

ASI Technology Summit Q3 2021
Intel – Winning with Performance and Value

0:05

Good afternoon, everybody. This is Kent Tibbils with ASI. Joining me today from Intel, we have David Bradshaw.

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And before we do get started, I just wanted to give David a quick intro because he's there on your screen and you can see, is happy face therapy. But a couple of notes for you guys. I want to thank you all for joining us for day one of our ASI Q3 Technology Summit.

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We try to do these once every quarter, just so that we can take an opportunity to keep everybody updated on kind of what the latest changes are coming out from the manufacturers, so that everybody is up to date with the current and most important information, Help you guys maintain your competitive advantage, and bring more value to your customers, by being able to share this type of information from the vendors directly to you guys.

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So we appreciate everyone joining us today, and thank you for spending that time with ASI and with all of our vendors. So for those of you that have never joined us for one of these before, this is a four day event, but we do four different seminars sessions.

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one each day, starting today, this session, start at 11 o'clock, AM Pacific time, and I go till about 12, and we have one today with Intel. Tomorrow we have micron and Wednesday we have supermicro. And on Thursday we have Samsung. So be sure to join us for each one of the days. And here are some great presentations from our vendors. We do have prizes to give away during each of those sessions. So today for joining us for Barry or for David's session today will be giving away until a laptop.

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So, all of you join a session. Stay on until the end will be automatically entered into a raffle drawing for a chance to win that laptop. And we announce the winner of that laptop at the beginning of the session tomorrow. So, I don't want to take up all the time, in the beginning.

2:05

Really, this is for David, and for you guys, so I want to go ahead and, uh, kick things over to him. Before I do that, really quick, if you all have questions, go ahead and submit the questions, you have a question box on your drop-down menu for the goto Webinar session, you can type in the question, and I'll see those questions, and we'll be sure to get them over to David so that they can be answered. So with that, I want to go ahead and kick everything off and turn it all over you to David, so take it away.

2:38

Thank you, Kent.

2:39

And thanks as always, to Kent, the whole ASI team for, for arranging this for today. And thank all of you for, for being here. And giving us the opportunity here over the next.

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little while, just to run through some key changes, as far as the Intel clime product line.

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Is concern.

3:00

Then I think perhaps the best place to start is supply, which seems to be the same place. We start all of these presentations, the ship, at these last couple of years.

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But then suddenly, I know we're not alone in talking about supply, but we wanted to make sure you are aware of where we are, from an Intel perspective, particularly on the desktop CPU side of the world.

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The positive news is that for Q four, starting October first, we are anticipating a significant increase in the amount of intel supply. There isn't in the US. channel.

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So, that includes both or all 10th gen, 11th gen, and the upcoming 12th Gen launch as well, for Q four.

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So, to the tune of about a 50% increase in overall volume for Q four.

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Um, now, we know, you know, we're not confused, we, we know that that still leaves us short to overall demand, um, particularly as we come off for particularly tough Q three. And we all anticipate this month, September to be the low, if you will, in our ongoing supply story.

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But, certainly some very positive news coming as part of our efforts in Q four. So, wanted to make sure that we, we share that with you upfront.

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So in talking to kids on the team, that what we would spend the next 15 minutes talking about, and wanted to spend some time, not just on desktop CPU, but also talking about mobile. We'll talk about the overall roadmap.

4:47

We'll talk about the upcoming 12th Gen launch, all the lights.

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Will also spend a moment talking about Intel, discrete graphics, and the arc products if you hadn't heard of Arc.

5:00

That's the new brand name for the Intel screen graphics solution coming in Q one next year, So we're very excited about that as well.

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And we'll also spend some time talking about mobile and where we can talking about our competition and where we stand competitively in the marketplace.

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OK, so, let's, Let's jump into the slides, then, and let's start off with, with the Roadmap.

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I don't usually like to show these roadmap slides, but I think it helps tell the story of where we are in Q three and Q As we look forward to Q four, and the products that, we have to sell.

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So, as far as high-end desktop is concerned, we have our X series product, which is Glacier Falls, which has actually been in market now for a couple of years.

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The good news is, that there is a follow up to that product plan for Q two next year, with Sapphire Rapid Split In terms of what we have to sell.

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today in Q four.

6:00

We have 10th Gen Core, which is commonly guess, refresh.

6:03

We have the 11th Gen, which is Rockett like that we launched earlier this year.

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And we have the upcoming 12th Jain call all the like starting to ship.

6:14

Right, so the beginning of November.

6:17

And we'll talk about all three of these products today because as we look at the market for for Q four yes, there's lots of excitement, news and attention, press attention around 12th Jain core, certainly leading with that message, but the bulk of the supply in Q four is still going to be on rocky lichen comment like. So that's where we're going to spend most of the time and attention today Just giving us all a refresher on tend to live in its core and where we stand competitively. 12th Gen core, as we'll talk about a little bit later.

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We're only releasing the K and K huf skews in Q four.

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The rest of the stack will start to ship just after CES in january next year. So just just a note on that, so that that's why I'm making the statement, The most. The volume in Q four still going to be on on 10th and 11th chain core over here.

7:12

OK, so let's talk about 10th gen core, and if you've heard me speak in one of these sessions, and by the way, I'm really looking forward to when we can do this face-to-face. Finally, hopefully, in the not too distant future, right, rather than have to do it this way.

7:28

But certainly over the last year or so, I've spent a lot of time talking about tense jank, or any length Gen core and where we stand competitively. So, let's, let's stop there, festival.

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Again, knowing that that's where most of the volume is going to be in Q four and as we look at 10th Genco and 11th Gen, called, the Story is very similar as we compare both products with the very latest and greatest AMD solution. In this case.

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I'm showing on screen the 1950 X, um, in the case of the 1900 K and the 1900 K, what you're seeing is pretty much an ..., like, for, like, performance across those products.

8:11

The key difference, of course, is if you look at the 1900 K, the MSRP stands at 499, you're paying 799, 50, 1950 X, even though these two products perform roughly the same.

