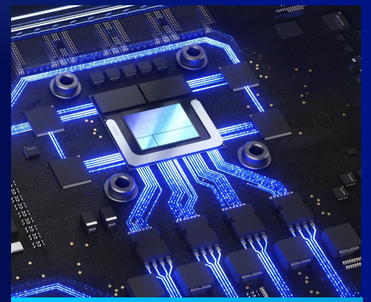
All-New Intel® Core™ Ultra Processors

A Great **AI PC**
Starts with a
Great PC

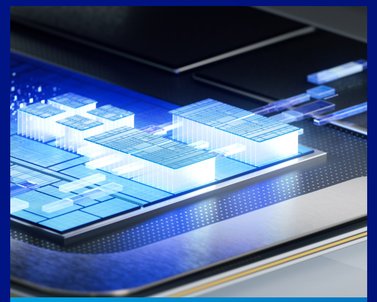
intel.

Design Goals

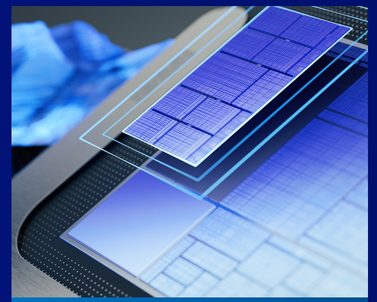
Lunar Lake



Breakthrough x86 power efficiency



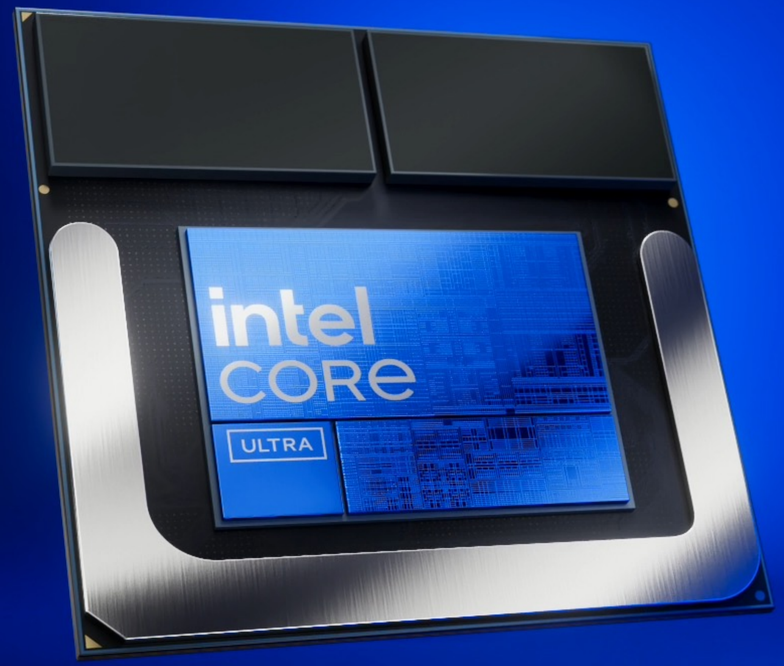
Exceptional core performance



Massive leap in graphics

Unmatched AI compute

intel

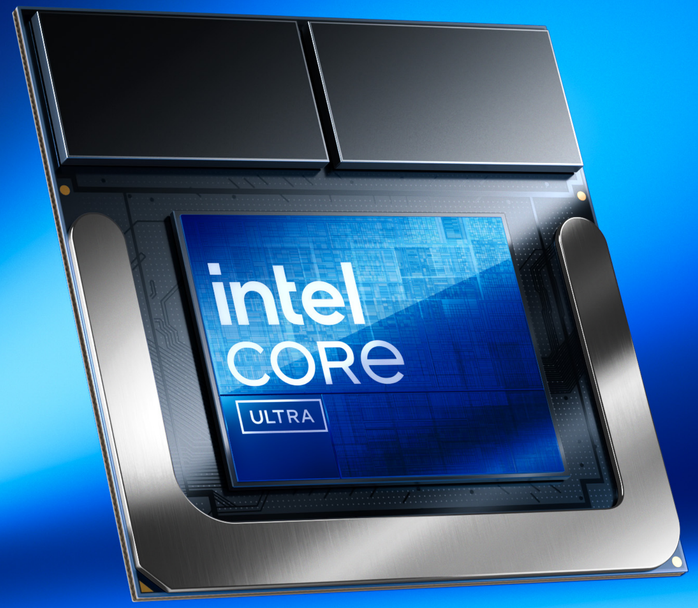


INTRODUCING

Intel® Core™ Ultra Processors

SERIES 2

intel



Historic x86 Perf/W

Intel Core Ultra 200V Series Processors

Up to
50%
lower power

Fastest
CPU core

Best
built-in graphics

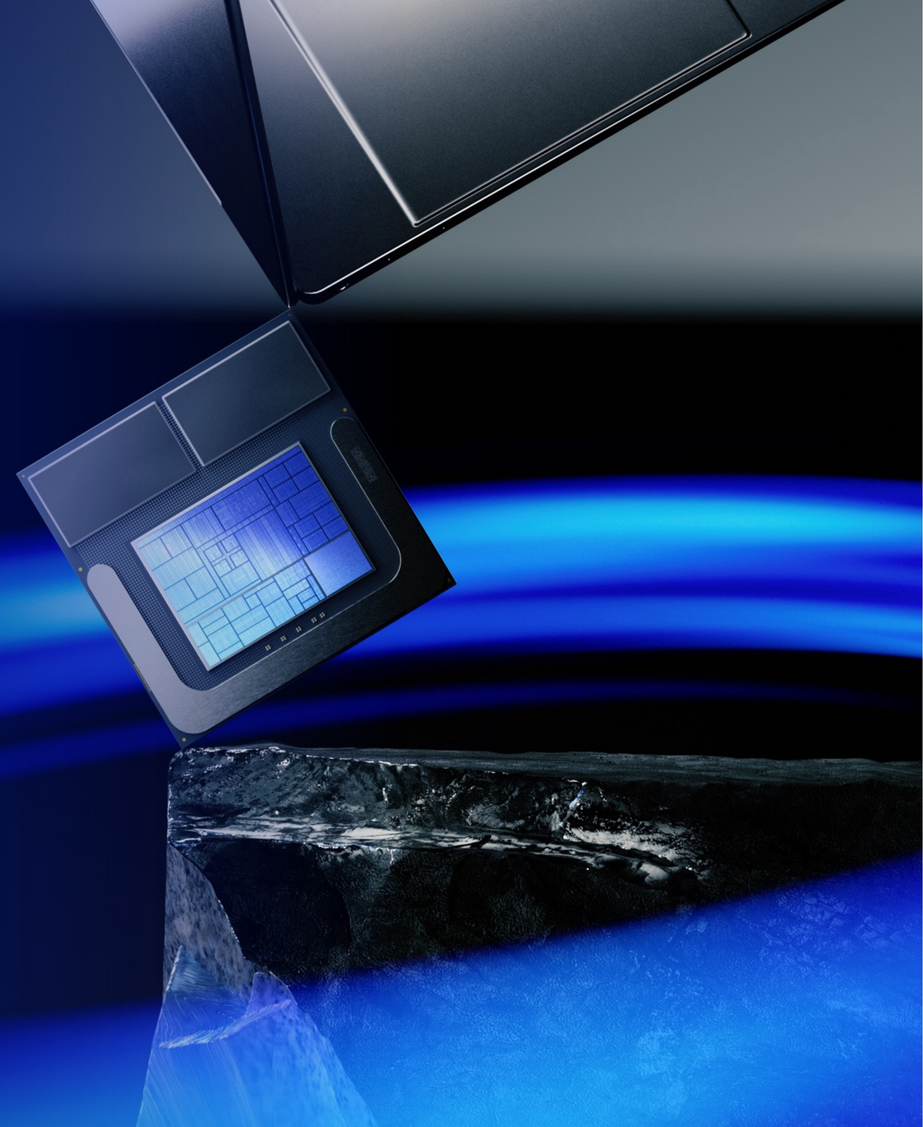
Unmatched
AI performance

intel

See intel.com/performanceindex for details.

intel CORE ULTRA

The Most Efficient x86 Processor Ever



intel

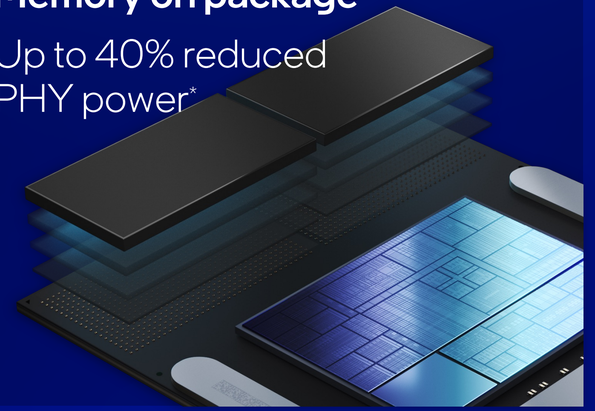
See intel.com/performanceindex for details.

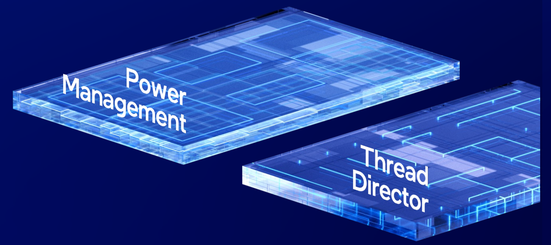
Key Energy Innovations

Deep changes in engines, SoC, and platform-level technologies

Memory on package

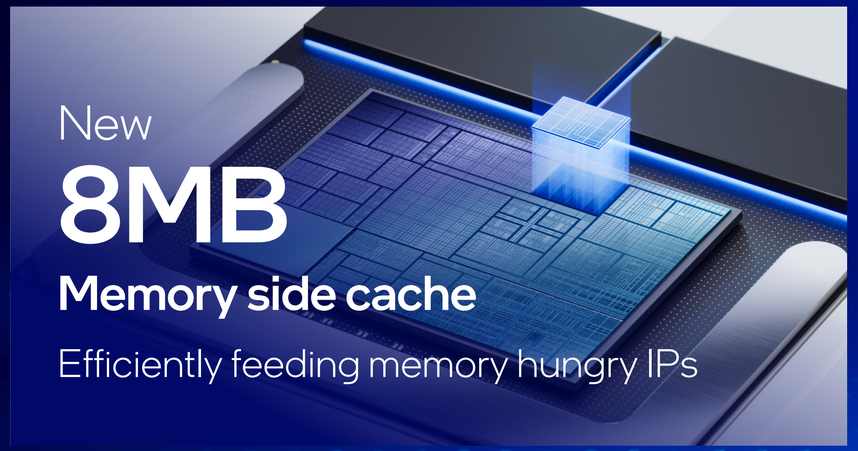
Up to 40% reduced PHY power*





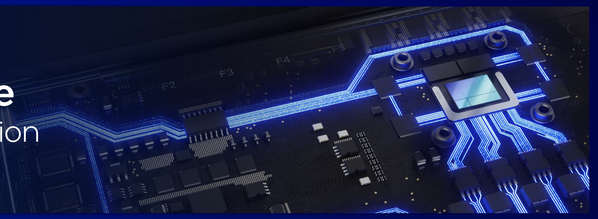
Power management
enhancement & integration

Improved **E-core cluster**



New
8MB
Memory side cache
Efficiently feeding memory hungry IPs

New power delivery architecture
for better control, enhancing power utilization



Up to
50% lower package power*

intel

* Versus previous gen. See intel.com/performanceindex for details.

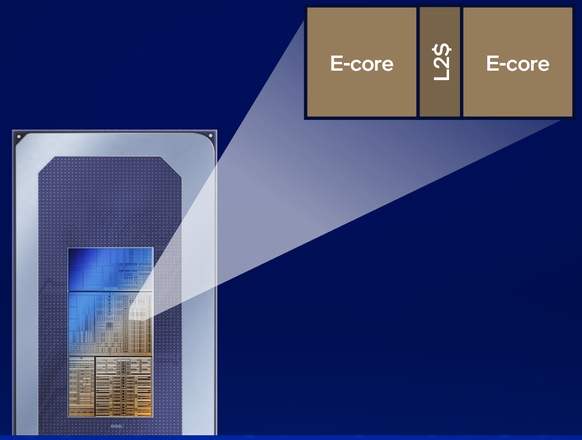
Low Power Island Evolution

More compute for wider dynamic range of performance and power

Meteor Lake

2x Crestmont

2MB shared L2 cache



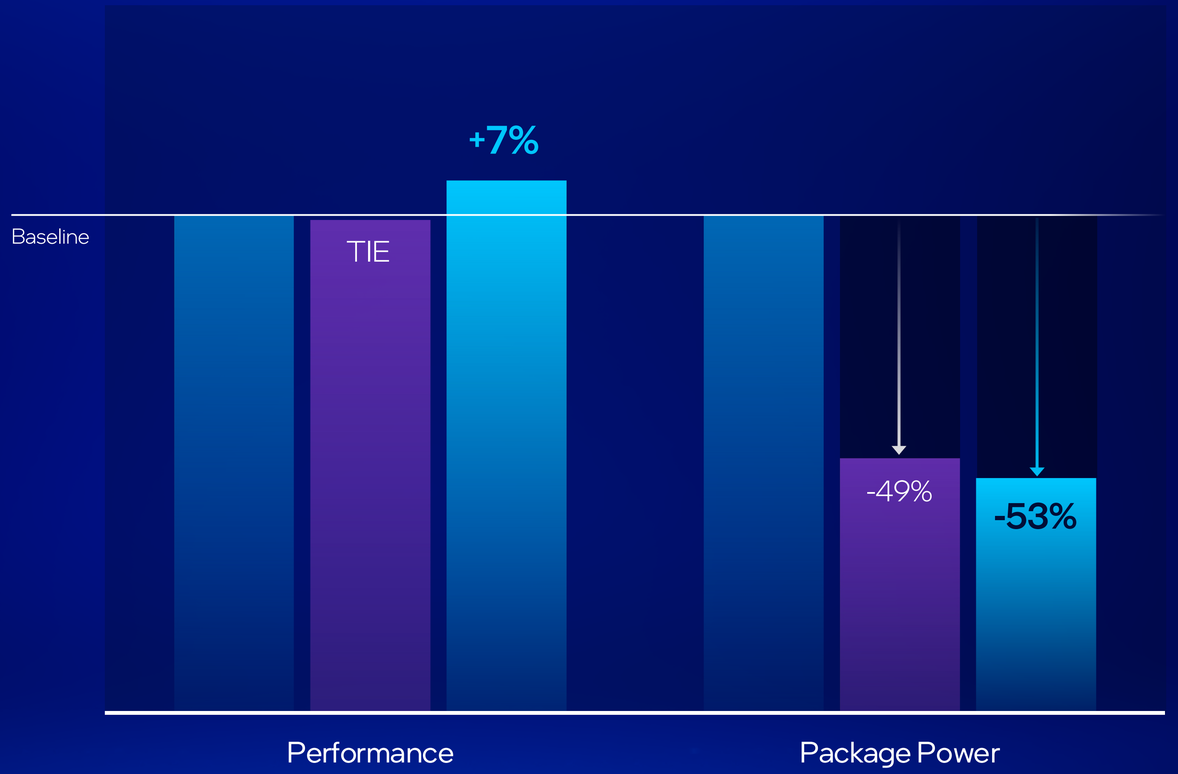
Lunar Lake

4x Skymont

4MB shared L2 cache

Exceptional Low Power Efficiency

UL Procyon® Office Productivity with Skymont & Intel® Thread Director



Intel® Core™ Ultra 9 288V

Qualcomm X1E-80-100

Intel® Core™ Ultra 7 165H

1.20x

Perf/W vs. Qualcomm X1E-80-100

2.29x

Perf/W vs. Intel® Core™ Ultra 7 165H

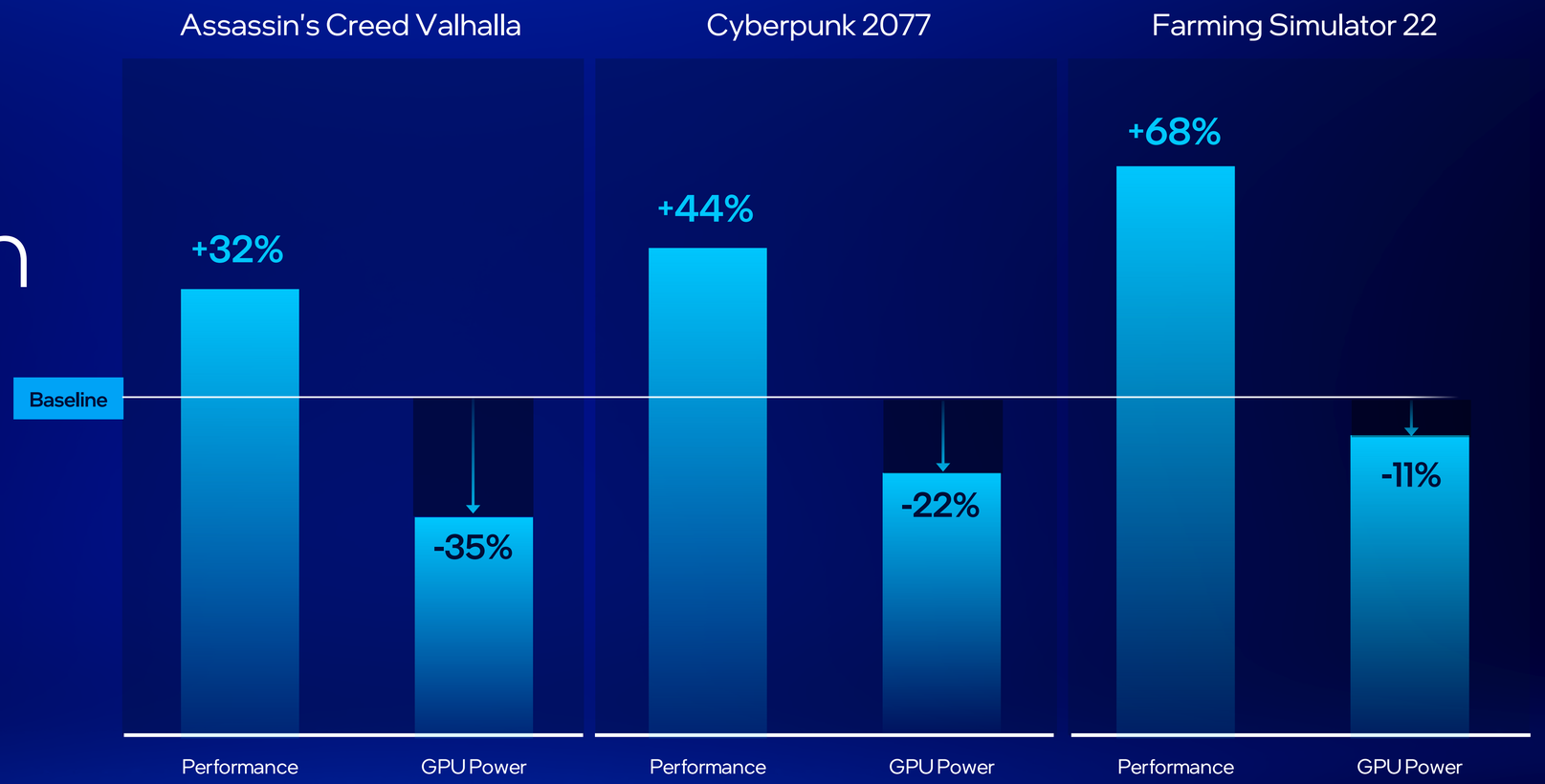
intel.

See intel.com/performanceindex for details.

Up to

2x Gen-on-Gen Perf/Watt

Leap in PC gaming efficiency with our Xe2 architecture



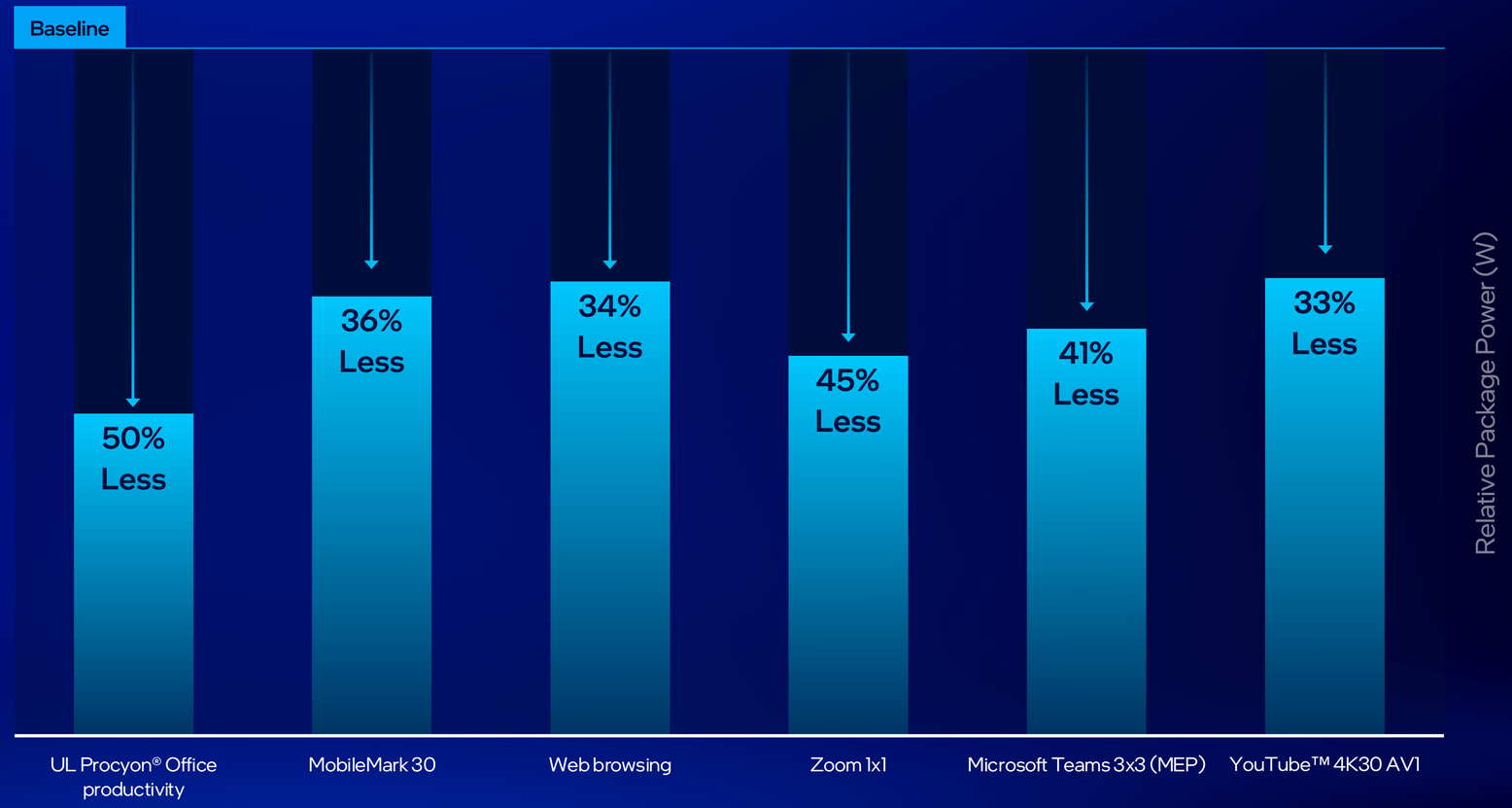
Intel® Core™ Ultra 9 288V

Intel® Core™ Ultra 7 165H

See intel.com/performanceindex for details.

