Intel Client Technologies

0:04
Good Morning everybody. This is Kent Tibbils with the ASI, I want to welcome you all to our 2020 technology summit.

0:13
And thanks everybody for joining us for our week long seminar sessions.

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I know normally we would be doing this in some face-to-face event at a different branch office, but things being what they are, travel's, not really something that everybody can do today.

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So we want to take advantage of this opportunity and be able to do a virtual event, to get you guys all updated on some of the latest greatest technologies that are coming out from our vendors. So before we kick it off with David ...

0:48
from Intel, there's just a couple of things.

0:50
I wanted to go over really quick in terms of the agenda and what we're going to be doing today and for the rest of the week regarding our technology summit.

1:01
First today, we have our presentation is from ... David Bradshaw joining us today from Intel. David is going to be talking about All Things Client. So David, I'll be talking about the latest 11th Gen. processors, the 10th gen processors.

1:17
He's going to go over some competitive information for us, which I think will be really helpful for everybody out in the channel when we're talking about Intel versus the competition. And he's going to talk about the product line.

1:31
So David has a lot of things that he's going to go over today at the end.

1:37
Or at the end of each one of these seminars, we do have prizes to give away.

1:42
So for today, our prize is going to be a NUC, fully integrated NUC systems.

1:48
So eighth gen NUC with a core I five processor, and it's fully integrated. So, make sure that you stay till the very end of the presentation, so that we can get everybody registered.

2:01
And once we have a chance to kind of review the report, will send out the e-mail announcing who won and will make an announcement tomorrow, as well. So, for today, we have David, just to let everybody know tomorrow at the same time on the 16th. So tomorrow is Wednesday, the 16th at 11 o'clock. We have our second seminar session, which will be from Micron.

2:23

Then on Thursday, on the 17th, again, at 11 o'clock, we have our third presenter, which will be a suit. So you want to make sure that you join those two events, especially, get some good information from PNY on their latest RTX card from Nvidia.

2:42

Then we roll over to next week and we pick it up on the 23rd at 11 o'clock with our seminar from Supermicro, and then we close everything out on the July 24th seminar from Western Digital. So, we've got five seminars, each one of them taken place at 11 o'clock, or one hour, each of those five days.

3:02

If you attend all five of those seminars, you're gonna get entered into a raffle drawing for a chance to win one of the Intel notebook. It's a core I seven 9th gen notebook with an RT X 2070 card.

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one terabyte hard drive Windows fully loaded.

3:21

So a very nice high end gaming laptop. It's aluminum alloy. You guys will love it.

3:27

It's a great notebook.

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And we'll be giving one of those away at the end.

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For those of you that attend all five of those seminars, you'll have a chance to win that notebook.

3:38

So, with that said, I'm gonna go ahead and kick things off to David.

3:42

But really quick, just to let you guys know, if you have questions, there is a question window on the bottom of your screen, Andy, Um, menu box, So you just go ahead and click on the question screen, and it'll open up, and you can type in your question, and then we'll get a chance to ask that to David.

4:03

He'll be going through his presentation. So we'll have a chance during the presentation to answer some questions.

4:09

At the end, we'll take a Q and A, but if you have a question, go ahead and put it into the question box, and then we'll be able to make sure that we can ask.

4:17

David, your question? So, David, I think I've talked long enough, so I'm going to go ahead and just kick it off to you and let you take it away.

4:28

Hey, thank you very much, Kent, and good morning.

4:30
Hopefully everyone can see my screen, and see me Not though that second part is necessarily a benefit, but anyway, welcome and thank you to ASI for setting this up.

4:45
As, I have been, a long term, partner of ours, a great partner, and we really appreciate them inviting us, to take part today, so.

4:55
Welcome, and hope everyone staying safe and well during these. What continue to be interesting times?

5:01
Um, a lot of updates, today, from, from our side here at Intel, that wanted to make sure we were being addressed, not the least, of, which, was, hopefully, you saw, but about two weeks ago, we introduced the new Intel brand, which you can see here proudly, Illustrated here on this first screen.

5:21
So, only for the second time in our, in our company history, are we, are we ripping the company, Brent?

5:30
OK, let's move, then, move on. So, let's look at the agenda here for a moment.

5:39
So, what we want to do today is really cover the most recent product announcement launched that also happened in two weeks ago when we announced our new brand, which was 11th Genco.

6:19
What really stands in terms of competitive performance versus AMD? And we've got a pretty extensive update given Intel's an Intel and AMD's Most latest product offerings.

6:33
I will also talk about mobile, and we'll also talk about NUC at the very last part of this, we've had lots of interesting news and products, announcements, launches happen this year. On Next, I want to make sure that we're, we're giving that plenty of attention.

6:53
OK, let's start off by talking about like, an 11th Gen Core.

6:59
and lots of great news and attention on 11th Gen Core in the Press two weeks ago.

7:06
And since then, some of the quotes, the highlights, I mentioned here.

7:12
Well Hot Hardware talks about our six Pillars of innovation, which we've been talking about.

7:18
Our execs have been talking a lot about in the last 6, 12 months.

7:22

And how 11th Gen already contributes to that, that mission statement. Gizmodo talks about the fact this was a very welcome shakeup in the GPU space.

7:33
Really, a nod to the huge improvements on 11th gen coal with the Intel integrated graphics will we'll talk about in a moment.

7:41
IGN talks about how Ultrabooks and mainstream laptops are about to get way more powerful, now that Intel's introducing 11th Genco.

7:49
And finally, from Toms hardware, Intel taiga Lake Supa finishes AMD Rising 4000 with latest benchmarks, really, a conversation about our on new mobile 11th gen core CPU.

8:02
So, we're very pleased with the how the launch has gone with, we're very, very pleased with the new, new piece of hardware or 11th chain called Type Lake CPU.

