

# INFRASTRUCTURE SUMMIT 2019

Modern Deployment

Autopilot for the Real World and then some

Mikael Nystrom

Jordan Benzing

Johan Arwidmark

# GET-EXPERTS

**Mikael Nystrom**



**Johan Arwidmark**

**@mikael\_nystrom**



**@jarwidmark**

**Mikael.nystrom@truesec.com**



**johan@2pintsoftware**

**MVP – 15 Years**



**MVP – 15 Years**

**Steak**



**Steak**

# GET-EXPERTS



Jordan Benzing



@JordanTheITGuy



Jordan.benzing@truesec.com



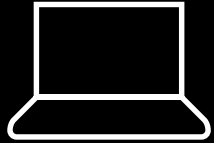
Patch Master



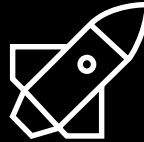
Ramen

# Windows Autopilot

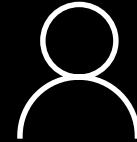
---



Un-box and turn on  
off-the-shelf Windows PC



Transform with minimal  
user interaction



Device is ready  
for productive use

***"Deploying a Windows device should be as simple as getting a new phone."  
- Michael Niehaus, Microsoft***

---

# Demo

Preparing for Windows Autopilot

# Windows Autopilot

AVAILABLE in 1703	AVAILABLE in 1809	AVAILABLE in 1903	AVAILABLE in 1903	AVAILABLE in 1809
<b>User-driven mode with Azure AD Join</b>	<b>User-driven mode with Hybrid Azure AD join</b>	<b>Windows Autopilot white glove (preview)</b>	<b>Self-deploying mode (preview)</b>	<b>Windows Autopilot for existing devices</b>
Join device to Azure AD, enroll in Intune/MDM	Join device to AD, enroll in Intune/MDM  <b>Coming soon! Deploy over VPN (preview in Q1CY20, 1903+)</b>	White glove partners or IT staff can pre-provision Windows 10 PC to be fully configured and business-ready for an org or user  <b>General availability targeting CY20</b>	No need to provide credentials, automatically joins Azure AD  <b>General availability targeting CY20</b>	Windows 7/8.1 to Windows 10  ConfigMgr task sequence, followed by Windows Autopilot user-driven mode  <b>New! Hybrid Azure AD Join support</b>

# Windows Autopilot // Cross-scenario features

AVAILABLE in 1803+

## Enrollment status page

Track progress of:

- Policies
- Certificates
- Win32, MSI and UWP apps
- Office

**New! Disable for Nth users**

**Coming soon! Integration with ConfigMgr (H1CY20)**

**Coming soon! Options for skipping user ESP, targeting users and computers**

AVAILABLE in Intune

## Device lifecycle management

Register and de-register devices

**Coming soon! Improved performance**

**Coming soon! Edit group tags (Q4CY19)**

**Coming soon! Assign computer names (Q4CY19)**

AVAILABLE in Intune

## Reporting and monitoring

See information about Windows Autopilot deployments

**Coming soon! Windows Autopilot deployment report (Q4CY19)**

**Coming soon! Windows Autopilot log collection**

# Windows Autopilot // Cross-scenario features

ONGOING

## Windows and device config

Make it easier to set up Windows 10 defaults, features, firmware configuration, etc.

