# Intel vPro® Enablement

## User Guide

*November 2020*

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# Revision History

| Date | Revision | Description |
|---|---|---|
| November 2020 | 0.5 | Initial release. |

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# 1.0 Introduction

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

This doc will introduce how to enable Intel vPro® step by step.

## 1.1 Terminology

**Table 1. Terminology**

| Term | Description |
|---|---|
| BIOS | Basic Input Output System |
| TXT | Trusted Execution Technology |
| BVT | Brand Verification Tool |
| TPM | Total Productive Maintenance |

## 1.2 Reference Documents

**Table 2. Reference Documents**

| Document | Document No./Location |
|---|---|
| TPM 2 Provisioning Tool for Intel Trusted Execution Technology for the OEM | 563989 |

# 2.0 Intel vPro® Function Enablement

This chapter will introduce Intel vPro® function enablement steps, including Hardware configuration, BIOS/MEBx Configuration, Intel® TXT TPM Provisioning, BVT, and IOTG recommended remote management tools.

## 2.1 Hardware Configuration

- Intel® Core™ xxxx vPro™ processor supporting the following features:

  o Intel® Virtualization Technology (Intel® VT) for IA-32, Intel® 64 and Intel® Architecture (Intel®
  VT-x)
  o Intel® VT for Directed I/O (Intel® VT-d)
  o Intel® Trusted Execution Technology (Intel® TXT)
  o Intel® Software Guard Extensions (Intel® SGX)

- Intel® xxxx chipset supporting the following features:

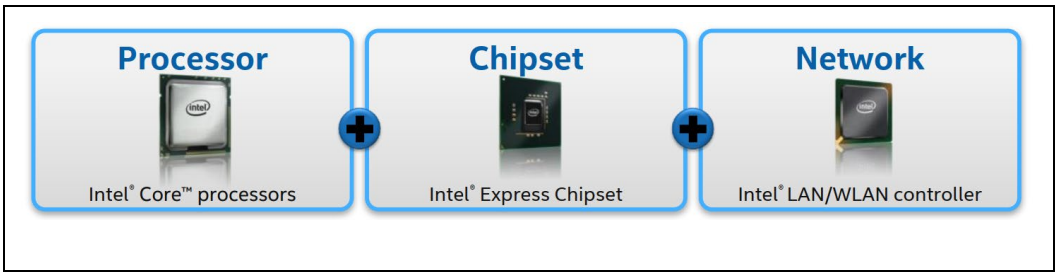
  o Intel® VT for Directed I/O (Intel® VT-d)
  o Intel® Trusted Execution Technology (Intel® TXT)

- Intel® Ethernet Connection I219-LM (Wired LAN is optional or required by vPro SKU)

- Wireless Network Adapters

- A discrete TPM 2.0 Trusted Platform Module (TPM) is required. The TPM must be provisioned for Intel® TXT
  and locked prior to final testing.

**Figure 1. Hardware Required Configuration**



## 2.2 MEBx Configuration

Press CTRL+P (/w Keyboard) during system cold boot or system reset, select MEBx login, 1st time login password is “admin” and changed to desired password.

Select Intel® AMT Configuration, set User Consent to “NONE”, select Active Network Access, then exit MEBx.