8:14
Um, we're not confused and we understand, we know that we're coming off effectively, 2.5 years of that pretty tough, um, supply constraints.

8:27
In-between time, AMD has done incredibly well in terms of their own product offering.

8:35
That probably got as close to us in terms of performance, in terms of product, as I, as far as I can remember in my 25 year Intel career. So, again, we're not confused. We know that we've got lots of time to make up a loss of supply to makeup.

8:53
The great message here is that we where we feel like we're really back and we're roaring back.

9:00
So I wanted to share this slide with you, just to kind of set up the presentation today, and this really talks to our priorities on our PC side of the business.

9:09
What we wanted to do is here is to lead and grow. And across the top of the slide here, you can see that we're talking about the introduction of ...

9:18
gen core, as well as the introduction of Iris X C graphics. So this is on new, integrated graphics offering in 11th gen cool.

9:28
I also want to make sure we mentioned Intel Evo platforms. So again, another new brand from Intel.

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So, Evo is effectively replacing the projects Athena, brand messaging.

9:43

So if a product has 11th shank core, and meets the criteria of what was previously known as Athena, then it qualifies for the Evo brand Along with these product introductions to putting a ton of marketing spend back into the marketplace, you should see Intel in a way that you haven't seen this for a long time in terms of overall visibility. And we want to make sure that we're providing you with the right tools that can really help you sell.

10:13
So on the left hand side of this chart is really a nod to the new CPU 11th gen core.

10:19
And the new Evo, Brent.

10:22
So this really is best in class in terms of overall performance for innovative in light of platforms.

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And really shows a high degree of performance leadership for real use case models and workflows. We'll talk about some of that performance and benchmarks here in a moment.

10:42
And we're also accelerating a stack with our future 11th Gen products, as well.

10:48
We'll talk about desktop roadmap in a moment and neck, but both for desktop in the form of Rocket Like, which is coming at the very beginning of next year.

10:58
So, we limped shank or for desktop beginning of next year, And then 11th gen core on knock, and, not quite, but, products coming towards the end of this year.

11:08
At the same time, we have to really maintain momentum with ninth engine, core ninth, and 10th Gen.

11:15
Yes, we do have 10th Gen or in the marketplace today, and it really depends on which SKU you're looking at as to how much supply you're seeing, because we're still ramping these products.

11:25
At the same time, we've got a lot of nice gen core in market today to go off and sell.

11:29
So, we want to make sure that we're, maintaining the, the pressure, if you will, around ninth gen core in, order to sell through, as much of that progress is possible during the rest of this year.

11:45
In addition, we are looking at our community focus, so we are right in the middle of something called Gamer days at the moment, and we're, we're participating heavily in the Avengers Game launch, um, and I know ASI are partnering with us and that launch and have special offers and promotions around gaming codes and so on, that they have available to them.

12:11

So, the right-hand side of this chart, you know, when we're talking about competition, we're talking about much more than just the CPU.

We're talking about the graphics performance, So the new Iris XC graphics that we have in market now with 11th Gen Core.

We're talking about advancing connectivity.

So we recently acquired a company called Rivet Networks, who make a product called Killer Wi-Fi.

And that's really adding a ton of value to our own WI Fi offering.

Of course, we have Wi-Fi six as a key part of that offering.

And also, other content connectivity perks, a Thunderbolt four, a new Thunderbolt products, which launched here with 11th Gen core, and of course, 2.5 Gigabit Ethernet, and market as well today.

On top of that, when we talk about the overall platform offering from Intel, of course, I think most people are familiar with our own obtain offerings around memory and storage, That continues to be a really key story for us.

We look at productivity solutions like V pro. You know, we have nine gen, the pro products in market today, 11th, gents, or 10th gen coming shortly.

And then, we also play this huge role in the industry, where we are helping to influence industry strict standards, whether it's in I Triple E, or in areas like the California Energy Commission.

And we are offering a lot of partner support during kickoff As well, whether it's in, in to help bolster what the government is offering as well as a Covid cash assistance program and improved terms for our distribution partners.

So if you take all of this and put it together, this is way more than just the CPU that we're talking about here, particularly when we're talking about competition. Yes, on the CPU, we're redefining performance leadership.

But when you look at the overall package, everything that Intel brings to the table around, as I say, graphics, connectivity, memory, storage, v pro, so on.

There's a big, big story to tell here, as far as the the ends of product offerings. OK, so let's look at what we mean by faster and better.

14:24
So 11th Gen or Tiger Lake when we compare ourselves with an AMD Ryzen 7 and 5500 U CPU.

14:32
So, AMD's, top of the stack, a mobile offering today.

14:38
It allows you to work 3.8, 3.8 X, times faster to create 4.4 X faster, play, Games, two X, better to two times better, the frame rates to connect up to three X faster with products like Wi-Fi six.

14:56
So, in terms of what we offer versus the competition's leading product today, this really is a huge leap, a huge advancement in terms of performance versus the competition. In fact, you could even go as far as to say, this is a, once in a decade type, performance leap, and that, hence all of the news and attention that was created around the introduction of 11th chunk or two weeks ago.

15:27
So, let's make this really simple when we take everything that I've just said in the last few minutes here and boil it down, how does an sullied? So this chart makes it fairly easy to understand.

15:39
So, when you take yes, overall CPU performance, you take graphics performance, you take AI capabilities, media and display engines and hardware hardened security than the bulk for PCIE gen for wireless wide connectivity.

15:58
Um, scalable performance.

16:02
Intel leads the way in each of these categories.

16:07
True. We're not leading the way when it comes to ... bench benchmarking. We don't believe that's a good use, case based type of benchmark to use.

16:16
And we don't always lead the way in terms of core camp.

16:20
But as we will, as you'll see in this presentation, not all cores are created equal.

16:25
And that's that we should be looking at the overall performance of the CPU in certain use cases, as opposed to how many cores a CPU may or may not have.

