systems every year from top manufacturers

VERIFICATION PROGRAM

Formal brand requirements and testing program to verify functionality

PERFORMANCE



Headroom for the workflows of tomorrow

Validated platforms for desktop and mobile

STABILITY



SECURITY

Hardware enhanced protection

Intel AMT

Manage costs through advanced maintenance

MANAGEABILITY



**THE INTEL®
vPRO™
PLATFORM**
Designed to address
business needs
across four pillars



CELEBRATING 10+ YEARS OF INTEL® VPRO™ W/ INTEL® AMT



2006–2007



- Enterprise remote management
- + Wireless remote management

2008



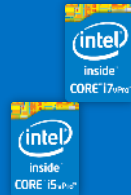
- + Reach and manage beyond firewall

2010–2012



- + Hardware KVM remote control
- + Host-based configuration
- + KVM resolution enhancements (1920x1200, three displays)

2013



- + KVM resolution enhancements (2560x1600)
- + Graceful OS shutdown

2015



- + Remote provisioning for wireless platforms
- + Remote screen blank
- + Microsoft InstantGo* support

2016



- + KVM resolution enhancements (4096x2160@8bpp)
- + Intel® Remote Secure Erase with Intel® SSD Pro
- + USB-R storage redirection

2017–2018



- + Intel® Manageability Commander
- + Intel AMT location for Intel® Authenticate
- + Support for KVM headless devices
- + Web app hosting in Intel® AMT firmware

Intel® vPro™ platform extensibility



Desktops



Laptops



2 in 1s



AIOs



Point of sale devices



Digital signage



Workstations



Vending machines

*Other names and brands may be claimed as the property of others.

INTEL® VPRO PLATFORMS – INTEL® AMT COMPONENTS

Intel® Active Management Technology (AMT)

HARDWARE



Intel® Core™ vPro™ processor
Intel® Xeon® processor



CHIPSET



Intel® Express Chipset
(Q & C Series)