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So, very competitive in terms of overall performance, we've got a \$300 lower price, which represents, if my math is correct, a 54% better value.

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So, competitively equal, but priced much more competitively.

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So that's the message here, certainly, for fifth for 1900 K, whether we're talking about gaming, whether we're talking about no overall performance, as far as productivity is concerned, and as always, we're using the sist mark, benchmarking and scheme two, to compare these products, performance side-by-side.

9:08

OK, let's, let's move over them and talk about 11th Chain course, So hopefully, this is, this is a refresher.

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But we, you know, we launched this product back in March again, too much fanfare, and did give us a performance but bump over both tense, genco and our competition.

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And then, if you recall the news at the time, we ran strikes into an issue around substrate supply, which heavily impacted our ability to really ramp and bringing lymph gen court to market. This is the codename rocket, like, by the way.

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We, in terms of the news I shared earlier on Q four supply.

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So, finally, 11th gen core is starting to ramp for desktop.

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And we have quite a lot of supply coming in in Q four for 11th gen core, which is which is very encouraging.

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And just to refresh you on in terms of what was new for 11th gen core.

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So, embedded display port, 1.4 a support for DDR for, um, 16 channels of PCA four dot AU, and so on.

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So, if you recall, this was a lot of the news and attention and Articulate was based on the fact that we have that We had a new processor core architecture, which gave us some significant IPC improvement.

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Of course, the support for DDR for ..., as I mentioned, and also discrete Wi-Fi six C support.

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So, we were very excited about launching Rocket Lake back in March and still remains a very important product for us.

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And if you compare 10th and 11th, gen CPUs, side-by-side, you can see, in the right-hand column, the major differences.

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So we supported up to a cause and 16 threads with a new new architecture.

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You might look at 10th gen and say, well, that's less, cause less threads. That's true, but the new architecture.

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The newly designed architecture that came in 11th gen core gave us the performance bumps that we can boast as we look across the two generations.

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Improvements in terms of IO, the addition of Intel Iris Acce graphics. And as I mentioned earlier, we'll talk more about our graphic story later.

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But, if you recall, we launched 11th Jane core for mobile at the end of last year. And the integrated Intel graphics that ships with that product is the same integrated graphics that ship with 11th gen core desktop as well.

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And it's in fact, the second iteration that gets us towards our discrete graphic story, as it unfolds later, later in the early part of next year, OK?

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Just a word on on board compatibility, and we may pause here for a moment to talk about some of the ways that we're positioning 10th versus 11th versus 12 here.

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But, as you can see the good news.

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For 11th Gen core even though it's a new chipset 500 series chipset it is backwards compatible with 10th gen core CPUs.

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So, there is that backwards compatibility story but, of course, there's lots of enhancements into the 500 series chipset over 400 series.

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And then you get including support for additional PCIE, Lane's and so on.

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So, um, so, so very important to draw that distinction.

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What I would say about 12th Gen core is that it is launching with a new chipset, the 600 series chipset, and it has a new socket.

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So, unfortunately, the same backwards compatibility compatibility story for 12th gen doesn't exist here.

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So if you want to buy 12th Gen Core CPU, you need a 600 series chipset.

13:03

They're bored.

13:04

So just want to make sure we draw that distinction there.

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In terms of how we're positioning these products in Q four, generally speaking and how we're looking at pricing, you can see already in market today that there are differences in the net pricing for 10th gen core versus the 11th gen core.

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For 12th Jain core, we are going to be increasing at prices gen on gen.

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So what effectively you're going to see in terms of pricing is kind of a good, better best scenario in Q four, as to, whether you're looking at 10th and 11th general, or 12th genz. That's the way that we're really trying to position these products in that timeframe.

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With 11th gen core, we introduced a new feature called adaptive boost technology, and this was simply put away for and the software that we're talking about here.

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That did boutique technology to look at the application that's being run, determine which is the best core or number of cores for that particular replication.

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And offer a boost in performance, accordingly.

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So, a very smart way to be able to increase the performance capability of an 11th Gen core CPU and only available for the I nine K and K F CPUs, by the way.

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As we look at performance on 11th Gen core, you can see here, we're comparing ourselves with, with the AMD rise in 1900 X here.

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And as you look across the seven different gaming titles, the blue, obviously, the blue column is the 11th ***** core CPU, And you can see in every case, there is a performance gain.

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And so this is the 1900 X for the 59 50 X we saw about on par performance across the same gaming title so that we go back to that value messaging, if you will, that we start off, started off with when we were talking about the, the 10th GM product versus the Lumiere AMD 5000 Series.

15:13

So, another comparison here, in this case, this this is 11th Gen core, we're comparing ourselves on the left with the AMD Rising 5000 Vermeers Series.

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And you can see that we're on about a par with them, if not slightly above.

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So if you look at the rise nine CPU, the Intel Core I nine is slightly above, but, that a vastly different price. If you recall, earlier in the presentation at \$300 Price Delta, Verizon sevens about on par with the core I seven, Rise fives about what power, the core, I five, and so on.

15:50

On the right-hand side of the chart here, we compare ourselves, some 11th chain core, versus the AMD Rising 4000 G Rim Law, AP, you. And this. The difference in performance is significant here.

16:04

And you can see here, for example, at the bottom of the stack, the rise and five compares with about a core I three, in terms of overall performance, arise and seven, with a core I five, which leaves the 11th Gen Core I seven, Core I nine App by itself, in terms of performance versus the the AMD AP Solution.

16:25

OK, let's switch gears a little bit and talk about Eva for a moment, and if you're not familiar with Yvo, then maybe that's a good place to start.

16:38

So towards the end of last year, actually, beginning of last year, 20 20 we introduced a new solution which was codenamed Project Athena.

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And if you recall, this was an effort to put the very best, latest, greatest technology into a notebook in terms of performance, in terms of design, thermals, connectivity, battery life, the very best of the best into a single platform. And each of the ...

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that we work with and brought starts to bring projects Athena solutions to market.

