White Paper

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Intel vPro®: Optimized for Commercial Experiences

Improving enterprise PC battery life and responsiveness through ecosystem-wide engineering, ISV optimization, and platform-level diagnostics

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Executive Summary

Enterprise IT continues to evolve rapidly as organizations support increasingly distributed workforces, heightened security expectations, seamless Digital Employee Experience (DEX), and emerging AI workloads. In this environment, the performance, responsiveness, and battery life of employee laptops have become critical determinants of productivity and operational efficiency. Even small inefficiencies can scale dramatically across large fleets.

For nearly two decades, Intel vPro® has been the trusted foundation for secure business computing. PCs with Intel vPro and Intel® Core™ Ultra Series 3 processors deliver enhanced performance and power efficiency for advanced workloads while maintaining exceptional battery life. The latest Intel Core Ultra processors feature breakthrough architectural innovations and intelligent power management and are built on Intel's latest 18A process technology for superior performance per watt. They provide up to 57%[1] lower System-on-Chip (SoC) power consumption compared to previous generations while introducing advanced AI acceleration that offloads tasks from power-hungry CPU cores. Intelligent thread scheduling across Performance and Efficiency cores maximizes battery life during light workloads and unleashes full power when needed, enabling enterprise-grade performance with all-day battery life, rebalancing the traditional compromise between productivity and power efficiency.

Hardware design, architecture, and silicon packaging aside, a key aspect of power and performance optimization comes from software. Many of the challenges IT teams face in supporting peak employee productivity stem not from hardware limitations, but from the complex behavior of enterprise software, namely security agents, configuration tools, observability platforms, and other background processes essential to corporate operations. When unoptimized for modern hybrid architecture and platform power management, these workloads can significantly impact battery life by generating unnecessary CPU load and degrade the user experience.

Intel addresses these challenges through a multi-layered, ecosystem-wide initiative focused on improving the real-world performance of enterprise laptops. This approach includes the following components:

- Deep co-engineering with PC manufacturing partners to validate and tune systems for real IT environments;
- Close collaboration with enterprise ISVs, ensuring critical background applications are optimized for lower power consumption without compromising performance;
- Purpose-built diagnostic tooling, such as the Intel® Battery Life Diagnostic Tool (Intel® BLDT), to help IT, OEMs, and ISVs identify and resolve software-driven inefficiencies.

Together, these efforts ensure that devices with Intel vPro and Intel Core Ultra Series 3 processors deliver a more predictable and efficient user experience, one that aligns with the expectations and requirements of modern enterprise IT.

A Complex Landscape for Enterprise IT

Today's enterprise laptops handle heavier background loads than ever before. A typical corporate PC continuously runs these workloads:

- Endpoint security and EDR agents
- Configuration and patch management tools
- Telemetry and observability platforms
- VPN and identity security clients
- Encryption and data protection tools

These workloads are essential, but collectively, they are also capable of significantly influencing battery life, responsiveness, and overall user experience.

Poorly optimized software can lead to CPU spikes, inconsistent performance, and shortened battery runtime, harming employee experience and increasing IT burden. This reality creates a new requirement: optimize the entire enterprise PC ecosystem, from silicon and firmware to OS, drivers, and enterprise software. Intel's commercial platform strategy addresses this exact need.

How Intel Improves Enterprise Laptop Responsiveness and Battery Life

Intel's strategy for strengthening enterprise laptop behavior is built upon three integrated pillars:

1. OEM Co-engineering and Platform Validation
2. Enterprise ISV Optimization for Power Efficiency (Intel vPro® Certified Apps)
3. Platform-level Tools and Diagnostics (Intel® Battery Life Diagnostic Tool 3.0)

These elements work together to ensure Intel vPro platforms deliver consistent, real-world performance under enterprise-class background workloads.

OEM Co-Engineering and Platform Validation

Intel has a long history of deep engineering collaboration with major OEM partners. In recent generations, this work has expanded significantly to ensure business laptops are optimized specifically for enterprise IT environments.

- **Validation in Live IT Environments** – ensuring that systems perform correctly under real security stacks, management frameworks, VPN layers, and software loads.
- **Characterization of Preloaded Software** – ensuring that background utilities, drivers, and services behave efficiently on Intel architecture.
- **Self-Host Testing** – conducting pre-production validation through select internal deployment programs, generating real-world telemetry and uncovering issues unique to enterprise IT environments before shipping to end customers.
- **Pilot Deployments with Enterprise Customers** – enterprise collaboration to test early systems in managed IT environments and identify power and performance issues.

