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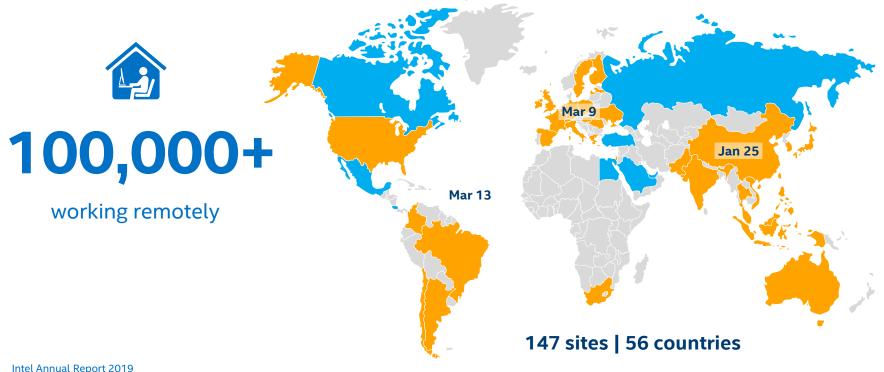
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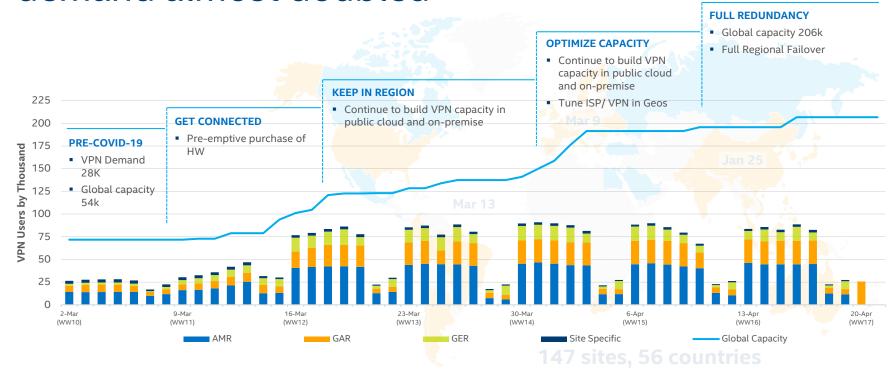


## Over 100,000 working from home

## In 48 days over 100,000 Intel employees and contractors started working exclusively from home



## With massive shift to remote work, capacity demand almost doubled



The pandemic may be the tipping point for demonstrating the success and benefits of remote work at scale.

Archana "Archie" Deskus Intel Senior Vice President & Chief Information Officer

Blog: https://itpeernetwork.intel.com/how-intel-it-transitioned-to-supporting-100000-remote-workers/
Podcast: https://soundcloud.com/intelchipchat/how-intel-is-changing-course

## What it Took to Make This Happen



CULTURE OF COLLABORATION

An employee-centric culture of collaboration and productivity working anytime from anywhere



A secure, scalable end-to-end infrastructure from device to multi-cloud

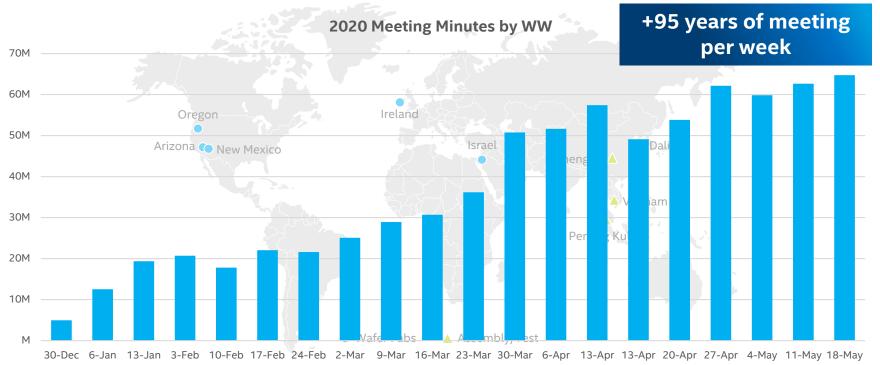


A cross-functional-team approach to react quickly while staying very connected to the BUs and external partners

