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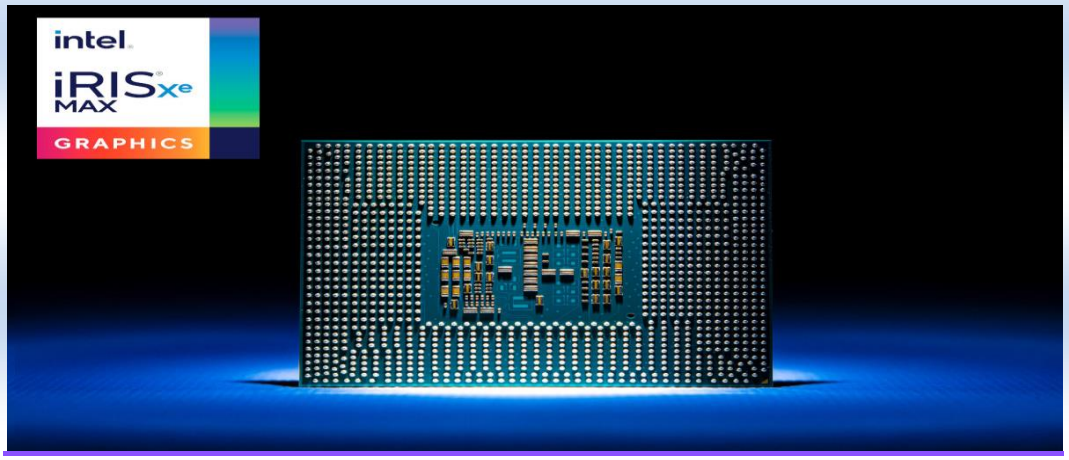
TREK THE TECH



Intel Iris Xe Max GPU is launched, helping thin laptops deliver impressive gaming

Intel has officially launched its Iris Xe Max discrete graphics card for laptops (previously known as DG1), revealing the full details of the GPU and how it performs with 1080p gaming – and how it leverages tech to make a powerful combination with Intel CPUs that have integrated Xe graphics.
Intel Iris Xe Max boasts 96 EUs (Execution Units) and it's clocked at 1.65GHz, supporting LPDDR4x graphics memory, with initial laptops loaded with 4GB of the stuff (with a memory bandwidth of 68GB/s).

Those initial laptops – which will be available from today – include the Acer Swift 3x, and the Asus VivoBook Flip TP470, alongside the Dell Inspiron 15 7000 2-in-1. All of these notebooks have not just Intel Iris Xe Max GPUs, but Tiger Lake 11th-gen mobile CPUs with Xe integrated graphics – and both Xe graphics solutions can work in tandem with a new feature Intel is calling Deep Link.
Deep Link refers to the way in which these Xe-toting CPUs and GPUs are, well, linked together in order to maximize performance, and how power usage can be adjusted between the processor and graphics card.

Deep Link's dynamic power sharing means that when the GPU isn't in use, that power can be piped to the CPU instead, offering up to a 20% performance boost for the processor versus a laptop with an Nvidia MX350 GPU, Intel claims.
Deep Link promises a major boost in content creation workloads, and also with video encoding. We're talking 7x faster AI-based creation (again compared to a laptop with a similar CPU but Nvidia MX350 graphics) according to Intel's testing, and encoding is almost 1.8x faster than RTX 2080 graphics, no less.

Game on

But what about games? Intel's Iris Xe Max makes a good fist of 1080p gaming on thin-and-light laptops, generally outperforming an MX350-equipped notebook – and in some games, beating the Nvidia chip by a fair way.
Intel's benchmarking indicated a big win for Iris Xe Max in Metro Exodus, with the GPU hitting around 42 frames per second (fps), compared to around 29 fps for the MX350. GRID 2019 managed around 46 fps with Intel, compared to 37 fps for the MX350, but the other games tested were pretty much a dead heat (Gears Tactics, Hitman 2, The Witcher 3).
And in Borderlands 3, the MX350 was actually slightly ahead, but only by a few frames per second – nothing that you'd realistically notice.

Going by Intel's testing, it would seem that Iris Xe Max is the equal of Nvidia's MX350, and actually outguns the latter considerably in a couple of titles, which is pretty impressive. Nvidia's MX350 might be its entry-level GPU for laptops, but it is the most recent model from 2020 (albeit based on Pascal tech, two generations away from Ampere now).
All of those 1080p game benchmarks were conducted with either medium or low graphics details, incidentally. Of course, we have to bear in mind that these are Intel's own internal tests, which could be cherry-picked to an extent, and we'll want to do our own testing to gauge the power of Iris Xe Max graphics to get the full picture of gaming performance.

In its announcement, Intel also revealed that an Xe-LP graphics card will be coming to value desktops in the first half of 2021 – meaning a DG1 for budget desktop PCs. Furthermore, the chip giant told us that Xe-HPG, the heavyweight gaming card which was officially powered on recently, will be out in 2021 as expected (not likely until the end of the year, though).