16:35
OK, we mentioned graphics. Let's talk a little bit more about that here, So the new Intel Iris XC graphics, but them in, like, laptops, launch with length gen core. We have up to 82% more frames, frames per second. Then the AMD integrated graphics in the Ryzen in 4800 use CPU.

16:55

And even if you look at discrete graphics, in this case with comparing ourselves with the nvidia Ge-force MX 350 graphics. So this is an Nvidia graphics card for mobile.

17:06

The Intel graphics up to 10% faster, then that discreet graphics offering. So this is, again, a huge leap forward in terms of graphics, performance for CPU in integrated graphics and a CPU for mobile.

17:24

So the question then comes back to what about the competition and what they're saying, and what's, what are they claiming.

17:30

So, let's take this bottom left-hand corner first. So, AMD's claims that they have more cause, they leave with a core succeed through a message. For their 4800 U, mobile CPU?

17:43

Again, not all calls are created equal.

17:46

An 11th gen core, Intel I seven, with the right, next gen compute engines, absolutely be.

17:53

And these top bin eight, core rise in 7 40, 100, you, based on real use cases, workflows, and so on.

18:01

Another claim that they have is they have a better graphics performance.

18:05

No longer now that the Intel Iris XC graphics is in play, as we hands down, beat the AMD rise in 7 4800, you across all of the, the key three-d. mock benchmarks that are out there.

18:21

The claim that they make is that the Senate Bench is the rights Benchmarked go by.

18:29

Well, Cinnabon cinnamon, she's not really relevant, fourth, and enlighten notebooks. It's actually based on an app, which is used in less than 1% PCs that are out there.

18:39

Instead, when we make comparisons about performance, we should be focusing on productivity apps, such as Microsoft Office, which has one point two billion users worldwide.

18:49

And these benchmarks really should boil it to the top and give you a better idea of how that that PC will perform in a real real life situation.

19:00

OK let's go back for a moment and talk about Evo. As I mentioned, Evo is the new brand associated with what was known as Projects Athena. Where that project's Athena notebook is using 11th Gen core CPU.

19:15

So here we see some, some, some key characteristics associated with the at the EBA platform.

19:22
So 40% more responsive for an average than a two year premium laptop.

19:27
two year old premium rep laptop.

19:29
The ability to wake from sleep in less than a second way, way, longer battery life.

19:35
The incredible performance of the Olympic Janke Core CPU, our industry leading graphics with our Iris ...

19:44
built-in AI across all platform levels, innovative and engaging form factors. I think this has never been more the case.

19:52
Now if you look at look out across MLS season, the type and quality of new notebooks that are being launched, using EVO or announced using EVO.

20:04
And of course, this Evo systems should use the very best in class connectivity. So WI Fi sticks, and Thunderbolt four.

20:14
So let's talk about ... for a moment. We're not going to talk about the program much today, but just want to make sure it didn't get forgotten.

20:20
So we often talk about the four pillars of connectivity of manageability as far as V Prime concern. And this this messaging has now been refreshed with 10th Gen in mind.

20:32
So performance and user experience, massive performance gains over a three year old PC, and of course with WI fi six in the pro based system.

20:47
Much improved performance as well for connectivity and modern life cycle management.

20:53
So the ability to make sure that through AMT and through Intel's trusted device setup, that PCs are being managed correctly through the, through their life cycle.

21:04
And in an IT department, Security is very much part of our overall messaging with Intel Hardware Shield and Intel platform trust technology.

21:14
And finally, smoothes stable operations with the continuity of the Intel sip program stable image platform program.

21:22

In market today, has never been more critical.

21:25
I think the thing that most people know, P Pro for, of course, is the manageability piece and that's very much part of what we're offering here, as well as a new type of technology that allows you to manage devices out of band called Emma.

21:38
Which is part of the latest, greatest Pro offering.

21:44
OK, let's switch gears then, and talk about Desktop and Desktop Components and just to show you the roadmap for a second. I don't normally like to show these roadmaps because that can be pretty complex to understand.

21:55
But, you can see here that we have, of course, our X series CPUs, Glacier false, Which we've had in market now for, like, you know, this year will continue into the beginning of next year as well.

22:08
The series, so these are mainstream CPUs, of course, we, we launched 10th gen core comment like back in Q two.

22:18
That again, continues to ramp the market today.

22:20
That will be replaced by Rocket Lake S In Q one. Next year is the beginning of next year as well as a refresh around comic like? Yes.

22:34
That will be. so ... guests will become, will become an 11th Gen.

22:38
So, again, just in case, it wasn't entirely clear, 11th Janke, or the enhanced my two weeks ago, specific to mobile, Those products will be in market from about the end of October beginning of November. And then for desktop 11th, Gen is rocket like S, which is coming in Q one, next year.

22:59
So, when we talk about 11th gen, cool, now speed is absolutely king. And performance, again, we'll look, we'll look at the competitive benchmarks versus our competition here in a moment. But the, the key performance metrics are here on the right-hand side of the chart. So, up to 5.3 Giga Hertz.

23:16
New Intel Turbo Boost Next Technology three up to 10 cores in 20 threats to 40 platform PCIE lanes and up to DDR 429 33 Memory speeds.

23:30
And there's plenty of content material out there, trading, material, assets, and so on, at your disposal, and we can make these slides available to you later. But you can go in and download those assets, product briefs, how to sell guides, and so on, that all focus on, on 10th Genco.

23:51

OK, let's, let's look at this Competitive Response Guide then.

23:55
This is brand new from us in terms of how tense gen core on desktop stacks up against AMD rise and rise in 3000 series.

24:05
So this is the refresh with material that we were talking a lot about towards the end of last year, if you recall.

24:12
OK, so let's set the stage here.

24:17
Again, AMD use Sinha bench in a lot of there, a benchmark qualification. We don't believe that's a good benchmark to use. It doesn't really illustrate real life use case models that are out there instead.