Slashing x86 Package Power

Up to 50% lower package power than the previous generation. Including 32GB memory.



Intel® Core™ Ultra 9 288V

Intel® Core™ Ultra 7 165H

See intel.com/performanceindex for details.

Battery Life Myth Busted

Same OEM

Same chassis

Intel® Core™ Ultra 7 268V	Qualcomm X1E-80-100
20.1 hours UL Procyon® Office Productivity	18.4 hours UL Procyon® Office Productivity
10.7 hours Microsoft Teams 3x3	12.7 hours Microsoft Teams 3x3

intel.

Results may vary based on use, configurations, and other factors. See intel.com/performanceindex for details.

Enables Best Battery Life in x86

Same OEM

14-16” chassis

1080p display

~75Whr battery

Intel® Core™ Ultra 9 288V	Qualcomm X1E-78-100	AMD HX 370
14 hours UL Procyon® Office Productivity	**9.5 hours** UL Procyon® Office Productivity	**10.1 hours** UL Procyon® Office Productivity
9.9 hours Microsoft Teams 3x3	**9.4 hours** Microsoft Teams 3x3	**8.2 hours** Microsoft Teams 3x3

intel.

Results may vary based on use, configurations, and other factors. See intel.com/performanceindex for details.

Extreme Efficiency

Intel Core Ultra 200V Series Processor brings major performance and power improvements in every engine

vs. Intel® Core™ Ultra 7 165H

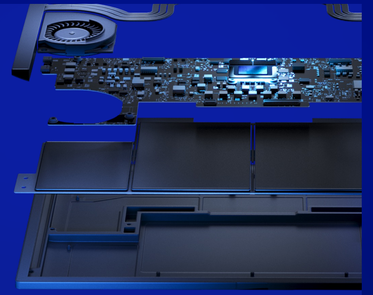
Up to
50%
lower
package power
Based on web, video, and productivity workloads

vs. Intel® Core™ Ultra 7 155H

Up to
2x GPU power efficiency
based on gaming workloads

vs. Intel® Core™ Ultra 7 165H

>2x
generational perf/W
Based on UL Procyon® Office productivity



Up to
20 Hours
Battery Life
Based on UL Procyon® Office Productivity

vs. Qualcomm X1E-80-100

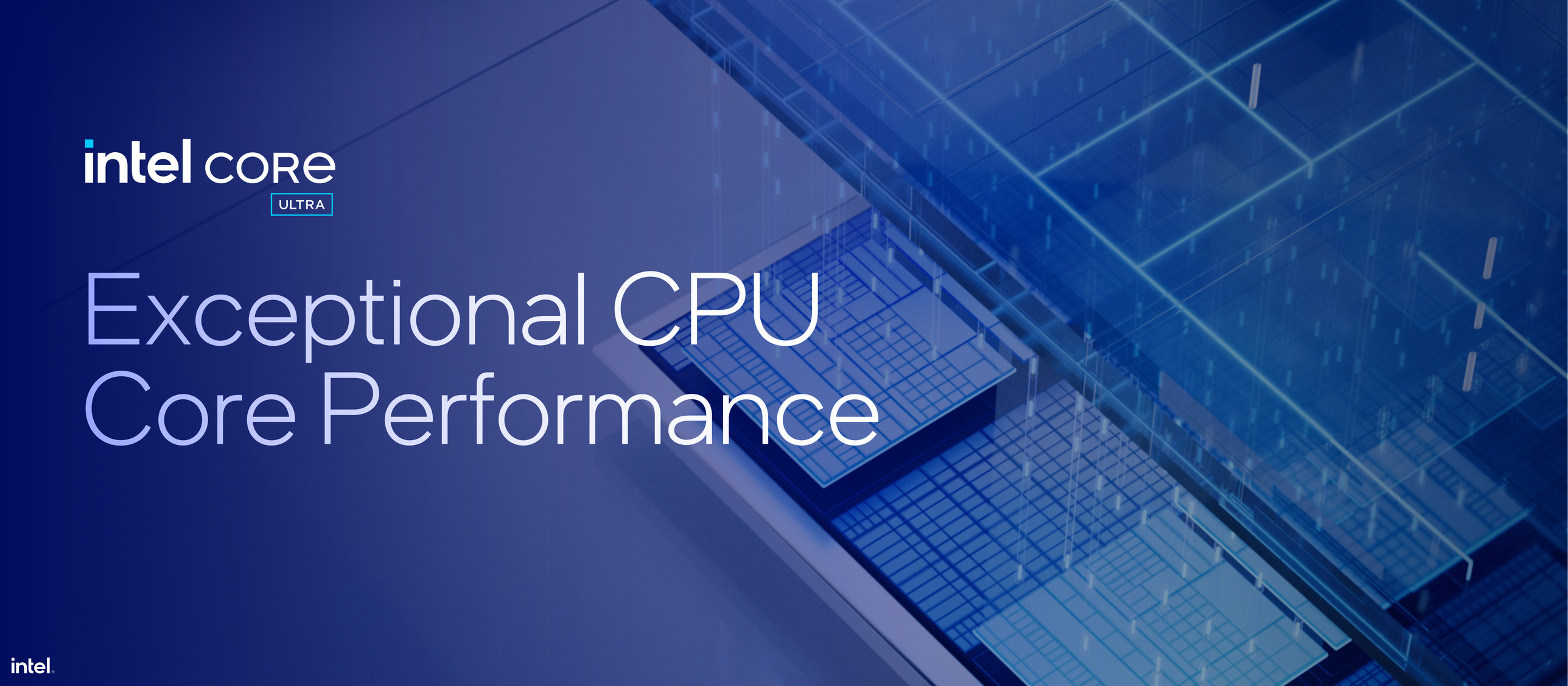
+20%
higher perf/W than Qualcomm
Based on UL Procyon® Office Productivity

intel.

Results may vary based on use, configurations, and other factors. See intel.com/performanceindex for details.

intel CORE ULTRA

Exceptional CPU Core Performance



intel

Enhanced prediction
to find instructions faster

26 dispatch ports

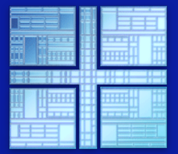
Deeper queueing
for better parallelism

Wider allocation & retire

ALLOCATE

RETIRE

2x
AI throughput
from 4x 128-bit
FP & SIMD vector



4MB
shared
L2 cache

Skymont

E-core

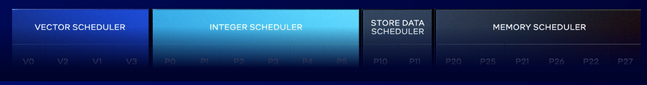
E-core efficiency meets
P-core performance

Lion Cove

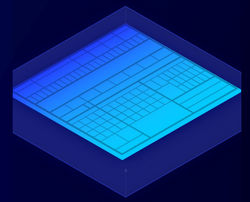
P-core

The fastest performance
core for thin & light PCs

18 Execution ports



Up to 12MB
shared L3 cache
on Lunar Lake

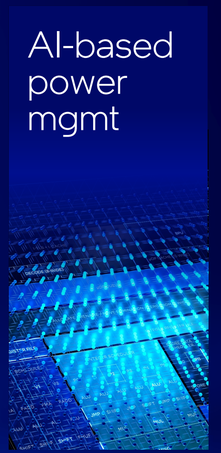


Wider scheduling

across both allocation/rename & retire

VEC ◀ **Split** out of order engine ▶ INT

Enhanced
memory
subsystem



AI-based
power
mgmt

Optimized
for
PPA

16.67MHz
Finer clock intervals

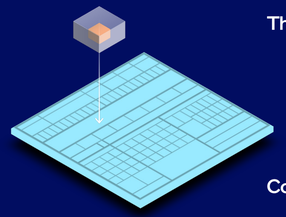
intel

See intel.com/performanceindex for details.

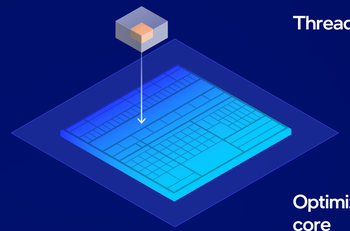
P-core Optimization

Deprecating SMT for better perf/power/area (PPA)

Hyper-threading OFF

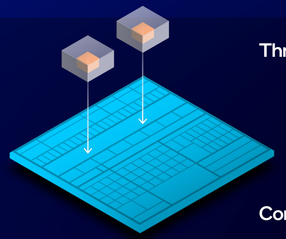


Efficiency optimized

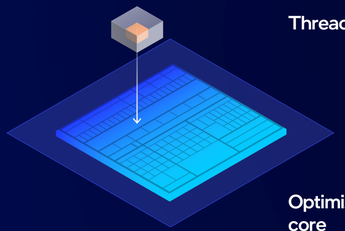


+15%	+10%	+30%
Perf/power	Perf/area	Perf/power/area

Hyper-threading ON



Efficiency optimized



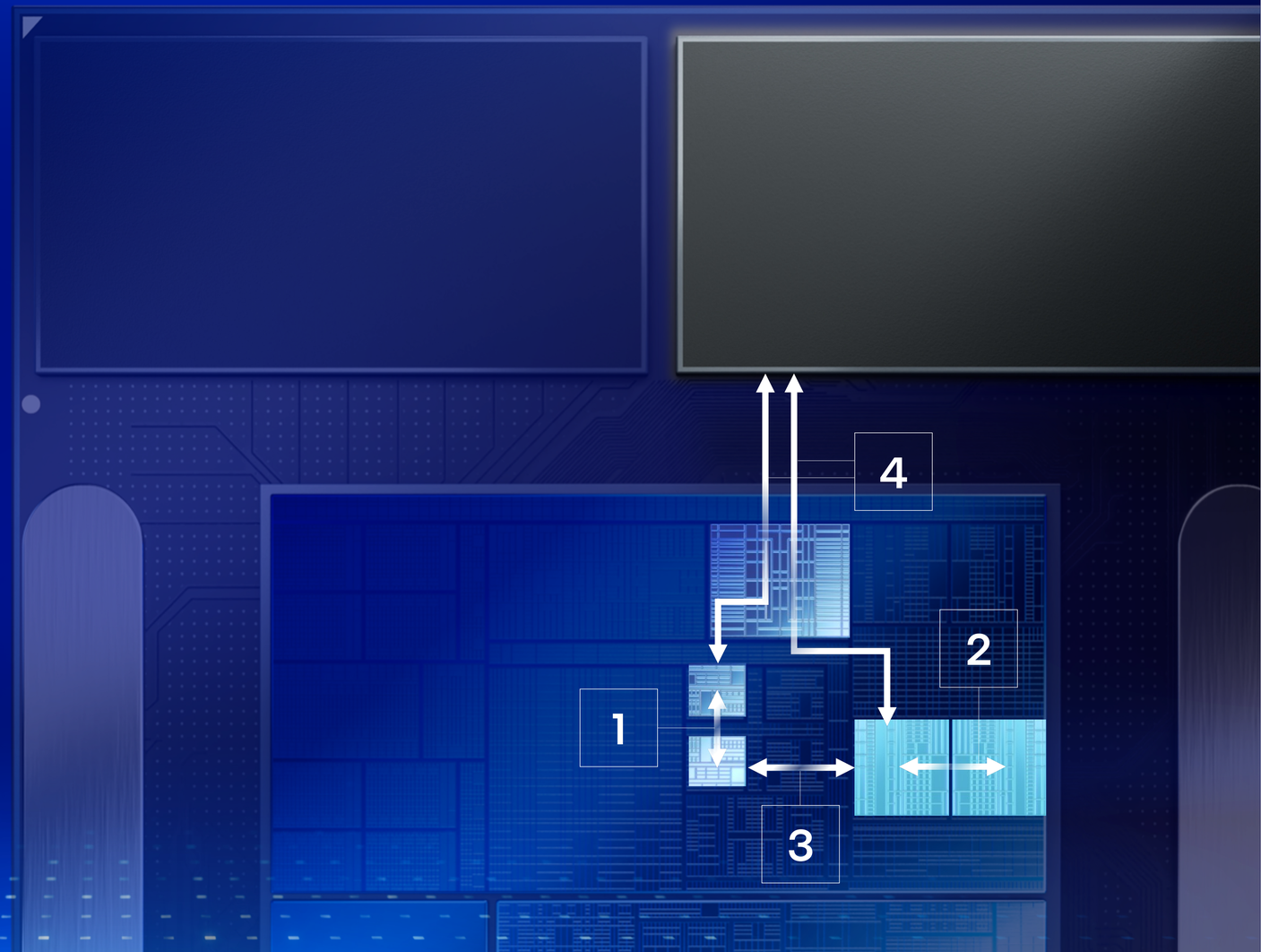
-5%	-15%	+15%
Perf/power	Perf/area	Perf/power/area

*All figures estimated based on hypothetical comparison of HT-capable P-core vs. optimized P-core

All-New Low Latency Fabric

1	E-core to E-core	~23ns
2	P-core to P-core	~26ns
3	E-core to P-core	~55ns
4	DRAM latency	~90ns

↓ 40% vs. Meteor Lake
↓ 30% vs. Strix Point



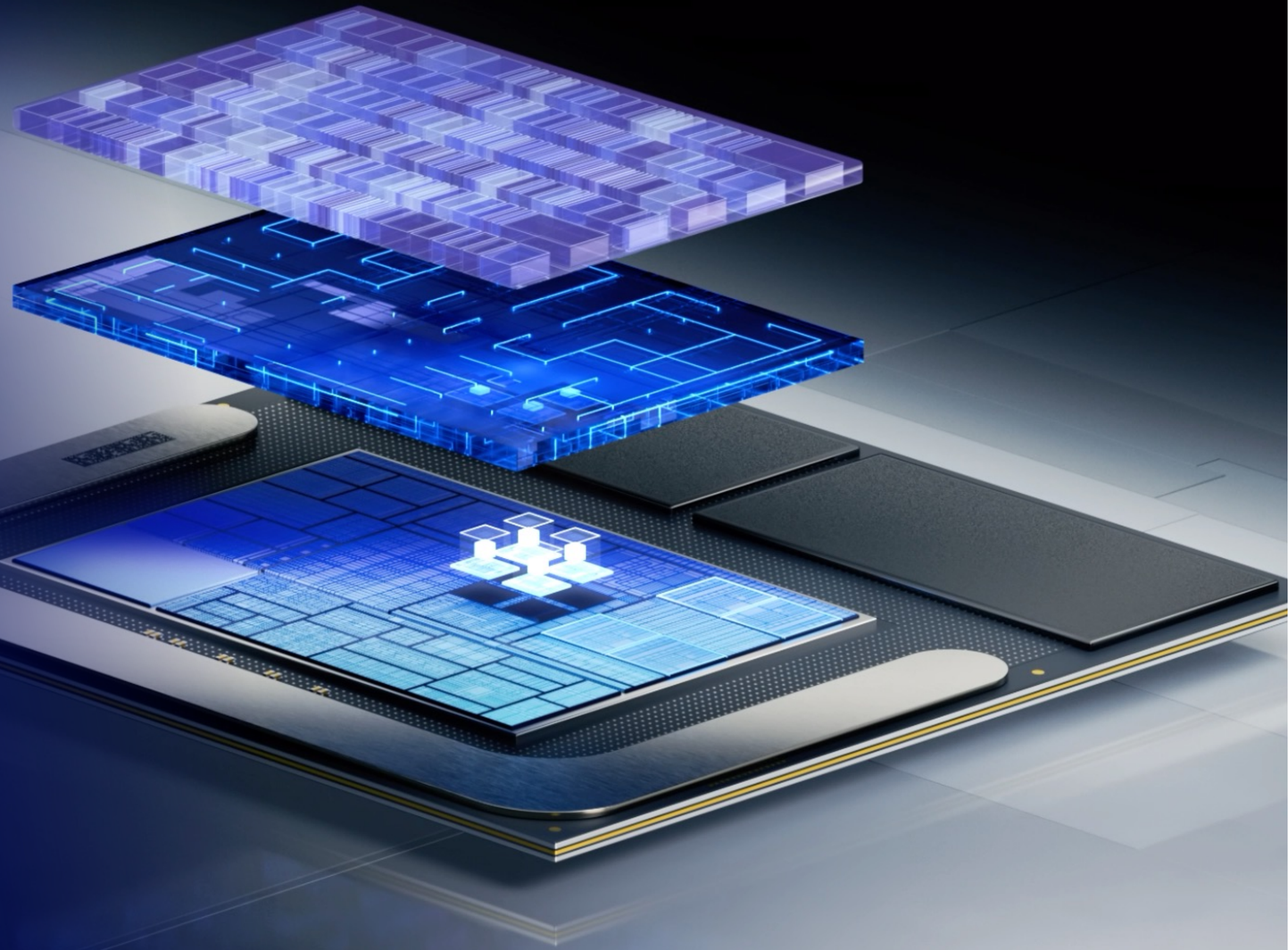
intel

See backup for details.

Intel Core Ultra 200V Series Processors Scheduling

With Intel® Thread Director

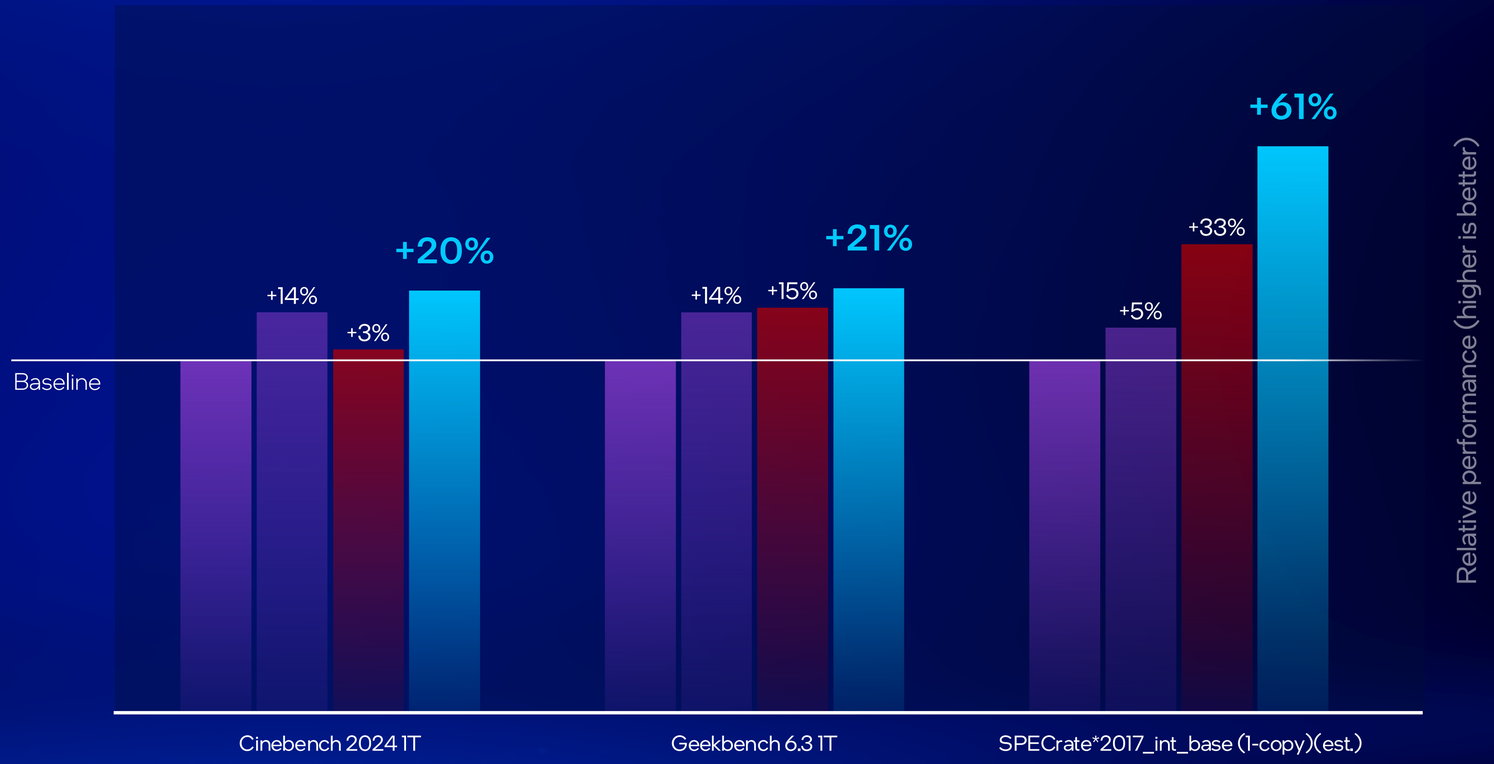
- Dynamic scheduling policy used
- First single E-core as long as work fits
- Expand out to other E-cores for nT
- Move up to P-cores based on demand



intel.

The Fastest Cores. Period.