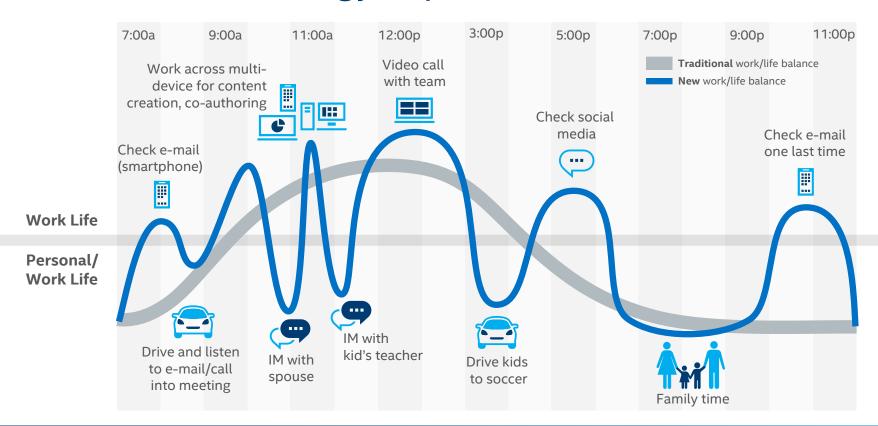


# An employee-centric culture of collaboration and productivity

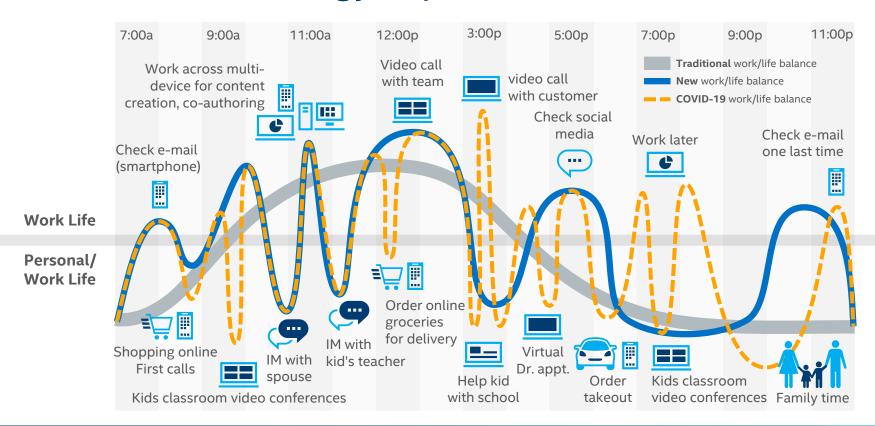
## A Culture of Collaboration: +50 Million Meeting Minutes per week in May 2020



## Blended Technology Experience – Pre COVID-19



## Blended Technology Experience after COVID-19

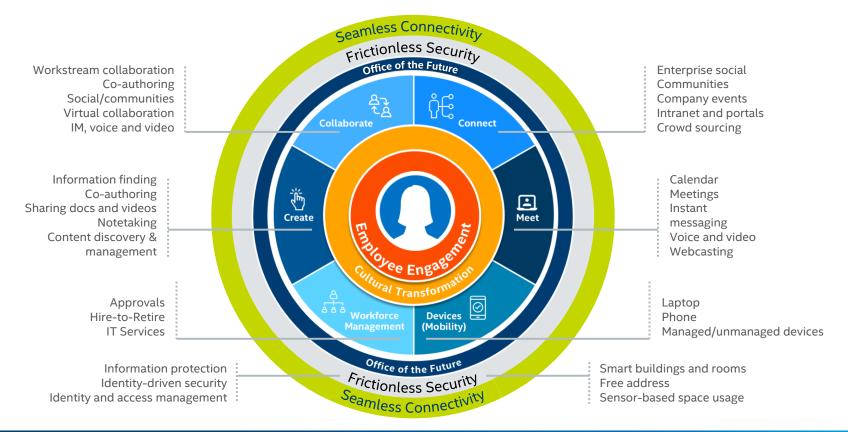


### Start with Culture

The work, commitment, and One Intel mindset is pivotal to the success of culture evolution



### **Elements of Collaboration**



## Raise the Bar for Workplace Experiences

Consumerization is driving higher expectations on devices, user experience and suite of applications.