NETWORK

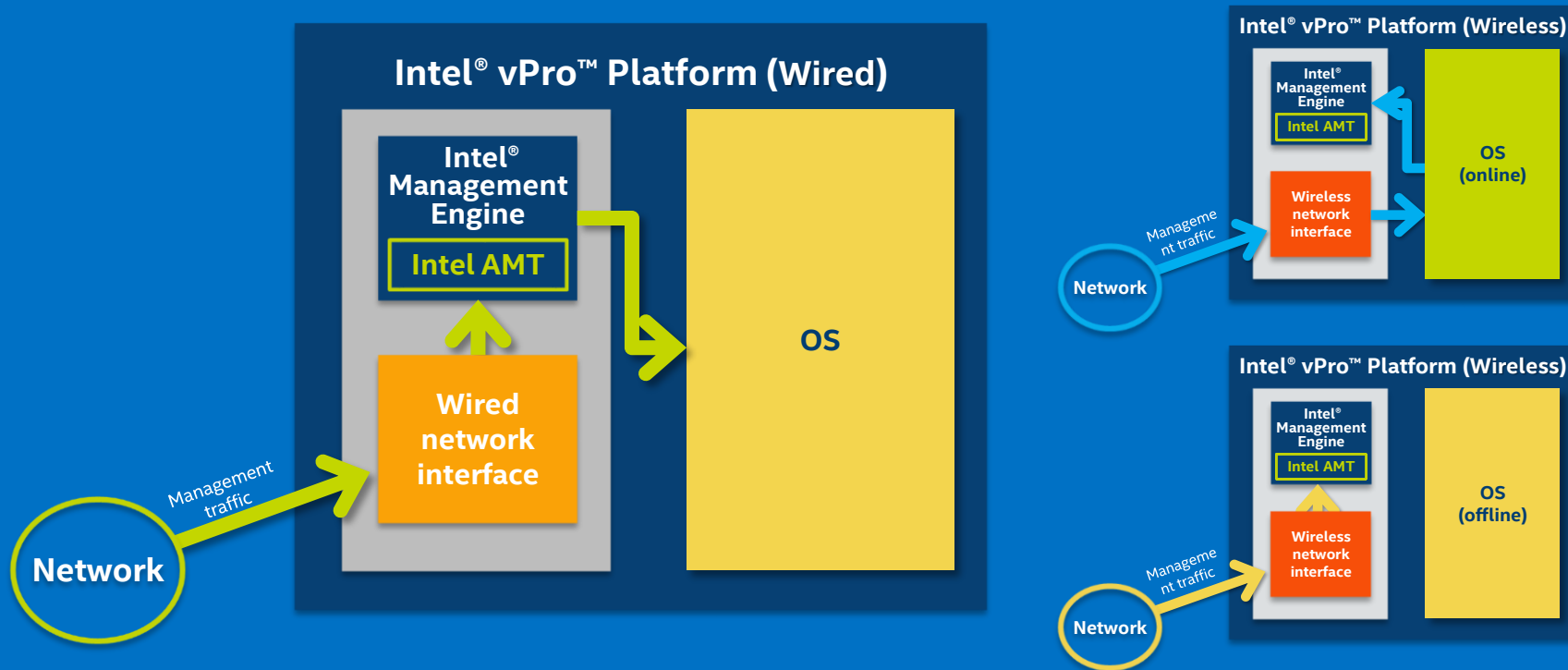


Intel® LAN controller
Intel® Wi-Fi controller

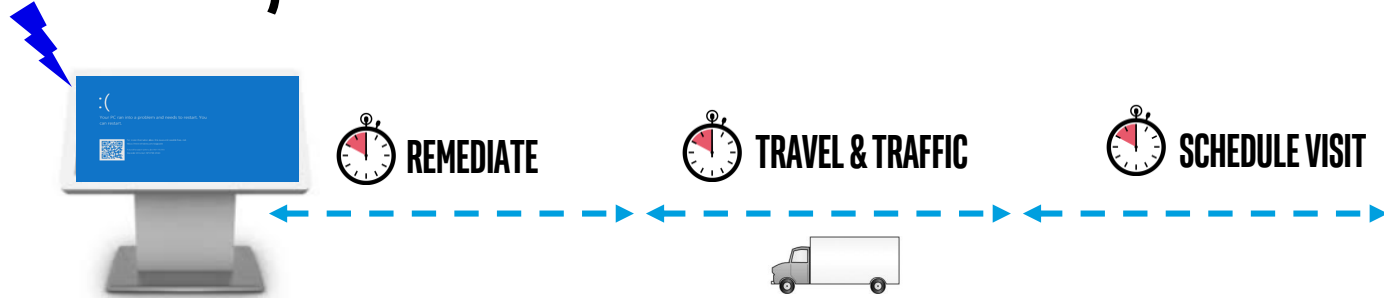
An Intel® vPro™ Platform is the sum of hardware, BIOS extensions, networking and applications that deliver solutions for a robust and reliable applications

INTEL® AMT MANAGEMENT PACKET ROUTING – OUT OF BAND (OOB)

Works via **wired** LAN network interface directly or **wireless** LAN routed from the host wireless driver