Lion Cove P-cores are perfect for powerful thin and light PCs



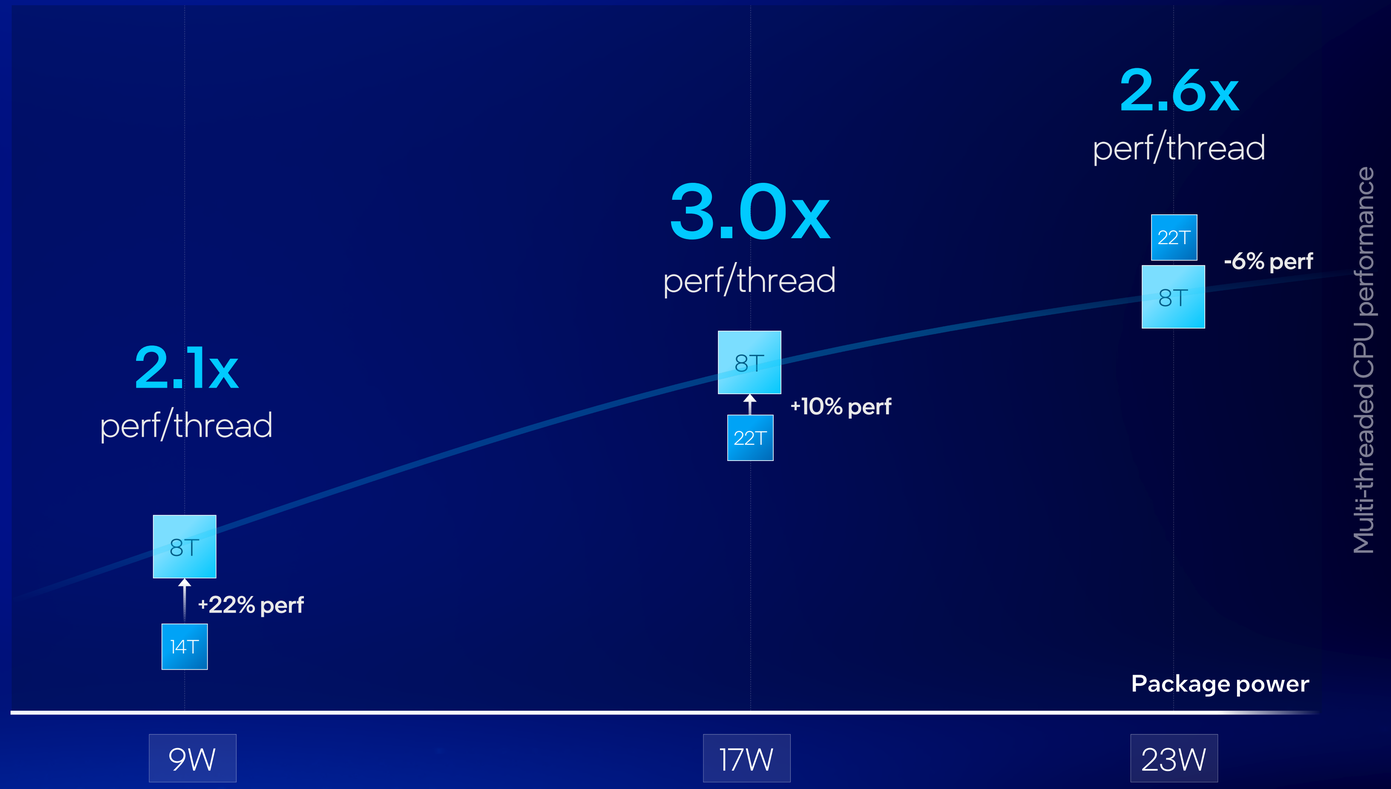
- Intel® Core™ Ultra 9 288V
- AMD HX 370
- Qualcomm X1E-80-100
- Qualcomm X1E-78-100

Among processors powering ultrathin systems; SPECrate*2017_int_base (1-copy) performance is estimated; as of August 26, 2024. Details at intel.com/performanceindex. Results may vary.
SPECrate is a trademark of SPEC; more information on this workload can be found at https://www.spec.org/cpu2017.

Up to

3x Perf / Thread

Skymont and Lion Cove enable incredible improvements in compute efficiency



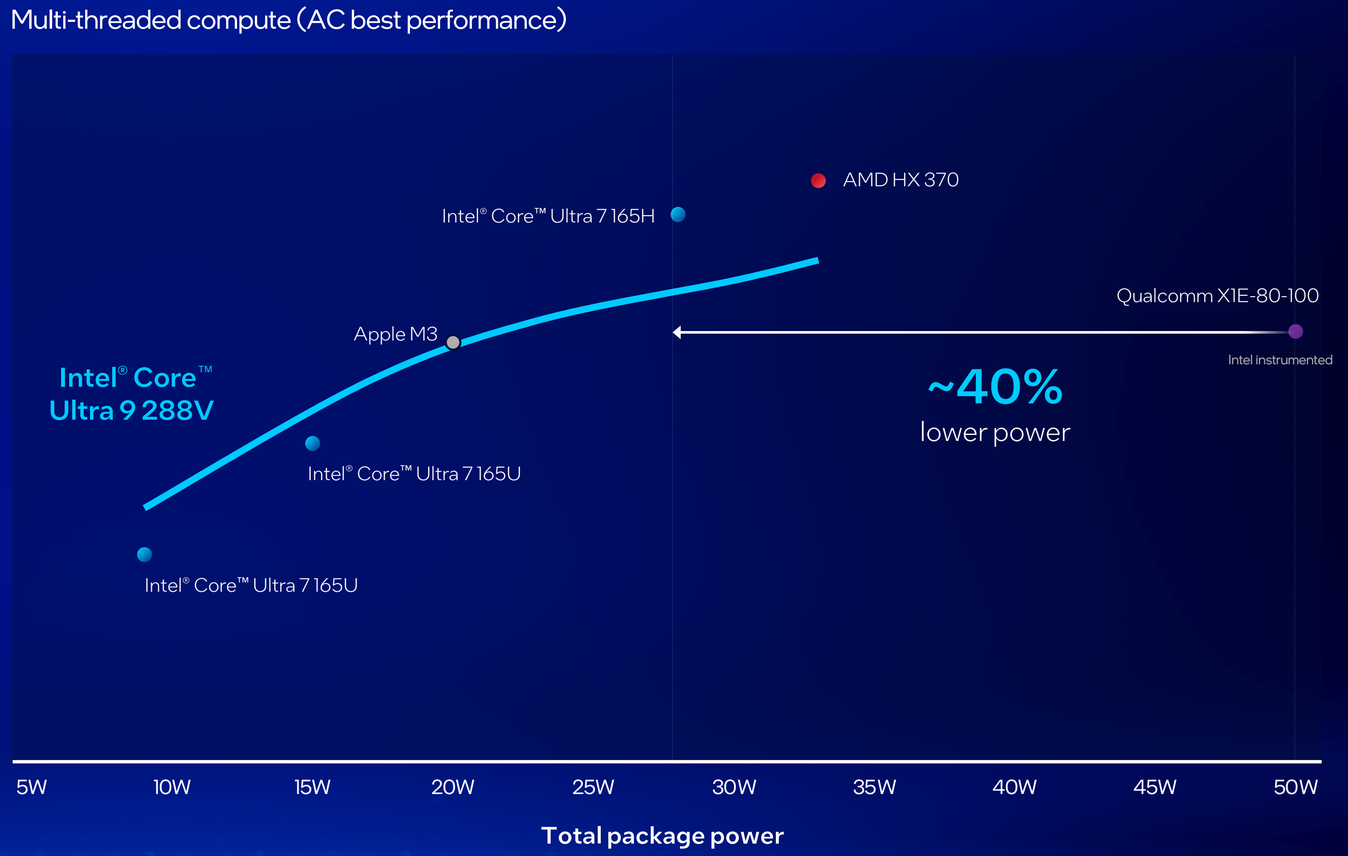
- 8T Lunar Lake (4P + 4LPE = 8T)
- 14T Meteor Lake (2P + 8E + 2LPE = 14T)
- 22T Meteor Lake (6P + 8E + 2LPE = 22T)

intel.

Based on SPECrate*2017_int_base (1-copy) performance estimates derived from measurements on an Intel internal development platform as a fixed PL1; as of August 26, 2024. Details at intel.com/performanceindex. Results may vary. SPECrate is a trademark of SPEC; more information on this workload can be found at https://www.spec.org/cpu2017.

8-Core Magic for Thin & Light PCs

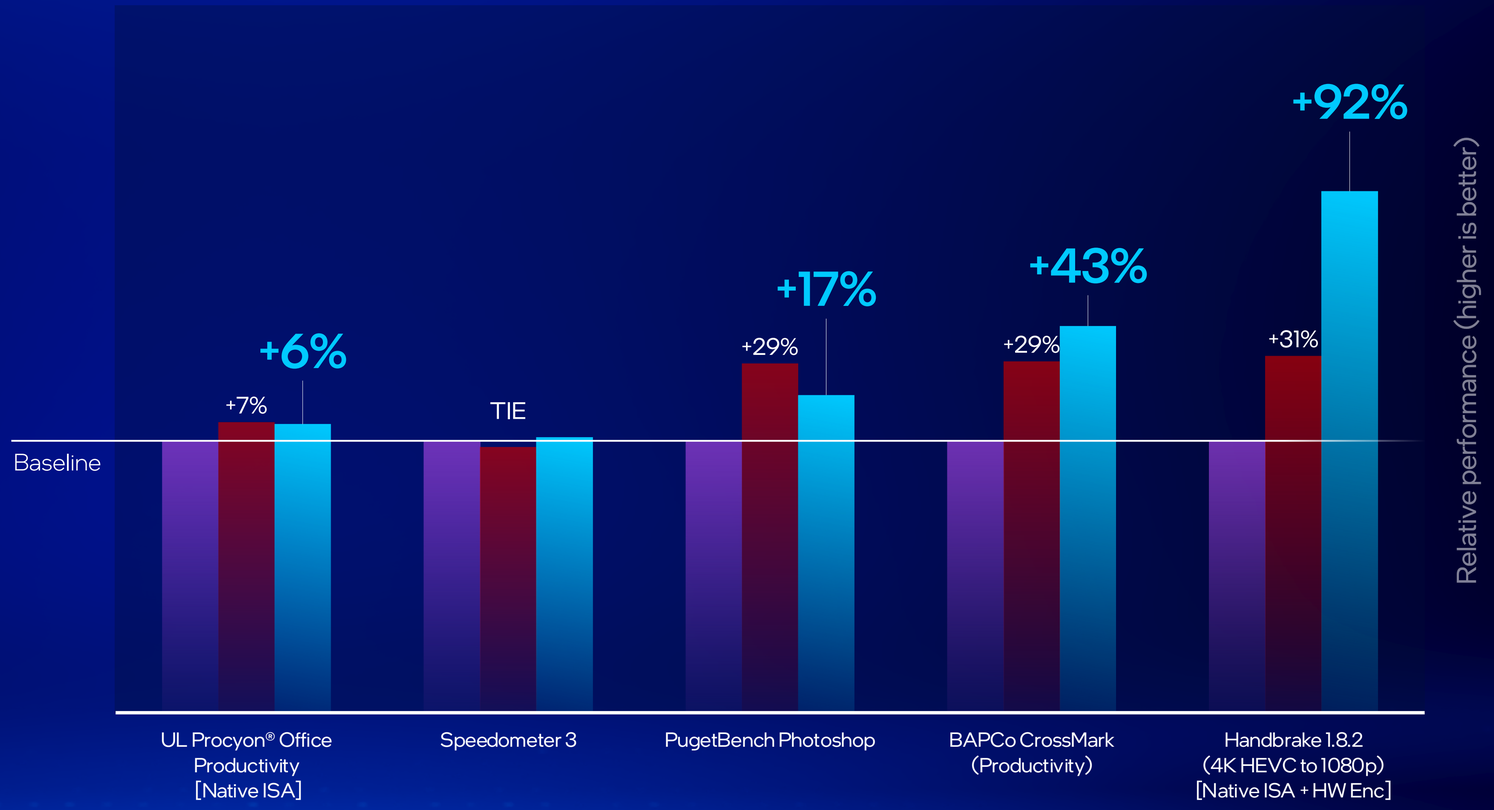
Astonishing perf/W improvements across the operating range



Among processors powering ultrathin systems; SPECrate*2017_int_base (1-copy) performance is estimated at a given package power, as of August 26, 2024. Details at intel.com/performanceindex. Results may vary. SPECrate is a trademark of SPEC; more information on this workload can be found at https://www.spec.org/cpu2017.

Productivity Powerhouse

Top marks for everyday home and office use



- Intel® Core™ Ultra 9 288V
- AMD HX 370
- Qualcomm X1E-80-100

intel.

See intel.com/performanceindex for details.

The Fastest CPU Cores

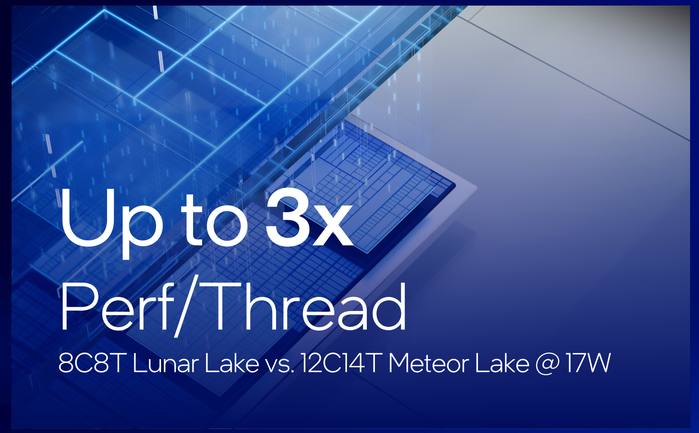
vs. competing thin and light processors

+68%

Gen-on-gen IPC with Skymont E-core

Productivity Powerhouse

Powerful performance for everyday applications



Up to 3x Perf/Thread

8C8T Lunar Lake vs. 12C14T Meteor Lake @ 17W

+14%

Gen-on-gen IPC with Lion Cove P-core

All-New SoC Fabric

Low latency core/DRAM access

See intel.com/performanceindex for details.

intel
ARC™

World's Best Built-in GPU

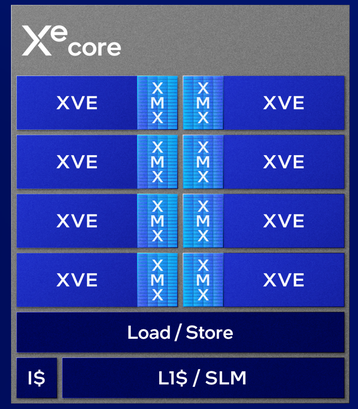
intel

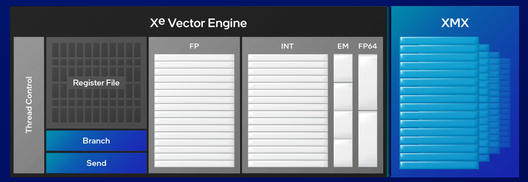
See intel.com/performanceindex for details.

Xe2

Intel GPU architecture

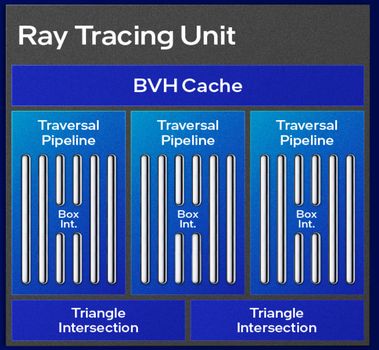
2nd Gen
Xe-core





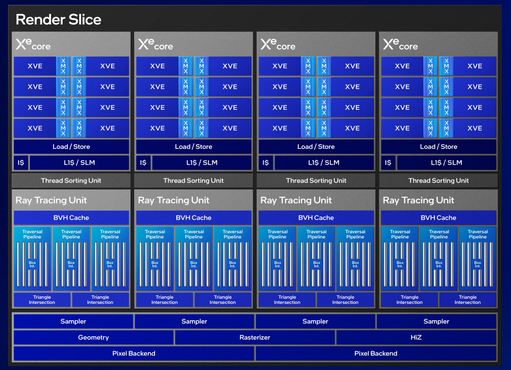
Enhanced
vector engines

Deeper
caches

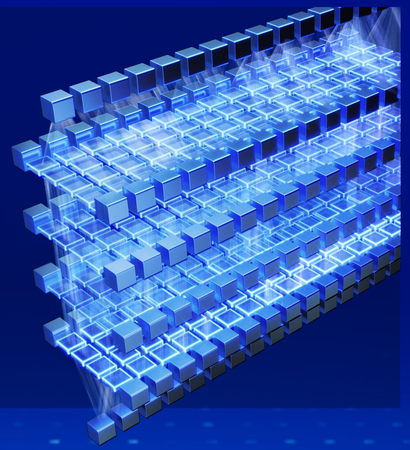


Larger
ray tracing units

Performance & efficiency
optimized graphics acceleration



New
XMX AI engines



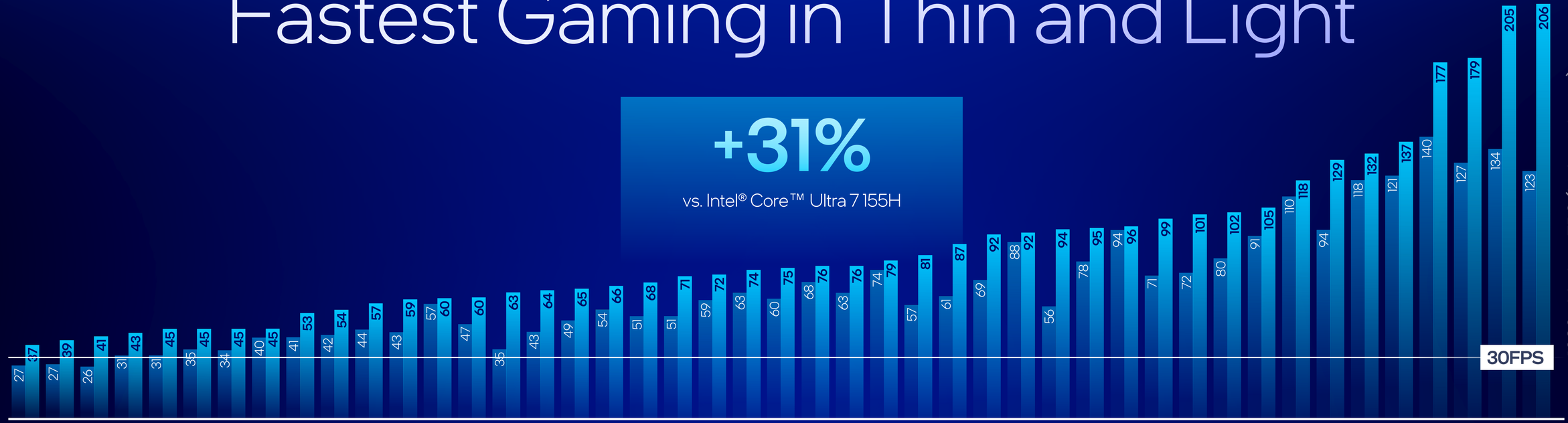
Full
support for

intel

Fastest Gaming in Thin and Light

+31%

vs. Intel® Core™ Ultra 7 155H



Intel® Core™ Ultra 9 288V with Intel® Arc™ 140V Intel® Core™ Ultra 7 155H with Intel® Arc™ Graphics

intel.

See intel.com/performanceindex for details.

Fastest Gaming in Thin and Light

intel.

See intel.com/performanceindex for details.

Fastest Gaming in Thin and Light

23

Games did not run on Qualcomm X1E-84-100

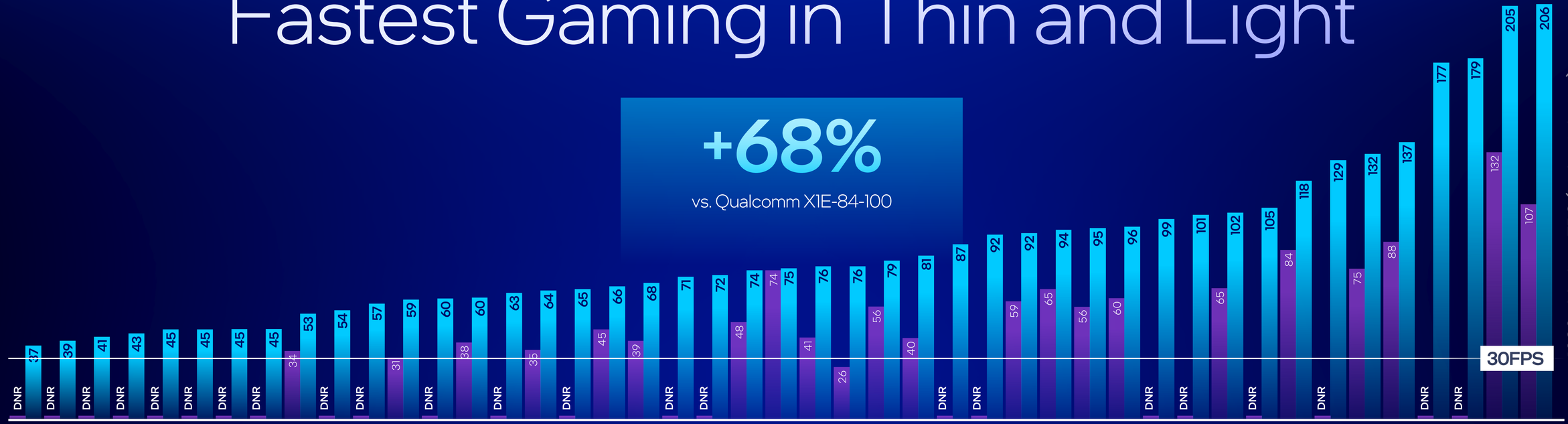
intel

See intel.com/performanceindex for details.