## Mobile Business PCs & Companion Devices

Focus on performance & productivity and use of telemetry to tailor the right device for the employee



#### **Modern Applications**

Broadening list of apps/services and integrating Analytics & AI



## Video Collaboration in meeting rooms

Integrated range of solutions from large room to PCs with over 5000 production rooms



#### **Social Media**

Internal and external collaboration tool

Working remotely is now a necessity

Optimizing productivity and efficiency from anywhere

Shifting to virtual video collaboration

Using social media to communicate our pandemic response



## Serving a Wide Variety of Users with Standard Device Procurement Guiding Principles



Gear Head



**Builder** 



Meeting Master



Road Warrior



Free Dweller



Co-working Crew



## Personalized Workspace

Associate the user workspace with the user's persona (customization and personal settings) across platforms



## Access to Services

User can seamlessly access content and applications in as native a manner as possible, regardless of device



## Seamless Device Switching

Provide tools for the user to seamlessly move the user workspace between platforms

AGILE | SECURE | FLEXIBLE | AUTOMATED | SEAMLESS | COST EFFECTIVE | STANDARDIZED



## Seamless User Workspaces

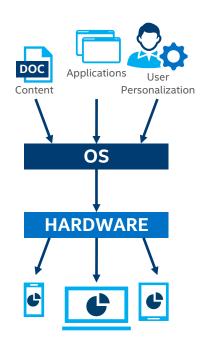
#### Decoupling User workspace from OS Provisioning Process to reduce IT Touch

We build about 50,000 PC Platforms/year and 30,000 of those builds are PC refreshes and the remaining 20,000 relate to break/fixes issues or new employee devices

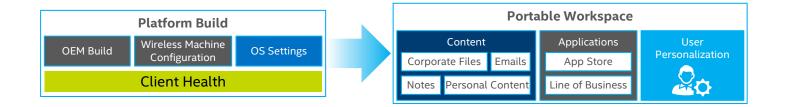
#### What is in a User Workspace?

## At Intel, we define a user workspace as follows:

- Content. The data on the user's device, including corporate files, emails and digital notes, plus personal data such as photos or music.
- Applications. Native and cloud-based applications installed by the user (and not provided as part of the core OS image).
- User personalization. OS customizations, including fonts, wallpaper, task bar, default printer, and more, plus application-specific settings, like a signature or window size.



## Platform Build Enables the Portable Workplace



By decoupling the user workspace from the OS provisioning process and abstracting the workspace layer (content, applications, and user personalization) users can seamlessly switch from one device to another with little disruption or loss of productivity.

#### **Data Sources**

We integrate four main data sources:
Intel SW Market
SW Inventory Information
Employee Database
PC Asset Management
Database

#### **Use Cases**

The user gets a new PC
through refresh
The user's PC needs a new
build
The user is a new hire
The user is performing a
specific task

#### **Solution Architecture**

We set different goals depending on the trust level of the device

## **Build & Delivery Service**

#### Process for Build and Delivery

#### **Before COVID-19**







- 1. Grab and Go: No waiting time
- 2. Express Mail Delivery also available
- 3. Easy Self set up: highly automated
- 4. Heavy leverage of Cloud
- 5. Improved inventory control
- 6. Improved productivity
- 7. Seamless across platforms
- 8. Consistent workspace
- 9. Minimal need for Service Centers







- Self-provisioning with Express Mail delivery or Grab and Go available for remote workers.
- Partnered with Human Resources (HR) to coordinate device delivery to new employees, and device returns from exiting employees.