**Figure 2. User Consent**

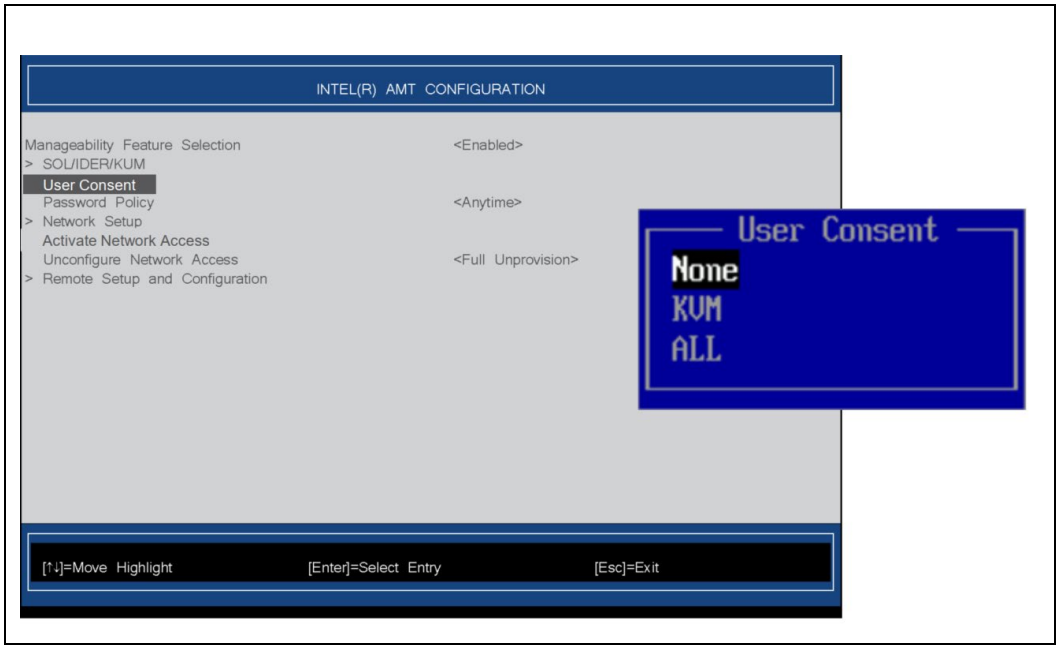
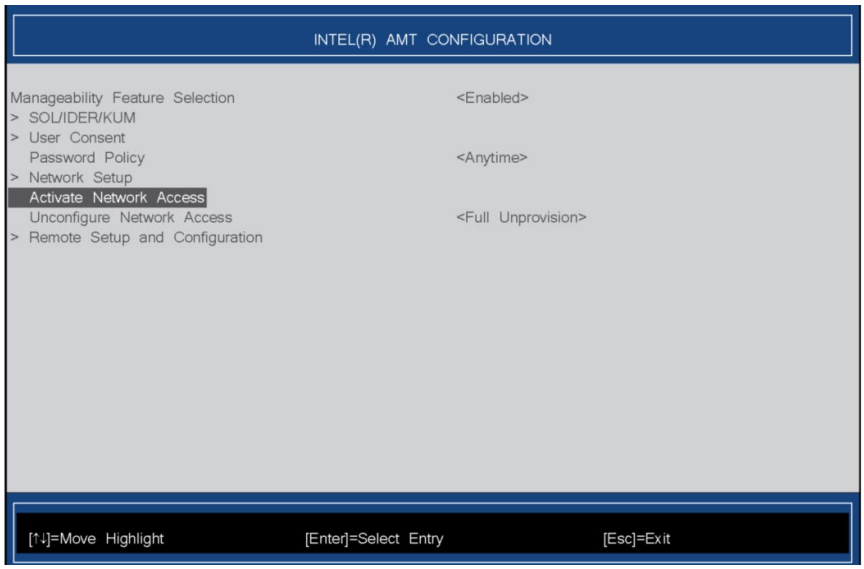