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Then the end of last year, 20 20, we actually gave projects a thin or an official Intel brand, which is evoked.

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So Evo simply equals Project Athena.

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And you know this, this was really seen as an opportunity for us to grow, what we call that the premium end of the Notebook market, where you know competition is very fierce.

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And it's really a big bet for us, in terms of the the notebook market.

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And if you go into your average, you know, retailer in the Best Best Buy Cosco or wherever you will see these days a lot of Intel Evo.

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Branding and collateral and lots of Intel Evo products that the M and C's are bringing to market.

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Then at CES earlier this year, we launched the Intel Evo V Pro platforms.

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Working on the assumption that most folks on the call here today and know what V Pro is, you know, it's it's built for business, it's uh, it's a corporate solution, mainly aimed at least historically mainly aimed at manageability, the ability to remotely manage a PC.

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It means a lot more than that these days, But the Intel ... Platform is really an effort to bring together the very best of both, what Evo and the probe office, the marketplace. So the pro is all about business class performance advanced security.

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Modern manageability instability an Intel Evo, as I already mentioned, is all about responsiveness, Long battery life, instant wake, and very stylish form factors.

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So if you're looking for the very best of the best, in terms of, you know, an overall platform, design and performance, and please make sure is carrying that into Evo and the ...

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Pro branding on that PC. There are plenty of systems in market today from from the ... from HP, Lenovo, Dell and so on.

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So, let's highlight some of the, some of the characteristics of a typical Intel ... Pro platform.

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And you can see here, in terms of wakeup time, less than one second, very consistent responsiveness.

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You're using integrated Wi-Fi 6 and 60, more than nine hours of battery life.

19:47

Even when displaying, you know, full, high, high def content, and, and neo four hours of battery life, and a 30 minute show, and what are the signs with full HD display.

19:58

So, again, this is the very best of the best in terms of performance, and if you have customers who are looking for and this type of solution makes sure is carrying this branding.

20:11

OK, so, um, one of the things that Kent and the team asked me to come in with today's, particularly as we look at the notebook environment.

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I think most folks are familiar with the fact that Apple, in the latest, greatest systems, now ship the M one CPU, their own CPU, and I wanted to offer a competitive guide as to how we see the M one CPU and how we're positioning ourselves against it.

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So, there's four misconceptions here that we want to walk through, in the next five minutes or so.

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The misconception number one, is that Macs are more innovative.

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And we simply know that that's not the case, because if you compare the 2016 PC versus the 2016 Mac book.

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The Mac, but really hasn't changed very much at all in terms of how, in terms of appearance and full fit functionality, right? An Intel, intel based PC has changed almost beyond recognition.

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As we've gone through product solutions like Ultrabook and 2 in 1, and so on and bringing some of the advances that we saw around the tablet marketplace to the Notebook.

21:27

The innovation has been absolutely outstanding in the intel based windows, the PC world.

21:35

So a lot of advances, some of which are called out here on the the right hand side of the screen. You know, if you look at what the M one Mac book offers, no, touchscreen, no, Thunderbolt four.

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Less than two IO ports, and you get no form factor choice whatsoever.

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The window into a window based PC side, we are talking about touchscreens.

21:59

We're talking with, and above all, we're talking about multiple IO port options and a whole list of different form factor choices.

22:11

So the second misconception is that the mac OS is more secure.

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And if you go back in time, that may have been true, but certainly a flag that's, that's been flipped on its head.

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So if you look at threat detection by endpoints, and these, these are, the, if you look at these scores here, in 20 19, the scoring for, for a Windows PC, that windows based PC was 5.8 threat detection by endpoint in 20 18. For Apple, it's 4.8.

22:43

But if you look at, similar data are, again, for 2019. It's 11. An increase of 400%. So, as you can see here, from the states of malware report, quotes at the bottom of the screen, for the first time ever, Max out paste Windows PCs, in terms of number of threats detected by endpoint.

23:01

So, whereas the misconception in the past has been been that, you know, Apple's Apple products have been more secure in reality.

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That same report, in 2020, stated that the volume of Mac threats increased by more than 400% year on year outpacing Windows threats per endpoint by a ratio of nearly 2 to 1.

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So that, that is definitely a misconception in terms of, in terms of security.

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Misconception number three is that M one, M one, CPU has better performance?

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And if you look at this slide here, that may be true for native apps that have been optimized for M one and they have direct access to the CPU for the majority of apps, the vast majority of apps have to run through the Rosetta, to binary, translates before even gets to the CPU.

23:53

And that is a huge tax on overall performance.

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So can see here, as you can see in the quote down here, M one, binary translation introduce more performance, and certainly uncertainty with five to 40% performance penalty because of that binary translator. So, again, this is a very important factor to consider when you have customers that are looking at the the M one CPU.

24:19

And finally, misconception Number four, is that the M one Mac Book has a better battery life.

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So, Apples' claim is up to 18 hours, um, build up the slide here that's using Apple, Apple TV, HD 10 ATP.

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And, but if you look at real-world testing, MacBook Air actually lasts just over 10 hours kept pair that with an isa Swift five running and Intel core, I seven, CPU, which runs for 10 hours and six minutes using similar applications.

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So again, for battery performance is on a par When you look at real-world testing across these, these different products that are offered. So wanted to make sure we brought that to your attention, that these four misconceptions that exist around the M one CPU, compared to some of the offerings that that Intel has in market today.

25:19

OK, let's pause there for a moment before we move on with some of the other competitive information, I can do we have any any questions that we want?

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I'm address right now.

25:31

We actually have quite a few questions I'll save most of them to the end, but one thing I did want to mention, you are definitely striking a chord here with the comparison between the windows based and Intel laptop's burst the AMT so we have a lot of people asking if they can get the slide deck.

25:52

These slides you're showing right now, especially the one around security.

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So I don't know if you have additional information on the security point that we can either provide now, or maybe as a follow-up, but that seems to be something that everybody is really, pretty interested in.

26:11

Yeah, I don't have anything more to share today on security, but we can certainly do a follow up and send out our latest, greatest security information.

