

# A New Inflection Point in Business Computing

## The Intel vPro® platform with Intel® Core™ Ultra processors changes how businesses use, secure, and manage devices

The commercial PC market is propelled by premium computing solutions that drive user productivity and help service organizations protect and maintain devices. Corporations must empower mobile and hybrid workers while extracting value from artificial intelligence (AI) to improve business outcomes. Moreover, both public and private sectors must address sustainability initiatives pertaining to the full life cycle of computing fleets. An inflection point in computing architecture is needed to stay ahead of evolving requirements.

### Introducing Intel® Core™ Ultra Processors

Intel® Core™ Ultra processors shape the future of commercial computing in four major ways:

#### Power Efficiency

The new product line features a holistic approach to power-efficiency that benefits mobile work. Substantial changes to the microarchitecture, manufacturing process, packaging technology, and power management software result in up to 40% lower processor power consumption for modern tasks such as video conferencing with a virtual camera.<sup>1</sup>

#### Artificial Intelligence

Intel Core Ultra processors incorporate an AI-optimized architecture that supports new user experiences and the next wave of commercial applications. The CPU, GPU, and the new neural processing unit (NPU) are all capable of executing AI tasks as directed by application developers. For example, elevated mobile collaboration is possible with support for AI assisted background blur, noise suppression, eye tracking, and picture framing. Intel Core Ultra processors are capable of up to 2.5x the AI inference performance per watt as compared to Intel's previous mobile processor offering.<sup>2</sup>

#### Platform Protections

New enhancements help further reduce the attack surface of Intel Core Ultra notebooks. Intel® Threat Detection Technology now utilizes all compute engines, including the NPU, to bring AI-assisted anomaly detection to third party security software. In addition, the new Intel® Silicon Security Engine enables hardware-based authentication of system firmware. These security capabilities are supported on all processors within the Intel Core Ultra portfolio.



#### Device Management

Finally, Intel Core Ultra processor-based notebooks support Intel® Device Discovery – a new way for cloud services and tools to interact with Intel vPro® platforms and collect data that helps inform device management decisions. This is possible through the Intel® Innovation Platform Framework (Intel® IPF), a client-resident interface based on JavaScript Object Notation that incorporates plug-ins for various Intel platform features. Intel IPF becomes the new in-band management interface for Intel vPro platforms, enabling remote query of PCs which may respond with platform brand identity, features present, wear and tear history, and other datasets intended to increase the functionality of device management software and support AIOps.

#### Valuable, Versatile and Verified



A strong portfolio of security and manageability technologies and a brand verification program are the foundation of the Intel vPro platform<sup>3</sup>, which continues to deliver differentiated capabilities to organizations of all sizes.

Intel vPro® Enterprise systems offer:

- Dynamic root of trust
- System management mode (SMM) protections
- Memory encryption with multi-key support
- OS kernel protection
- Out-of-band management with remote KVM control
- Unique device identifier
- Device history
- In-band manageability plug-ins

Table 1 on the next page breaks down the new Intel Core Ultra processor portfolio, and Table 2 lists the key features of Intel vPro Enterprise and Intel vPro Essentials platforms.

## Summary

The commercial PC market and computing architecture are both at an inflection point, where advancements in AI, power efficiency, security and device management are necessary to propel all industries. With Intel Core Ultra processors, the Intel vPro platform promises to deliver the next level computing experience that commercial users and service organizations require.

intel CORE ULTRA	Intel vPro® Enterprise			Intel vPro® Essentials	
	U-Series Type 4	U-Series	H-Series	U-Series	H-Series
<b>Intel® Core™ Ultra 9</b>			<b>185H</b> 16 cores 6P + 8E + 2LPE		
<b>Intel® Core™ Ultra 7</b>	<b>164U</b> 12 cores 2P + 8E + 2LPE	<b>165U</b> 12 cores 2P + 8E + 2LPE	<b>165H</b> 16 cores 6P + 8E + 2LPE	<b>155U</b> 12 cores 2P + 8E + 2LPE	<b>155H</b> 16 cores 6P + 8E + 2LPE
<b>Intel® Core™ Ultra 5</b>	<b>134U</b> 12 cores 2P + 8E + 2LPE	<b>135U</b> 12 cores 2P + 8E + 2LPE	<b>135H</b> 14 cores 4P + 8E + 2LPE	<b>125U</b> 12 cores 2P + 8E + 2LPE	<b>125H</b> 14 cores 4P + 8E + 2LPE