24:31
And we're using Smoke 2018, which focuses on Microsoft Office, Google Chrome OS. And so on. The different apps are here on the left-hand side of the chart.

24:43
On the right hand side of the job then is a good indicates A using ... of how Intel and AMD CPUs lineup.

24:53
So at the very top, of course, you got the Intel Core, I 9900 K Followed by the 10, 700, K 10, 600 K, And then you get into the AMD rise 9 3950 X and as you go down here.

25:06
So the reason I wanted to show that slide is because it really talks to how AMD really positions their brand. So this, this here on the left-hand side of this slide is how AMD sees the world.

25:19
They would try and have a show that rise nine is actually the same or equal to, in terms of Performance, Core I nine, 10th gen. They would suggest that rises ..., same as a 9, 7, 5, 9, 5, and rising three is there's an I three.

25:35
But when you apply these real-world sist mock benchmarks to that same stack, you're left with Intel's view of the world, very different based on real-world applications. So you can see.

25:48
Rising nine actually sits, not even squarely with a core, I seven, just a little bit below. The same as it rises seven, sits somewhere closer to horizon, at sorts of core I five.

26:00
And rise in 5 and 3 is more akin terms of performance to A, an Intel core I three tenth Gens CPU.

26:08
So we just want to make sure that was clear, as we get into the rest of this performance, Charisse comparison here.

26:17
Um.

26:18
So, again, to help us understand how, how these, these CPUs, stack up against each to each other. In terms of benchmarks, we're suggesting here that these are actually the correct CPU by CPU skew level.

26:34
Performance ratings, that you should have ... 9900 K, said that by itself.

26:40
The 7700 K is more akin to the 39 50 X and so on. Down the page.

26:48
So let's look at how these two compare, and we have here, two identical systems.

26:58
The one exception, of course, being the CPU, so we're comparing the rise 9, 3900 X The CPU retail, the prime retail price is $690 versus exactly the same system, Same nvidia graphics card, the same memory, the same storage actually, we gave.

27:17
We gave AMD slightly higher, PDF for performance, but the everything else is the same apart from the CPU.

27:24
In this case, we're using an Intel Core, I 7% Gen CPU, with a retail price of $397, so pretty significant get $300 plus gap in terms of the CPU price.

27:36
But everything else about these two systems are the same.

27:41
So, let's see, when we compare these two together, How are these two systems comparing in gaming?

27:47
Well, for Rocket League, until perform had at 17% higher, frames per second League of Legends 13% higher?

27:55
And so on down the list here, in every case, the game that was tested on the Intel system had a higher frame rate per second than the more expensive A-and-e. system.

28:08
In fact, as we looked across, 30 games that we tested, 23 out that those 30 games perform better on the Core I seven based system.

28:19
Then on the AMD rise and nine based system. As you can see, everything on the right-hand side of this chart perform better with the Intel system. Everything on the left with the prize in 19 30, 9 50, and again, we're not even using the top of the stack Intel Core CPU. In this case, it's the ..., not the I nine.

28:40
For, for a cheaper price.

28:44
Aye.

28:45
Beat myself to the slide, but yes, by the way, when, there is the 1900 K, which is the world's fastest gaming CPU, up to 5.3 Giga Hertz 10 cores and 20 threads.

28:57
How about getting work done? So this refers to productivity.

29:02
So when you look at productivity applications, same system, with the Intel Core, I seven versus the rise and nine was 14% better, office multitasking, 5% better, file conversion, 12% better, file compression. 6% better and so on and so on.

29:19
So for a $300 cheapest system, you are outperforming the AMD system with the Intel Core I seven based System.

29:31
How about creativity?

29:33
Well, same message again, the Intel Core I seven system was outperforming the AMD rising system 8% faster.

29:41
In terms of video editing, 13% faster for Adobe After Effects and 28% faster for magics basket.

29:49
For photo editing, same story organizing photos, same Story, three D animation, same story.

29:56
So, again, a system that was $300 cheaper outperforms the thrice nine CPU based system.

30:05
Alright, let's, let's look lower down the stack then. And in this case, we're going to, again, compare the same two systems. The only difference being, we're using an AMD rise and 7 3700 X system.

30:17
Versus an Intel core I 5, 10, 7600 K system price difference of over $20, $26, if my top of the head math is correct. So, let's see how these two systems stack up against each other while in gaming.

30:35
Not quite as large a difference as we saw for the core I seven versus rising demonstration, but still, a significant difference here in terms of higher frame rate per second in these games versus the AMD system.

30:52

And as we look at the same setup of different games here, you can see that of 28 games tested, 23 of those games actually tested better, with the Intel I five system, than the rise in 4400 X system, again, for 23, $26 cheaper in terms of the system price point.

31:15
How about for everyday productivity? Again, same message here, productivity. Applications using ...

31:22
2018, 10% faster, them some better.

31:25
Converting 360 video to thousand ATP, 5% better, file conversion, 11% better.

31:32
And the same story had cross image organization, video editing, photo editing.

31:37
Web browsing was about on a par, but for a cheaper system, you can see here, what can be done with an Intel Core I five, versus arise at 7 3700 X.

31:48
So just to summarize the, the, the performance, competitive performance part of this presentation.

31:56
So Intel still has the world's first express, this gaming CPU, in the core I 9900 K, We didn't even use that in these benchmarking.

32:06
The Intel I 7 10, 700 K, outperforms the AMD Rising 39 50 X based system.

32:15
The Intel I 5 10, 600 K, is best value, than the AMD Rising 7: 7 3700 X.

32:23
The Intel Core I 5400 is back comparable. We didn't show those here today.

32:28
But if we have that data as well as back comparable, with the AMD rise and 5600 and for the I three, the I 3, 10, 100, does outperform the rise to 3, 30, 100.