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And, yeah, the intent in general, is to, is to send out these slides for, for folks to use, as well.

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So why don't we go ahead and keep going.

26:31

We have some questions, but I'll save most of them to the end, so we can keep moving forward.

26:38

OK, great, well, so let's move into some more of the competitive information as well, here, since that seems to be something folks were interested in, And just one point to note here, I would dearly, love to show the 12th gen older. Like, competitive information today. Simply don't have it yet.

26:57

And, as I mentioned, we're launching that products at the end of October, beginning of November.

27:03

And we're not expecting to have them tell them that when we do get it, I left to come back in and share that with you, because I think that's pretty exciting stuff. But, in the meantime, there's two other sets of competitive information I wanted to share here, both around the notebook, the first of which is showing taiga like, H.

27:22

Now, if you're not familiar with our H series of products, this is the type of notebook CPU that ends up in what we call gaming notebooks, right? So these are the thicker form factor products that are really aimed at the gaming in the end of the market.

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And in this case, we're going to compare toggle, AKA, that's 10th Gen H Series.

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Mobile CPUs with Suzanne H, which is the AMD version of there.

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The H series, again, aimed at notebook gaming.

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And I think I've shown a slide similar to this in the past, But on the left-hand side, here, you can see AMD's marketing position, positioning for, for these two different offerings.

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And they're trying to make sure that, at the top of the stack, the rise and nine products for each series is equivalent to the core I nine H series.

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And, so, on, down the stack, but on the right-hand side of the chart here, we clearly see that is not true when you look at real-world testing and performance.

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In fact, if you look at Rise nine, on the H series for notebook, it's about equivalent to core I five, and the Intel Core I So, core I nine H Series sits.

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Head and shoulders above of the, the rice and offerings, in terms of, in terms of overall performance.

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And if we look at how this really rolls out in terms of gaming, again, here I'm showing you six big gaming titles here.

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The red bar on each chart is the baseline AMD Suzan H Series performance.

29:07

And the blue bar shows the the Intel gains on a relative basis.

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In this case, we're comparing the the AMD on 9 5, 900 H X with A with an ..., 30 80 discrete graphics card, the intel system is using a core I 9 11 9 HE H K Again with the with the assembler discreet graphics card.

29:33

And the, the performance delta is easy to see.

29:36

This is a massive gap in terms of, you know, notebook gaming that exists in the marketplace today.

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Then, if you look at a much broader set of gamy title offerings, you can see, the story gets even more exciting when we compare, again, the same two CPUs side-by-side.

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There are some games which are on a par in terms of performance.

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You can see those on the left hand side of the chart, then you can see how the performance gains with the Intel system map out as you go further, right, so 5% are greater than 10%, 15, 20, and 25%, across these, these gaming titles.

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So the reason I wanted to show this is because this is one area that the Intel product, the Intel solution, is vastly different in terms different in terms of performance versus the the simla AMD solution in this, in this gaming notebook space.

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And just pointing out here that not, of course, not everything is about gaming, Right?

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People still use these H series base notebooks for productivity and things like video editing, content creation.

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And you can see as we compare these same, the same two CPUs side-by-side, some of the deltas here.

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So, again, using the AMD system as the baseline productivity, Intel was up to 24% better using sys mark and for video editing up to 52% better in terms of performance. So I'm seeing some significant gains there to be had as well.

31:13

I apologize for the talking dog in the background, Hopefully he'll stop in a moment when the Amazon guy runs away.

31:25

OK, so let's shift gears, then look at different sets of competitive information, and we we were showing, we're comparing here the MD 5000 You series with the equivalent 11th gen you series products, and if you're not familiar, again, U Series is typically the CPU that goes in, for example, thin and light to one systems today.

31:46

So, this is really more of a broad based type to a type of CPU that goes in many of the notebooks, that ship in market today.

31:57

And, just like the last set of slides, on the left hand side, what you can see here is how these two, these two sets of products shape up against each other.

32:09

Um, This, this is performance positioning, and you can see, you've got rising to, sorry, Z, two, and Z three products in this mix here, and how the core I seven product actually sits, head, and shoulders above above the AMD solutions, in this case.

32:25

And then four, for graphics, performance, positioning, a very similar sort of story, the rise in seven products on the right-hand side of the chart.

32:32

In terms of performance, is a bat's on a par with the Intel Core I five, with the integrated Iris X C graphics inside.

32:41

The Core I seven product with the same integrated graphics, sits, head, and shoulders above anything that that AMD has as in market today, in this, in this use series category of Notebooks.

32:55

So, let's look at some real-world performance based on what I just said. So we're going to compare three systems here. On the left-hand side, you will, these are all the HP Pro Book 45. So 455 G, eight.

33:13

On the left-hand side, you can see the it's using the AMD rise in 6500 view mobile CPU.

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We're going to compare that with an equivalent, 11th gen core, I five, and an Intel 11th gen core, I 7, 11, as well.

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You can see the spec is almost identical across each of these systems.

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There is a slight delta in price, as you can see.

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So, you know, in this case, the Core I five, it is priced just above the the AMD based based system.

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The Core I seven is a little bit more expensive than than the AMD based system.

33:56

So how do these stack up then?

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So just for reference, the, the red part of each of the of the bars here is the AMD baseline, the Intel Core I five is the light blue.

34:10

And the dark blue is the Intel Core I seven.

34:14

So if we look at performance using sys mark, the core I five was about equivalent performance to the AMD rising seven.

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And you got seven percent better performance with the Intel Core, I seven.

34:27

Similar story, productivity with the core I seven, with 9% better performance, graphics the same, 12% better, meet your team, You got better performance out of both, the I five and I seven, in the, in that particular case.

34:41

So, again, either equivalent or performance leadership positioning and just remember, the pricing that communicates in the less sharp the core I five system, was priced at about the same as the very best in class, AMD, CPU for this particular product category.

35:02

OK, so, um, we're going to shift gears here, come back to desktop, but before we leave notebook altogether, Ken, can I just check in again to see if there's any questions about the competitive information? I'd ****?

