Platform Brief

Intel vPro® with Intel® Core™ (14th Gen) Desktop Processors

Empowering Business Productivity

The Intel vPro® platform with Intel® Core™ (14th Gen) desktop processors helps keep organizations running and workers productive

Today's business climate demands that organizations make smarter technology investments. This applies to all elements of a great computing experience, inclusive of the PC as a primary entry point to the cloud. Considering the productivity gains, the cost of maintaining old technology, and the advances in endpoint security, PC refresh continues to offer major benefits.

For nearly two decades, the Intel vPro® platform has defined capabilities beyond the processor, with a comprehensive platform specification incorporating a wide array of capabilities that deliver the manageability, security features, system performance, and stability that organizations need. [1] With Intel® Core™ 14th Gen processors, the latest desktop PCs that meet Intel vPro design requirements can deliver personal productivity with business continuity.

Enhanced Architecture

The latest Intel Core desktop processors continue to feature a performance hybrid architecture, consisting of Performance cores (P-cores) and Efficient cores (E-cores) integrated into a single die to maximize the single-threaded and multi-threaded performance of the processor.[2] Performance hybrid architecture is designed to provide computing headroom for advanced applications and multitasking.

Intel Core 14th Gen processors are compatible with previous desktop platforms based on the Intel 600 Series or 700 Series chipsets, enabling fast adoption across OEM PC portfolios.

Two critical automation technologies help deliver real-world performance on Intel Core 14th Gen processors:

- **Intel® Thread Director** assigns the right task to the right core at the right time, based on optimal runtime guidance provided to the operating system [3]
- **Intel® Dynamic Tuning Technology** manages clock frequencies for P-cores and E-cores, based on operating conditions and system design parameters

These technologies enable optimal performance, energy efficiency, and a great user experience on the latest Intel vPro desktop systems.

Accelerating AI Workloads

Both the CPU and the GPU within Intel Core 14th Gen desktop processors can execute artificial intelligence (AI) tasks as directed by application developers. The CPU typically excels at bursty, latency sensitive tasks while the GPU supports periodic throughput-intensive operations. Intel supports four major frameworks to help programmers optimize workloads. An example of this is acceleration of int8 workloads across the CPU and GPU using OpenVINO™ in concert with Intel® Deep Learning Boost.

Business Continuity

Intel vPro helps keep organizations running with a suite of manageability, stability, and security technologies segmented across Intel vPro® Enterprise and Intel vPro® Essentials versions of the platform (Table 1).

Intel vPro® Enterprise	Intel vPro® Essentials
Supports all available platform technologies for a given processor generation	Supports a subset of capabilities suited for segments beyond large enterprise

Intel vPro® empowers business productivity

Table 1: Intel vPro® Platform Features for Windows Desktops [4]

Intel® Virtualization Technology Hardware support for virtualization based security	**Intel® Stable IT Platform Program** [5] Aims for zero platform changes for 15 mos. after release
Intel® Trusted Execution Technology Dynamic root of trust	**Intel® Platform Service Record** Ledgers reporting device history and system wear and tear data
Intel® System Resources Defense System management mode (SMM) protections	**Intel® Unique Platform ID** Creates unique and persistent device ownership credentials
Intel® System Security Report Communicates below the OS security configuration to the OS	**Intel® Active Management Technology (Intel® AMT)** [5] Out-of-band device management supporting remote KVM
Intel® Platform Trust Technology Integrated trusted platform module (2.0)	**Intel® Standard Manageability** Legacy out-of-band management without remote KVM
Intel® Virtualization Technology with Redirect Protection [5] Hardware-based protection for the OS kernel	**Intel® Remote Platform Erase** [5] Device sanitization encompassing multiple PC components
Intel® Total Memory Encryption with Multi-Key [5] Full or partial DRAM encryption for virtualized operations	**Intel® Local Platform Erase** Comprehensive device sanitization initiated at the endpoint
Intel® Threat Detection Technology Increases the effectiveness/efficiency of security software	**Intel® One-Click Recovery** [5] Method for returning a disabled PC to a known good state
Intel® Control Flow Enforcement Technology Helps protect against memory safety attacks	**Firmware Update Recovery** Recovery to a last known good state if a firmware update fails
Intel® Boot Guard Cryptographically-verified boot	**Intel® BIOS Guard** Firmware protection in non-volatile memory

Empowering Business Productivity

Modern desktop PCs must support seamless collaboration, user multitasking, and advanced applications. As user and IT apps compete for computing resources, the Intel vPro platform becomes more vital for keeping organizations running and workers productive. Refreshing to PCs based on the latest Intel Core 14th Gen processors (Table 2) can help defend versus the latest computing threats, deploy optimal hardware for Windows 11, and address desktop computing needs at organizations of all sizes. For more information, please visit www.intel.com/vpro.

Table 2: Intel vPro® Eligible Intel® Core™ (14th Gen) Processors

	Intel vPro® Essentials		Intel vPro® Enterprise		
	S-Series (35 W)	S-Series (65 W)	S-Series (35 W)	S-Series (65 W)	S-Series (125 W)
Processors	i9-14900T	i9-14900	i9-14900T	i9-14900	i9-14900K
	i7-14700T	i7-14700	i7-14700T	i7-14700	i7-14700K
	i5-14600T	i5-14600	i5-14600T	i5-14600	i5-14600K
	i5-14500T	i5-14500	i5-14500T	i5-14500	
Chipsets	Q670		Q670 or W680		

[1] 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 for details.

[2] Performance hybrid architecture combines two core microarchitectures, Performance-cores (P-cores) and Efficient-cores (E-cores), on a single processor die first introduced on 12th Gen Intel® Core™ processors. Select 12th Gen and newer Intel® Core™ processors do not have performance hybrid architecture, only P-cores or E-cores, and may have the same cache size. See ark.intel.com for SKU details, including cache size and core frequency.

[3] Built into the hardware, Intel® Thread Director is provided only in performance hybrid architecture configurations of 12th Gen or newer Intel® Core™ processors; OS enablement is required. Available features and functionality vary by OS.

[4] Feature availability may vary by PC make and model; some features require OS enabling

[5] Only offered on Intel vPro® Enterprise

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