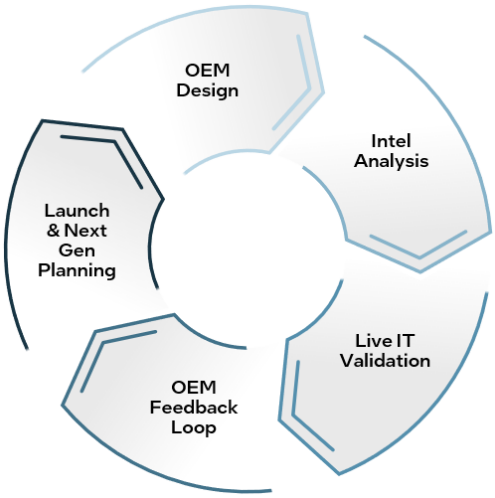

Figure 1: OEM Co-Engineering and Platform Validation

These engineering investments ensure Intel vPro platforms deliver predictable performance, strong real-world battery life, consistent fleet-wide behavior, and fewer support incidents related to configuration variance, setting the foundation for high-quality enterprise devices.

ISV Enablement Through the Intel vPro® Certified Apps Program

Enterprise IT environments run dense stacks of critical background applications: endpoint security suites, threat detection agents, management tools, observability platforms, VPN clients, and more. While essential for security and compliance, these applications are also the largest sources of performance and power inefficiencies on enterprise laptops.

When multiple agents compete for CPU cycles, wake the system unnecessarily, or fail to take advantage of modern hybrid architectures, employees experience slower responsiveness, reduced battery life, and intermittent device stalls, while IT experiences higher support volumes, inconsistent fleet behavior, and greater operational overhead.

Intel created the **Intel vPro Certified Apps Program** to directly address this challenge through deep engineering collaboration with the enterprise software vendors. This program represents a new model of ISV–silicon partnership: one that aligns the performance of the platform with that of the software running on it, ensuring that both evolve together to meet modern enterprise IT needs.

A Strategic, High-Impact Focus on ISVs That Shape Enterprise Experience

The Intel vPro Certified Apps Program targets categories of ISVs that have the largest measurable impact on system behavior, battery life, and responsiveness. These applications are mission-critical for security, compliance, or IT operations, and are universally deployed in enterprise fleets, running continuously in the background. These applications generally fall into four categories:

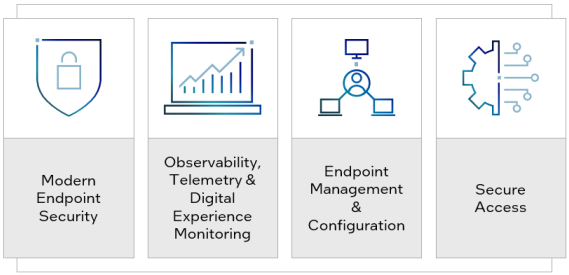

Figure 2: Enterprise Apps with Largest Impact on PC Experience

These workloads have disproportionate influence on power efficiency and user responsiveness, making them the highest-value targets for optimization.

A Deep Co-engineering Engagement Model

The Intel vPro Certified Apps Program is a deep technical partnership built around shared engineering goals. Each ISV engagement includes the following:

1. Real-world Baseline Analysis

ISVs analyze their software using Intel BLDT against real enterprise traces and real systems, establishing a ground truth view of how their applications behave in production-like environments.

2. Intel Engineering Deep Dive

Intel engineers review the results with the ISV, identify inefficient behaviors, and provide architecture-specific guidance around these issues:

- Thread scheduling and work distribution
- Idle efficiency and wake frequency
- Hybrid P core/E core utilization patterns
- Polling intervals, timers, and CPU residency
- Driver or service interactions affecting low power states

This phase uncovers insights that ISVs cannot obtain through generic testing environments.

3. Co-developed Optimization Plan

Intel and the ISV define a concrete implementation plan, which may include software updates, modified service behavior, smarter scheduling techniques, improvements to background activity models, updated defaults for enterprise deployment, and elimination of hotspots, polling loops, or high-frequency context switching.

4. Verification and Improvement Validation

After ISVs deliver updated builds, Intel reruns battery-life analyses and reviews performance in enterprise-representative conditions.

5. Intel vPro Certified App Status

Once improvements are validated, the ISV earns Intel vPro Certified App status, signaling to enterprise IT leadership that the application is optimized for battery life, responsiveness, and consistent performance on Intel platforms.

Intel vPro certification is ongoing. Each certified app undergoes re-certification from baselining to optimization for milestone releases, ensuring continued performance and power-efficiency standards. IT Decision Makers may find the complete and current list of certified enterprise applications on the Intel website.