35:15

Actually, I have some question I know in previous sessions.

35:19

You've talked about the difference in performance between Intel and AMD when you are running plugged into the wall and or running off the battery where these numbers you show we're showing where they plugged into the wall where they off the battery or running off the battery what those numbers we were looking at.

35:38

Yeah, that's a good question, and maybe I should have bought that day through it again today, but, you're right.

35:45

The numbers I showed actually showed these two systems plugged into the wall, and if you, if you have been to any of my sessions in the past, you'll note that we state very strongly that the AMD performance in a notebook has been based on that specifically.

36:02

If you plugged into the wall that's trying to hit a certain performance benchmark, as soon as you go unplugged the intel based system is going to perform head and shoulders above the AMD system, across all vectors, across all benchmarks.

36:16

So that is something to bear in mind. Thank you, thank you for the reminder, Kim.

36:22

OK, that's, we can go ahead and keep pressing forward.

36:26

OK, so let's say shifting gears then from notebook back to desktop again.

36:32

And we'll get into the 12th Jen material here. And we'll talk about, you know, launch Timeframes and what's happening when.

36:40

But I just wanted to draw everyone's attention to what's different between the 11th and 12th gen, so rocket like versus, versus all the like. And there are some significant differences, right? So again, we are reading the overall architecture of the product here.

36:56

As we go into 12th Gen, you can see in terms, of course, we were up to eight cores on 11th Gen Core were up to 16 cores on older like, and 24 threads, which is a significant performance difference.

37:09

As you move from from generation to generation, For integrated graphics, we have, again the Intel X C graphic solution as an integrated graphics solution.

37:21

And we also if you're familiar with how the Intel CPUs line up, you'll know that we have what we call SKUs.

37:28

And the F designates a simply means of that CPU does not ship with Intel integrated graphics. So for example, on 12th Jain core, and this is the same on 11th contents as well, we'll have a K skew version, which is the over clickable.

37:42

And we may also have a K F version, so that would be the, the version of the same product, but without the the intelligence, Great Geographic's, if that makes sense.

37:53

So, again, some key differences, in terms of the feature set, and have these two products, line up against each other. But let's jump into some of the launch information, just sweet. Look forward over the next 4 or 5 weeks here. And these are what we're calling the 12th Gen tentpole moments, as we as we get towards launch here. And I don't know if anyone had the chance to listen in on the Intel architecture day, which happened almost a month ago now, the August 18th.

38:21

But this was the first time that we really started to unveil some of the technical specs around 12th gen corr.

38:29

And we did a brand reveal on our discrete graphics and revealed the arc brand name, which we'll talk more about in a moment.

38:36

And then as we look forward to the actual launch, I'm just going to happen during the intel on innovation event.

38:43

If you're not familiar with Intel on innovation, if you may remember that back in the day, we used to have events called IVF, the until develop develop a form.

38:52

We haven't had those for several years now, but this is, this is a plan to bring back these events, what we're calling, the, Calling Them, the Intel on Innovation, when they think it was scheduled to be a face-to-face event, out, at the end of October.

39:07

It's now become virtual, anyway.

39:09

This, this event is where we're going to launch, officially launch the 12th jeon family.

39:15

As I mentioned earlier, out of the gate, we're only going to be shipping the K and K excuse and the rest of the stack and the non K, I five, I three and so on will be launched at CES next year.

39:32

So, look look towards those dates we were showing that the event here is October 27th through the 28th and then the rest of the steps I mentioned, as well as the on new discrete graphics card launching at CES next year.

39:50

Usually, I would never show this slide in the presentation like this, but just wanted to help build some excitement towards the launch. This is an extract, from what we call, the, ..., longship, they document. This is kind of off our Bible of, you know, all launch dates, and everything is coming.

40:05

You can see that there's a launch window at the moment for 12th Gen of October 26th of November second. That's the Ad Embargo Date.

40:13

And then, the sales embargo date is due to Lyft in the window of October 26th through November fifth.

40:21

Now, um, Kents would say quite wisely, look towards the back end of each of these windows just to be safe, so nobody goes and breaks, embargo, what I can tell you, and this is not set in stone at all but just wanted to make sure you were aware that the dates were currently trending to within these. windows.

40:43

Would be October 27th for the ad embargo date, on November first for the sales embargo date. So just just bear that in mind.

40:50

Those could change, principally because some of the planning and the intel on innovation. And I don't mean to interrupt, but we kind of lost your audio, Right, as you are releasing those dates. So, what's that plan, or was that accident? Can you hear me now? I can hear you. Now fighter just temporarily cut out, but it just happened to do it right. When you were mentioning the dates.

41:17

So maybe you can go back over that again, maybe until HQ was watching and said No. But yeah, the dates were October 27th for the Ad Embargo Day, November first for the Sales Embargo Day.

41:35

So, again, that, these dates can change.

41:38

I've seen them flip back and forth over the last week. Even some of the planning on the Intel on innovation event is as change, given that would change the format of virtual. So, but, yeah, these windows are set in stone at this point. At least, you can. You can count on those.

41:59

OK, so I mentioned earlier, really wished I could bring up latest, greatest, competitive information on 12th gen core into this session.

42:07

I simply don't have it yet, but there are already plenty of third party benchmarks starting to be released out there.

42:16

They shouldn't be, but they are, and what's pleasing to see is that the older, like, 12th, Gen Core CPU is vastly outperforming anything that AMD has in market right now.

42:28

So, that's, that's very encouraging.

42:30

We're very excited about the launch, you know, suddenly come back in with our own dates as we get closer to launch here, but certainly the, the, the writing on the wall is very promising.

42:46

OK, so 12 Jane Core, the other thing that we've spent a lot of time in the press doing lately is talking about Intel's new node naming.

42:57

And by this, we mean you know, is this product you know 40 nanometer, 10 nanometer, seven nanometer and so on.

43:05

And what was highlighted in the press during the last six months is actually everyone's knowed naming conventions have been different.