**New! DFCI firmware configuration**

**Planned! Remove list of in-box apps**

**Planned! Add language packs and features**

ONGOING

## Delivery optimization

Cache content so it doesn't need to be downloaded repeatedly from the server

**New! Office 365 ProPlus install support (preview)**

**Planned! Automatic Connected Cache discover for white glove**

AVAILABLE in 1903+

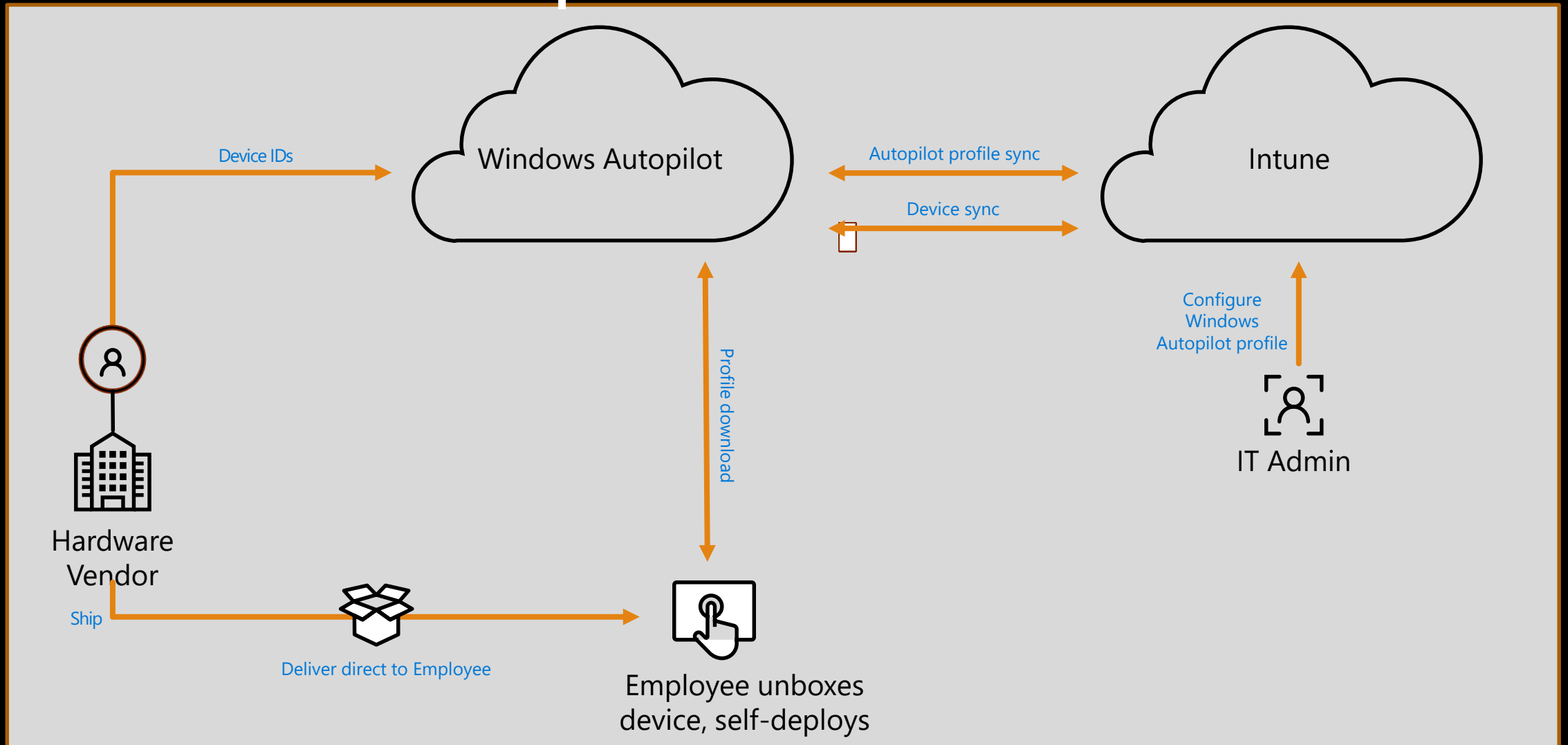
## Windows Autopilot update

Automatically install the latest Windows Autopilot features and updates

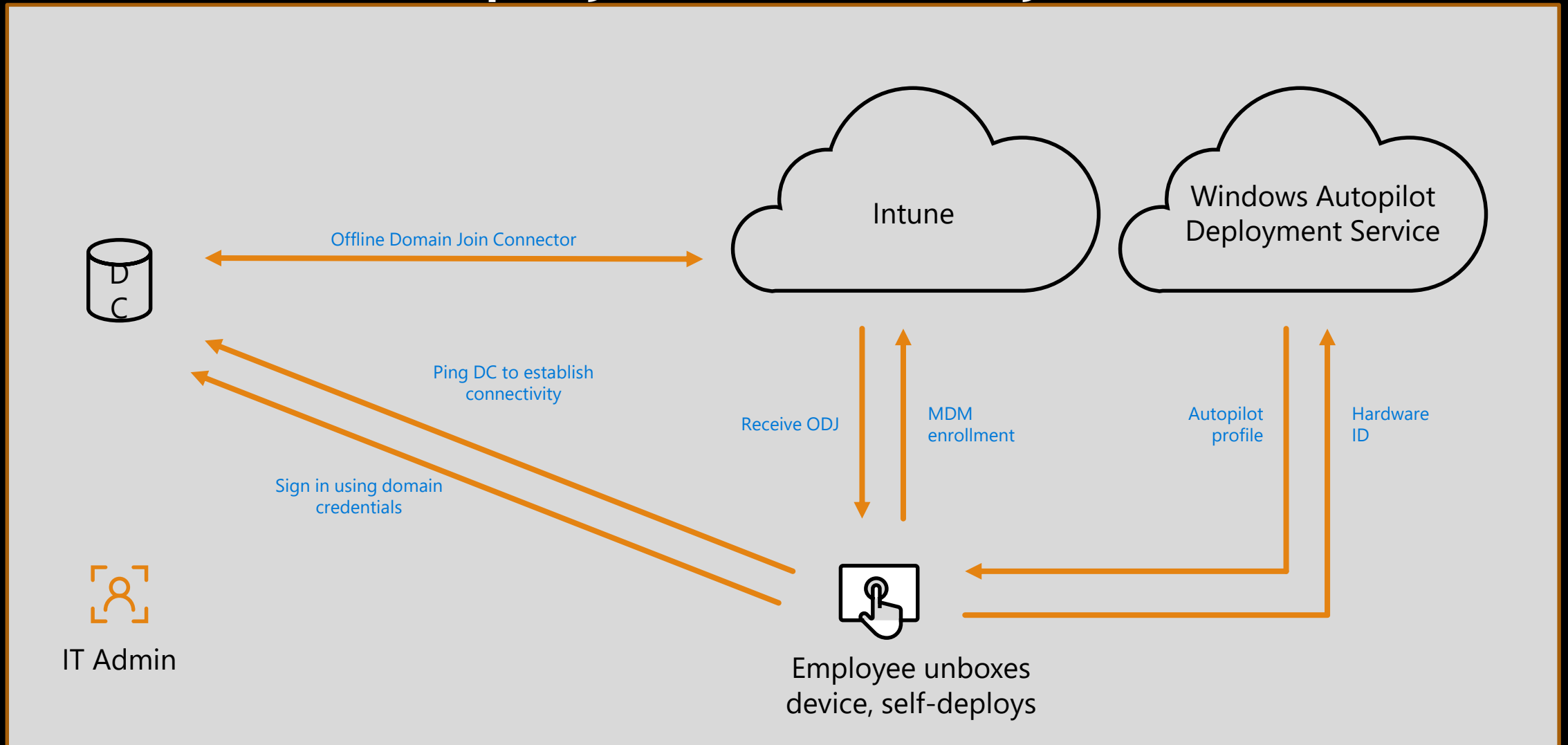
Windows 10 1903 (September KB4517211+) or later