Table 1: Intel® Core™ Ultra Processor Family

Security Features <sup>4</sup>	Stability and Manageability Features <sup>4</sup>
<b>Intel® Virtualization Technology</b> Hardware support for virtualization based security	<b>Intel® Stable IT Platform Program <sup>5</sup></b> Aims for zero platform changes for 15 mos. after release
<b>Intel® Trusted Execution Technology</b> Dynamic root of trust	<b>Intel® Device Discovery</b> Remote query of devices to discover features and capabilities
<b>Intel® System Resources Defense</b> System management mode (SMM) protections	<b>Intel® Innovation Platform Framework (Intel® IPF)</b> Helps applications interact with Intel platform features
<b>Intel® System Security Report</b> Communicates below the OS security configuration to the OS	<b>Intel® Platform Brand Identity</b> Method for remotely identifying Intel vPro platforms and their features via Intel® IPF query
<b>Intel® Platform Trust Technology</b> Integrated trusted platform module (2.0)	<b>Intel® Platform Service Record</b> Device history and system wear and tear data discoverable via Intel® IPF query
<b>Intel® Virtualization Technology with Redirect Protection <sup>5</sup></b> Hardware-based protection for the OS kernel	<b>Intel® Unique Platform ID</b> Creates unique and persistent device ownership credentials
<b>Intel® Total Memory Encryption with Multi-Key <sup>5</sup></b> Full or partial DRAM encryption for virtualized operations	<b>Intel® Active Management Technology (Intel® AMT) <sup>5</sup></b> Out-of-band device management supporting remote KVM
<b>Intel® Threat Detection Technology</b> Increases the effectiveness/efficiency of security software	<b>Intel® Standard Manageability</b> Legacy out-of-band management without remote KVM
<b>Intel® Control Flow Enforcement Technology</b> Helps protect against memory safety attacks	<b>Intel® Remote Platform Erase <sup>5</sup></b> Device sanitization encompassing multiple PC components
<b>Intel® Silicon Security Engine</b> Hardware-based authentication of system firmware	<b>Intel® One-Click Recovery <sup>5</sup></b> Method for returning a disabled PC to a known good state

Table 2: Key Intel vPro® Platform Features for Windows PCs

Performance varies by use, configuration, and other factors. Full details at [intel.com/performanceindex](https://intel.com/performanceindex). Intel technologies may require enabled hardware, software, or service activation. No product or component can be absolutely secure. Your costs and results may vary.

<sup>1</sup> Up to 40% lower processor power with AI enhanced virtual camera with an Intel Core Ultra 7 165H processor versus 13<sup>th</sup> Gen Intel Core i7-1370P as measured by SoC package power using XSplit VCam for background removal, auto framing, enhanced lighting, and chair removal using NPU.

<sup>2</sup> Up to 2.5x AI inference performance per watt with an Intel Core Ultra 7 155H processor versus 13<sup>th</sup> Gen Intel Core i7-1370P as measured with UL Procyon AI Inference Benchmark for Windows while running an int8 model.

<sup>3</sup> All versions of the Intel vPro® platform require an eligible Intel processor, a supported operating system, Intel LAN and/or WLAN silicon, firmware enhancements, and other hardware and software necessary to deliver the manageability use cases, security features, system performance and stability that define the platform. See [intel.com/performance-vpro](https://intel.com/performance-vpro) for details.

<sup>4</sup> Feature availability may vary by PC make and model; some features require OS enabling

<sup>5</sup> Only offered with Intel vPro® Enterprise

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