32:39
So, a pretty solid set of data here, in terms of how these two sets of product offerings, really, in real-world type applications measure up against each other.

32:52
So, I'm going to take a pause here before we jump into the next section, Ken, and see if there's any, any questions anybody has.

33:02
I don't think we actually. Yeah, we have quite a few questions, actually. I've been trying to answer them as best I can, which means probably not very well.

33:12

But maybe, really quick, you can just kinda give us an overview of what the release dates look like for the different processors, especially the 11th gen.

There's some questions about, specifically, when will the desktop version of 11th Chen launch and when will be pro versions of those CPUs launch, or they all launch and at the same time are what's the launch look like for 11?

Yeah. No, it's a good question.

So, 11th gen core for mobile, again, as just launch, we don't expect to see MMC systems show up in market until late October, early November.

And then for 11th gen core for desktop.

So, Rocket like, we showed Q one in the roadmap or, the latest I'm hearing is that we will see a launch for 11th gen core Rocket like desktop CPU's, probably in March, next year. So, it's going to be the very back end of Q one, at this point.

As far as, the pro is concerned, of course, of course, is always a lag delay between launching the consumer version versus the business version. We're expecting that, the pro version of 11th gen code, again, to show up in the Q one timeframe.

I'm not sure if I answered all that.

And when 11 Jen, and I don't know if you even know this information, but are they going to be launching the same core counts? or are there higher core count?

So, for example, on the I five, if you're going to be six core with 12 threads, or what is the core of threads look like for leverage on? So, so non ..., that's, does that what you're asking?

Just in general, like, comparing non, be pro to non being pro?

What, what does the core count look like for 11th gen versus temperature?

Yes, so.

On the desktop side, I mean, mobile is out there, right. We'll know, mobile and non ... Pro to be pro mobile will be effectively the same. On the desktop side, we haven't made any announcements yet around core counts on Rocket Lake so that that will follow here.

I'm guessing we'll provide some kind of an update, very early Q one, about what the, what the, the core count and thread count will it will actually look like.

35:48
And since you mentioned the notebook side and the mobile side, are we starting to see, or do you know when those products should start to arrive in market or the 11th gen code notebook, Yale notebook? Yeah. Late October early, November you'll, you'll start to see this show, can market.

36:09
so well in advance of a holiday, which is good news.

36:15
OK, and you showed a lot of information, really, really good information about the performance between, you know, Intel and your Andy competition for both 11 CIN and anti chain, but looking at ...

36:30
specifically, is there any power efficiency differences between Intel and AMD?

36:41
On the, on the mobile side, 11th gen, to, just want to make sure I get the question, right? Yeah. So let's say, let's say on 11 gen, verse, and the mobile.

36:55
Oh, I see, I haven't got any of that data to hand, to be honest, I'd have to go off and look for it.

37:05
All right. We have more questions here, but why don't we go ahead and push through the remainder of the presentation?

37:12
And if you ask the question, keep asking the question, We'll get to them at the end. So if I didn't get a chance to ask David here right now, don't worry. We'll ask them at the end, but a lot of the questions are regarding Mook, and I know we're going to talk about that next.

37:29
So, why don't we go ahead and go through our nook, OK? Thanks, Ken.

37:35
So, wanted to make sure we spend some time here because a lot has happened for the next product line.

37:44
In the last 6, 9 months since CES and many products announcements and launches Rannoch happened at that time, there have been delays getting those new nek products to market.

37:58
Um.

37:59
And what I would say here is that, you know, we've been held up by, by coven 19. I think, just like, the rest of the world. So, the, we anticipated getting many of these products to market maturity, or the good news is that most of them are in market and shipping today. So, we'll talk about these new products, and what they are and what's available.

38:19
It can guys, chicken.

38:21
I'm getting a message here that there's some network connectivity issues going on, and you may not be able to hear me properly, You hear me OK?

38:29
I can hear you fine.

38:30
So, it's coming from somebody in the audience, or No, no, it's, it looks like the, the, the tool is saying that, but if that's the case, I can turn off the video, that might sometimes help, right, but anyway, let me know.

38:46
Yeah, So-far, I'm, I'm OK if anybody's having any issues, go ahead and ping me through the Q and A, but I think we're OK, Shelley, sharing it fine, too.

38:57
OK, thank you.

38:59
Alright, so let's talk about the new products that will launch this year for neck. So, the first of these is Frost Kenyon.

39:05
So if you're familiar with our neck lineup, this is our traditional four inch by four inch neck product that we've had in market, now, for, what, 6 or 7 years continues to go from strength to strength. So this is Frost Canyon.

39:19
It's based on 10th gen core and it replaces the previous versions of the same form factors. So being Kenyan and baby Kenyan if you've been following the old roadmap at all.

39:30
So, the good news here, move.

39:34
This asked the way here so I can read the slide. We got some good news here. There's lots of great new pieces to talk to Frost Kenyan. So, of course, ... Core CPU. we've got, for the first time, 6 Core in the I seven version of Frost Kenyon.

39:54
So, 50% more than the previous generation.

39:57
We've got tons of both 3 with 64 gig ram capable.

40:01
We support Amazon Alexa and we were offering Wi-Fi six in the box, a lot to be excited about in terms of this new generation of knock.

40:18

Then we have Provo Canyon, which is the follow on to Dawson Canyon, which is on the pro version of neck, which also just recently started shipping. Most of these skews are in market now.

But again, in terms of what's new here, this is the first time we're offering a ..., quad, Core support, we're supporting Thunderbolt three. We have USB 3.1 gen 2 ports. These are all these are all new to Provo Canyon.

And this is available in the past.

We've made these V Pro next available in many different SKU offerings and because we're coming out of copen the desire to get Provo, Kenyan to market as quickly as possible, we had to go through a skew reduction exercise.