The Standard IT build with a portable USB Operating System makes it easy for remote employees to do self-setup.



## Keeping the Factories Running

#### How Manufacturing IT (MIT) shifted to working from home

Intel made employee health the top priority while still maintaining factory excellence

#### **Employee Support**

- ✓ Rapid delivery of mobile PCs to factory employees holding tech jobs that did not previously need or leverage PCs.
- Company wide scaling of VPN connections leveraging multicloud strategy
- ✓ Services such as email and video conferencing enabled without VPN connection.
- ✓ Enablement of VbSS sharing on video vs lower quality RDP connections.



#### **Business Continuity Plan**

- ✓ Developed and enabled a HW/SW platform for Remote Operation Center technicians to monitor and control factory from home.
- ✓ For Remote Operation Center employees on site, ROC space was scaled out to enable social distancing

How the ROC has Changed for COVID-19: Work From Home

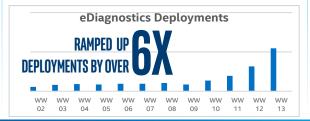
ROC Technicians have moved home, and are now controlling the factory as WFH.

Transaction on 1981 A

Technician to 1981 A

#### **Equipment Vendor support**

- ✓ Enabled cell phone cameras and remote video conferencing globally to assist troubleshooting and remote install support
- ✓ Enabled Software additions Tool & Wafers operational views to allow engineers access for necessary equipment control via terminal servers over VPN.
- ✓ Scale up eDiagnostics 3rd party tool for remote control computer connections for vendor connections, factory engineers and technicians access.



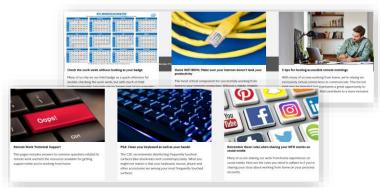


## Best Practices: Employee Education is Key



Remote Work support website

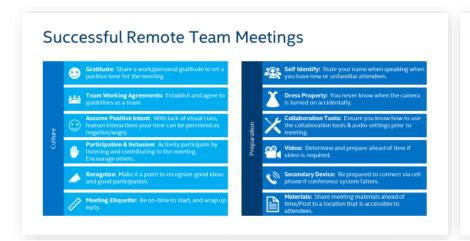




Timely resources in snackable format

Single Resource to Provide Information to All Employees

## Providing Tools and Training to Optimize Safe & Efficient Remote Working Conditions



#### Staying Cyber Safe Working Remotely



#### Connect with care

- Avoid using free Wi-Fi. Open a personal hotspot using your cellular device (data plan charges may apply).
- Turn off unused connections, like Bluetooth and Wi-Fi.
- Use a corporate VPN connection to boost your protection.



#### Staying safe even when you are out

- Remember not to leave devices unattended.
- Conduct telephone conversations out of earshot to avoid eavesdroppers.
- Watch for shoulder surfers! Consider a privacy screen or sit with your back toward the wall or in a corner so that others cannot see your screen.

**Continual Employee Support** 

## Continuing Career Development while Working Remotely



Single Sign On

**Archival Solution** 

Reporting



#### **Learners/Employees**

- One stop shop to access and manage their training and learning plans, i.e., search, request, enroll, view history, plan, track completion, etc.
- Quick course credits via real-time session closure by instructors

#### **Managers**

- One single tool to access direct employees' training history and plans, add/recommend courses, track completion, etc.
- Direct access to basic reporting and tracking tools

#### **Instructors**

 Teaching sign-up and view/ plan assignments, finding replacements

## Key Ergo Recommendations for Remote Work

Your monitor's location should not cause you to lean forward. Place your monitor directly in front of you, arm's-length from your body.

If you wear corrective eyewear like bifocals or trifocals, you may need to lower your monitor's height to prevent bending your neck backward. Computer glasses may be the best solution.

If your desktop is higher than your elbows when sitting, consider adding a pillow or cushion on your chair to adjust your body higher.