**Figure 3. Active Network Access**

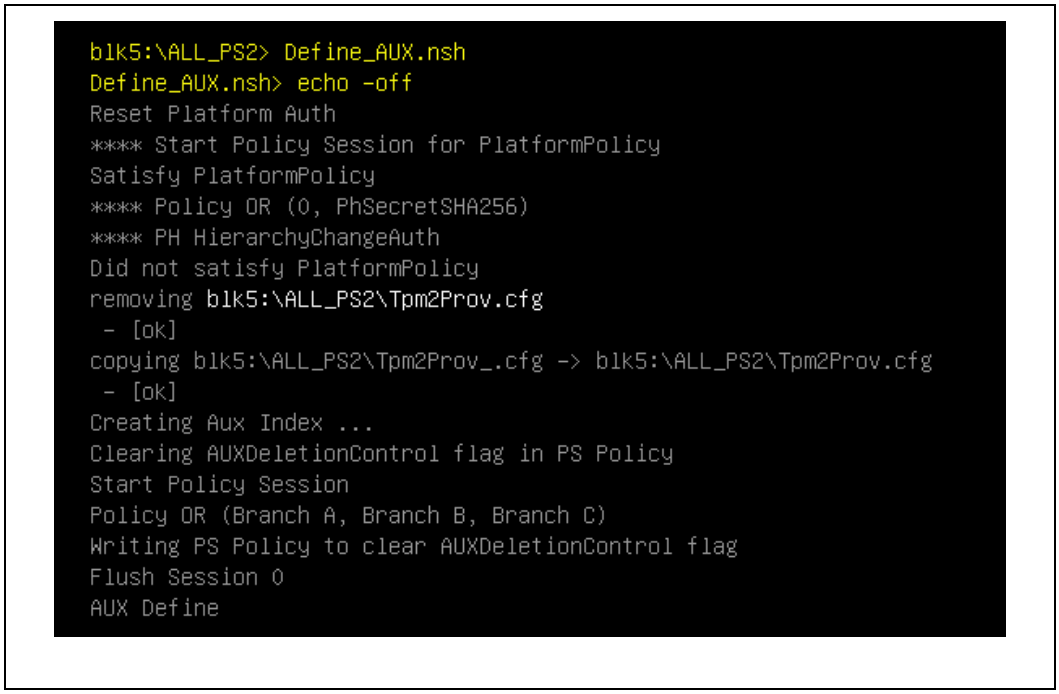



## 2.3 TPM 2.0 Provisioning

Download RDC no.563989 Tpm2ProvTool toolkit and execute following TPM 2.0 Provisioning Tool Guide to provision a TPM for use with Intel® TXT.

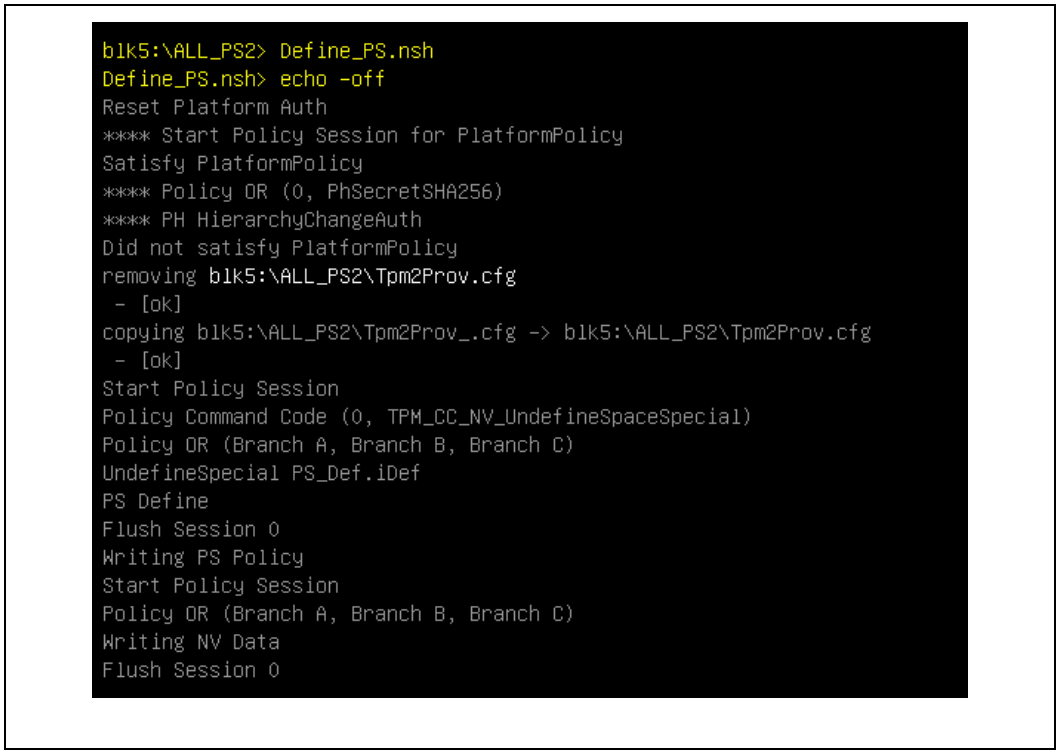
- Disable TXT in BIOS Setup and reboot
- Boot to EFI64 shell with access to the provisioning tools
- Run Define_AUX.nsh to define the AUX index