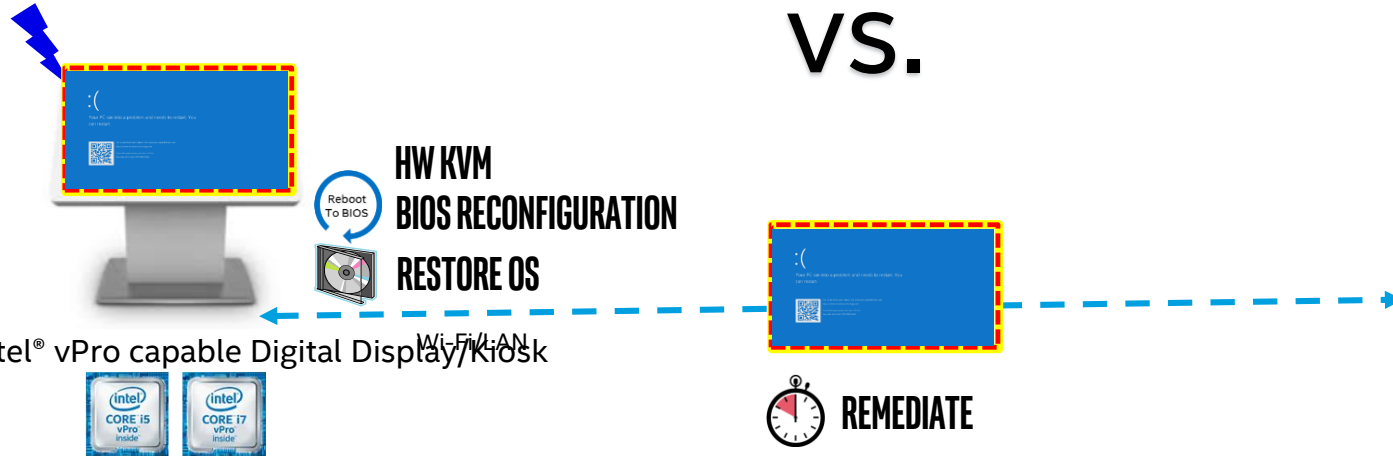


MONITOR, REMEDIATE REMOTELY AND REDUCE DOWNTIME



Non-vPro Digital Display/Kiosk

VS.

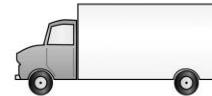


IN-BAND VS ONSITE (DISPATCH TECHNICIAN) – TODAY'S MODEL

IN-BAND



ONSITE VISIT



IN-BAND VS ONSITE (DISPATCH TECHNICIAN) – WITH INTEL® AMT

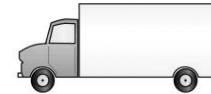
IN-BAND



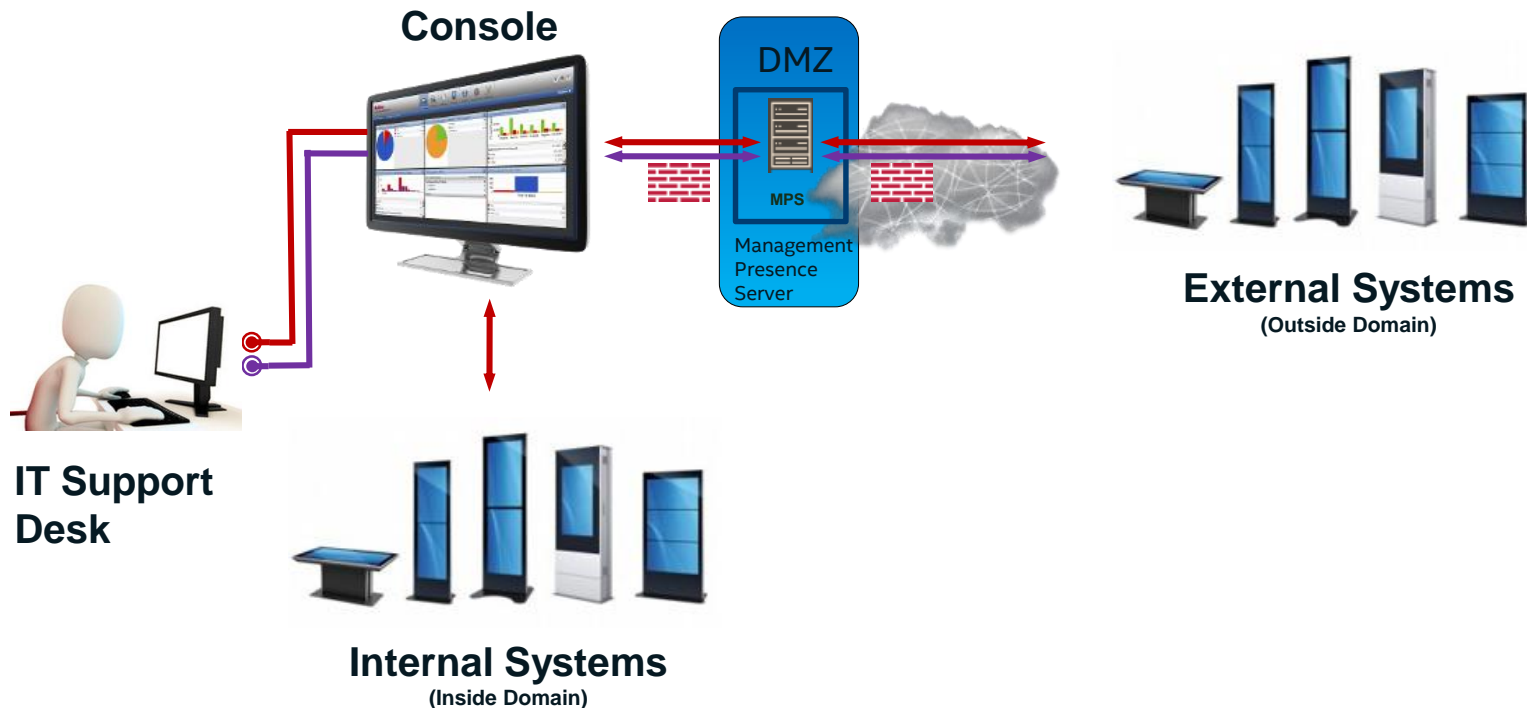
INTEL® AMT
OOB (Out Of Band)