43:14

So when Intel says 14 nanometer, Matt might mean the same as somebody else's 10 or even seven nanometer.

43:19

It's just it's just, you know, that the gap in the definitions is just astounding.

43:25

So Intel introduced the new node naming scheme just a few weeks ago and wanted to make sure you are familiar with how this lines up with 12 chain Cork. So, as you can see here, on the left hand, side 10, nanometer Super Thin.

43:41

This is this the same node, the ships in our 11th gen product today, so Rocket Lake.

43:49

Intel seven, which was previously called Enhanced superthin, is going to ship in the Intel 12th gen core CPU.

43:58

This will be the first until seven node, in an Intel product in 12th Gen core for desktop.

44:06

So some, some significant advantages there, in terms of this.

44:10

This next node offering, then you can see, as you forego further out in time, we'll have ...

44:16

of 4, 3, and 28 being offered in in future products down the road.

44:22

So again, until seven is the node four for 12th gen core.

44:28

If we look at some of the key products, so that was key features that we're offering as part of this product, and you can see on the left-hand side, again, you know, this is using the enhanced, super thin process technology until seven. It's actually based on an on 10 nanometer still. But we have some significant new processor core architecture design, which is giving us a leap in terms of IPC improvement.

44:54

On the right-hand side of the chart here, you can see some of the platform improvements we have coming to market with 12 ... Core. And the first two lines should catch some attention.

45:03

So, in the past year, AMD has successfully been first to market with some of these features.

45:10

Some of the previous generations of these features.

45:13

Intel will be first to market with DDR five support Will be first to market with PCIe five dot O.

45:21

So this this gives us a significant reason to celebrate that we're bringing these these features to market first. Just a note on, On DDR five, as we talk to the rest of the PC ecosystem about supply, which, as I mentioned, right at the top of this presentation, is top of mind for everybody.

45:40

And there will be significant DDR five supply in the market most and there'll be enough but there'll be some significant supply in the market in Q four.

45:53

Just a word on board compatibility, the new 600 series Boards that are coming to Market for 12th Gen core will offer support either for DDR or DDR phi, but not both. So, make sure if you have a customer that you are building, DDR phi for you're getting the the right 600 series board for that product.

46:14

And as I mentioned, we'll be the first to market for support around PCIe,

46:21

We believe that AMD will not have products or features in this space for quite some time.

46:29

They may announce something in at CES around the next version of product.

46:35

But at least in Q four, Intel will be the only products in market supporting ..., which is very exciting.

46:47

So, what are some of the new core architecture improvements you can expect to see in 12th Gen so far, as far as architecture is, concerned?

46:56

Greater performance efficiency, smoother gameplay, experience, increase workflow productivity as far as the new cache.

47:03

Improvements are concerned.

47:05

It accelerates before a memory performance fast again, loading smooth the frame rates, those are kinda the lead taglines that we're gonna go with as we as we launch 12th Jain core here at the very beginning of November.

47:20

Um, wanted to spend a moment here talking about the different cores that are being offered and 12 canned corn.

47:27

In the past, we and the market has started to call 12th gen a hybrid CPU because it offers both what we call performance cause and efficient cause.

47:38

And if you take as an example, you know, the on new 16 core, 12 900 K product.

47:46

So 16 cores, eight of them are performance called ... efficient.

47:51

Cause the performance cause, if really been optimized for single unlikely threaded performance, it's all about enhancing a, you know, performance in a specific game or a specific workload as far as productivity is concerned.

48:05

Then you've got these eight efficient cores, which are really focused on doing a lot of the background stuff that is that a CPU does, right? So now, scaling high, highly threaded workloads, as you can see on the slide, minimizing

interruptions from a lot of the background tasks stuff that goes on. So it's really a combination of these two things. And in the middle, you've got this, this software called Hardware Guided Scheduling Plus, which were actually renaming.

48:32

That really looks at these 16 cores looks at the performance, looks at the efficient cause, and decides which of those cores is going to be used for which, depending on what the application is.

48:41

So that's why it's being called hybrid CP. We're trying to get away from calling it hybrid. We're not going to see that terminology from us. A lot of our customers have come back to us and said, You know, please just talk about this as being a performance CPU.

48:56

So that's what we're going to do, but I want you to, to understand, And that's some of the, the, the logic behind what actually makes this this generation of CPU. So, so great.

49:09

And you can see here, some of some more of that information. HGS.

49:14

By the way, that that feature I just mentioned, is being renamed the Intel Thread Director, ITV's until thread Director.

49:22

And there's some more information on here about, you know, please, let's not use hybrid, let's just use performance.

49:29

As we bring this product to market 12th gen, you know, again, in Q four is just the

49:36

We really focused on the gaming community.

49:39

And we know that means, as you talk to your gaming end uses, that means being able to change the dynamic of, of the narrative, and, so, that's what we're planning to do.

49:53

I'm not going to go through all the information here on this slide, But it's all about working with the influencers, is, you know, he knows that YouTube is, and making sure that we really captured the imagination of that community, as we launch 12th gen for them.

50:07

So that we plenty of marketing air cover from us as we launch and work with, with ASI and you are partners and down channel which with your customers to make sure everyone's aware of. The benefits. the 12th Jain core is, is bringing to market.

50:27

And we're also working very closely with the board manufacturers, Right.

50:30

So regardless of your, your favorite ODM here, MSI Gigabyte as Rock a Seuss we're working with all of them to make sure that they have plentiful supply of 600 series boards in market.

50:44

I think they're about to release samples if they haven't done already by the end of last week, but these, I know, are obviously a high priority as long along with having enough discreet graphics card in market as well. rights are really, really make this a successful launch for all of us.

51:05

OK, let's shift gears, again, talk briefly about until Awk, which is the new discrete graphic solution from Intel, Brian, and given the discrete graphics supply issues that all of us have suffered with this year.

51:23

I think all of us would be very excited to get this product to market sooner than later, But if you hadn't heard Intel Ark is the new brand name for the product that we previously called DG two, which is the first Intel, a discrete graphics card market, and market.