**Figure 4. Run Define_AUX.nsh**



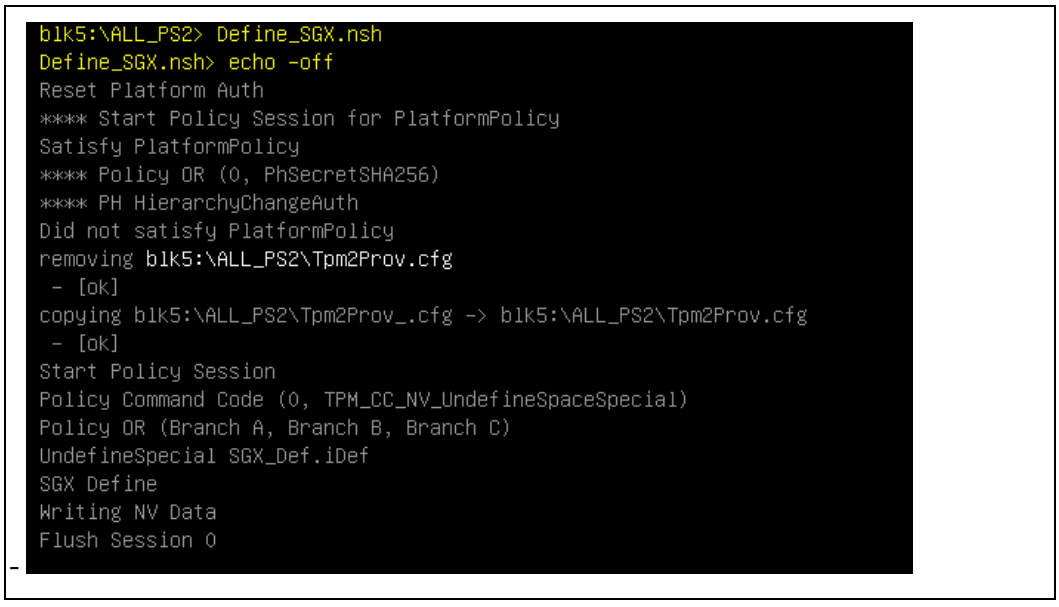

- Run Define_PS.nsh to define the PS index

**Figure 5. Run Define_PS.nsh**




- Run Define_SGX.nsh to define the SGX index

**Figure 6. Run Define_SGX.nsh**



- For PS2 attribute only: Run Lock_PS2.nsh to write-protect the PS2 data

**Figure 7. Run Lock_PS2.nsh**

```
blk5:\ALL_PS2> Lock_PS2.nsh
Lock_PS2.nsh> echo -off
Reset Platform Auth
**** Start Policy Session for PlatformPolicy
Satisfy PlatformPolicy
**** Policy OR (0, PhSecretSHA256)
**** PH HierarchyChangeAuth
Did not satisfy PlatformPolicy
removing blk5:\ALL_PS2\Tpm2Prov.cfg
 - [ok]
copying blk5:\ALL_PS2\Tpm2Prov_.cfg -> blk5:\ALL_PS2\Tpm2Prov.cfg
 - [ok]
Lock PS (for PS2 index only)
```