Sit with your feet flat on the floor and your thighs roughly parallel to the floor. Use a foot rest to support your feet if they are dangling and you're are unable to adjust your chair height. You may borrow a foot rest from your Intel workspace or create one with books, reams of paper or another sturdy object.

The top line of text on your monitor should be at or slightly below the location of your eyes.

If you use your laptop as a monitor, use monitor blocks, a notebook riser, books, reams of paper or another stable object to raise your laptop display to the correct level.

Use an external keyboard and mouse. Locate them near your work surface's edge and position them so your elbows are near your torso while working.

#### **MORE TIPS**



A bar-height counter could be used as a standing workstation.



Ensure there is no glare on your monitor.



Do not multitask. While you are on a call, do not use your keyboard or mouse.



A poorly placed monitor can cause neck and shoulder pain, headaches, and other symptoms.



Take more breaks. Increase your 5-minute Workplace breaks to every 25 to 30 minutes. This becomes even more important if you have days where you know you will need to spend greater than 6 hours on your PC.



## **Building Accessibility**



Our vision is to build an inclusive community of innovation, we must embrace the talents of people with all abilities

## **Building Accessibility**

### Count me IN: Self-identify for a more inclusive and accessible Intel

According to the World Health Organization, 15% of the world's population has some form of disability and almost every one of us will be temporarily or permanently disabled at some point in life. Disabilities may include visible physical disabilities as well as invisible disabilities such as hearing loss, low vision, dyslexia, autism, diabetes, anxiety, and depression, to name a few.

Intel encourages employees with a disability to self-identify via Workday. Self-identification is voluntary, confidential, and your specific disability will not be identified. Updating your information helps improve every employee's experience by helping us form a more complete understanding of the prevalence of disabilities across Intel so we can provide the support needed to create an accessible and inclusive culture. Go to Circuit and type "Self ID" in search. The first link will take you to your personal Workday account where you can update your information.

#### Additional Resources

Intel Disability and Accessibility Network

## 5 tips for hosting accessible remote meetings

We all play a part in building an inclusive and accessible workplace, even when working from home.

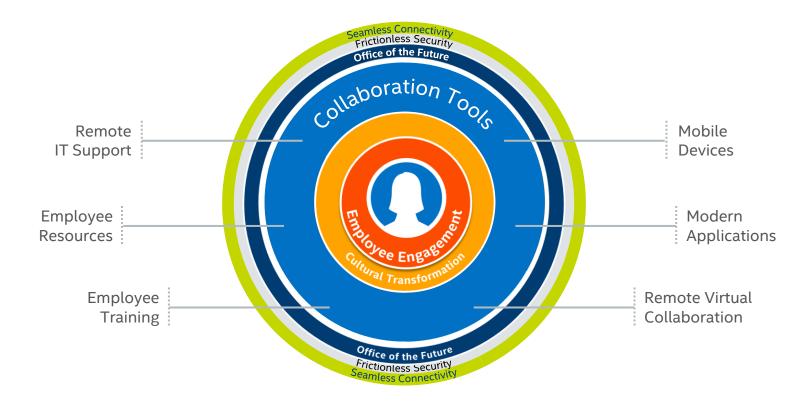
#### The Intel Accessibility Office

Digital Edge, April 28, 2020

With many of us working from home full-time, we're relying on exclusively virtual connections to communicate with coworkers. The lack of in-person interactions is an adjustment for everyone, and the current situation is accelerating a growing trend toward a more mobile environment in which people are out of the office and away from their coworkers. This forced shift may be stressful, but it also highlights a great opportunity for us to build first-rate work habits that contribute to Intel's mission of building a more inclusive and accessible culture no matter where we work.