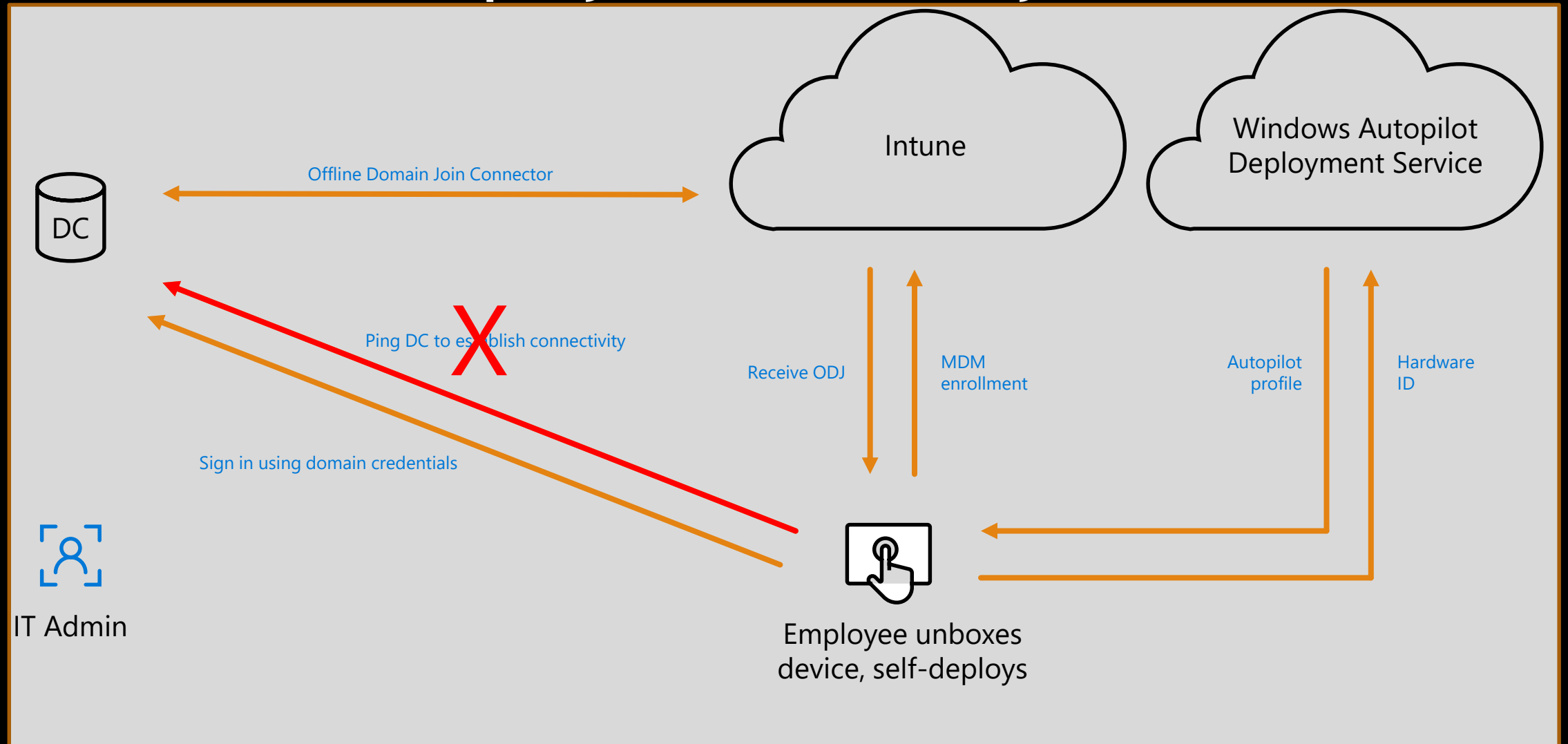
# Windows Autopilot overview



# User-Driven deployment with Hybrid Azure AD



# User-Driven deployment with Hybrid Azure AD



---

# Demo

Windows Autopilot in Action

# Windows Autopilot, upcoming features

---

- User-driven Hybrid Azure AD Join over the internet - VPN support (Q1CY20 preview)
- Integration with Configuration Manager for running task sequences (H1CY20)
- Group tag editing (Q4CY19)
- Direct computer name assignment (Q4CY19 for Azure AD)
- Windows Autopilot deployment report (Q4CY19)
- Aligned naming options for Azure AD and Hybrid Azure AD (CY20)
- Guided scenarios to help with initial setup and configuration
- ESP enhancements for targeting, disabling user ESP, Nth user
- Full network documentation (URLs, IP addresses, etc.)
- Windows 10 configuration for features, language packs, in-box apps