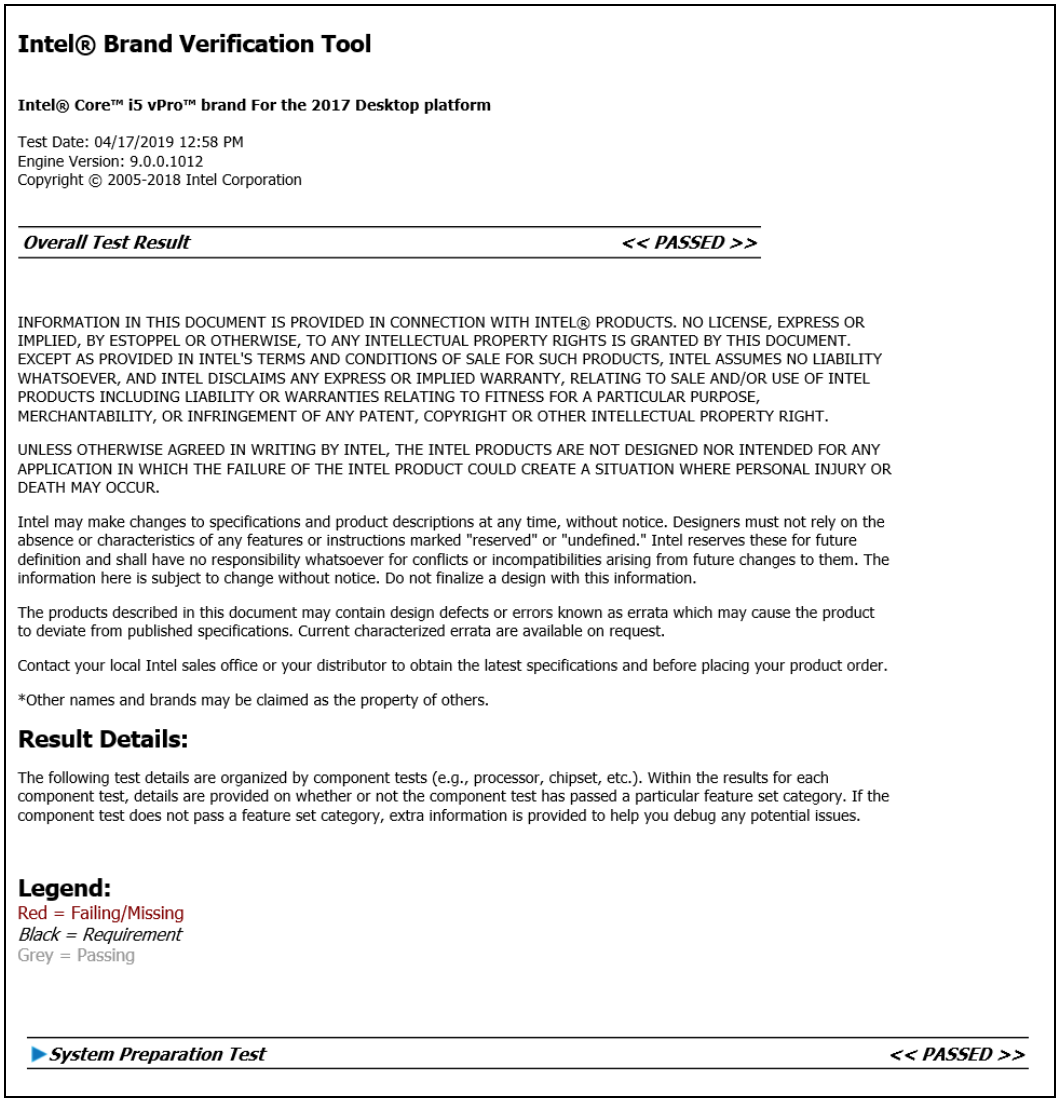
- Enable TXT in BIOS Setup

## 2.4 BVT (Brand Verification Tool)

Download BVT tool from link http://www.intel.com/go/bvt, following 'Support Platform PDF' check your HW/SW configurations and run bvt-package-vxxxx.exe.