Our vision is to build an inclusive community of innovation, we must embrace the talents of people with all abilities

### Best Practices: Culture of Collaboration

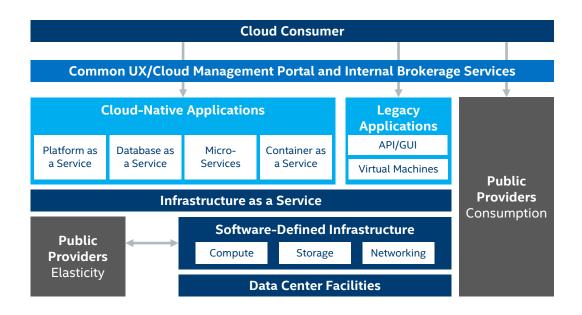




# A secure, scalable end-to-end infrastructure

### Multicloud Solution Architecture

Our solution architecture delivers a multi-cloud environment that can serve both traditional enterprise applications and modern cloud-native applications.



### Cloud Architecture — Before and After

We are transitioning away from an infrastructure-focused cloud strategy to one that focuses more on applications and business needs, using an application platform to increase business velocity and agility.



### **Traditional**Focused on Infrastructure

- Limited business velocity and agility
- Developers have to design around and manage infrastructure
- Workload placement not necessarily aligned with business needs
- Uncoordinated public could usage
- Poor application stability



#### **Cloud Management Platform**

Focused on Application and Business Needs

- High level of business velocity and agility
- Developers just write code, without worrying about infrastructure
- Best-fit workload placement
- Enterprise-wide, multi-cloud, cloudnative environment with a consistent user interface
- Simplified cloud stack with outstanding application portability

Intel IT Operates on a Multicloud Strategy



## Intel's Defense in Depth Strategy

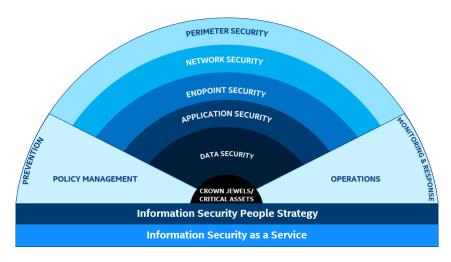
Automated prevention, detection, and response handles 99 percent of threats

Cyber Intelligence Platform integrates data sources and multiple tools to hunt for the highly sophisticated 1% of Threats

#### **Learn More:**



Advanced Persistent Threats:
Hunting the One Percent





<u>Transforming Intel's Security Posture</u> with Innovations in Data Intelligence

### Rapid Data Center Capacity Expansion

#### Goal:

Reduce the server loading dock to production timeline from 10 days to 24 hours

#### **Preparation**

- Cross Team Planning
  - HPC
  - Infrastructure
  - Network Ops.
  - Procurement
- Vendor/Supplier Coordination
- Remove Roadblocks
- Documentation



#### **Execution**

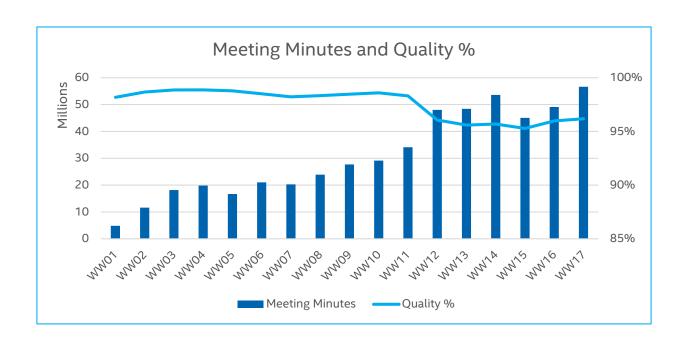
- Execution Readiness
- Extremely High Utilization >90%
- Repeatable Processes
- Test & Validation
- End-to-end Automation