ONSITE VISIT



INTEL® VPRO™ “TOPOLOGY” AND ENVIRONMENT OVERVIEW



VPRO ENVIRONMENTS COME IN TWO FORMS

Enterprise VS Cloud

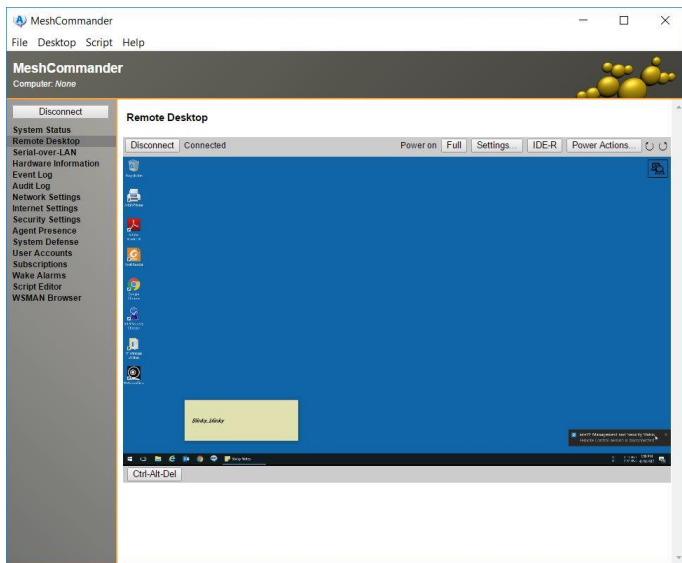


Enterprise Domain – Corporate – Secured – 802.1x