51:42

And if you look at some of the history here, I'll just summarize very quickly.

51:46

So DG one was the product that we we launched earlier this year.

51:52

It was the first iteration of the product that also, ultimately will become our discrete graphic solution in January, and was only available from specific ... in finished systems.

52:04

And now, we have D two, which is the first discrete graphics card, which is actually codenamed, alchemists.

52:12

And, the next generation of alchemists will be called battle MH.

52:15

So, expect to see more details around this very exciting roadmap, as it's revealed over the next weeks and months.

52:28

And we'll have a rolling thunder approach here, as we get towards the official launch in January.

52:36

We've had some early reveals already. We'll do some more.

52:38

Does this strategic disclosures and then a big, you know, go big launch of alchemist of DG to voc at CES in January?

52:55

That's just some more information.

52:56

I can send that to you all as well. And that's really it in terms of material here. So, so, Ken, I think we have some time to take some questions.

53:07

Yeah, We've got, actually, quite a few questions. So for those of you that want to ask a question, go ahead and type it in and send that into us.

53:16

If we don't have an opportunity to ask David the question. Now, we'll definitely touch base, and we can respond back, either through e-mail, or we can get in contact with you directly.

53:26

But we do follow up on all the questions to make sure they get answered. So even if we can't get it to David today, right now, we will make sure that we get that question answered. So couple of things around the 12 Chen processor.

53:41

David, is the cooling any different on that processor? Is it the same cooling as 10th and 11th Chen or is that also changing with the change of a socket?

53:51

Yeah. We didn't really touch much on pricing, which is also connected with this, this question. But we have a new cooling solution that's shipping in the, you know, we offer a cooling solution in all of our non K products, right?

54:07

Um, and we know that that cooling solution is pretty basic. Most of our customers throw it away and use a third party solution.

54:15

The cooling solution that's coming with 12th Gen is actually a vastly improved solution that we think people will actually want to use.

54:23

And for that reason, we are going to be asking a premium for, for any any box CPU that ships with, with that cooling solution.

54:32

I don't have all the information here today, but, yes, there is, there is a much improved, um, cooling solution that's going to be shipping with those known

54:43

So what about the Operating System on 12th Shana just to kind of clarify. You know, the 12th sharing processor requires, does it require Windows 10 or Windows 11? I'm sorry.

54:56

And it works with Windows 10 as the OS matter, when we're talking about the 12 ... CPU?

55:04

Yeah, Windows 10, or, you know, the soon to be Windows 11, fine! Yeah, it's the support for both operating systems.

55:12

OK, great. And you talked a lot about Intel support for Thunderbolt, and there was a lot of discussion about that around the notebook and kinda the difference between Intel Apple, in terms of the types of IO.

55:29

But what about AMD's Intel, way ahead on Thunderbolt Vers, AMD?

55:37

Um, yeah, I mean, that's. And that's an important differentiator, right?

55:43

So no support for Thunderbolt is very, very intel specific, right? So and the reason I brought it out more in the presentation, particularly, I mean, you know, fundable originally was a technology that we developed for Apple. Right, that, that's where it first showed up. And now, here we are.

56:01

And, you know, this, this breed, this break in the ecosystem, if you will, and we have Thunderbolt four as a new solution, and it's very much specific to the Intel ecosystem now.

56:14

Um, now, not to say that we don't make it available to other systems as well.

56:21

Whether they're using an Intel CPU or otherwise.

56:26

But for the most part, in terms of how the that feature that solution shapes up on intel based system, you're going to have a much better overall experience, particularly if you're in there and that Evo product category that that I mentioned earlier.

56:43

So we have some questions kind of around, you know, your, your launching 12, Jan. We have tense Chan, we have 11 chairs, so there's a lot of questions actually in here. Overall, kind of about supply, and I know you hit on that in the beginning, but now that everybody has had the full content of your presentation, they understand 10th, 11th, and 12th Chen.

57:06

When everything's coming, maybe kinda, could you go over that again, and kinda reposition, you know, how is intel got a position, all these different processors that are going to be available in Q four. I mean, what, what should our customers be focusing on?

57:23

Yeah, so, what I mentioned at the start was, you know, as you say, we're going to have all three generations in marketing Q four, And we, we originally had thought that, in terms of overall supply, the Q four picture was going to look pretty similar to Q three.

57:40

But overall, we're getting about a 50% bump in supply in Q four, which was actually unexpected until just a few weeks ago, and most of that is coming on 10th and 11th gen.

57:53

A lot, on the 11th gen, if you remember, when we first ran into the substrate issues that we had, in terms of supply, back in March, we're actually building silicon, still, we just couldn't put them on a piece of substrate, So, now we have a better substrate supply story. More of that volume is being made available to us.

58:12

So there's, there's, let's say most of the supply is going to be on on Rocket Lake on the 11th gen.

58:19

Closely followed by Tense Gen, then we'll be getting a fair portion of 12th chamber. Again, bear in mind, this, that's just K and K, F and Q four.

58:29

We're getting a fair, you know, really good amount of 12th gen considering is only K and K F, but but still most of the volume is going to be on on 10th and 11th and I would certainly point people that way.

58:41

And if you remember, I made some mention of pricing with 12 gen overall.

58:44

We're seeing a price bump, price increase for 12th gen. And already in market today, there are pricing incentives around 12, sorry, 10th and 11th Jam. Which aren't going away to the point where you can almost position it that way.

58:57

Kind of good, better best, in terms of the, the products that arrived at 10th, 11th to 12th.

59:07

Can just cruise through here. So, got a couple of questions on the graphics cards. There's, there's, and I'm going to combine these two questions into one, but one of the questions is around supply.

59:22

So try to kinda get a grasp on the supply and maybe touch on, who's supplying these graphics cards, right? Do they come from Intel or are they coming from a motherboard partner? And then the sub piece of that question is, is this a separate, this is a discrete card, right? This isn't something that is integrated down on the motherboard or integrated into the CPU. This Intel discrete graphics, right?