#### **Result:**

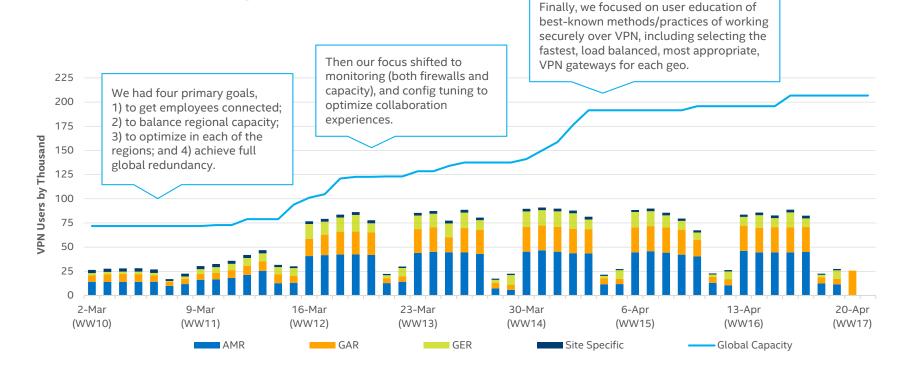
Repeatable process created that deploys hundreds of servers (300/day) with high quality and customer orientation.



## Virtual Meeting Support & Quality Metrics



## Best Practice: E2E Multi-Cloud Infrastructure for Rapid Scaling





## Cross-functional team approach

## Transforming the 'Face' of IT Support



Technology Vending
IT peripheral vending
machines – swipe your

badge and go!



Grab & Go Lockers
PC Delivery
Service



PC Delivery Service



Virtual Agent Interactive conversation responses to questions



Phone Support Help Worldwide direct phone numbers for 24/7 support



Chat Support Help Chat/text with a support agent



Virtual Assistance Center (VAC) Self Help Tool proactively detects and automatically fixes/notifies with self-service options

**VAC Self Help** 



Online Support Help Online help via our PC Support Site



Get one-on-one help with staffed technicians

Walk-in Service Centers



Web based application to order PC, accessories, etc

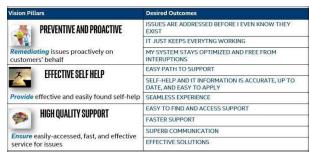
## Virtual Assistance Center (VAC) Self Help Tool

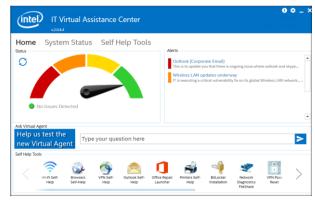
A Client-Server application installed on all laptops that monitors the PC for certain events and provides self-heal, automated self-help solutions and notifications to the user.

#### VAC has 5 main scenarios:

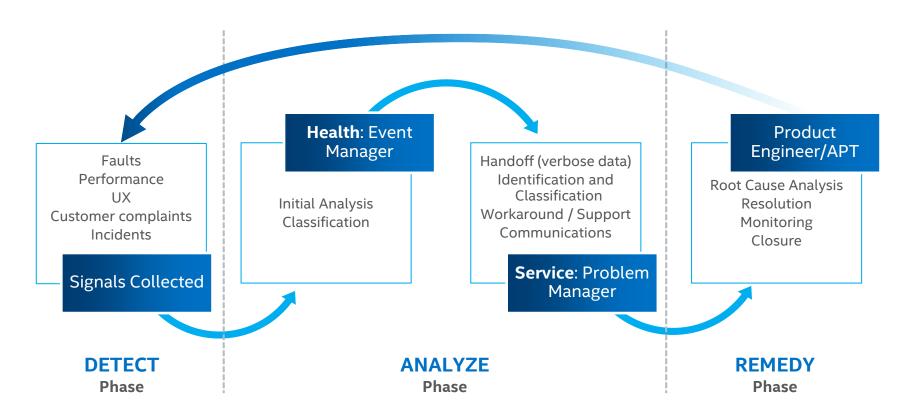
- 1. Self Remediation silently identify and fix PC issues
- 2. System Notifications alert the user on required action
- 3. Self Help Tools automated utilities to resolve issues
- **4. App/system Log collector** collecting log for troubleshooting
- 5. Chat Bot (Virtual Agent) Interactive conversation