Science and Technology Achievements of India In 2020

India's first hydrogen fuel cell car

- The spirit of the nation's scientific community and inventors stayed undeterred even as the Covid-19 pandemic continued to create havoc throughout the year. From making country's first hydrogen fuel cell car to developing a camera that doesn't need focusing, here is a short bunch of exceptional accomplishments our scientists clinched in the field of science and technology, in the exceptional year 2020:

India's first hydrogen fuel cell car

- India's first hydrogen fuel-cell powered car completed the trials this year. The technology uses chemical reactions between hydrogen and oxygen (from air) to generate electrical energy, eliminating the use of fossil fuels. Further, the fuel cell technology emits only water, thus cutting down the emission of harmful greenhouse gases along with other air pollutants.

Faculty Achievements

- Prof. Seira Shinde registered as well as published national patent on IOT BASED SMART HOME SECURITY SYSTEM.
- Prof. Seira Shinde published a paper in Scopus "An introduction of distributed ledger technology in blockchain and its application."
- Prof. Seira Shinde Life time membership of ISTE.
- Prof. Vinod Gendre Attended 1 Week FDP under ATAL "Artificial Intelligence" from 21-25 Nov 2020 organized by IIIT Naya Raipur.
- Prof. Omprakash Barapatre A lifetime member of the technical Society ISTE (Indian Society for Technical Education).
- Prof Amit Thakur Attended One Week National Level Workshop on "Improving Scientific Research Writing and Publication Skill" from 12 th October to 18 th October,2020 jointly organized by Research and Publication Cell, IQAC, Srikishan Sarda College, Hailakandi, Assam and Indian Council of Social Science Research (ICSSSR) North-Eastern Regional Centre, Shillong with Grade -A.
- Prof Amit Thakur Attended National Conference on "Innovation in Computation, Communication, Cybernetics and to Combat Current Challenges (I6C) 2020" on 20 th November 2020 organized by Department of Computer Science & Engineering, Bhilai Institute of Technology, Durg, C.G.
- Prof Amit Thakur Attended One Day Webinar on "Cyber Security" on 28 th November 2020 organized by Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.) under TEQIP-III.
- Prof Amit Thakur Attended 3-Day Online Advanced Training on "Shodhganga and Plagiarism Issues" from 25 th to 27 th November 2020 organized by Information and Library Network (INFLIBNET) Centre, Gandhinagar, Gujarat.
- Prof Amit Thakur Attended a National Conference on "Innovation in Computation, Communication, Cybernetics and to Combat Current Challenges (I6C) 2020" on 20 th November 2020 organized by Department of Computer Science & Engineering, Bhilai Institute of Technology, Durg, C.G.
- Prof Amit Thakur Attended AICTE sponsored One-week Short term Training Program on "Research Methodology and Computational Techniques (RMCT -2020) Phase- 2" in association with IEEE WIE Affinity GroupBombay Section organized by Department of Information Technology, Yeshwantrao Chavan College of Engineering, Nagpur from 14th December to 19 th December 2020.

Students' Accolades

- Students of CSE have been shortlisted for final round of Chhatra Vishwakarma award 2020.
- The Department organized a guest lecture on "Implications of Design and Analysis of Algorithms" on 23 rd November 2020 and 25 th November 2020 in online mode for third year students and all faculties.
- The following students have completed NPTEL Online Certification
  - Abhinav Prasad Tiwari – Python for Data Science
  - Dikendra Kumar – Python for Data Science

MHRD Initiatives:

- It has initiated many projects to assist teachers, scholars and students in their pursuit of learning like DIKSHA platform, Swayam Prabha TV Channel, On Air - Shiksha Vani, e-PathShala and telecast through TV channels.
- It also released guidelines on digital education called 'PRAGYATA'.
- State Initiatives:

States and Union Territories have provided digital education at the doorstep of the students. Some of them are:

- Social Media Interface for Learning Engagement (SMILE) in Rajasthan.
- Project Home Classes in Jammu.
- Padhai Tunhar Duvaar (Education at your doorstep) in Chhattisgarh.
- Unnayan Initiatives in Bihar.
- Mission Buniyaad in NCT of Delhi.
- Kerala's own educational TV channel (KITE VICTERS).

E-scholar portal as well as free online courses for teachers in Meghalaya.

They used social media tools like WhatsApp Group, Online classes through YouTube channel and Google meet to connect to the students.

Some of the states/UTs like Lakshadweep, Nagaland and Jammu & Kashmir have also distributed tablets, DVDs and pendrives, equipped with e-contents to students.

MHRD has also launched the 'Manodarpan' initiative, which aims to provide psychosocial support to students, family members and teachers for their mental health and well-being during the times of Covid-19.