59:49

Correct. It is discrete graphics we're talking about for Q one.

59:52

Yeah, so, it's and it's the discrete graphics version of the Intel ...

59:57

graphics that first shipped in a title like 10th gen, certain 11th gen notebooks, you know, almost a year ago, right?

1:00:05

So, just to be clear, and in our go to market plan, no, we're unashamedly borrowing from Nvidia and AMD, right.

1:00:15

So there will be kind of early market, founder's edition versions of that discrete graphics card coming in Q one with very limited supply, very limited timeframe.

1:00:30

It will be a Boxed Intel branded CPU, but the vast sorry, GPU, but the vast majority of of supply will come from the audience.

1:00:41

You know, from mizzou's gigabyte and others, that will be the main route to market for for alchemist or DG to the into our discrete graphics. Yes.

1:00:52

All right, so, and just to kind of give a plug to everybody out there that you know ASI is a key partner for all of the motherboard guys and the graphics card card producers, so, we have the relationships with a SOOs MSI, Gigabyte, ouzo Tech a VGA.

1:01:11

So any of the guys that are doing the graphics cards, ASI has key strategic relationships with all of them, so I can kinda give ourselves a plug here, and say, we'll be in a great position to help you guys with the Intel, discrete graphics card, once that launches into one. So, for all the customers out there, you guys are going to be looking for graphics. Cards, definitely.

1:01:36

Look for ASI, we will have them from all of the board partners.

1:01:41

So, kind of jumping back a little bit, David, and we got a few minutes here, and then then I'm gonna wrap up, because we're kinda over the limit. But do keep sending in your questions, everybody. We did get a couple of questions early on about Nook.

1:01:55

And I know probably put you on the spot here, but can you talk a little bit about milk availability before we kind of wrap up?

1:02:05

Yeah, that is a particular pain point. No question.

1:02:10

Knock, of course, is not only an Intel CPU, but we actually manufacture it in Taiwan and China and other places as a system, which means we're relying on the same ecosystem components that all of you are struggling to get hold of right now in Market.

1:02:28

You know T I am you name it, just the same struggles are there on the product line.

1:02:35

Um so you're just talking very candidly, we're not expecting knock to really start to recover in any shape or means in terms of supply until we get into the early parts of next year.

1:02:47

That's the best visibility that we can we can give right now. There are there are there is some supply up there, is really spotty.

1:02:56

Really hard to get hold of. For that, we apologize.

1:02:59

But yeah, we're victims to the same, the same system, ecosystem challenges that the whole industries is looking at right now.

1:03:09

So thank you for answering that question.

1:03:11

I know it's, it's not fun to have to, you know, deliver, You know, that kind of news, but it is something that we're all dealing with and challenges that we're facing across the industry, not just, uh, for this particular product, but others that are affected by shortages through the supply chain. But with that, I do want to go ahead and kinda wrap things up. I'm just kinda, take a couple more minutes of your time, everybody. So, if you can just hang on the line here really quick, and then we'll get this wrapped up. So, few things that I wanted to mention.

1:03:45

First, we are giving away an Intel laptop.

1:03:49

So, for those of you that joined us for the entirety of this session, you'll automatically be entered into a raffle drawing for a chance to win that notebook. And we will announce the winner of that tomorrow during our session.

1:04:02

For Tuesday, which is with Micron who will be doing a session tomorrow.

1:04:08

A couple of things that I wanted to mention in terms of dates, you know, David talked about a lot of stuff around the Gen four processor. So our Q four technology summit, you guys all want to write this down is November first.

1:04:25

So we'll be doing our Q four technology summit, and we'll have David back from Intel to talk more specifically about the 12 Chen processors. So that's gonna be a great session, that you guys will all want to join, So look out for the e-mail announcement coming for that one, but do market data on your calendar. November first, 11 o'clock, AM Pacific time.

1:04:51

Uh, David will be talking about 12th gen processor on that date, so make sure you know that.

1:04:58

Also on October 13th and 14th for you guys, we're gonna be doing a Nook Build, which will be featured featuring the Bees Canyon. Austin Beach in Camden County products.

1:05:11

What's unique about this, that this will be hosted by Barry. And he'll be talking to talking about these products, but he's also going to be doing a live demo.

1:05:24

So he's going to be showing these products and how they integrate and how you put them together. So this is going to be kind of a live system billable. So there's something really cool. We haven't done this before, so I'm really excited to be able to do this one.

1:05:40

So be sure to look for the invite for that. That's October 13th and 14th, so everybody can join that.

1:05:48

So, with that said, got all of those dates out of the way. I'm gonna go ahead and wrap this up and close everything out and remind everybody to join us back again tomorrow.

1:05:58

At 11 for Day two of the ASI Technology Summit will have micron joining us. Micron always brings a whole team of presenters. They touch everything from the memory SSD drives. They've got their new Gen four SSD drive will be talking about and all the memory stuff going on so be sure to join us tomorrow for that session.

1:06:20

And that of course on Wednesday we have supermicro it on Thursday. We'll have Samsung join us again tomorrow. So with that, David, is there anything you wanted to say in closing?

1:06:32

Let everybody go for the day.

1:06:34

Now, again, thank you for spending the last hour, and appreciate all of your business and continued support, and, and hopefully we can see the lights at the end of the tunnel, right?

1:06:44

So, great. Yeah. Sounds very promising for Q four. You know what, what David has mentioned about the supply?

1:06:54

Definitely improving, from what we've seen on our side, as well.

1:06:58

So some good opportunities coming in Q four. So on behalf of ASI, there, thank you so much for doing this for us. We really appreciate it. Very insightful. We appreciate you being so open and honest, and provided a lot of really good information and content for us. We will be providing the slides to everybody who asks for them so you guys can all get the slides that, David showed. And this has been recorded so you'll get the recording as well. So with all that, we'll give everybody about the rest of the day. So, thank you for joining us today, everyone. And we look forward to seeing you all back tomorrow for day two with Micron. So. Thanks, everyone.