Fastest Gaming in Thin and Light

+68%

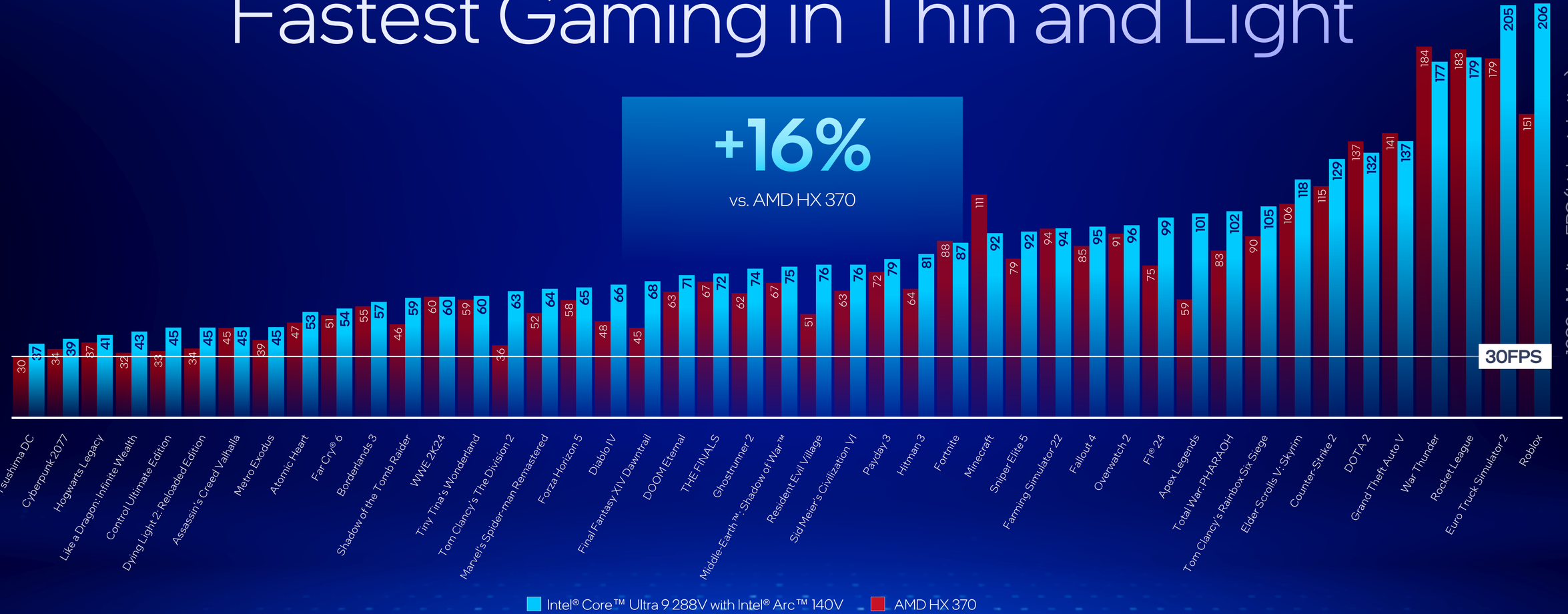
vs. Qualcomm X1E-84-100



intel

See intel.com/performanceindex for details.

Fastest Gaming in Thin and Light



intel

See intel.com/performanceindex for details.

World's Best Built-in GPU

Highest performance and compatibility in a thin and light PC

+31%

Average performance
vs. Intel® Core™ Ultra 7 155H

+68%

Average performance
vs. Qualcomm X1E-84-100

+16%

Average performance
vs. AMD HX 370

intel ARC™

Software compatibility
and scale

intel

See intel.com/performanceindex for details.

XeSS Support in 120+ Games

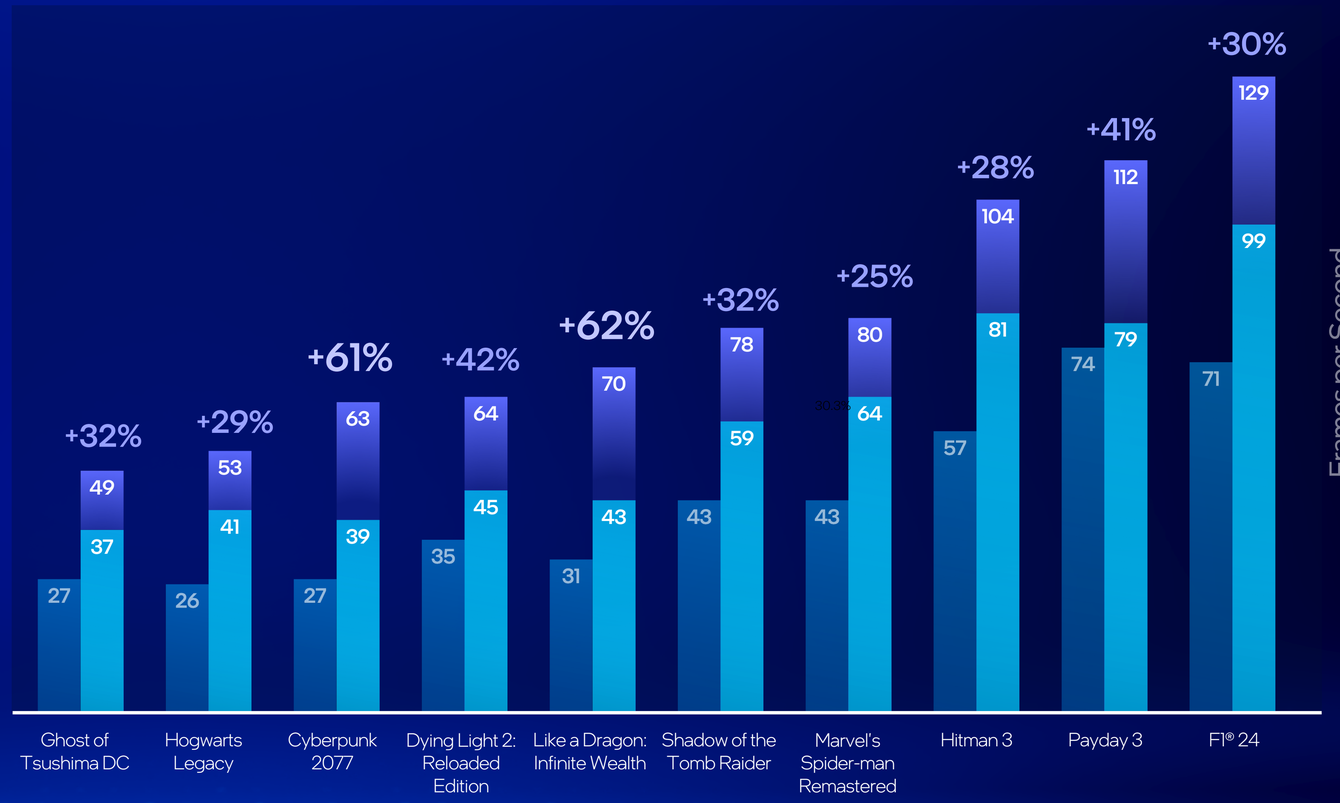
New X^e2 XMX kernels for higher framerates

intel.

Up to

60% Faster Gaming Performance

XeSS upscaling compounds gen-on-gen performance gains



- Intel® Core™ Ultra 7 155H with Intel® Arc™ Graphics
- Intel® Core™ Ultra 9 288Vwith Intel® Arc™ 140V (Native)
- Intel® Core™ Ultra 9 288V with Intel® Arc™ 140V (XeSS Performance Mode)

intel.

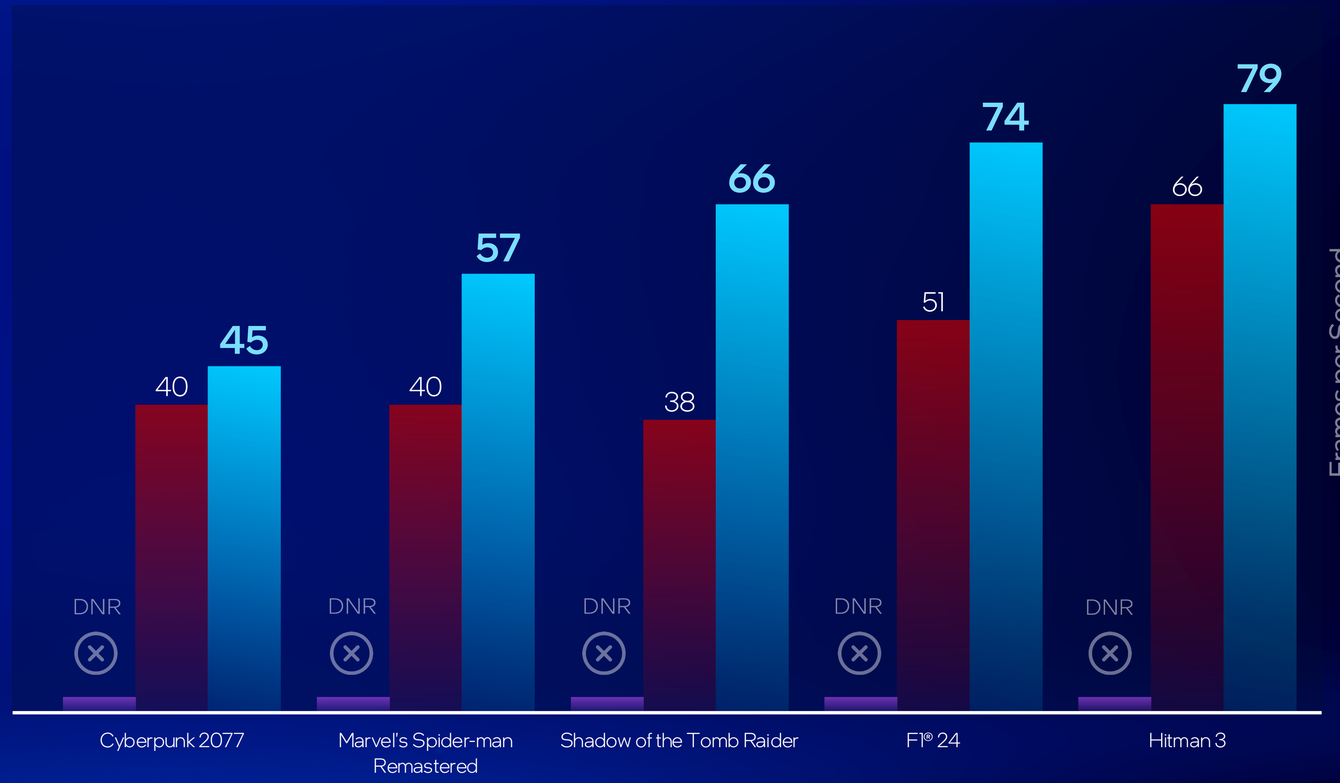
See intel.com/performanceindex for details.

Immersive Gaming at its Best

Fastest ray tracing by ~30%

99th percentile >30 FPS

Functional RT via DirectX® 12 Ultimate



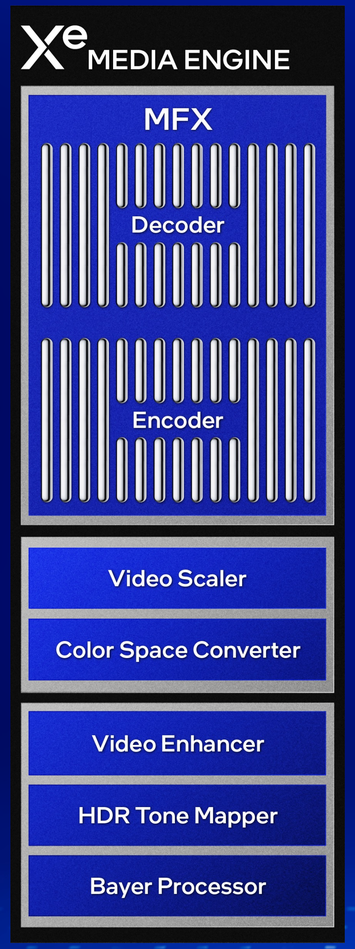
- Intel® Core™ Ultra 9 288Vwith Intel® Arc™ 140V (XeSS Performance Mode)
- AMD HX 370 (FSR Performance Mode)
- Qualcomm X1E-78-100

intel.

See intel.com/performanceindex for details.

Media Engine

More codecs.
More formats.
More efficiency.



Up to
8k60 10-bit HDR decode

AVC

Up to
8k60 10-bit HDR encode

VP9

H.265 HEVC

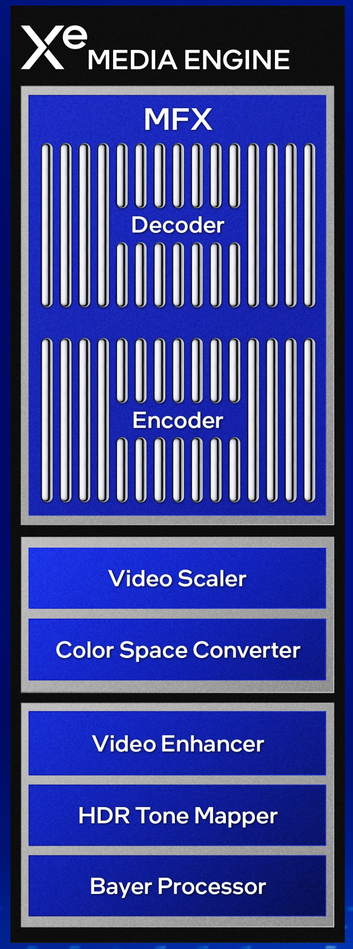
AV1
Encode & decode

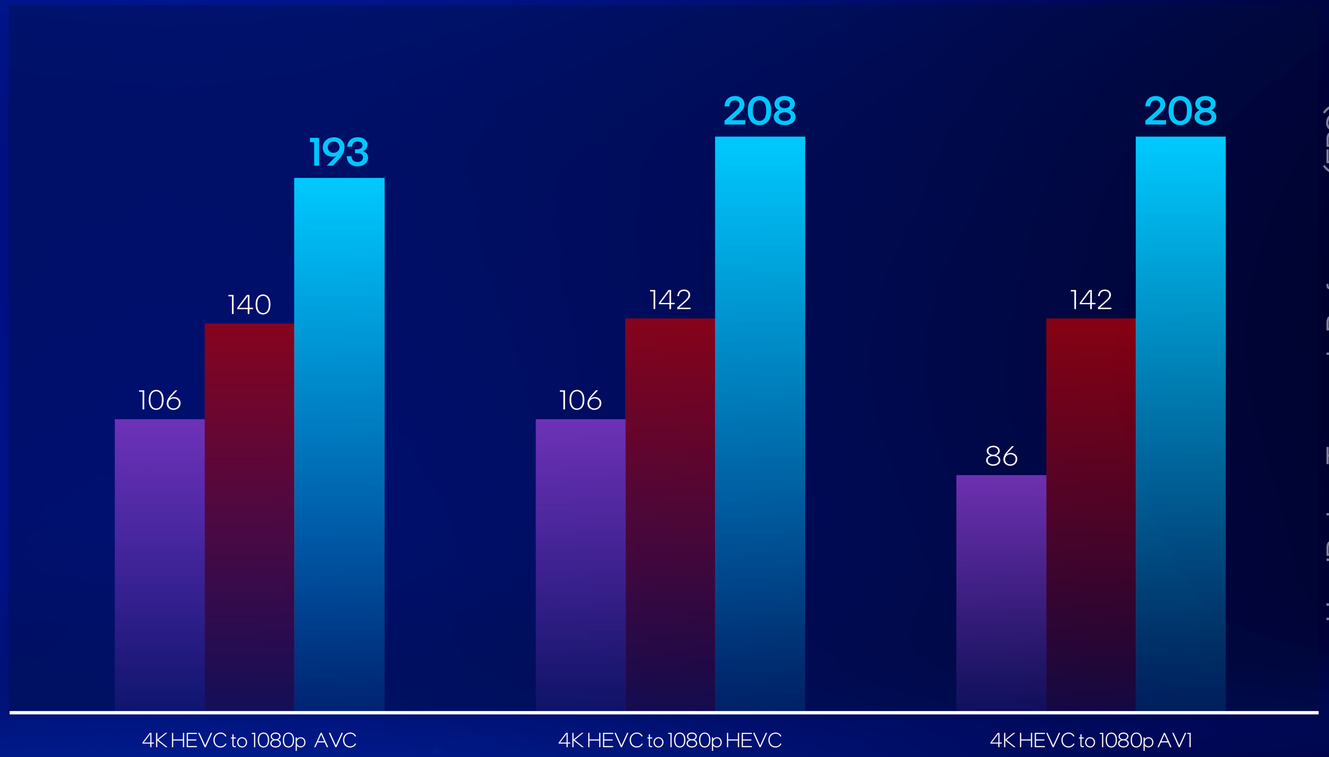
New
VVC
Decode

Media Engine

Best-in-class video transcode performance

- Intel® Core™ Ultra 9 288V with Intel® Arc™ 140V
- AMD HX 370
- Qualcomm X1E-78-100





See intel.com/performanceindex for details.

Graphics Summary

Better, faster and more efficient on all fronts

up to

67

TOPS

AV1

Encode & decode

VVC

Decode

1.8x

Peak perf uplift

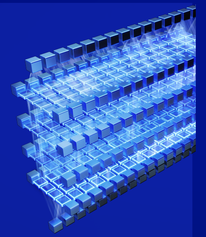
vs. Intel® Core™ Ultra 7 155H

Best-in-class video transcode performance

intel ARC GRAPHICS

DirectX XII ULTIMATE

Fully supported



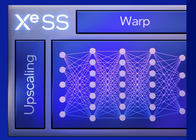
New XMX engines

1.3x

Average perf uplift

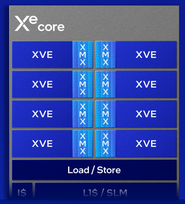
vs. Intel® Core™ Ultra 7 155H

Xe2 XMX kernels



8

2nd Gen Xe-cores



Fastest built-in Ray Tracing

intel

See intel.com/performanceindex for details.

intel CORE ULTRA

AI Runs Best on Intel

intel

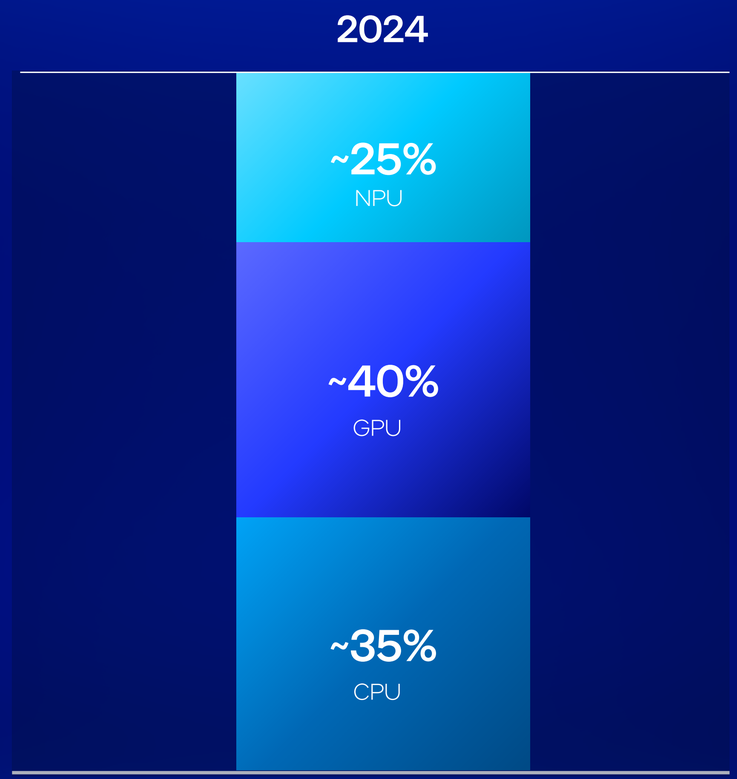
See intel.com/performanceindex for details.

AI Engine Adoption

Multi-engine adoption

GPU significance & outlook

ISV efforts & flexibility



Based on internal Intel research as of August 2024.

Unmatched AI Compute

With Intel Core Ultra 200V Series Processors

Up to **120** platform TOPS

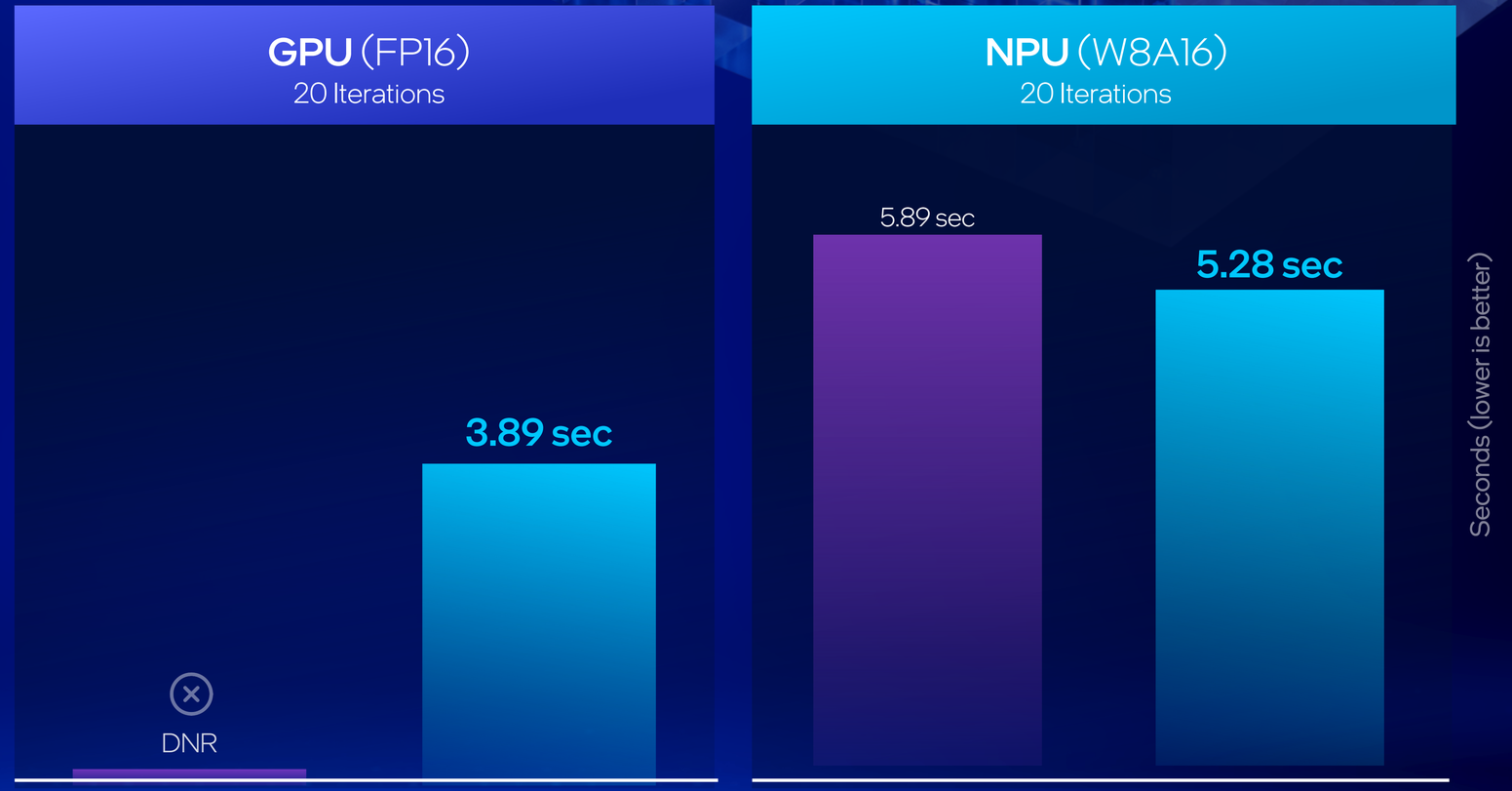
GPU	Up to **67** TOPS	XMX & DP4a	Gaming & creator AI
NPU	Up to **48** TOPS	Dense vector & matrix math	AI assistants & creation
CPU	Up to **5** TOPS	VNNI & AVX	Light AI workloads

intel

See intel.com/performanceindex for details.