# Windows Autopilot, future ideas

---

- Troubleshooting and logging improvements
- Migration of apps and settings from an old computer
- Provisioning performance - the need for speed
- Configuration of Windows 10 preferences and defaults (vs. just policy/settings)
- Device lifecycle management improvements
- Better handling of OS languages

# Git - (GitHub)

---

- Created as the result of a company called BitKeeper deciding to charge money for their product.
- It was originally created by the Linux guys, and came out when I first learned to drive a car
  - That's 2005
- Originally designed so that it could track MASSIVE projects like the Linux Kernel base

# GitHub



## Two Factor Authentication

- Configuring Two Factor Authentication is Easy
- If you need a private repo, you need MFA
- Works great with Microsoft Authenticator App
- If you're not using it by the end of the week you should



# GitHub - Branches

- Branches are ways to test concepts
- They are designed to create discussion
- Avoid breaking what works
- Make sure that when you're done you clean up your own mess.



# GitHub - Collaborators

---

You mean you don't write all the code?

- A big part of Source Control is the ability to allow and inspire collaboration. So how do we set it up safely?
- Adding a Collaborator
- Collaborating responsibly
- Collaborating on public repositories

# VSCode Snippets

- Pre-made code blocks
- Quick build out large amounts of standardized code
- Large amount of snippets ship in code by default
- Add your own custom snippets

```
C: > Users > JordanBenzing > AppData > Roaming > Code - Insiders > User > snippets > powershell.json > ...  
15  
16     "NewPSDFile" : {  
17         "prefix": "psdnewscript",  
18         "body": [  
19             "<#",  
20             ".SYNOPSIS",  
21             "",  
22             ".DESCRIPTION",  
23             "",  
24             ".LINK",  
25             "",  
26             ".NOTES",  
27             "        FileName: $TM_FILENAME",  
28             "        Author: PSD Development Team",  
29             "        Contact: @Mikael Nystrom , @jarwidmark , @mniehaus , @SoupAtWork , @JordanTheItGuy",  
30             "        Created: $CURRENT_YEAR-$CURRENT_MONTH-$CURRENT_DATE",
```

---

# Demo

PowerShell Development

# PowerShell Deployment Toolkit (PSD)

---

- Why....
- The knowledge in VB Script are limited
- There is still a need of solutions like MDT
- PowerShell provides functionality beyond VB Script
- Support for additional transport protocols, like http/https

# Why

---

- The knowledge in VB Script are limited
- There is still a need of solutions like MDT
- PowerShell provides functionality beyond VB Script
- Support for additional transport protocols, like http/https

# The basics

---

- MDT is using PowerShell for everything but:
  - Task Sequence is controlled by VB Scripts
  - Actions in the Task Sequence are based on VB Script
- Shifting from VB Script to PowerShell
- Change the mindset of OS Deployment

# Development and Curation Partners

---





# PSD Solution Development and Design

Develop a **NEW** OSD  
over-the-Internet scenario

**Modernize** the Microsoft  
Deployment Toolkit

- Migrate to PowerShell scripting vs VBS, WSF
- Maintain MDT feature parity (as much as possible)

No compiled code

- Strength, power and flexibility of PowerShell
- In keeping with MDT design tenets

PSD is an “open solution”

- **Open Source** approach
- **Community code development and contribution**
- GitHub repository and publishing

---

# Demo

PowerShell Deployment Toolkit