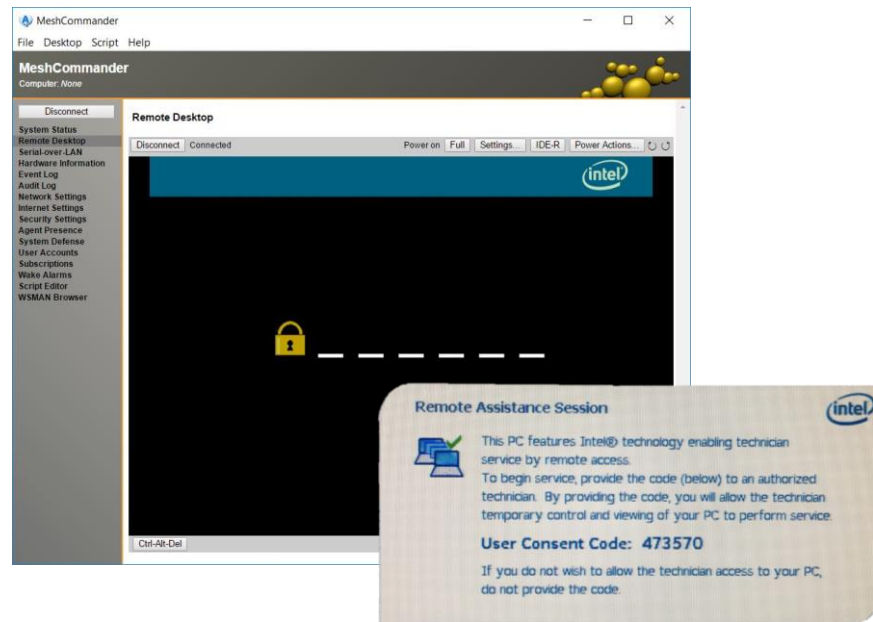


Public Domain – Home like Internet Connections

TWO “MODES” OF VPRO ACTIVATIONS



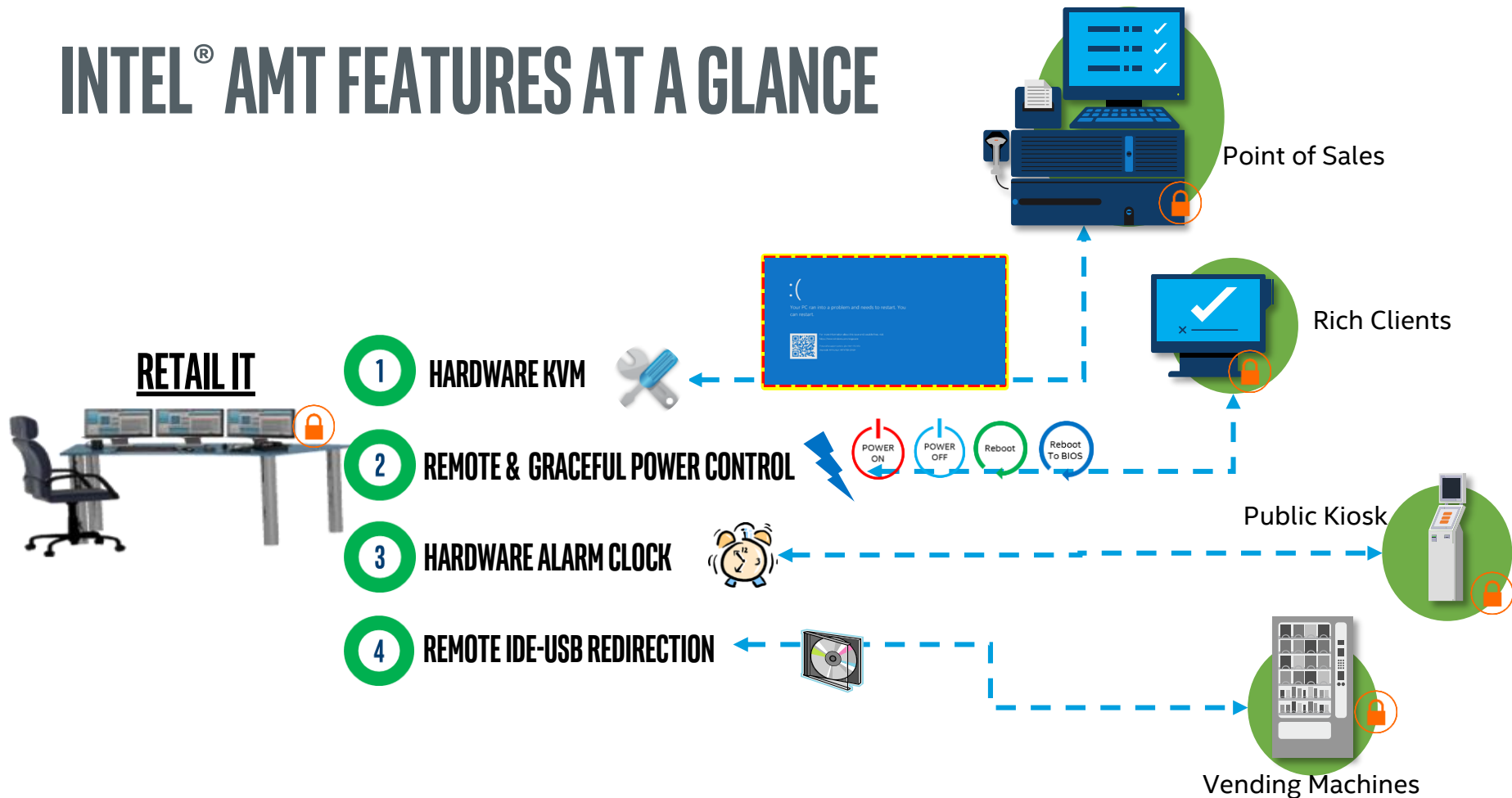
VS



Admin-mode – No User Consent
(ACM)