Winning Diffusion Performance

Intel Core Ultra 200V Series Processors lead in performance and compatibility for generative AI in Stable Diffusion 1.5 (GIMP)



Intel® Core™ Ultra 9 288V

Qualcomm X1E-78-100

See intel.com/performanceindex for details.

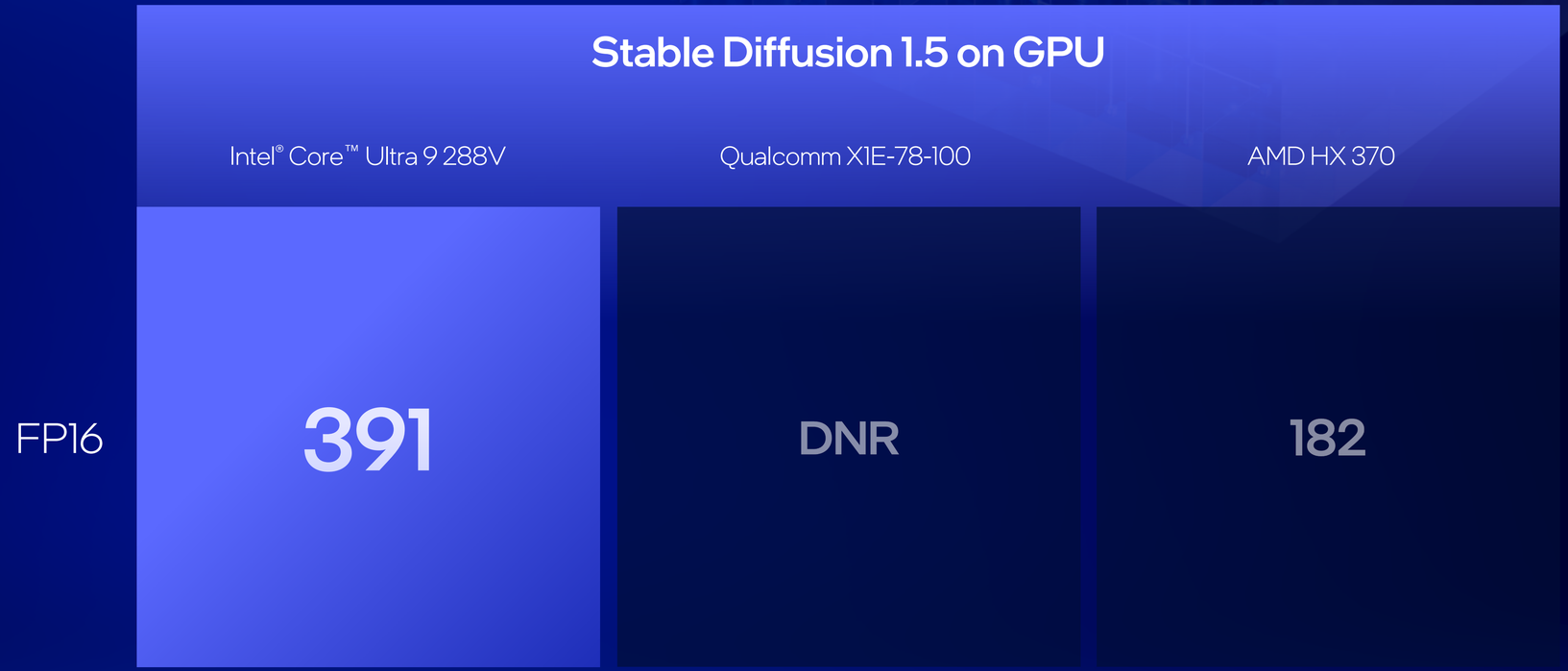
UL Procyon® AI Computer Vision

Intel's broad support for data types and models enables consistent AI performance and experience

See intel.com/performanceindex for details.

UL Procyon® AI Image Generation

Intel's broad support for data types and models enables consistent AI performance and experience



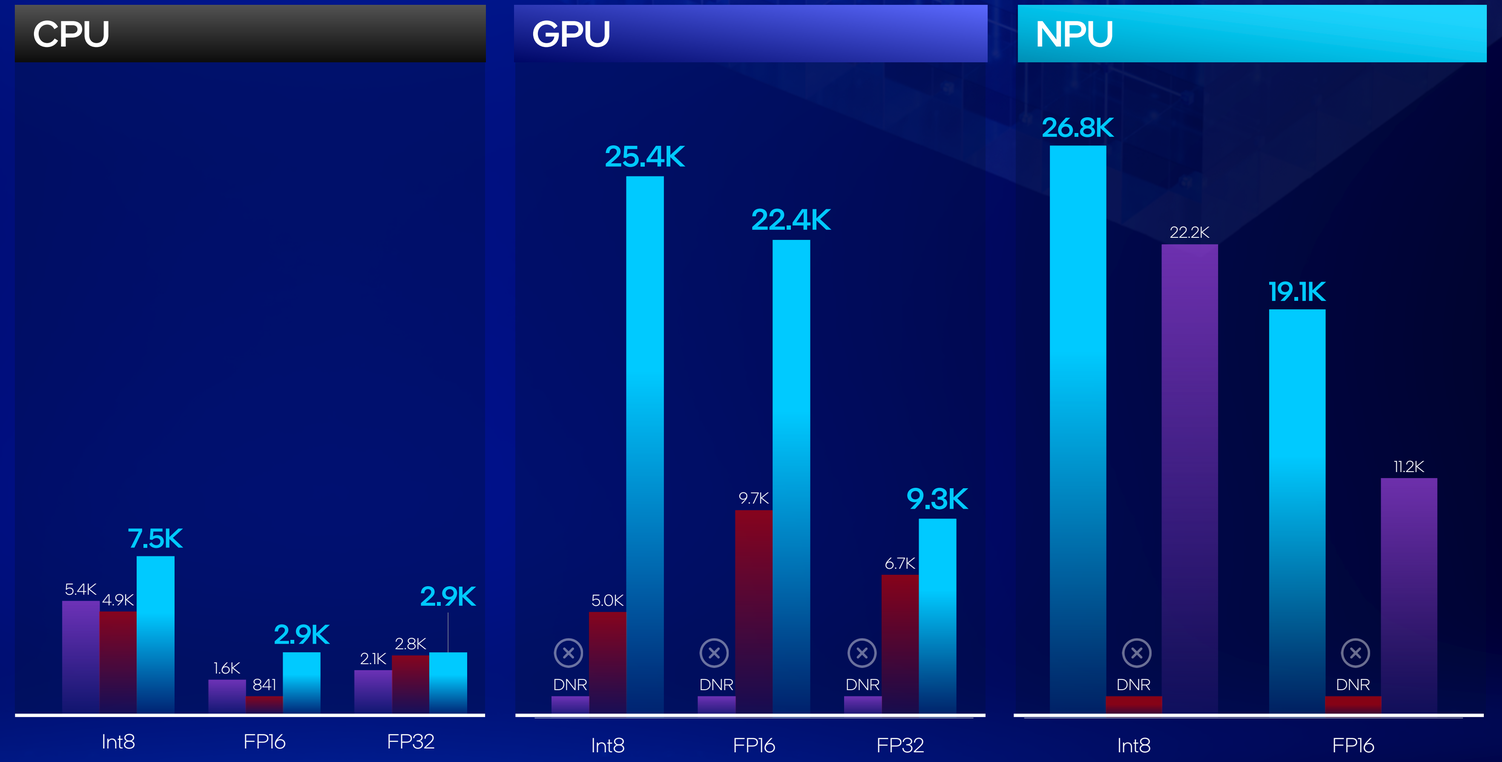
See intel.com/performanceindex for details.

Geekbench AI

Performance leadership

Multi-engine leadership

Framework leadership



Intel® Core™ Ultra 9 288V

AMD HX 370

Qualcomm X1E-78-100

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See intel.com/performanceindex for details.

Geomean

58% Faster AI Performance

Intel Core Ultra processors deliver commanding performance and compatibility leadership in shipping AI applications

- Intel® Core™ Ultra 9 288V
- Intel® Core™ Ultra 7 155H (baseline)
- Qualcomm X1E-78-100

intel.

See intel.com/performanceindex for details.

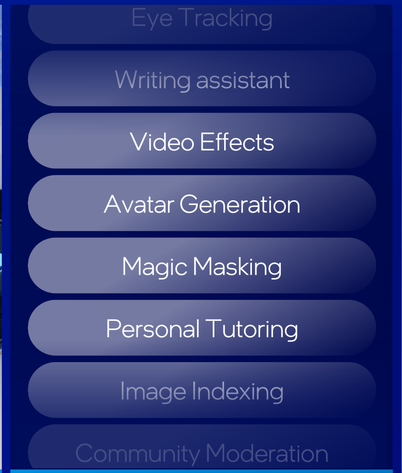
Evolving the AI PC Ecosystem

Intel Core Ultra processors are ready to run cutting-edge AI software

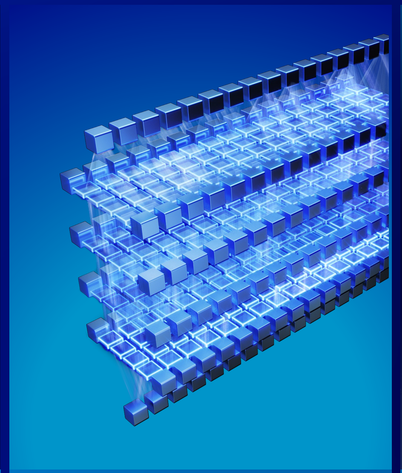
AI runs best on Intel.

The data proves it.

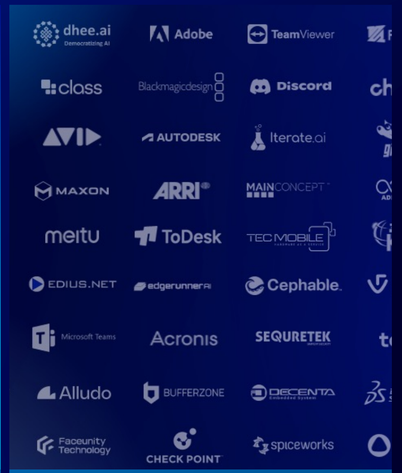
Massively outperforms Qualcomm in shipping AI features



Unmatched selection of 300+ ISV Features



Faster engines, more data types, more frameworks



Compatibility without compromise

intel

See intel.com/performanceindex for details.

A Great AI PC

- Massively outperforms Qualcomm in shipping AI features
- Unmatched selection of 300+ ISV Features
- Faster engines, more data types, more frameworks
- Compatibility without compromise

Starts with a Great PC

- Up to **2.29x** Better CPU power efficiency*
- Up to **2x** Better GPU power efficiency*
- Up to **3x** Performance per thread*
- Geomean **30%** Faster PC gaming performance*

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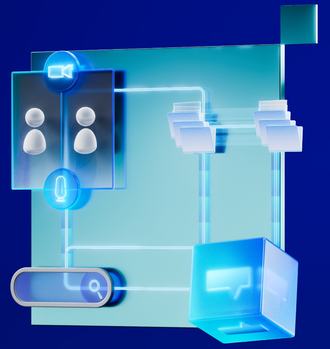
*Versus Intel's previous generation. See intel.com/performanceindex for details.

intel CORE
ULTRA
Igniting a Software Ecosystem

Foundational PC Experiences

Create

Connect



Play

Learn

intel

45 years

of building an unmatched
software ecosystem

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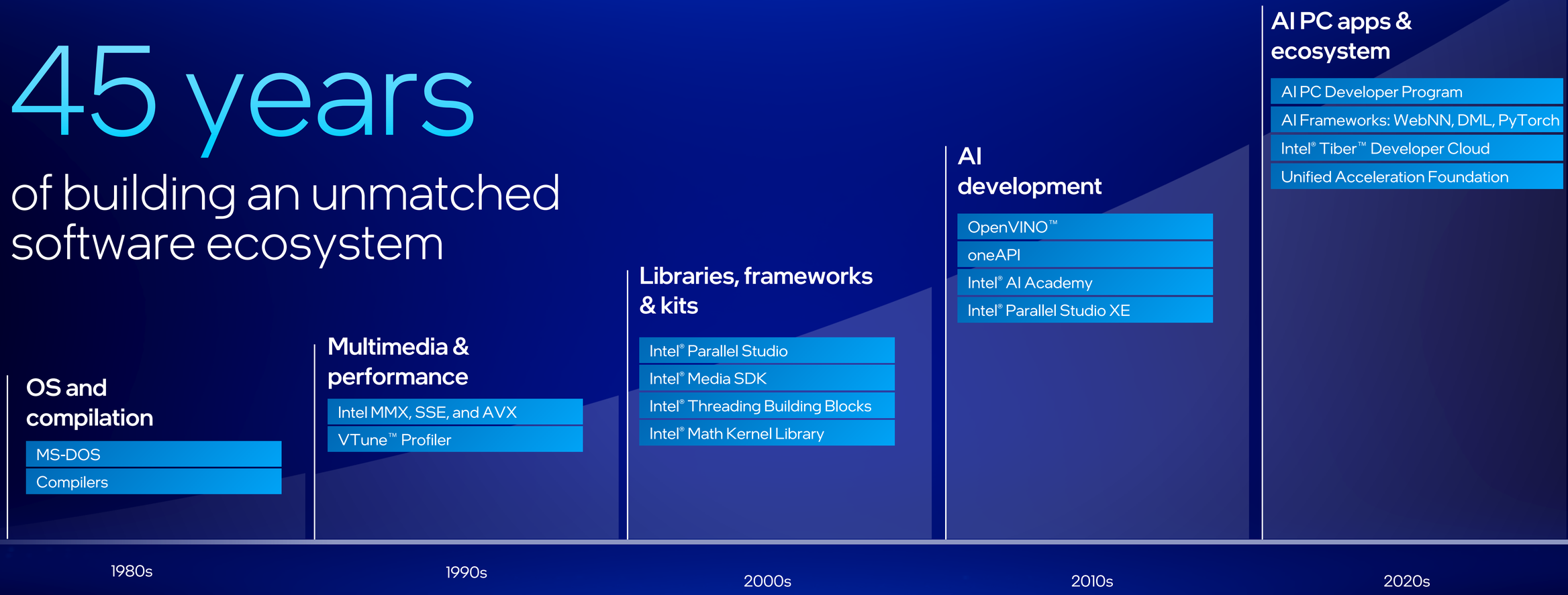
45 years

of building an unmatched software ecosystem



intel

45 years

of building an unmatched software ecosystem

OS and compilation

- MS-DOS
- Compilers

Multimedia & performance

- Intel MMX, SSE, and AVX
- VTune™ Profiler

Libraries, frameworks & kits

- Intel® Parallel Studio
- Intel® Media SDK
- Intel® Threading Building Blocks
- Intel® Math Kernel Library

AI development

- OpenVINO™
- oneAPI
- Intel® AI Academy
- Intel® Parallel Studio XE

AI PC apps & ecosystem

- AI PC Developer Program
- AI Frameworks: WebNN, DML, PyTorch
- Intel® Tiber™ Developer Cloud
- Unified Acceleration Foundation

1980s 1990s 2000s 2010s 2020s

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Software Enablement

is in our DNA

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Software Enablement
Multiple
OSes
100s
of apps
1000s
of developers
at scale
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Enabling the x86 Software Ecosystem

An ever-improving layered approach driving superior compatibility

Leadership Silicon

- Early disclosures
- Use case mapping
- Architecture reviews

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Enabling the x86 Software Ecosystem

An ever-improving layered approach driving superior compatibility

SW Enabling at Scale

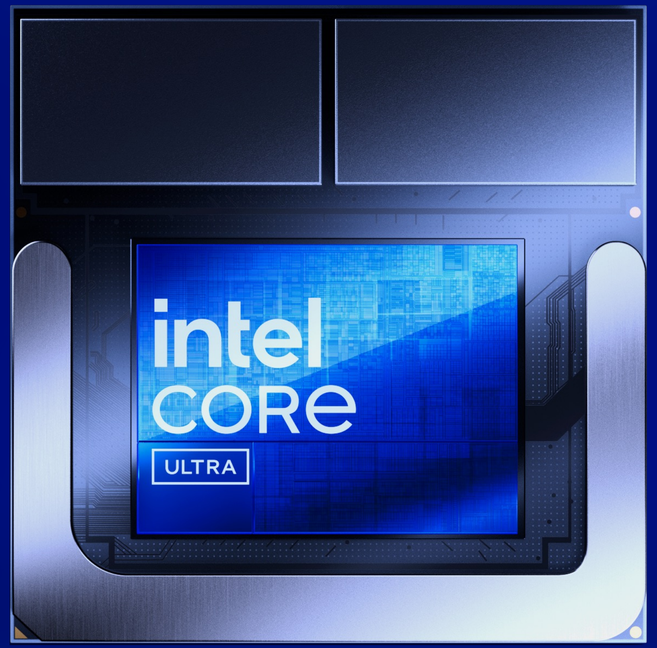
- Deep co-engineering
- Intel® Developer Zone
- SDKs and dev kits
- Intel® Tiber™ Developer Cloud

Enabling the x86 Software Ecosystem

An ever-improving layered approach driving superior compatibility

Go-to-Market

- Co-marketing and SW bundles
- Retail PoS and channel support
- Technical training & certification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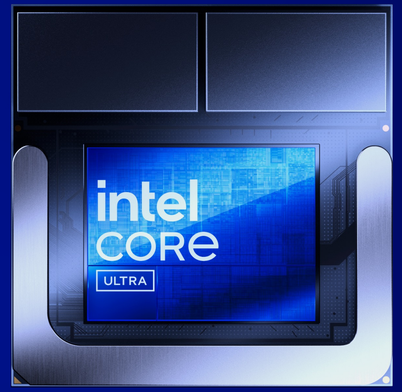
ULTRA

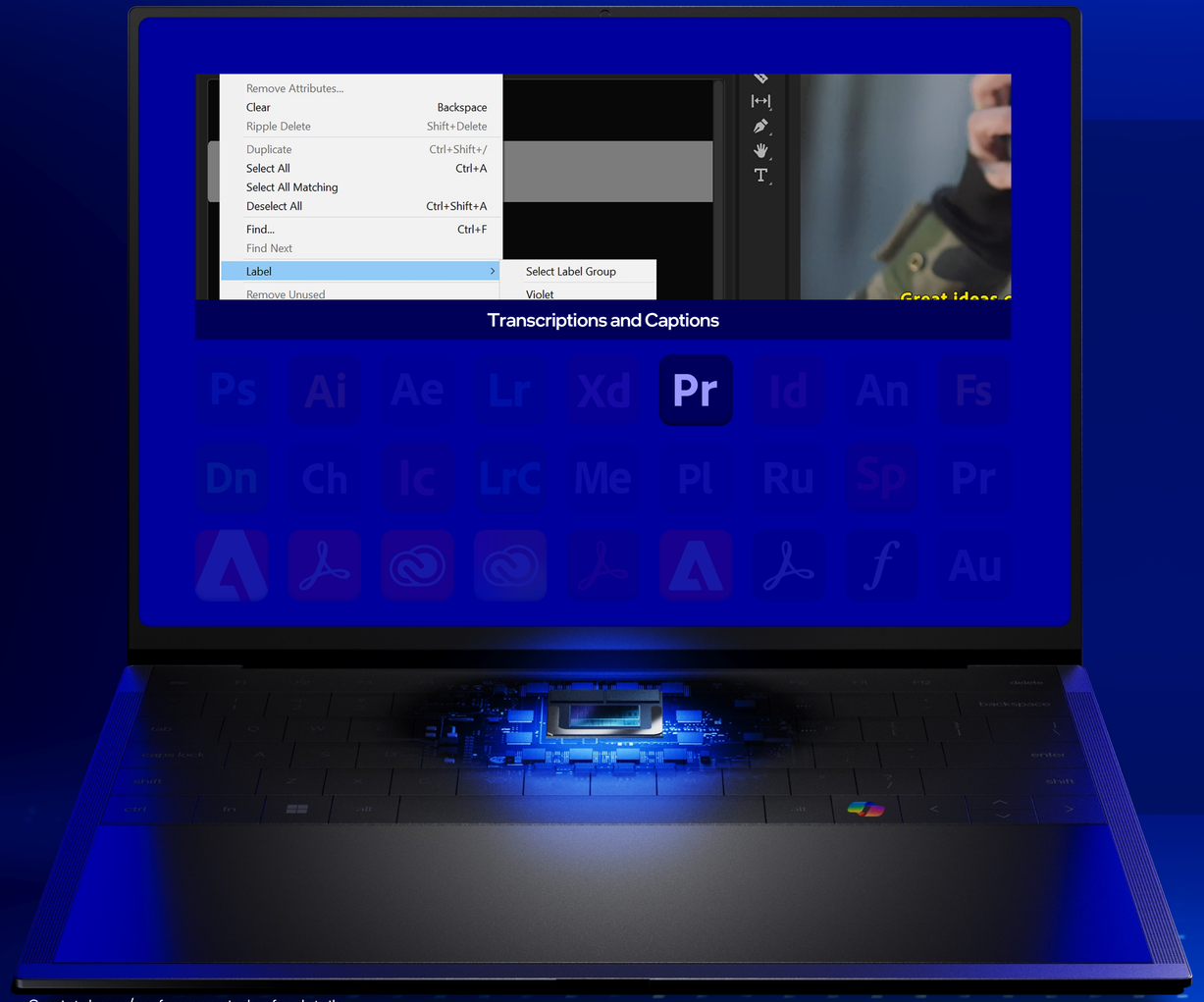
New & Enhanced AI Experiences on Intel Core Ultra Processors

Expanding the breadth and depth of AI-powered experiences

BUFFERZONE AI powered anti-phishing	iQIYI 爱奇艺 AI assistant for movie recommendations	MAGIX AI accelerated AI video editing assistant	CyberLink AI powered photo/video editing	CANVA AI enhanced presentations	TREND MICRO AI protection of Sensitive information	DEEPBRAIN AI AI avatar Spokespersons	Khan Academy AI enabled Personal tutoring
ByteDance AI accelerated video effects for tiktok	Faceunity Technology Accelerated AI text to speech and avatar generation	Adobe AI accelerated creative editing			upstage AI LLM writing assistant	McAfee AI powered deep fake detection	Topaz Labs Photo and video AI
meitu AI optimized Photo effects	Power BI Accelerated data analysis	SKYLUM AI powered Photo effects			stability.ai LLM for generative AI	zoom AI powered Collaboration effects	AUTODESK AI powered denoise for 3D rendering
Copilot+PC AI productivity assistant	XSplit AI enabled game streaming	wondershare AI accelerated magic masking	Audacity AI powered music separation	gimp AI powered image generation	Distinct AI AI accelerated text to vector & raster images	tobii AI powered eye tracking technology	reincubate AI powered collaboration effects

intel®

Adobe



Intel® Core™ Ultra 9 288V

+86%
vs. Qualcomm X1E-78-100

+76%
vs. Intel® Core™ Ultra 7 155H

See intel.com/performanceindex for details.