So Provo Canyon will only be offered as a no code.

Know, L 10 skew.

Offering L 10 is where Intel offers, a knock that is fully installed, fully integrated ready to go so that there will not be an alternate version of Provo Kenyan. This this product will have to be integrated by you.

Um, but, yeah. This is, again, a very capable product. We're very, very pleased with the, with how this has started to be received in the market. I think there was plenty of tend to demand for this product, because Dawson, Kenyan was coming a little was becoming a little long in the tooth. But this is a Gen core. We're actually moving to 10th Gen Core here, very quickly.

With Tiger Lake offerings in the neck as well.

OK, let's talk about the Intel NUC nine pro. This is quotes Kenyan.

It's the sister products of this product here, which is called Ghost Kenyan. Both of these products, quotes, Kenyan and Ghost Kenyan really stole the show for us at CES earlier this year.

There was a ton of talk, this product is not the traditional form factor nut.

In fact, I have one just here.

Sorry, I should have had that one ready to go, schneid. But this is. This is actually, quotes Kenyan here.

I'm not sure if you can see that very well, but very much A larger form factor effect.

This is a five liter box compared to the normal four inch by four inch intel nut that you're used to. This quotes, Kenyan is intended to be an entry level workstation.

And as you can see on the slide here, we're saying that this you can get to see the in the Xeon CPU flavor or a core I seven ninth Gen CPU.

These systems are completely modular, and I recently went through the exercise of integrating one of these myself, super easy, as are most upon nut products coming from that division.

You can add discrete graphics card, which I did. Here in this, in this quotes Kenyan, there's a list of supported. Discrete graphics cards, and they are on our website. But this is completely modular. You can remove these.

We're calling the Element Modules, You can take this two pieces, you can update the CPU, you can update the discrete graphics card, and a lot of other features.

So again, very highly capable, entry level workstation type products here from, from the ....

So this is so Intel Xeon CPU is with a cause.

I mentioned discrete graphic support, two X, Thunderbolt three ports, again, integrated WI fi 6 and 4 USB 3.1 port. So you know, very capable device.

And then we also have, in market, the Ghost Kenyan product, which is the consumer or gaming version of this quotes, Kenyan.

Exactly the same sized product comes in three flavors. We've got the core I 9 9th Gen core I seven of the core I five.

So, again, fully modular in the same way that quotes quotes, Kenyon is.

meaning that you can change out the discreet graphics card, the CPU, and many of the other, the other components here inside the Ghost Kenyon box.

So again, we support that's core I nine, the discrete graphics card, we have tooth and about three ports, Wi-Fi 6, 6 USB, 3.1 ports, and so on.

So again, a very capable gaming device in its own right.

44:57
Or, and in general, a, a great desktop product for you to use.

45:04
OK, so I mentioned the, the elements them for a moment. So that was, that was really what we call the H Series. Element product goes Kenyan unquote, Kenyan, the ability to be modular and remove elements and add elements.

45:19
What we have here is the U series neck elements, and this really is modular computing and a much smaller form factor.

45:29
So those of you are familiar with the Intel past, in terms of the extra small form factor products.

45:38
Started off with the Compute Sticked, compete card, compete module, this is the follow on to those products.

45:46
And, again, a very capable device, in this case, we're relying much more heavily on the ecosystem, so we provide the compute piece, but the, the rest of the, the product, the chassis, and so on, can be sourced out there in the, in the element ecosystem.

46:05
In terms of what's new and different about this product, well, This is eight Janke core, it goes all the way from a core I five to a core I seven with ..., so again, a very versatile.

46:17
the offering, in terms of the CPUs that are in these products, again, very modular design.

46:23
And we're very excited about what is going to bring to market.

46:27
I mentioned that we're very reliant on the ecosystem around the nook element, in this case, the U series.

46:36
So on the left-hand side of this chart, you can see all of the different element products that we're bringing to the table, including the different board elements.

46:44
And the sensor is a very long list growing list of ecosystem partners who are bringing a chess to market, whether it's in a notebook flavor desktop.

46:56
A chassis that will support many different types of rugged IOT type applications can even be embedded within within a keyboard or within a ... to form an all in one solution.

47:07
So a wide variety of different, you know, low touch custom designs that are available in market today already.

47:15

On the right hand side of this chart you can see that we actually manufacturing our own chassis for the compute element as well.

47:22
In this case there's three different flavors here, the Intel ... Chassis Element Family.

47:29
Um, hmm.

47:31
So as we look at Austin Beach, which is the codename for the, the Intel.

47:38
Chassis that goes along with this, with this type of element, you can see here we offer a variety with a includes expandable IO julienne and even multi HDMI.

47:49
So it's this is a ... chassis.

47:52
It's IP 50 dust resistance.

47:54
So great in terms of being able to use in digital signage, very harsh environments, edge analytics and restaurants and a whole type of different sets of applications that you can think of it in a very similar way as we were trying to find a market for the computer that can and compute codon and compute module and so on.

48:18
OK, so then surround depth, the, the ... product offerings that we've been talking about in this last, this last section, here.

48:26
We also have, from the same product, same at Intel, a White book offering, um, and this is supported as an Intel Core, I seven CPU.

48:37
This is a kit, So you need to go and build out the rest of the system and provide the branding if you like even.

48:45
It includes the latest nvidia Ge-force options.

48:48
It has a magnesium alloy chassis So this is a very premium, high-end, notebook offering.

48:56
Goes great, whether, in the, in a corporate environment, or even in a gaming type situation.

49:03
And includes support for Thunderbolt carries an Intel one-year warranty, the set appears very similar to unlock products.

49:10

So, if you think about enough, we're bringing the same capability, both in terms of the product design and the backend support to you in the same way that we do for, for an ...

product today, in terms of warranty, support, and so on.

The product that we have in market today is codenamed Queens County. This is a ninth gen core based CP notebook.