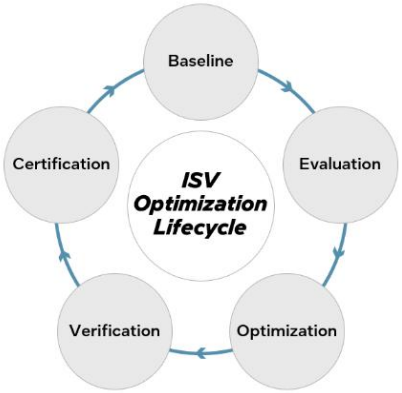

Figure 3: Optimization Lifecycle for Intel vPro® Certified Apps

Measured Results and Proof Points

The close and rigorous co-engineering with ISVs has exposed previously invisible issues such as the following:

- High-frequency wake patterns caused by tight polling loops
- Long busy intervals due to inefficient scheduling
- Excessive service activity triggered by timer misconfiguration
- CPU bursts caused by outdated agent logic
- Inefficient telemetry collection routines
- Sleep-state exit patterns that compromised low-power residency

ISVs have subsequently resolved these issues, dramatically improving performance and battery life across enterprise fleets in a number of instances. In recent testing, they reported:

- Up to 59% reduction in CPU utilization[2]
- Up to 56% increase in power efficiency[3]
- Up to 74% reduction in busy background activity[4]

(All data as of Mar 2026 & compared to prior software releases)

These are not hypothetical improvements. They represent real engineering changes implemented by ISVs as a direct outcome of Intel collaboration.

One of the program's biggest outcomes extends beyond performance gains to a fundamental shift in ISV collaboration. Participating ISVs now integrate Intel BLDT results into product planning, update enterprise deployment defaults, and adopt Intel's recommendations as engineering best practices, while seeking deeper collaboration on future releases. By enabling better software performance, Intel elevates enterprise computing experiences.

Enterprise Value: Better Employee Experience, Lower IT Costs and Better ROI

For IT leaders, the Intel vPro Certified Apps Program delivers value in several critical ways:

Better Digital Employee Experience

The program provides smoother performance under background load, reduced latency and stalls, supports longer battery life in real-world usage, and more responsive systems throughout the day.

Lower IT Operational Costs

IT teams benefit from fewer performance-related support tickets, more predictable fleet behavior, easier troubleshooting, and improved stability during patch cycles and software updates.

Better Return on Hardware Investment

Optimized software unlocks the full potential of the platform, maximizing the value of Intel vPro systems across their lifecycle.

A More Efficient Enterprise Ecosystem — Built Through Collaboration

The Intel vPro Certified Apps program demonstrates Intel's core commercial principle: the best enterprise laptop experience requires coordinated collaboration across silicon engineering, OEM design, firmware/drivers, enterprise applications, and IT management. Intel unites these elements to deliver devices that are efficient, responsive, reliable, and designed for real-world IT demands.

intel vPRO CERTIFIED

See our full catalog of
Intel vPro® Certified Apps
www.intel.com/vProCertified

Tools That Enable the Ecosystem: Intel Battery Life Diagnostic Tool

Intel BLDT is the analytical foundation that powers Intel's cross-ecosystem optimization strategy, and has become essential for OEMs, ISVs, and IT admins seeking to improve real-world battery life and responsiveness.

Intel BLDT identifies software behaviors and configuration issues that most directly impact power consumption, CPU residency, wake frequency, and overall system smoothness. It examines these behaviors and issues:

- CPU wake sources and wake intervals
- Busy/idle cycle behavior
- Background service and agent activity
- Timer and polling loops
- Low power state residency
- Inefficient or abnormal system activity patterns
- Platform configuration issues that affect thermal and power behavior

Its structured analysis helps stakeholders pinpoint otherwise invisible inefficiency root causes.

Intel BLDT 3.0: A Major Leap Forward for Enterprise IT Optimization

Intel BLDT 3.0 introduces powerful enhancements specifically for IT administrators responsible for maintaining fleet performance at scale.

AI Assistant for Automated Report Analysis

The most significant advancement in Intel BLDT 3.0 is the new AI Assistant, which analyzes results and generates specific, actionable recommendations. Instead of requiring deep platform expertise, IT teams can now rely on the AI Assistant to perform these tasks:

- Interpret complex data and identify key issues
- Highlight inefficiencies caused by software agents, configuration choices, or system settings
- Recommend practical steps to improve battery life and responsiveness
- Suggest which applications may benefit most from ISV-led optimization

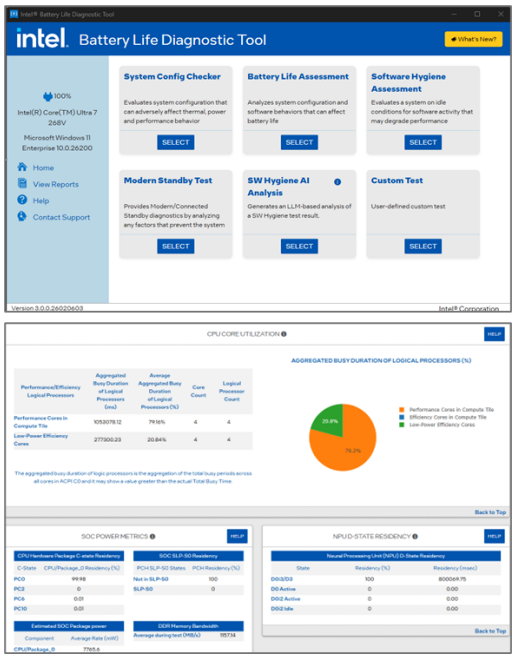

Figure 4: Intel® Battery Life Diagnostic Tool 3.0[5]