Intel® Core™ Ultra 9 288V

+145%
vs. Qualcomm X1E-78-100

+79%
vs. Intel® Core™ Ultra 7 155H

intel.

See intel.com/performanceindex for details.

Intel® Core™ Ultra 9 288V

Qualcomm
X1E-78-100
DNR

+54%
vs. Intel® Core™
Ultra 7 155H

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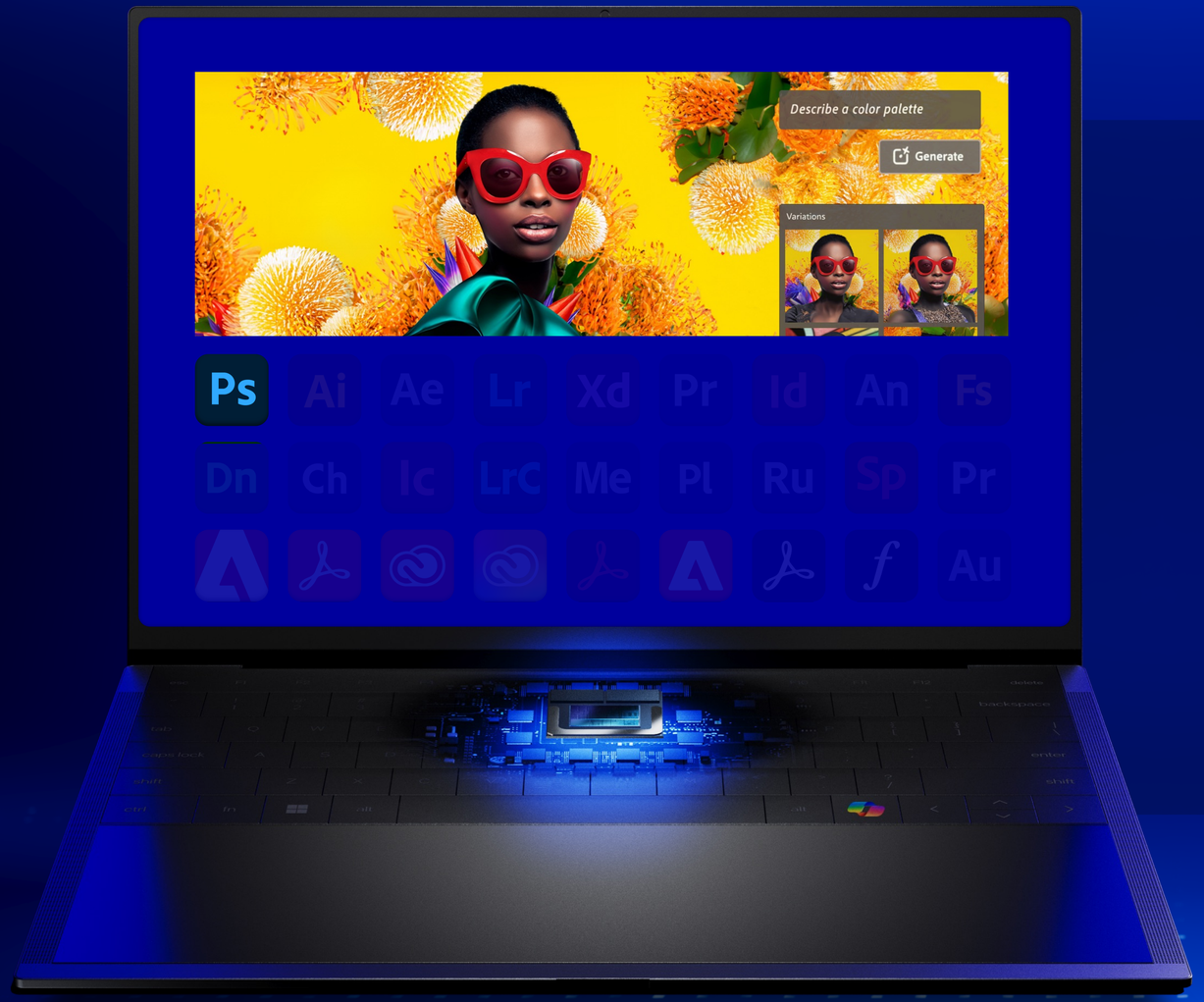
See intel.com/performanceindex for details.



Adobe

"Adobe and Intel continue to collaborate to deliver cutting-edge innovations and exceptional customer experiences across all creative workflows from imaging and design, to video and 3D and more. We are excited to work with Intel to incorporate their **next-generation GPU with XMX** AI accelerators in our tools like Adobe Photoshop to accelerate and enhance creative workflows."

Maria Yap - Vice President, Digital Imaging at Adobe

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New & Enhanced AI Experiences on Intel Core Ultra Processors

Expanding the breadth and depth of AI-powered experiences

See intel.com/performanceindex for details.

intel. × CANVID

Stunning screen recordings, without skills, with the power of AI

AI Engine	Framework	Availability
NPU & GPU	OpenVINO	November

intel. × MAGIX

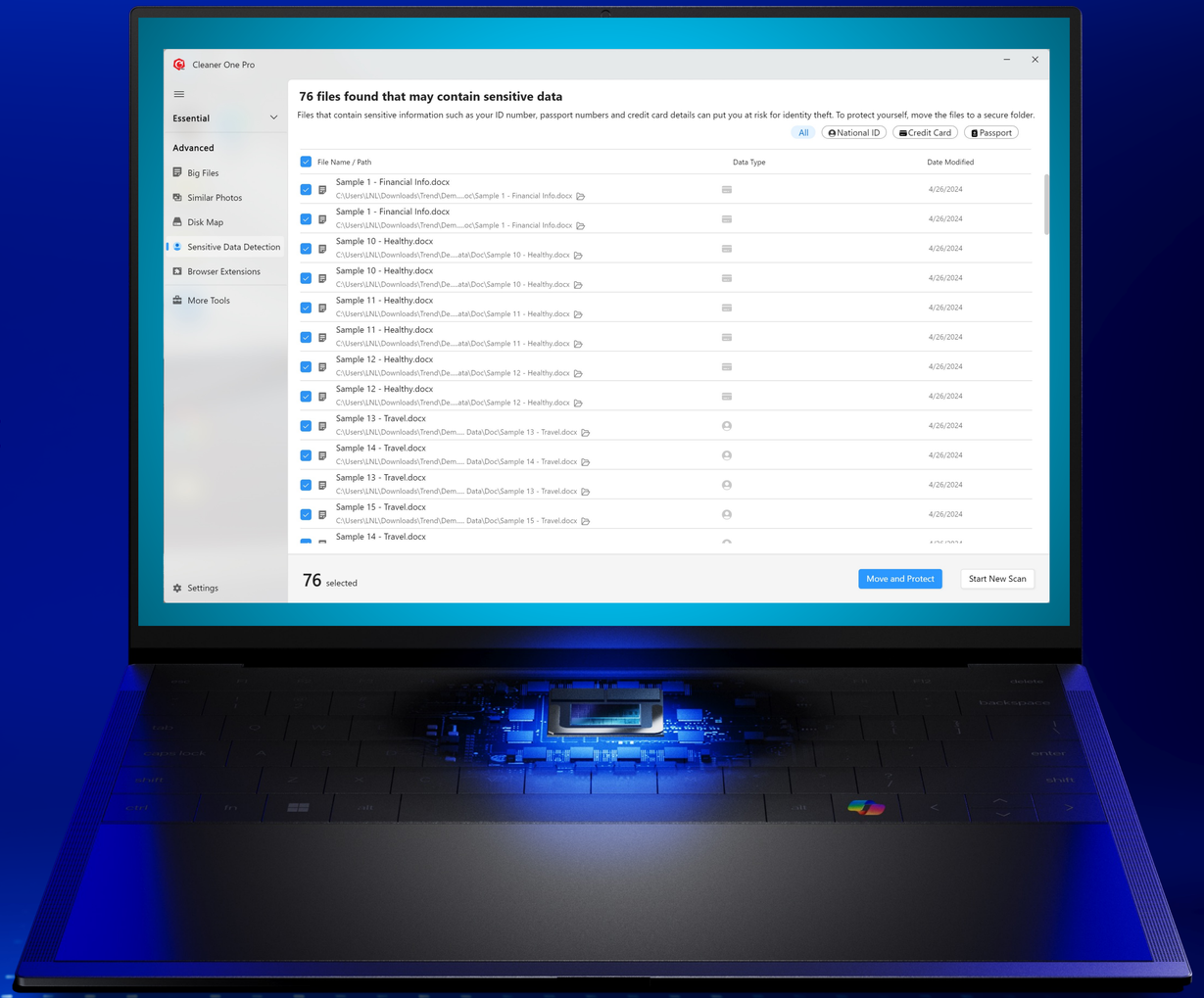
AI based video editing made simple

AI Engine	Framework	Availability
GPU	ONNX-RTwith OpenVINO EP	October

intel. × TREND MICRO™

Protecting sensitive data stored on PCs. AI-based scanning to help secure content from malicious apps

AI Engine	Framework	Availability
NPU & CPU	OpenVINO	October



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BUFFERZONE
iQIYI 爱奇艺
XSplit
wondershare
Khan Academy
Adobe
SKYLUM
McAfee
ByteDance
zoom
DEEPBRAIN AI
Compatible
intel CORE ULTRA
at its Core
reincubate
meitu
Faceunity Technology
MAGIX
TREND MICRO
gimp
AUTODESK
Topaz Labs
upstage
OMNIBRIDGE
tobii
CANVA
Audacity
CyberLink
Power BI
stability.ai
Distinct AI
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intel CORE
ULTRA
Platform
Experiences

Leading Platform Connectivity

Blazing speed and efficiency, both wired & wireless on Intel Core Ultra 200V series processors

Integrated Wi-Fi 7 (5 Gig)

- 2.4x higher peak data rates
- Improved battery life
- Up to 30% faster vs. comp

Thunderbolt™ 4

- 3 video streams per port
- Thunderbolt™ Share
- 2 ports per laptop minimum

Intel Bluetooth® 5.4 over PCIe

- Low energy audio
- Faster boot times
- Reduced latency

Connectivity Solutions

- Intel® Killer™ Networking
- Intel® Connectivity Performance Suite
- AI-based connection optimization

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See intel.com/performanceindex for details.

Multi-Engine Security

Empowering security across multiple layers

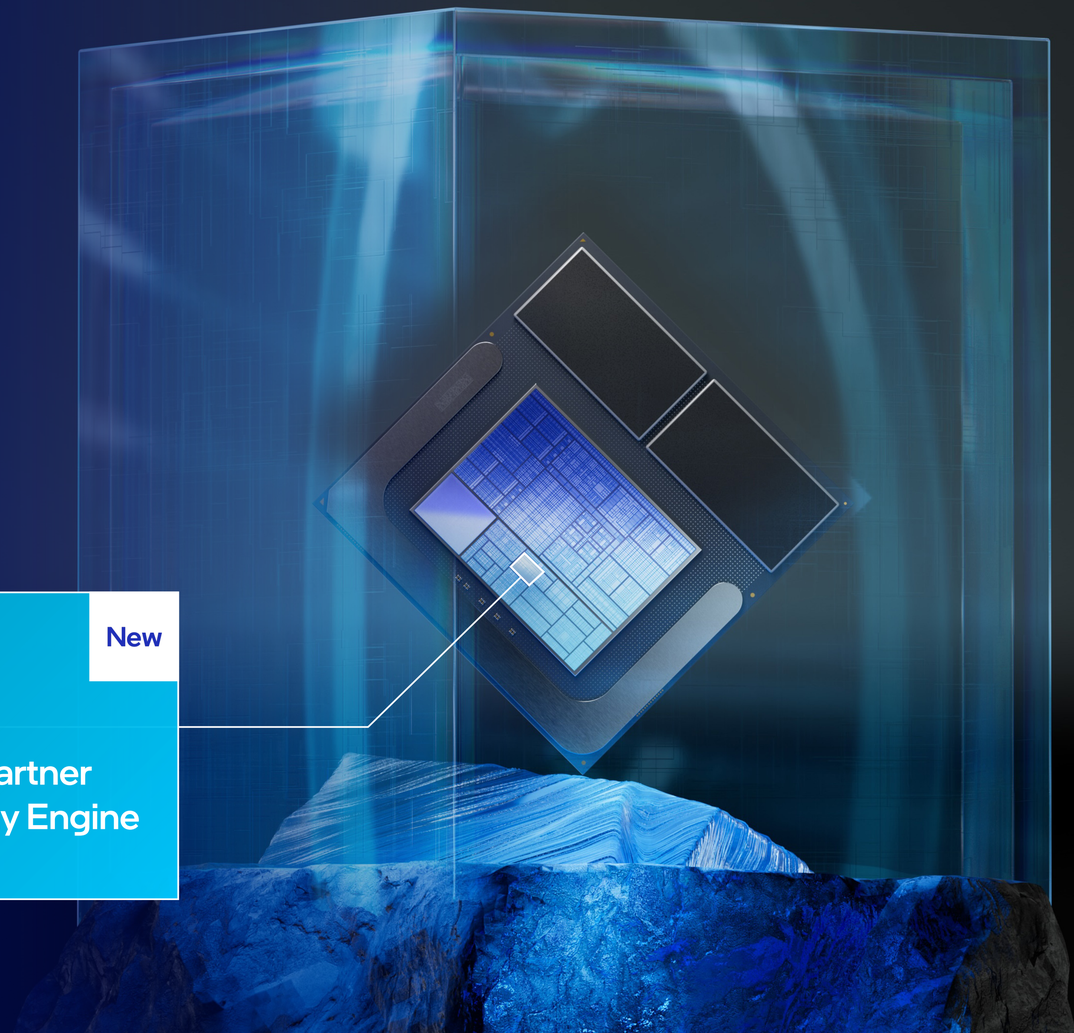
Intel® Silicon Security Engine (SSE)

Intel® Graphics Security Controller (GSC)

Converged Security & Manageability Engine (CSME)

New

Intel® Partner Security Engine (PSE)



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intel
CORE
ULTRA
intel
evo
EDITION
POWERED BY
Intel Core Ultra 200V Series Processors
intel

Verifying the Best Laptop Experience

Each design undergoes at least 12 months of rigorous testing and co-engineering

Pre-Assessment	Pre-Verification 1	Pre-Verification 2	Final Verification	Approval	Launch

Display optics test	Fast charging test	Audio (speaker/mics) test	Wi-Fi signal quality test
Fan noise & skin temp test	Camera quality test (VCX)	BT connectivity quality test	Display touch latency test

See intel.com/performanceindex for details.

Introducing the New Intel® Evo™ Edition

No compromise mobile performance

- Real-world battery life
- New cool and quiet metric
- Walk-away lock
- Ecolabel EPEAT Gold

Intelligent collaboration

- Intel® Wi-Fi 7 (5 Gig)
- New camera metric
- NPU-enabled audio/video enhancements

Engineered for Intel Evo

- Accessory program grown to 24 partners
- 15 new accessories
- Total of 70+ verified accessories

intel CORE ULTRA | intel evo EDITION

intel

Intel Core Ultra 200V Series Processor

CPU

- 4x P-core | **Lion Cove**
- 4x E-core | **Skymont**
- Up to 5 TOPS
- AVX & VNNI

GPU

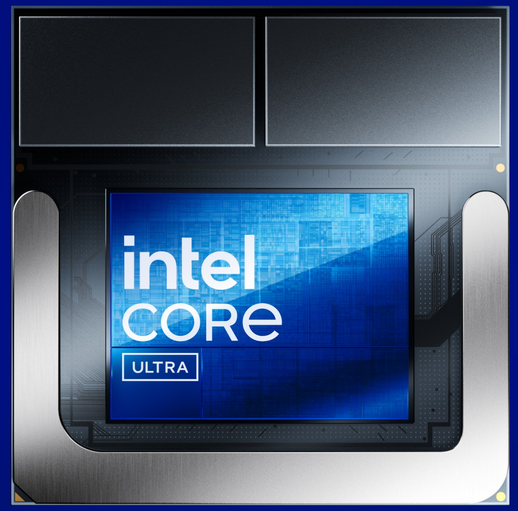
- Up to **67 TOPS**
- **Xe2 architecture**
- 8x Xe-cores & RT units
- Intel® XMX

NPU

- Up to **48 TOPS**
- NPU 4 architecture
- 6x neural compute engine
- Upgraded SHAVE DSP

Media & Display

- **VVC Decode**
- AV1 encode & decode
- **eDP 1.5,** DP 2.1, HDMI 2.1
- Up to 3x4k60 HDR



Memory

- Up to **32GB 2ch memory**
- Memory on package
- LPDDR5x-8533
- **8MB Memory Side Cache**

Security

- 4x Security Engines
- **Intel® Partner Security Engine**

Connectivity

- Integrated Intel® **Wi-Fi 7 (5 Gig)**
- 3x integrated **Thunderbolt 4**
- Bluetooth® 5.4 & LE Audio
- GbE LAN (I219-LM)

I/O

- 4x PCIe 4.0, **4x PCIe 5.0**
- 6x USB 2, 2x USB 3
- eSPI, SPI, MIPI CSI

intel

See notices and disclaimers for details. See source and performance disclaimers and appendix for workloads and configurations. Results may vary.

Intel Core Ultra 200V Series Processor

Processor Number	CPU						GPU				NPU		Memory		Power	
	Number of P-cores	Number of LP E-cores	Cores/Threads	Max Turbo Frequency P-core (GHz)	Max turbo frequency E-core (GHz)	Intel® smart cache (LLC)	Built-in GPU	Xᵉ-cores	Max frequency (GHz)	XMX AI PTOPS	Neural compute engines	NPU AI TOPS	Memory speed	Memory capacity	Processor base power (W)	Maximum turbo power (W)
Intel® Core™ Ultra 9 288V	4	4	8/8	5.1	3.7	12MB	Intel® Arc™ 140V GPU	8	2.05	67	6x Gen4	48	LPDDR5X 8533 MT/s	32GB	30W (Min: 17W)	37W
Intel® Core™ Ultra 7 268V	4	4	8/8	5.0	3.7	12MB	Intel® Arc™ 140V GPU	8	2.0	66	6x Gen4	48	LPDDR5X 8533 MT/s	32GB	17W (Min: 8W)	37W
Intel® Core™ Ultra 7 266V	4	4	8/8	5.0	3.7	12MB	Intel® Arc™ 140V GPU	8	2.0	66	6x Gen4	48	LPDDR5X 8533 MT/s	16GB	17W (Min: 8W)	37W
Intel® Core™ Ultra 7 258V	4	4	8/8	4.8	3.7	12MB	Intel® Arc™ 140V GPU	8	1.95	64	6x Gen4	47	LPDDR5X 8533 MT/s	32GB	17W (Min: 8W)	37W
Intel® Core™ Ultra 7 256V	4	4	8/8	4.8	3.7	12MB	Intel® Arc™ 140V GPU	8	1.95	64	6x Gen4	47	LPDDR5X 8533 MT/s	16GB	17W (Min: 8W)	37W
Intel® Core™ Ultra 5 238V	4	4	8/8	4.7	3.5	8MB	Intel® Arc™ 130V GPU	7	1.85	53	5x Gen4	40	LPDDR5X 8533 MT/s	32GB	17W (Min: 8W)	37W
Intel® Core™ Ultra 5 236V	4	4	8/8	4.7	3.5	8MB	Intel® Arc™ 130V GPU	7	1.85	53	5x Gen4	40	LPDDR5X 8533 MT/s	16GB	17W (Min: 8W)	37W
Intel® Core™ Ultra 5 228V	4	4	8/8	4.5	3.5	8MB	Intel® Arc™ 130V GPU	7	1.85	53	5x Gen4	40	LPDDR5X 8533 MT/s	32GB	17W (Min: 8W)	37W
Intel® Core™ Ultra 5 226V	4	4	8/8	4.5	3.5	8MB	Intel® Arc™ 130V GPU	7	1.85	53	5x Gen4	40	LPDDR5X 8533 MT/s	16GB	17W (Min: 8W)	37W

intel.

Intel® Arc™ graphics only available on select Intel® Core™ Ultra 200V series processor-powered systems. Other system configurations feature Intel® Graphics. Details at intel.com/performanceindex.