And the, the, the all of the, the configuration details here, but it offers you the chance to add Discreet Graphics Options has a very narrow bezel, very, very beautiful thin and light design and support for Intel optane technology and so WI fi six and so on. So, again, a very capable white book offering that we're bringing to the table as part of the overall SPG lineup.

And I think, Ken, that it's everything I had in terms of content here. Do you want to jump back to the questions?

Yeah, so, awesome presentation, David. I know that was a lot of information to cover, and a lot of things to go over. And we're getting a lot of questions.

So let me go ahead and try to run through as many of these as I can. Really quick, just kind of moving back a little bit to the to the processors.

We had a couple of questions on those.

But more specifically, you know, Intel has eighth and ninth and 10th gen, all these different processors in the market now.

Which ones should customers really be focusing on when they're talking to their clients?

Yeah, It's a, It's a good question. And we understand that, The roadmap complexity, that we've, we've added to everyone's day, at this point, right?

And part of this goes back to the supply issues that were only now coming out of, right?

And hopefully, by the way, we haven't talked about supply, but I think in general, generally speaking, we're seeing much better supply, at least on eighth and ninth gen products here.

As we get ready to go into Q four intense gen, as I say, continues to ramp, but going back to the question, the reason there's so many different iterations so many generations in market today, is because we have lots of different types of customers to support, with. Some customers have experienced supply issues with cognizant that.

51:42

We want to make sure that, this product slash market for the many different customers and use types that are out there.

51:50

But having said that, in the mobile space, the focus should absolutely be on ninth and 10th gen for mobile today.

51:59

There is still quite a bit of a chin out there, as well.

52:02

Of course, we've announced 11th Gen as the new bright shiny object that everyone's going to focus on once we get into the backend of the hair. And an 11th Gen core for mobile is a shipping in volume.

52:15

But still there's going to be plenty of eighth ninth and 10th chimp products out there in market for Mobile, to go around as well. But I think the sweet spot probably going to the end of the year, is going to continue to be on ninth and 10th Gen core For mobile.

52:29

The same is true for desktop, to be honest.

52:33

There's very little eighth gen desktop out there still.

52:36

As I mentioned, the 11th gen core for desktop isn't coming until the end of Q one. So that means we for desktop, we really have to focus on ninth and 10th gen core.

52:44

I think if you're trying to sell trying to get 10th Gen call today, supply, obviously, is tighter as a ramping product versus nitrogen.

52:53

We, we know from an overall mix perspective, we've got a lot at night gen core for desktop CPU to sell and through the end of the year.

53:02

So if you're looking for, you know, high volume, less risk of constraint, then I would suggest that night, gent core is the way to go. Of course, that much easier said than done with launch 10th gen core. Of course, customers are asking for it, so we understand that, but where possible, you know, nitrogen core sort still remains a great option for, for desktop.

53:25

So just a couple others on the processor. And then I'll jump into the questions that we've been receiving. But when we're looking at the Core I nine processor intents Chen, kind of add that higher end of the spectrum.

53:39

What is, what is the market position for the K Series and the market position for the X Series?

53:44

I mean, how do those two kind of stack up against each other?

53:49
Yeah, and I'll answer parts of that with a supply stipend, again, as well.

53:54
Because X series, we've seen our own share of difficulties over the last couple of years, again, on X series, right?

54:03
Parts have been hard to get hold of. That, that situation, again, in Q four, has improved tremendously.

54:09
The current lineup of X series products, at, depending on the skew, is no kit.

54:13
Not true for all skews, but the most skews, the supply on X series is improved dramatically.

54:20
Um, Would you would not do to refresh our X series products until next year? So then, you see the performance gap close between a product like the 1900 K and R X series products, and clearly X series.

54:35
Whether you're looking at overall performance, that type of system, these, the CPU is going to workstation very, very high end gaming. You know, X series, you just can't beat them still.

54:46
Giving. You can actually buy them, but in the 10th Gen K, Series, K, K. Skews, particularly I, 9 and 7, you're getting a lot of products in that in that space. And as I mentioned, that, the gap is closing as close dramatically between those high-end case cues and index series. And just in terms about an app performance.

55:10
And then is the case serious intention case series.

55:16
Is that, what is that, that on?

55:22
Oh.

55:23
Need someone that LGA 1200 or LGA 2100 or we're not sure. I'd have to go back and double check but the, the X series socket hasn't changed, right? That's been the way it has been for over a year now. We did introduce a new socket for 10th Gen Core and high-end that all of tense gen is on the same.

55:44
Socket is not different socket for 10 to the 10th gym with you, or 99 or 7 right rates this time, OK. So, looking at Nook now. So kind of fast forwarding to note, there are a couple of questions about look and be pro. So are there more models coming with Nook would be pro and also some questions were asked about. Look availability with Windows 10 Pro.

56:12
Yeah, let me, kind of 2 quick 2 questions, anyone.

56:16
Yeah, No, that's a good question and I didn't show the ...

56:18
Roadmap deliberately.

56:20
Just try not to confuse everybody, but let me, let me talk about 11th Shankar for next, for the ... for a second, then, so we can see here on our roadmap.

56:31
We've got Frost Kenyan, which we talked about earlier, 10th Gen, or we've got 10th Canyon, which is Lim Chin ... coming at the very beginning of next year.

56:40
So, taiga Lake, 11th gen , coming right at the beginning of, of the New year, um, and then we have, let me skip forward here to the, this is it. So, this is the pro version of neck, which I think it was a specific question, right? So, we had Dawson Kenyon.

57:00
We've now got Provo Canyon, which has just recently started shipping. We're going to have taiga Canyon.

57:06
So, at the Pro version of, of 11 Gen core coming at the very beginning of next year.

57:13
So taiga Kenyon beginning of next year.

57:18
And then, the other question was Windows 10, Pro.