#### **IT Support Vision**





### Client Fleet Health: Issue Resolution Flow

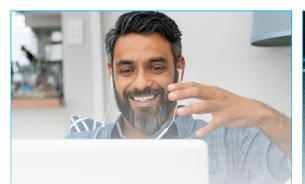


## Pandemic Leadership Team: Building Resilience for 15 years

**Corporate Emergency Operations Center (CEOC)** 



## Taking what we are learning into our Digital Transformation Journey



## CULTURE OF COLLABORATION

We are dedicated to keeping our employees safe and productive wherever they are



We are focusing on stabilizing the infrastructure and processes to ensure quality and performance now and into the future



We want to get closer to our internal and external customers to understand how their business is changing and how we can help

This pandemic will force us to assess where we are at in our own Digital Transformation Journey.

Archana "Archie" Deskus Intel Senior Vice President & **Chief Information Officer** 

**Blog:** https://itpeernetwork.intel.com/how-intel-it-transitioned-to-supporting-100000-remote-workers/ **Podcast:** https://soundcloud.com/intelchipchat/how-intel-is-changing-course

### Additional Resources

Advancing Persistent Threats: Hunting the One Percent

Best Practices: Deploying the Intel Unite® Solution

Advancing the User Experience with Intel® Architecture-based Laptops and Microsoft Windows 10

Business Continuity and Disaster Recovery with Mobile Business PCs

Intel IT: Keeping the Business Running in a Crisis

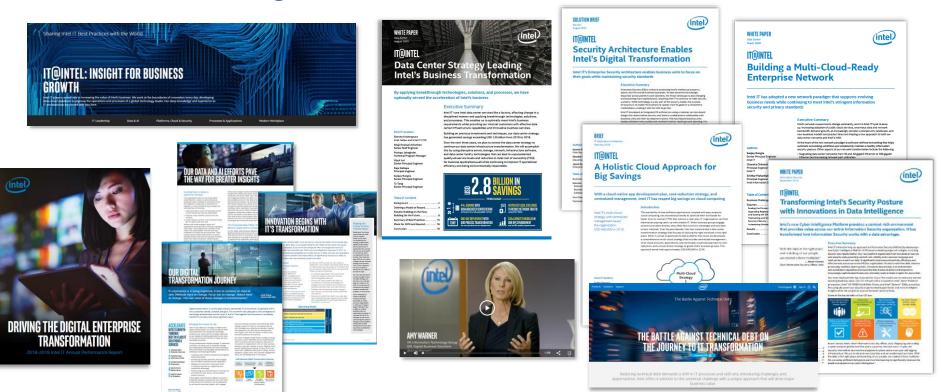
<u>Developing a Gold Standard for Driver and Firmware Maintenance</u>

Easy Self-Setup Accelerates PC Delivery and Reduces Downtime

Boost PC Health and Performance with Sustained, Automated Processes

Inside IT: Strengthening Intel's Security Culture

## IT@INTEL: Sharing Intel IT Best Practices With the World

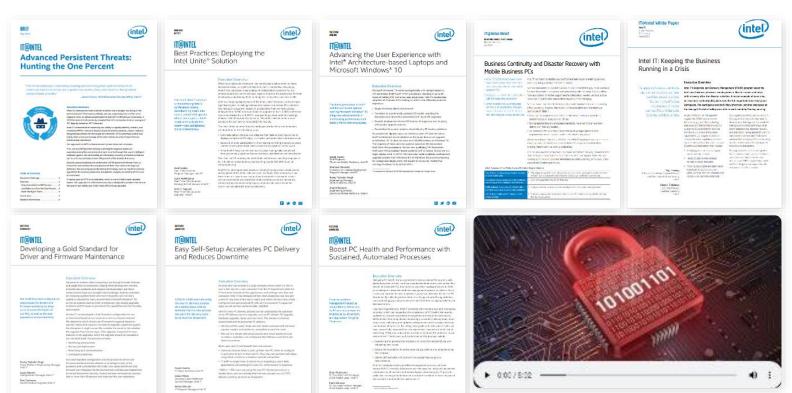


Learn more about Intel IT's initiatives at: www.intel.com/IT



### **Additional Resources**

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