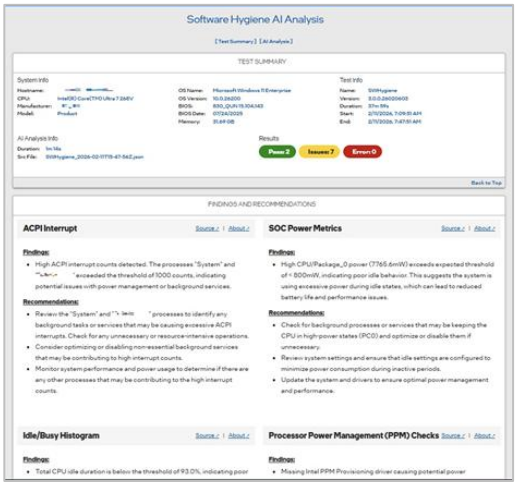

Figure 5: Software Hygiene AI Analysis Sample Report[5]

The new AI Assistant transforms Intel BLDT from a diagnostic tool into an intelligent optimization engine for enterprise environments. The addition of AI-driven recommendations enables all parties, especially IT, to participate in optimization without needing to understand low-level system traces.

Designed to Empower IT, Not Just Engineers

Traditional power optimization tools require engineering expertise. Intel BLDT 3.0 changes this by giving IT organizations easily accessible intelligence:

- Immediate insight into software agents affecting device performance
- Clear explanations of battery-draining behaviors
- Prioritized recommendations instead of raw logs
- Common language for discussions with OEMs, ISVs, and Intel engineering teams

This accessible intelligence enables IT teams to proactively identify issues before they become widespread user complaints.

Download Intel BLDT at www.intel.com/bldt

A Shared Data Foundation for OEMs, ISVs, and IT

Intel BLDT 3.0 accelerates ecosystem optimization by ensuring that all layers of the enterprise PC experience work cohesively together.

- ISVs use Intel BLDT to identify optimization opportunities and validate improvements.
- OEMs use it to verify platform readiness and software stack efficiency, integrating Intel BLDT with their own IT support tools.
- IT administrators use it to ensure deployed PCs operate as intended in their environment.
- Intel engineering uses the tool for collaborative improvement cycles with ISVs and OEMs.

Optimized for Commercial – Only from Intel

Modern enterprises need responsive, reliable, secure, and power-efficient devices even under constant background workloads from mission-critical applications. Intel meets this need with an ecosystem program that unites OEM co-engineering and validation with ISV certification to deliver measurable improvements in real-world enterprise environments.

Only Intel delivers the most comprehensive commercial software optimization for improved power and performance efficiency for real-world enterprise IT environments.[6] Organizations deploying Intel vPro-based devices benefit from commercial computing that is more predictable, efficient, and aligned with real enterprise IT needs.

As enterprise computing demands continue to evolve, Intel's commitment to ecosystem-wide optimization ensures that Intel vPro remains the trusted foundation for business-critical computing.

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[1] Up to 57% lower processor power while using Zoom with an Intel® Core™ Ultra X9 388H vs. Intel® Core™ Ultra 7 255H, as measured by processor power with UL Procyon Battery Life Office Productivity. See www.intel.com/PerformanceIndex for workloads and configurations. Results may vary.
[2] Based on Flexxible's internal testing comparing FlexxAgent 25.12 to the prior FlexxAgent version 25.10 in a fully configured live IT environment. See www.intel.com/vpro for details. Results may vary.
[3] Based on Riverbed internal testing comparing Q2'26 Release Preset to the prior version 26.2 in a fully configured live IT environment. Riverbed Aternity is an Intel vPro® Certified App. See www.intel.com/PerformanceIndex for details. Results may vary.
[4] Based on Absolute Security's internal testing comparing Absolute Secure Endpoint Q2'26 Release Version to prior software version 11.0 in a fully configured live IT environment. See www.intel.com/vPro for details. Results may vary.
[5] Not actual screen images; may be simulated or modified for illustrative purposes.
[6] As of March 2026, based on Intel's unrivaled combination of rigorous ISV baselining, co-engineering, and power and performance optimization of always-on background enterprise software applications as well as customer-verifiable Intel vPro® Certified status for apps that pass stated criteria. See www.intel.com/vPro for more details.