Available Starting September 24th

Pre-orders beginning **today**

80+ Unique designs

20+ Top OEMs

30+ Global retailers

acer amazon ASUS BEST BUY

DELL Technologies Harvey Norman hp JINGDONG JB HI-FI

KHADAS Lenovo LG mouse msi

NBB.com SAMSUNG THIRDWAVE UNITCOM

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intel CORE ULTRA

Built-in
ray-tracing

Bigger
NPU 4.0

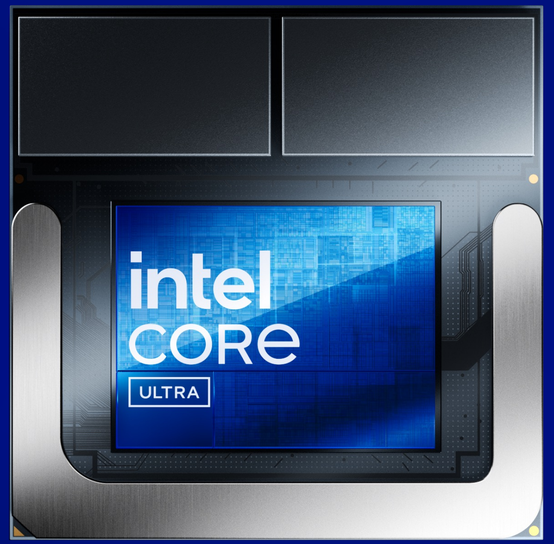
Integrated
Wi-Fi

Enhanced
Intel® Thread Director

Foveros
packaging

4P + 4E
core design

Up to
120
total platform **AI TOPS**

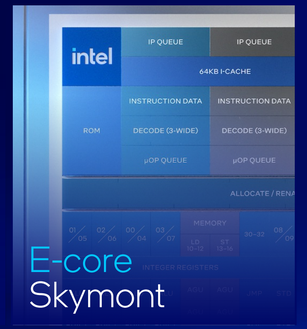


New
Xe2
GPU

Up to
32GB
memory on
package

VVC
Decode

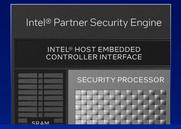
P-core
Lion Cove



E-core
Skymont

Integrated
Thunderbolt™ 4

New
Partner Security Engine



New
PMIC power delivery architecture

intel

Intel Core Ultra 200V Series Processor

Fastest CPU Core

+18%

vs. Intel® Core™ Ultra 7 155H on CB2024 1T & Geekbench 6.3 1T

Fastest Built-In GPU

+30%

Avg. performance of 45+ game titles vs. Intel® Core™ Ultra 7 155H

Most Efficient x86 Processor

Up to 50%

Lower package power vs. Intel® Core™ Ultra 7 165H

Historic Perf per Watt

2x

vs.. Intel® Core™ Ultra 7 165H on UL Procyon® Office Productivity

Unmatched AI Performance

3x

vs. Intel® Core™ Ultra 7 155H on UL Procyon® AI NPU Int8

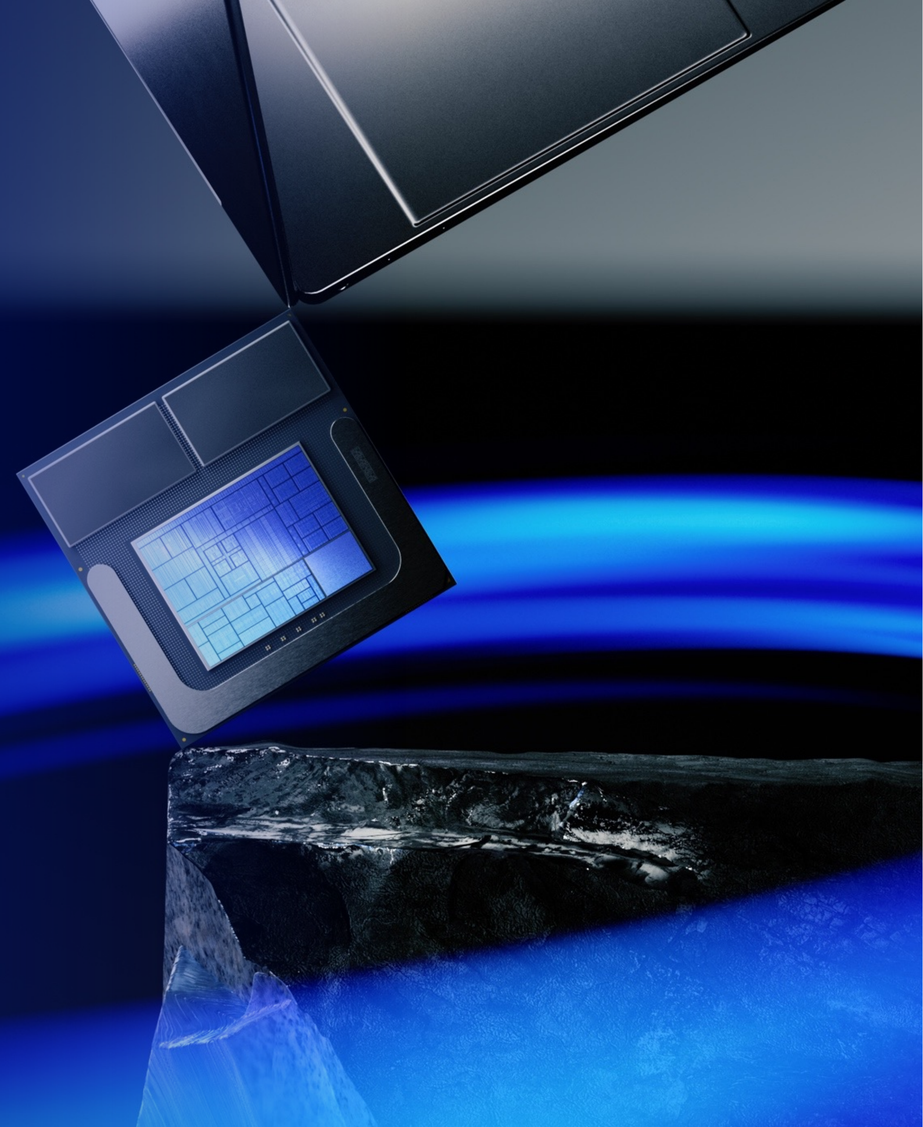
intel

See intel.com/performanceindex for details.

intel

intel CORE ULTRA

Appendix



intel

Claim # & Statement	Slide # & Title/Details
	Slide 5: Historic x86 Perf/W
1. Up to 50% lower power	As measured by processor power during UL Procyon Office Productivity benchmark. As of August 2024. Full configs: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to “Best Power Efficiency”. Processor: Intel Core Ultra 7 165H Processor (MTL-H) PL1=28W, 16 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; NPU Driver: 32.0.100.2408; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to “Best Power Efficiency”.
2. Fastest CPU core	As estimated by SPECrate*2017_int_base (1 copy) benchmark. As of August 2024. Full configs: Processor: Intel Core Ultra 9 288V 8 Core; tested in Asus Zenbook S 14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150 & 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 (PV); Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: “MyAsus = Performance" Processor: Intel Core Ultra 7 155H 16 Core; tested in Asus Zenbook 14; Memory: LPDDR5-7467 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Intel Arc Graphics 32.0.101.5768; NPU Driver: 32.0.100.2540; BIOS: UX3405MA.307; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "MyAsus = Performance" Processor: AMD Ryzen AI 9 HX 370 ; tested in Asus Zenbook S16; Memory: 32GB LPDDR5-7500; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Windows 11 Professional 26100.1150; Radeon 890M Graphics Driver 32.0.11018.8007; NPU Driver: 32.0.201.174; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "MyAsus = Performance" Processor: Qualcomm Snapdragon X Elite - X1E-78-100; tested in Asus Vivobook S15 Copilot+ ; Memory: 16GB LPDDR5-8448Mhz; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home (ARM64) 26100.1150; Qualcomm Adreno GPU 31.0.56.0; NPU Driver: N/A; BIOS: S5507QAD.307; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "MyAsus = Performance“ Processor: Qualcomm Snapdragon X Elite X1E-84-100, 12 Core; tested in Samsung Galaxy Book4 Edge; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 26100.863; Qualcomm Adreno Graphics 31.0.54.1; BIOS: P00AKX.044.240615.WY.0940 Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "Best Performance" Processor: Apple M3; 8(4performance +4 efficiency); tested on MacBook Pro 14" Model A2918, Memory: LPDDR5 24GB; Storage Brand: Apple, Storage: Apple SSD AP2048Z 2TB; OS: MacOS Version:14.6; Kernel Version: Darwin 23.1.0; Graphics: Apple 10 cores integrated GPU; Resolution set to default; Screen Size: 14” 3024x1964 Liquid Retina XDR; PC BIOS: N/A; GPU Mode: N/A; OS Power Plan: Preferences->Battery->Power Adaptor->energy mode is set to “Default”; VBS: N/A; Defender: N/A; Tamper Protection: N/A

Claim # & Statement	Slide # & Title/Details
	Slide 5: Historic x86 Perf/W
3. Best built-in graphics	Refers to systems powered by Intel® Core™ Ultra Series 2 mobile processors with integrated Intel® Arc™ Graphics compared to other ultrathin system options as of August 2024, based on impressive performance on graphics benchmarks such as 3DMark Steel Nomad, 3DMark Time Spy, 3DMark Solar Bay, & 3DMark Wild Life Extreme, actual gameplay performance, and strong graphics AI benchmark performance, including in comparison to prior generation and AMD Ryzen™ AI 9 HX 370, Qualcomm Snapdragon X Elite, and Apple M3. Intel® Arc™ graphics only available on select Intel® Core™ Ultra (Series 2) powered systems; minimum processor power required. OEM enablement required. Check with OEM or retailer for system configuration. Processor: Intel Core Ultra 9 288V 8 Core; tested in Asus Zenbook S 14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150 & 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 (PV); Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: “MyAsus = Performance” Processor: Intel Core Ultra 7 155H 16 Core; tested in Asus Zenbook 14; Memory: LPDDR5-7467 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Intel Arc Graphics 32.0.101.5768; NPU Driver: 32.0.100.2540; BIOS: UX3405MA.307; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "MyAsus = Performance" Processor: AMD Ryzen AI 9 HX 370 ; tested in Asus Zenbook S16; Memory: 32GB LPDDR5-7500; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Windows 11 Professional 26100.1150; Radeon 890M Graphics Driver 32.0.11018.8007; NPU Driver: 32.0.201.174; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "MyAsus = Performance" Processor: Qualcomm Snapdragon X Elite - X1E-78-100; tested in Asus Vivobook S15 Copilot+ ; Memory: 16GB LPDDR5-8448Mhz; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home（ARM64) 26100.1150; Qualcomm Adreno GPU 31.0.56.0; NPU Driver: N/A; BIOS: S5507QAD.307; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "MyAsus = Performance” Processor: Qualcomm Snapdragon X Elite X1E-84-100, 12 Core; tested in Samsung Galaxy Book4 Edge; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 26100.863; Qualcomm Adreno Graphics 31.0.54.1; BIOS: P00AKX.044.240615.WY.0940 Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "Best Performance" Processor: Apple M3; 8(4performance +4 efficiency); tested on MacBook Pro 14" Model A2918, Memory: LPDDR5 24GB; Storage Brand: Apple, Storage: Apple SSD AP2048Z 2TB; OS: MacOS Version:14.6; Kernel Version: Darwin 23.1.0; Graphics: Apple 10 cores integrated GPU; Resolution set to default; Screen Size: 14” 3024x1964 Liquid Retina XDR; PC BIOS: N/A; GPU Mode: N/A; OS Power Plan: Preferences->Battery->Power Adaptor->energy mode is set to “Default”; VBS: N/A; Defender: N/A: Tamper Protection: N/A

Claim # & Statement	Slide # & Title/Details
	Slide 5: Historic x86 Perf/W
4. Unmatched AI performance	As of August 2024, refers to Intel Core Ultra 200V series processors, based on the extensive AI capabilities and experiences, broad compatibility, software options, unique architecture, and impressive performance and other attributes that combine to deliver the best overall AI experience, including in comparison to prior generation and AMD Ryzen™ AI 9 HX 370, Qualcomm Snapdragon X Elite, and Apple M3, as measured by: •Strong AI performance on CPU, GPU, and NPU features, including on UL Procyon AI Computer Vision & Geekbench AI •Up to 120 platform TOPs for AI compute •Broad selection of publicly available applications & proof of concepts •Ongoing expansion of AI features and ISV-developed application •Lower processor power consumption during typical user scenarios on Microsoft Teams, Netflix, YouTube and Web browsing •Reduced processor power that enables longer battery life AI features may require software purchase, subscription or enablement by a software or platform provider, or may have specific configuration or compatibility requirements. Learn more at intel.com/aipc. Performance varies by use, configuration and other details. Processor: Intel Core Ultra 9 288V 8 Core; tested in Asus Zenbook S 14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150 & 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 (PV); Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: “MyAsus = Performance“ Processor: Intel Core Ultra 7 155H 16 Core; tested in Asus Zenbook 14; Memory: LPDDR5-7467 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Intel Arc Graphics 32.0.101.5768; NPU Driver: 32.0.100.2540; BIOS: UX3405MA.307; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "MyAsus = Performance" Processor: AMD Ryzen AI 9 HX 370 ; tested in Asus Zenbook S16; Memory: 32GB LPDDR5-7500; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Windows 11 Professional 26100.1150; Radeon 890M Graphics Driver 32.0.11018.8007; NPU Driver: 32.0.201.174; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "MyAsus = Performance" Processor: Qualcomm Snapdragon X Elite - X1E-78-100; tested in Asus Vivobook S15 Copilot+ ; Memory: 16GB LPDDR5-8448Mhz; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home（ARM64) 26100.1150; Qualcomm Adreno GPU 31.0.56.0; NPU Driver: N/A; BIOS: S5507QAD.307; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "MyAsus = Performance“ Processor: Qualcomm Snapdragon X Elite X1E-84-100, 12 Core; tested in Samsung Galaxy Book4 Edge; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 26100.863; Qualcomm Adreno Graphics 31.0.54.1; BIOS: P00AKX.044.240615.WY.0940 Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "Best Performance" Processor: Apple M3; 8(4performance +4 efficiency); tested on MacBook Pro 14" Model A2918, Memory: LPDDR5 24GB; Storage Brand: Apple, Storage: Apple SSD AP2048Z 2TB; OS: MacOS Version:14.6; Kernel Version: Darwin 23.1.0; Graphics: Apple 10 cores integrated GPU; Resolution set to default; Screen Size: 14” 3024x1964 Liquid Retina XDR; PC BIOS: N/A; GPU Mode: N/A; OS Power Plan: Preferences->Battery->Power Adaptor->energy mode is set to “Default”; VBS: N/A; Defender: N/A; Tamper Protection: N/A

Claim # & Statement	Slide # & Title/Details
	Slide 6: The Most Efficient x86 Processor Ever
5. The Most Efficient x86 Processor Ever	Refers to Intel® Core™ Ultra 200V series mobile processors among processors powering ultrathin systems, based on processor power during UL Procyon Office Productivity benchmark and a collection of representative workloads for web browsing, video streaming, office productivity, and video conferencing, including in comparison to Intel Core Ultra 7 165H, & AMD Ryzen™ 9 AI HX 370; as of August 2024. Learn more at intel.com/performanceindex.
	Slide 7: Key Energy Innovations
6. Up to 50% lower package power	See claim #1.
	Slide 9: Exceptional Low Power Efficiency
7. 1.20x perf/w vs. Qualcomm X1E-80-100	As measured by processor power during UL Procyon Office Productivity benchmark. Results as of August 2024. Full configs: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to "Balanced". Processor: Qualcomm Snapdragon X Elite X1E-80-100, 12 Core; tested in OEM A system; Memory: LPDDR5-8448 16GB; Storage: NVMe WD 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 10.0.26100; Qualcomm Adreno Graphics 31.0.60.1; BIOS: 1.7.0; Power Plan set to Balanced, Power Mode set to "Balanced"
8. 2.29x perf/w vs. Intel® Core™ Ultra 7 165H	As measured by processor power relative to overall UL Procyon Office Productivity benchmark . Results as of August 2024. Full configs: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to "Balanced". Processor: Intel Core Ultra 7 165H Processor (MTL-H) PL1=28W, 16 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; NPU Driver: 32.0.100.2408; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to "Balanced".

Claim # & Statement	Slide # & Title/Details
	Slide 9: Exceptional Low Power Efficiency
9. +7% performance	As measured by UL Procyon Office Productivity benchmark. Results at of August 2024. Ful configs: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to “Balanced”. Processor: Qualcomm Snapdragon X Elite X1E-80-100, 12 Core; tested in OEM A system; Memory: LPDDR5-8448 16GB; Storage: NVMe WD 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 10.0.26100; Qualcomm Adreno Graphics 31.0.60.1; BIOS: 1.7.0; Power Plan set to Balanced, Power Mode set to “Balanced”. Processor: Intel Core Ultra 7 165H Processor (MTL-H) PL1=28W, 16 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; NPU Driver: 32.0.100.2408; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to “Balanced”.
10. Up to 49% lower package power	As measured by processor power during UL Procyon Office Productivity benchmark. Results as of August 2024. Full config: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to “Balanced”. Processor: Qualcomm Snapdragon X Elite X1E-80-100, 12 Core; tested in OEM A system; Memory: LPDDR5-8448 16GB; Storage: NVMe WD 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 10.0.26100; Qualcomm Adreno Graphics 31.0.60.1; BIOS: 1.7.0; Power Plan set to Balanced, Power Mode set to “Balanced”
11. Up to 53% lower package power	As measured by processor power during UL Procyon Office Productivity benchmark. Results as of August 2024. Full config: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to “Balanced”. Processor: Intel Core Ultra 7 165H Processor (MTL-H) PL1=28W, 16 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; NPU Driver: 32.0.100.2408; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to “Balanced”.

Claim # & Statement	Slide # & Title/Details
	Slide 10: Up to 2x Gen-on-Gen Perf/Watt
12. Up to 2x Gen-on-Gen Perf/Watt	As measured by UL 3DMark Time Spy. Results as of August 2024. Full config: Processor: Intel Core Ultra 7 268V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to “Best Performance”. Processor: Intel Core Ultra 7 165H Processor (MTL-H) PL1=28W, 16 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to “Best Performance”.
	Slide 11: Slashing x86 Package Power
13. Up to 50% lower package power than the previous generation. Including 32 GB memory.	See claim #1.
	Slide 12: Battery Life Myth Busted
14. Rundown hours, same OEM, same chassis UL Procyon® Office Productivity: 20.1 hours on Intel® Core™ Ultra 7 268V vs. 18.4 hours on Qualcomm X1E-80-100 Microsoft Teams 3x3: 10.7 hours on Intel® Core™ Ultra 7 268V vs. 12.7 hours on Qualcomm X1E-80-100	As measured by UL Procyon Battery Life Office Productivity test. Results may vary based on use, configurations, and other factors. Results as of August 2024. Full config: Processor: Intel Core Ultra 7 268V 8 Core; tested in OEM A system with same chassis; Memory: LPDDR5-8533 32GB; Storage: KIOXIA 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: 1.0.0; Power Plan set to Balanced, Power Mode set to “Best Power Efficiency”; Battery Size: 55Wh Processor: Qualcomm Snapdragon X Elite X1E-80-100, 12 Core; tested in OEM A system with same chassis; Memory: LPDDR5-8448 16GB; Storage: NVMe WD 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 10.0.26100; Qualcomm Adreno Graphics 31.0.60.1; BIOS: 1.6.0; Power Plan set to Balanced, Power Mode set to “Best Power Efficiency”; Battery Size: 55Whr

Claim # & Statement	Slide # & Title/Details
	Slide 13: Enables Best Battery Life in x86
15. Rundown hours, same OEM, different 14-16" chassis; 1080p display, ~75Whr UL Procyon® Office Productivity: 14 hours on Intel® Core™ Ultra 9 288V vs. 9.5 hours on Qualcomm X1E-78-100 vs. 10.1 on AMD HX 370 Microsoft Teams 3x3: 9.9 hours on Intel® Core™ Ultra 288V vs. 9.4 hours on Qualcomm X1E-78-100 vs. 8.2 hours on AMD HX 370	As measured by UL Procyon Battery Life Office Productivity test. Results may vary based on use, configurations, and other factors. Results as of August 2024. Full config: Processor: Intel Core Ultra 9 288V 8 Core; tested in ASUS Zenbook S14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 Power Plan set to Balanced, Power Mode set to "Best Power Efficiency"; OEM App: "Whisper"; Battery Size: 72Whr Processor: Qualcomm Snapdragon X Elite X1E-78-100, 12 Core; tested in ASUS Vivobook S15 Copilot+; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Qualcomm Adreno Graphics 31.0.56.0; BIOS: S5507QAD.307; Power Plan set to Balanced, Power Mode set to "Best Power Efficiency"; OEM App: "Whisper"; Battery Size: 70WHr Processor: AMD Ryzen AI 9 HX 370 12 Core; tested in ASUS Zenbook S 16; Memory: LPDDR5-7500 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; AMD Radeon 890M Graphics 32.0.11018.8007; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to "Best Power Efficiency"; OEM App: "Whisper"; Battery Size: 78Whr

Claim # & Statement	Slide # & Title/Details
	Slide 14: Extreme Efficiency
16. Up to 50% lower package power based on web, video, and productivity workloads	See claim #1.
17. Up to 2x GPU power efficiency based on gaming workloads	See claim #12.
18. More than 2x generational perf/W	As measured by processor power during UL Procyon Office Productivity benchmark. Results as of August 2024. Full config: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to “Balanced”. Processor: Intel Core Ultra 7 165H Processor (MTL-H) PL1=28W, 16 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; NPU Driver: 32.0.100.2408; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to “Balanced”.
19. Up to 20 hours of battery life	See claim #14.
20. +20% higher perf/W than Qualcomm	As measured by processor power during UL Procyon Office Productivity benchmark. Results as of August 2024. Full config: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to “Balanced”. Processor: Qualcomm Snapdragon X Elite X1E-80-100, 12 Core; tested in OEM A system; Memory: LPDDR5-8448 16GB; Storage: NVMe WD 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 10.0.26100; Qualcomm Adreno Graphics 31.0.60.1; BIOS: 1.7.0; Power Plan set to Balanced, Power Mode set to “Balanced”

Claim # & Statement	Slide # & Title/Details
	Slide 16: E-core & P-core Summary Slide
21. The fastest performance core for thin & light PCs	See claim #2.
	Slide 17: P-core Optimization
22. Removing Hyper-Threading we get comparable single thread IPC for 15% lower Cdyn and 10% smaller area which translates into 15% better performance per power and 30% better performance per-power per-area vs. a single thread running on a Hyper-Threading-capable core	All figures estimated based on hypothetical comparison of an HT-capable P-core vs. an Efficiency optimized P-core.
	Slide 18: All-New Low Latency Fabric
23. DRAM Latency = ~90ns; ;40% lower than Meteor Lake and 30% lower than Strix Point	As measured by core-to-core latency tool (github.com/nviennot/core-to-core-latency) & AIDA64 Cache & Memory benchmark. Results as of August 2024. Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS Source for AMD Strix Point DRAM latency (~128ns): https://chipsandcheese.com/2024/08/10/amds-strix-point-zen-5-hits-mobile/ Source for Intel Core Ultra processor (Series 1) DRAM latency : https://www.techpowerup.com/review/asrock-nuc-box-155h-intel-core-ultra7-155h-arc-graphics/7.html
	Slide 20: The Fastest Cores. Period.
24. The fastest cores	See claim #2.