For failed items, you can expand Red color branch to check detailed information.

**Figure 8. BVT Test Report**



**Intel® Brand Verification Tool**

**Intel® Core™ i5 vPro™ brand For the 2017 Desktop platform**

Test Date: 04/17/2019 12:58 PM
Engine Version: 9.0.0.1012
Copyright © 2005-2018 Intel Corporation

***Overall Test Result*** ***<< PASSED >>***

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**Result Details:**

The following test details are organized by component tests (e.g., processor, chipset, etc.). Within the results for each component test, details are provided on whether or not the component test has passed a particular feature set category. If the component test does not pass a feature set category, extra information is provided to help you debug any potential issues.

**Legend:**
Red = Failing/Missing
*Black = Requirement*
Grey = Passing

▶ ***System Preparation Test*** ***<< PASSED >>***

**NOTE:** BVT report, check failing with red item

## 2.5 IOTG Recommended Management Tool

- Download MeshCommander and install the MeshCommander tool on the console PC, to verify AMT features.

  Download link:
  http://info.meshcentral.com/downloads/mdtk/meshcommander.msi

**Figure 9. MeshCommander Tool**

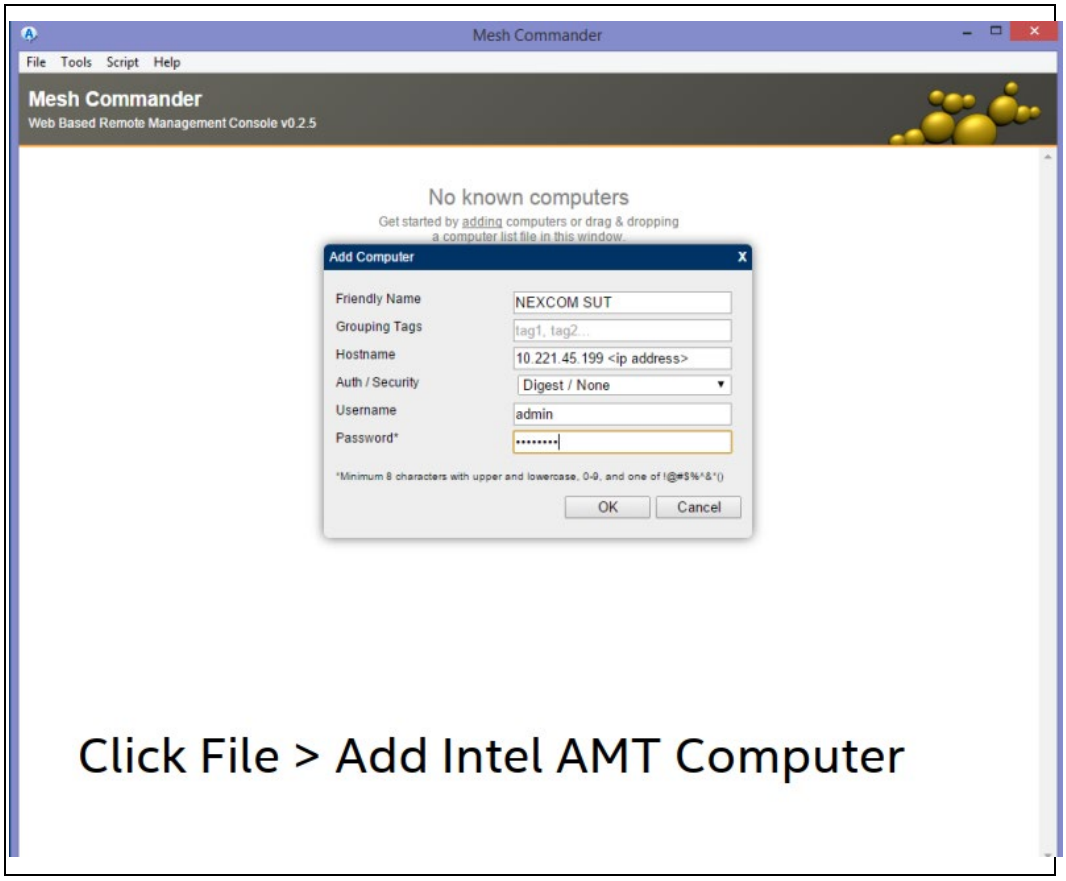
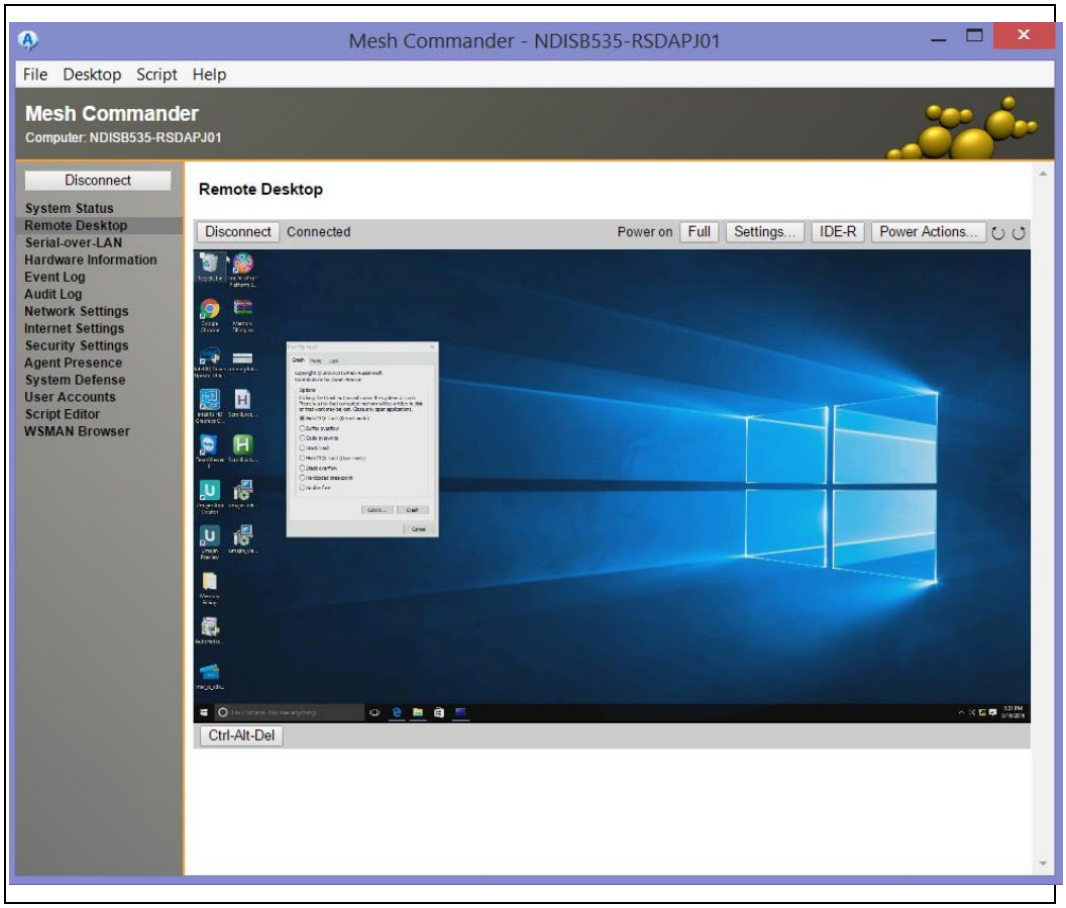


**Figure 10. KVM to Connect Remote Desktop**

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