Client-mode – User Consent Required
(CCM)

INTEL® AMT FEATURES AT A GLANCE



INTEL® AMT PROVISIONING – ENTERPRISE/DOMAIN (TRADITIONAL ISV CONSOLES)

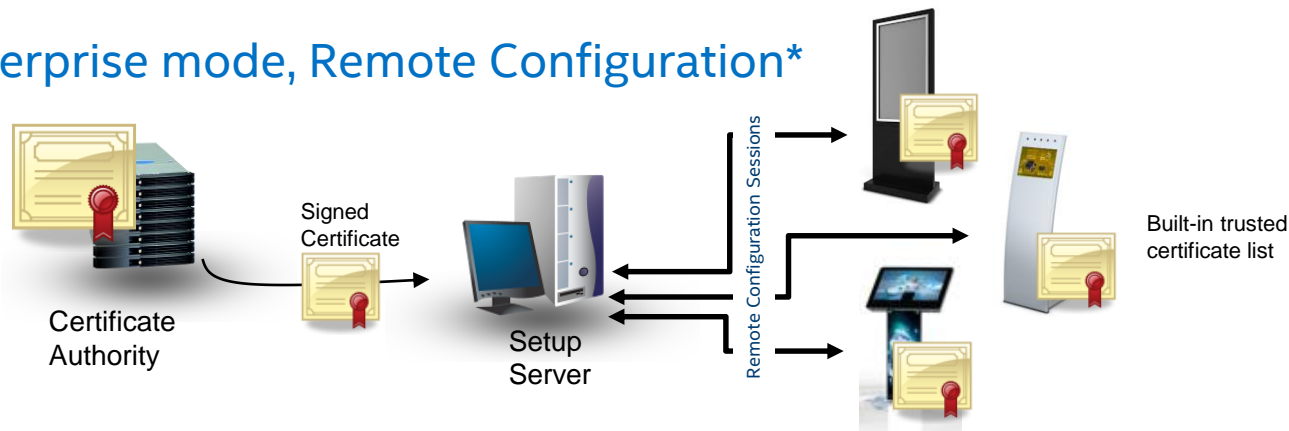
Enterprise mode with USB key

(Takes place of MEBx - <CTRL+P>)



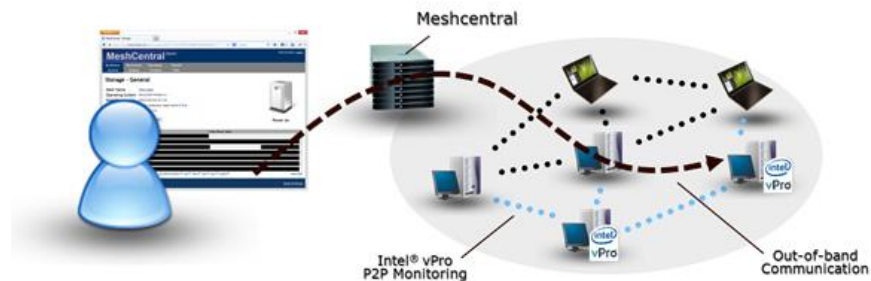
Intel® SCS: Create Provisioning USB Stick

Enterprise mode, Remote Configuration*



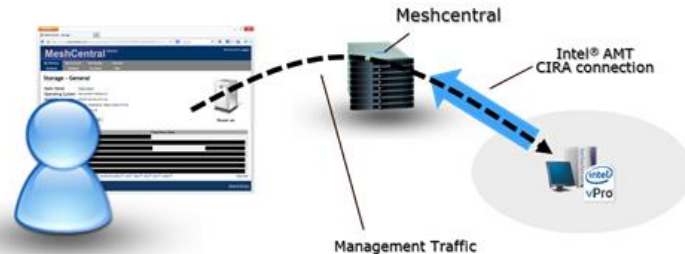
* Remote Configuration – AMT 2.2, 2.6 and up.