Claim # & Statement	Slide # & Title/Details
	Slide 21: Up to 3x Perf per Thread
25. Up to 3x perf per thread	Based on SPECrate*2017_int_base (1-copy) performance estimates derived from measurements on an Intel internal development platform as a fixed PL1; as of August 26, 2024. Details at intel.com/performanceindex. Results may vary. SPECrate is a trademark of SPEC; more information on this workload can be found at https://www.spec.org/cpu2017. "Configuration assumed". Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to "Best Performance". Processor: Intel Core Ultra 7 165H Processor (MTL-H) PL1=28W, 16 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to "Best Performance". Processor: Intel Core Ultra 7 165U Processor (MTL-U) PL1=15W, 12 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; NPU Driver: 32.0.100.2408; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to "Best Performance".

Claim # & Statement	Slide # & Title/Details
	Slide 22: 8-Core Magic for Thin & Light PCs
26. Estimated SPECrate*2017_int_base (n-copy)	Among processors powering ultrathin systems; SPECrate*2017_int_base (1-copy) performance is estimated at a given package power; as of August 26, 2024. Details at intel.com/performanceindex. Results may vary. SPECrate is a trademark of SPEC; more information on this workload can be found at https://www.spec.org/cpu2017. "Configuration assumed". Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to "Best Performance". Processor: Intel Core Ultra 7 165H Processor (MTL-H) PL1=28W, 16 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to "Best Performance". Processor: Intel Core Ultra 7 165U Processor (MTL-U) PL1=15W, 12 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; NPU Driver: 32.0.100.2408; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to "Best Performance". Processor: AMD Ryzen AI 9 HX 370 ; tested in Asus Zenbook S16; Memory: 32GB LPDDR5-7500; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Windows 11 Professional 26100.1150; Radeon 890M Graphics Driver 32.0.11018.8007; NPU Driver: 32.0.201.174; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to "Best Performance"; OEM App: "MyAsus = Performance" Processor: Qualcomm Snapdragon X Elite X1E-80-100, 12 Core; tested in OEM A system; Memory: LPDDR5-8448 16GB; Storage: NVMe WD 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 10.0.26100; Qualcomm Adreno Graphics 31.0.60.1; BIOS: 1.7.0; Power Plan set to Balanced, Power Mode set to "Best Performance"; OEM App: "Ultra Performance" Processor: Apple M3; 8(4performance +4 efficiency); tested on MacBook Pro 14" Model A2918, Memory: LPDDR5 24GB; Storage Brand: Apple, Storage: Apple SSD AP2048Z 2TB; OS: MacOS Version:14.6; Kernel Version: Darwin 23.1.0; Graphics: Apple 10 cores integrated GPU; Resolution set to default; Screen Size: 14" 3024x1964 Liquid Retina XDR; PC BIOS: N/A; GPU Mode: N/A; OS Power Plan: Preferences->Battery->Power Adaptor->energy mode is set to "Default"; VBS: N/A; Defender: N/A; Tamper Protection: N/A

Claim # & Statement	Slide # & Title/Details
	Slide 23: Productivity Powerhouse
27. +6% UL Procyon® Office TIE Speedometer 3 +17% PugetBench Photoshop +43% BAPCo CrossMark (Productivity) +92% Handbrake 1..8.2 (4K HEVC to 1080p)	Performance results are based on testing as of August 2024. Full config: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to “Best Performance”. Processor: AMD Ryzen AI 9 HX 370 ; tested in Asus Zenbook S16; Memory: 32GB LPDDR5-7500; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Windows 11 Professional 26100.1150; Radeon 890M Graphics Driver 32.0.11018.8007; NPU Driver: 32.0.201.174; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "MyAsus = Performance" Processor: Qualcomm Snapdragon X Elite X1E-80-100, 12 Core; tested in OEM A system; Memory: LPDDR5-8448 16GB; Storage: NVMe WD 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 10.0.26100; Qualcomm Adreno Graphics 31.0.60.1; BIOS: 1.7.0; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "Ultra Performance"

Claim # & Statement	Slide # & Title/Details
	Slide 24: The Fastest CPU Cores
28. The fastest CPU cores vs. competing thin and light processors	See claim #2.
29. +68% generational IPC with Skymont E-cores	Results are based on Intel internal measurements as of August 2024(+/- 10% Margin of Error) as estimated by SPECrate*2017_fp_base, GCC12.1-O2 Linux at Fixed Frequency (ISO). Skymont IPC gain on Lunar Lake E-Core cluster vs. Meteor Lake LP E-core cluster with Crestmont.
30. +14% generational IPC with Lion Cove P-cores	Iso frequency benefit estimated across: estimated by components of SPECrate2017_int_base (1 copy) and SPECrate2017_fp_base (1 copy), Cinebench R23 Single Core, Cinebench 2024 Single Core, Geekbench 5.4.5 Single-Core, Geekbench 6.2.1 Single-Core, WebXPRT 4, Speedometer
31. Up to 3x perf/thread	See claim #25.
	Slide 25: Intel® Arc™
32. World's Best Built-in GPU	See claim #3.
	Slides 27-31: Fastest Gaming in Thin and Light
33. Fastest Gaming in Thin and Light	See claim #3.
34. Gaming s-curves	Performance results are based on testing as of August 2024 across a variety of popular game titles. Full config: Processor: Intel Core Ultra 9 288V 8 Core; tested in ASUS Zenbook S14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: Pre-production setting equivalent to PL1=28W Processor: Intel Core Ultra 7 155H 16 Core; tested in ASUS Zenbook 14; Memory: LPDDR5-7467 32GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Intel Arc Graphics 32.0.101.5768; NPU Driver: 32.0.100.2540; BIOS: UX3405MA.307 Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: "Performance Mode" Processor: Qualcomm Snapdragon X Elite X1E-84-100, 12 Core; tested in Samsung Galaxy Book4 Edge; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 26100.863; Qualcomm Adreno Graphics 31.0.54.1; BIOS: P00AKX.044.240615.WY.0940 Power Plan set to Balanced, Power Mode set to "Best Performance"; OEM App: "Best Performance" Processor: AMD Ryzen AI 9 HX 370 12 Core; tested in ASUS Zenbook S 16; Memory: LPDDR5-7500 32GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; AMD Radeon 890M Graphics 32.0.11018.8007; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: "Performance Fan"

Claim # & Statement	Slide # & Title/Details
	Slide 32: World's Best Built-in GPU
35. World's Best Built-in GPU	See claim #3.
36. +31% performance vs. Intel® Core™ Ultra 7 155H +68% performance vs. Qualcomm X1E-84-100 +16% performance vs. AMD HX 370	See claim #34.
	Slide 34: Up to 60% faster gaming performance
37. Up to 60% faster gaming performance	Performance results are based on testing as of August 2024. Full config: Processor: Intel Core Ultra 9 288V 8 Core; tested in ASUS Zenbook S14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: Pre-production setting equivalent to PL1=28W Processor: Intel Core Ultra 7 155H 16 Core; tested in ASUS Zenbook 14; Memory: LPDDR5-7467 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Intel Arc Graphics 32.0.101.5768; NPU Driver: 32.0.100.2540; BIOS: UX3405MA.307 Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: "Performance Mode"
	Slide 35: Immersive Gaming at its Best
38. Fastest ray tracing by ~30% 99th percentile >30 FPS	Performance results are based on testing as of August 2024. Full config: Processor: Intel Core Ultra 9 288V 8 Core; tested in ASUS Zenbook S14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: Pre-production setting equivalent to PL1=28W Processor: Qualcomm Snapdragon X Elite X1E-78-100, 12 Core; tested in ASUS Vivobook S15 Copilot+; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Qualcomm Adreno Graphics 31.0.56.0; BIOS: S5507QAD.307; Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: "Performance Mode" Processor: AMD Ryzen AI 9 HX 370 12 Core; tested in ASUS Zenbook S 16; Memory: LPDDR5-7500 32GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; AMD Radeon 890M Graphics 32.0.11018.8007; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: "Performance Fan"

Claim # & Statement	Slide # & Title/Details
	Slide 37: Media Engine
39. Best-in-class video transcode performance	Performance results are based on testing as of August 2024. Full config: Processor: Intel Core Ultra 9 288V 8 Core; tested in ASUS Zenbook S14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: Pre-production setting equivalent to PL1=28W Processor: Qualcomm Snapdragon X Elite X1E-78-100, 12 Core; tested in ASUS Vivobook S15 Copilot+; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Qualcomm Adreno Graphics 31.0.56.0; BIOS: S5507QAD.307; Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: "Performance Mode" Processor: AMD Ryzen AI 9 HX 370 12 Core; tested in ASUS Zenbook S 16; Memory: LPDDR5-7500 32GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; AMD Radeon 890M Graphics 32.0.11018.8007; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: "Performance Fan"
	Slide 38: Graphics Summary
40. 1.3x average performance uplift vs. Intel® Core™ Ultra 7 155H	See claim #34.
41. 1.8x peak performance uplift vs. Intel® Core™ Ultra 7 155H	See claim #34.

Claim # & Statement	Slide # & Title/Details
	Slide 39: AI Runs Best on Intel
42. AI Runs Best on Intel	See claim #4.
	Slide 41: Unmatched AI Compute
43. Unmatched AI Compute	See claim #4.
	Slide 42: Winning Diffusion Performance
44. Intel® Core™ Ultra processors lead in performance and compatibility for generative AI in Stable Diffusion 1.5 (GIMP)	Performance results are based on testing as of August 2024. Full config: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to “Best Performance”. Processor: Qualcomm Snapdragon X Elite X1E-80-100, 12 Core; tested in OEM A system; Memory: LPDDR5-8448 16GB; Storage: NVMe WD 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Home 10.0.26100; Qualcomm Adreno Graphics 31.0.60.1; BIOS: 1.7.0; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "Ultra Performance"

Claim # & Statement	Slide # & Title/Details
	Slide 43: UL Procyon® AI Computer Vision
45. Intel's broad support for data types and models enables consistent AI performance and experience	Performance results are based on testing as of August 2024. Full config: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to "Best Performance". Processor: AMD Ryzen AI 9 HX 370 12 Core; tested in ASUS Zenbook S 16; Memory: LPDDR5-7500 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; AMD Radeon 890M Graphics 32.0.11018.8007; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: "Performance Fan" Processor: Qualcomm Snapdragon X Elite X1E-78-100, 12 Core; tested in ASUS Vivobook S15 Copilot+; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Qualcomm Adreno Graphics 31.0.56.0; BIOS: S5507QAD.307; Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: "Performance Mode"
	Slide 44: UL Procyon® AI Image Generation
46. Intel's broad support for data types and models enables consistent AI performance and experience	Performance results are based on testing as of August 2024. Full config: Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to "Best Performance". Processor: AMD Ryzen AI 9 HX 370 12 Core; tested in ASUS Zenbook S 16; Memory: LPDDR5-7500 32GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; AMD Radeon 890M Graphics 32.0.11018.8007; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: "Performance Fan" Processor: Qualcomm Snapdragon X Elite X1E-78-100, 12 Core; tested in ASUS Vivobook S15 Copilot+; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Qualcomm Adreno Graphics 31.0.56.0; BIOS: S5507QAD.307; Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: "Performance Mode"

Claim # & Statement	Slide # & Title/Details
	Slide 45: Geekbench AI
47. Performance leadership Multi-engine leadership Framework leadership	Performance results are based on testing as of August 2024. Full config: Processor: Intel Core Ultra 9 288V 8 Core; tested in ASUS Zenbook S14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: Pre-production setting equivalent to PL1=28W Processor: AMD Ryzen AI 9 HX 370 12 Core; tested in ASUS Zenbook S 16; Memory: LPDDR5-7500 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; AMD Radeon 890M Graphics 32.0.11018.8007; BIOS: UM5606WA.308; Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: "Performance Fan" Processor: Qualcomm Snapdragon X Elite X1E-78-100, 12 Core; tested in ASUS Vivobook S15 Copilot+; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Qualcomm Adreno Graphics 31.0.56.0; BIOS: S5507QAD.307; Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: "Performance Mode"

Claim # & Statement	Slide # & Title/Details
	Slide 46: Geomean 58% Faster AI Performance
48. Geomean 58% faster AI performance	Performance results are based on testing as of August 2024. Full config: Processor: Intel Core Ultra 9 288V 8 Core; tested in ASUS Zenbook S14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: Pre-production setting equivalent to PL1=28W Processor: Intel Core Ultra 7 155H 16 Core; tested in ASUS Zenbook 14; Memory: LPDDR5-7467 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Intel Arc Graphics 32.0.101.5768; NPU Driver: 32.0.100.2540; BIOS: UX3405MA.307 Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: "Performance Mode" Processor: Qualcomm Snapdragon X Elite X1E-78-100, 12 Core; tested in ASUS Vivobook S15 Copilot+; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Qualcomm Adreno Graphics 31.0.56.0; BIOS: S5507QAD.307; Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: "Performance Mode"
	Slide 48: AI runs best on Intel
49. AI runs best on Intel	See claim #4.
	Slide 49: A Great AI PC Starts with a Great PC
50. Up to 2.29x better CPU power efficiency gen-on-gen	See claim #8.
51. Up to 2x better GPU power efficiency gen-on-gen	See claim #12.
52. Up to 3x performance per thread gen-on-gen	See claim #25.
53. Geomean 30% faster PC gaming performance gen-on-gen	See claim #38.

Claim # & Statement	Slide # & Title/Details
	Slide 63: Adobe Premiere Pro
54. +86% vs. Qualcomm X1E-78-100 +76% vs. Intel® Core™ Ultra 7 155H	Performance results are based on testing as of August 2024. Full config: Processor: Intel Core Ultra 9 288V 8 Core; tested in ASUS Zenbook S14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: Pre-production setting equivalent to PL1=28W Processor: Intel Core Ultra 7 155H 16 Core; tested in ASUS Zenbook 14; Memory: LPDDR5-7467 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Intel Arc Graphics 32.0.101.5768; NPU Driver: 32.0.100.2540; BIOS: UX3405MA.307 Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: "Performance Mode” Processor: Qualcomm Snapdragon X Elite X1E-78-100, 12 Core; tested in ASUS Vivobook S15 Copilot+; Memory: LPDDR5-8448 16GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Qualcomm Adreno Graphics 31.0.56.0; BIOS: S5507QAD.307; Power Plan set to Balanced, Power Mode set to “Best performance”; OEM App: "Performance Mode"
	Slide 64: Adobe Lightroom
55. +145% vs. Qualcomm X1E-78-100 +79% vs. Intel® Core™ Ultra 7 155H	See claim #54.
	Slide 65: Adobe After Effects
56. DNR vs. Qualcomm X1E-78-100 +54% vs. Intel® Core™ Ultra 7 155H	See claim #54.

Claim # & Statement	Slide # & Title/Details
	Slide 74: Leading Platform Connectivity
57. 2.4x higher peak data rates	Intel® Wi-Fi, 7 BE201 claims, are based on the comparison of the expected maximum theoretical data rates for similarly configured single radio Wi-Fi 7 (802.11be) and standard Wi-Fi 6 (802.11ax) Wi-Fi solutions as documented in current IEEE 802.11be spec and IEEE 802.11 wireless standard specifications and require the use of similarly configured 802.11be wireless network routers.
58. Improved battery life in real life user scenarios vs. competitive solutions	Scenarios reflect the following cases: Sleep mode, busy idle, Team 3x3, Netflix Streaming, Web Browsing. The competitive solutions being discussed are: Mediatek MT7927 and Qualcomm FC7800. Power measurements were taken on an Intel Reference Validation Platform where the SoC and connectivity solution were measured. Battery life claim is based on the assumption that rest of system power is identical for the Intel, Mediatek and Qualcomm connectivity solutions. And the observation that the Intel connectivity solution used less power than the other two solutions in at least a majority of the scenarios tested.
59. Up to 30% faster vs. comp	Single-Radio. Uplink quality- effective range vs throughput. Intel Wi-Fi 7 BE201 compared to major competitor's Wi-Fi 7 for PC.
60. Reduced latency	Intel Bluetooth® Over PCIe vs USB. Technically, LNL supports both PCIe and USB (conf. dependent). Boot Time is the time that takes to Bluetooth Driver to initialize the BT device. Latency refers to HID latency from sleep.
	Slide 83: Intel Core Ultra 200V Series Processor
61. Fastest CPU Core	See claim #2.
62. +18% vs. Intel® Core™ Ultra 7 155H on CB2024 1T & Geekbench 6.31T	As measured by Cinebench 2024 1T score, and Geekbench 6.3 single core score Processor: Intel Core Ultra 9 288V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to "Best Performance". Processor: Intel Core Ultra 7 165H Processor (MTL-H) PL1=28W, 16 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to "Best Performance".

Claim # & Statement	Slide # & Title/Details
	Slide 83: Intel Core Ultra 200V Series Processor
63. Fastest Built-In GPU	See claim #3.
64. +30% average performance of 45+ game titles vs. Intel® Core™ Ultra 7 155H	Performance results are based on testing as of August 2024 across a variety of popular game titles. Full config: Processor: Intel Core Ultra 9 288V 8 Core; tested in ASUS Zenbook S14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 Pro 26100.1301; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: Pre-production setting equivalent to PL1=28W Processor: Intel Core Ultra 7 155H 16 Core; tested in ASUS Zenbook 14; Memory: LPDDR5-7467 32GB; Storage: Samsung SSD 990 PRO 4TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Intel Arc Graphics 32.0.101.5768; NPU Driver: 32.0.100.2540; BIOS: UX3405MA.307 Power Plan set to Balanced, Power Mode set to "Best performance"; OEM App: "Performance Mode"
65. Most Efficient x86 Processor	See claim #5.
66. Up to 50% lower package power vs. Intel® Core™ Ultra 7 165H	See claim #1.
67. 2x performance per watt vs. Intel® Core™ Ultra 7 165H on UL Procyon® Office Productivity	As measured by UL Procyon Office Productivity. Results as of August 2024. Full config: Processor: Intel Core Ultra 7 268V Processor (Lunar Lake) PL1=30W, 8 Cores; tested on an Intel Internal development system; Memory: LPDDR5-8533 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 2880x1800; OS: Microsoft Windows 11 26100.1000; Graphics driver: Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: Pre-Production BIOS ,Power Plan set to Balanced, Power Mode set to "Best Performance". Processor: Intel Core Ultra 7 165H Processor (MTL-H) PL1=28W, 16 Cores; tested on an Intel Internal development system; Memory: LPDDR5-7467 32GB Storage: Samsung PM9A1 NVMe 512GB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.712; Graphics driver: Intel Arc Graphics 32.0.101.5533; BIOS: MTL-H-CONS-24.23.3.181 ,Power Plan set to Balanced, Power Mode set to "Best Performance".
68. Unmatched AI Performance	See claim #4.

Claim # & Statement	Slide # & Title/Details
	Slide 83: Intel Core Ultra 200V Series Processor
69. 3x AI performance vs. Intel® Core™ Ultra 7 155H on UL Procyon® AI NPU Int8	As measured by UL Procyon AI Computer Vision benchmark using OpenVINO vs. Intel® Core Ultra 7 155H. See www.intel.com/PerformanceIndex for workloads and configurations. Results may vary. Performance results are based on testing as of 08/26/2024 Processor: Intel Core Ultra 9 288V 8 Core; tested in Asus Zenbook S 14; Memory: LPDDR5-8533 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150 & 26100.1457; Intel Arc Graphics Pre-Production driver; NPU Driver: Pre-Production driver; BIOS: UX5406SA.205 (PV); Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: “MyAsus = Performance”; Battery Size: 71.9 Wh Processor: Intel Core Ultra 7 155H 16 Core; tested in Asus Zenbook 14; Memory: LPDDR5-7467 32GB; Storage: Samsung SSD 990 PRO 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 26100.1150; Intel Arc Graphics 32.0.101.5768; NPU Driver: 32.0.100.2540; BIOS: UX3405MA.307; Power Plan set to Balanced, Power Mode set to “Best Performance”; OEM App: "MyAsus = Performance"; Battery Size: 75Wh

Notices & Disclaimers

Performance varies by use, configuration and other factors. Learn more at www.intel.com/PerformanceIndex.

Results that are based on pre-production systems and components as well as results that have been estimated or simulated using an Intel Reference Platform (an internal example new system), internal Intel analysis or architecture simulation or modeling are provided to you for informational purposes only. Results may vary based on future changes to any systems, components, specifications or configurations.

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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 www.intel.com/performance-vpro for details.

Codec capabilities may vary by device and configuration. Contact your manufacturer to understand the enabled hardware acceleration and codec capabilities for individual devices.

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.

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.

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Built-in Intel® Arc™ GPU only available on select Intel® Core™ Ultra 200V series processor-powered systems; minimum processor power required. OEM enablement required. Check with OEM or retailer for system configuration.

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While Wi-Fi 7 is backward compatible with previous generations, new Wi-Fi 7 features require PCs configured with Intel Wi-Fi 7 solutions, PC OEM enabling, operating system support, and use with appropriate Wi-Fi 7 routers/APs/gateways. 6 GHz Wi-Fi 7 may not be available in all regions. Performance varies by use, configuration, and other factors. For details on performance claims, learn more at www.Intel.com/performance-wireless.

Altering clock frequency or voltage may void any product warranties and reduce stability, security, performance, and life of the processor and other components. Learn more at intel.com/overclocking.

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