INTEL® AMT PROVISIONING - CLOUD (MESH ARCHITECTURE)



In-band agent: Mesh Agent
Out-of-band: AMT CIRA (Client Initiated Remote Access)

AMT CIRA will be used when vPro is activated.
Support Mesh vPro activation.*





PORTS USED BY VPRO - OVERVIEW

A large majority of customer use Microsoft SCCM* which utilizes Active Directory (AD).

MANAGEMENT

TCP: 16992 (AMT Non-TLS) (WS-MAN)

TCP: 16993 (AMT TLS) (WS-MAN)

TCP: 16994 (Non-TLS Redirection)

TCP: 16995 (TLS Redirection)

TCP: 5985 (Non-TLS WS-MAN / PowerShell)

TCP: 5986 (TLS WS-MAN / PowerShell)

TCP: 5900 (VNC)

REMOTE CONFIGURATION

TCP: 135 WMI ports - used by ACUConfig for initial communication to the RCS

TCP: 16992 (AMT Non-TLS) (WS-MAN)

TCP: 16993 (AMT TLS) (WS-MAN)

TCP: 623, 664 – used typically for discovery of AMT versions and capabilities and finding un-configured AMT computers.

VPRO ENVIRONMENTS – WEB-UI

Intel® Active Management Technology

Log On

Log on to Intel® Active Management Technology on this computer.

Log On...

Intel® Active Management Technology

Computer:

System Status

Hardware Information

- System
- Processor
- Memory
- Disk
- Battery

Event Log

Power Policies

Network Settings

IPv6 Network Settings

System Name Settings

User Accounts

Power	On
IP address	0.0.0.0
IPv6 address	Disabled
System ID	6dfed87f-3d46-11e3-b404-0f8dbf0cf0ff
Date	4/21/2017
Time	3:46 pm

Refresh

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SUPPLEMENTARY AMT COLLATERALS

Name	Purpose	Link / Source
MeshCommander Basics	Simple Manageability Guide with MeshCommander Console	Hand Out / USB Stick
MeshCentral Deployment Guide	Guide to Deploy MeshCentral Manageability Web Suite	Hand Out / USB Stick
Port Forwarding Document	The Intel® AMT port forwarding (APF) protocol provides TCP and UDP connection multiplexing over a single reliable transport session, typically a TLS session.	AMT Port Forwarding Document
SCS Deployment Guide	Step by step guide to enable discovery, configuration and integration of Intel Active Management Technology.	http://www.intel.com/content/dam/www/public/us/en/documents/guides/scs-deployment-guide.pdf
AMT SDK	Intel® AMT High-Level API SDK	https://software.intel.com/en-us/amt-sdk/download
Microsoft* PowerShell	Module for Windows* based systems – 100% Intel® AMT/vPro support	Intel® vPro™ Technology module for Windows* PowerShell Version 3.2.5
Microsoft* PowerShell	Graphical User Interface (GUI) Tool – Can include company logo – Great for specifying buttons for support staff	The Intel® vPro™ Technology Module for Powershell GUI Editor Too

IDENTIFYING VPRO SYSTEMS

WAYS TO IDENTIFY AN AMT CAPABLE SYSTEM

1

CONTACT SYSTEM OR HARDWARE SUPPLIER OR LOOK FOR THE VPRO BADGE



2

REBOOT SYSTEM AND HIT (CTRL+ P) TO SEE IF SYSTEM ENTERS MEBX (ME BIOS) , THE INTEL AMT FIRMWARE VERSION WILL BE DISPLAYED IN THE BIOS IN SOME SYSTEMS

3

THE INTEL SCS SYSTEM DISCOVERY TOOL COLLECTS INFORMATION ABOUT THE INTEL ME (THE INTEL MANAGEMENT ENGINE RUNS THE INTEL AMT FIRMWARE AND OTHER FIRMWARE)

4

VISIT [HTTP://MSP.INTEL.COM](http://MSP.INTEL.COM) TO SEE WHICH RETAIL POS DEVICES SUPPORT INTEL® VPRO & INTEL® AMT