57:22
And if you look at our, um, non kit versions of ..., the L 10 versions of those products, there is.

57:35
there is typically a Win 10 Pro in that mix, but we already stated we're not going to have our 10 products for Provo Canyon.

57:42
So, we're anticipating having Windows 10 pro versions of Target Kenyon, as we ramp back up to having L 10 versions of that product to the beginning of next year.

57:54
I probably confused everyone.

57:56
I think in my head, I answered the question, but hopefully it wasn't.

58:03
Yeah, great question.

58:06

So David, looking at the Nokia elements, and specifically, Austin Beach, I know, that one has a lot of different IO configuration option, is Thunderbolt, or one of the one of the Options, or Standard Mode, an option for Austin Beach?

Thunderbolt? Yes, not Thunderbolt for.

So we're not going to see Thunderbolt for those element products, until we get to Fort Beach, which is coming, double-check on the roadmap here. Move them over there a little bit, which will, which is coming later this year. So expect to see that coming. And just we're not quite there yet.

OK, maybe you can expand on that a little bit and talk about the different bio configurations for us and beach.

Because I know with the different configurations, you can do different setups or number of Ethernet ports and, you know, those different kind of things on Austin Beach which offers a lot of flexibility for customers.

Yeah, and I apologize flicking through the slides here a little bit.

It gets where we need to be met.

I went too far.

So, you're right.

So there's there are, you know, Austin Beach as a chassis is expandable in that sense, right Depending on what you want to use the system for. So there is a bear, a variation of Austin Beach, the chassis, which is all about expandable IO. A version that supports to land, and that the version that supports multiple HDMI.

The exact spec on each of these versions of Boston Beach, I'd have to go off and find and ... everybody. But, but, yes, there, there is different variations on a theme there, depending on the use case that you have.

A couple of questions regarding Warrantees so on.

um, what are the warranty options? Can customers get replacement motherboards?

Or they just kept the entire ... group placed, or some of the options for milk?

The answer is yes. So we offer the same three year warranty, Ryan.

1:00:21
And it depends on the, on the ..., So if you have an L tend not to fully integrated NUC, we will replace the whole knock.

1:00:28
We go off at the nut products, we go all the way Dan's offering just the Board, right?

1:00:32
So you provide the chassis in that case. In that case, we would replace the Board.

1:00:40
In other cases, you would have something a little in between, right with the more traditional knock that we had a market for 6 or 7 years, where we provide the chassis the Board CPU. In some cases, the memory. And in that case, we supplied we would replace all of those components as you purchase them as A at the SKU level, as opposed to the component level.

1:01:03
So, on the elements, specifically, the Look, Element Pro, I believe, is courts can write.

1:01:11
Is that one shipping already today or one does? When does ...

1:01:16
start to shift it? It has. Yes. So the ... Pro, Quotes Canyon, and its sister product, the Ghost Canyon at both the ... in Market today. They're both available on shipping. So, we waited a long time for those, right. We announced them back in January, and then they finally started shipping here back in the Q two and Q three. So, I know a size is stocking those, which is which is great news.

1:01:43
All right, so question on the notebook. So I know you kind of touch base really quick on the Notebook.

1:01:52
But how does the warranty work on the Notebook that that's all through Intel? It's AWS, or it's all the other goodness, for all their products.

1:02:01
Yeah, exactly, So we wanted to make sure the Notebook experience was the same as the, then the other ... product experience.

1:02:12
So we said we would And to the extent that it's a kit, right, so you have to add other components to the system that we would replace the kit, so in other words, we in one hit we would replace the chassis.

1:02:26
And everything inside it as you bought it as part of the warranty.

1:02:30
By the way, it's a one-year warranty for the no good.

1:02:33

But the warranty process works exactly the same as our other products does.

1:02:41
So I've got a couple more questions. And then we're going to start to wrap this up. So I saved what I think are probably the hardest questions for the end, which means you can answer by saying, well, I'm just not sure. But we got a couple questions on PCIE for dot AU.

1:02:58
When is that going to kind of be more readily available in the market?

1:03:03
And then there is a specific question about PCA or dot AU, or Nooks, is that available on notes? So maybe you can talk a little bit about PCIE for data.

1:03:14
Yeah.

1:03:15
And, again, you know, we've one of the things that we've been thinking about the last couple of years on our roadmap is is the delay to PCIE photo on the intel side.

1:03:26
And I know I had a slide in here, somewhere The reference to it So I was just looking for it very quickly while we were talking But for Intel generally on the desktop side we support we will support PCIE four dot O in Rocket Lake.

1:03:45
So coming soon, beginning of next year, right, you will start to see it appear on the mobile side a lot more quickly.

1:03:54
So, for 11th Gen ..., for example, but on the desktop side and for and, for most of nut, QB will be looking, depending on the SKU.

1:04:06
But looking later this year, for taiga like, based next to support it at the beginning of next year and then March next year for desktop.

1:04:16
for PCIE photo support.

1:04:22
All right. Well, I kinda passed our hour here really quick.

1:04:28
So, David, before I wrap things up with the group, just to remind everybody that tomorrow, we have our second Webinar par second seminar series for our Technology Summit, which will be from Micron. That is also at 11 o'clock.

1:04:46
Want to make sure that everybody come back and join us for that event, as an incentive, For those of you that make it to all five of our seminar session, you will be entered into a drawing for a chance to win.

1:04:59

one of those Intel notebooks that David was just highlighting at the end of his presentation, which is really nice, high-end gaming class notebook. So we'll be giving one of those away.

1:05:12
Tomorrow for joining Micron's presentation.

1:05:15
They will be giving away an Apple smartwatch for our Samsung smartwatch.

1:05:21
And then, today, for you guys, for joining us for today's webinar, not only do you have a leg up on anybody that miss today, or chance to win that notebook at the end.

1:05:31
You'll also be entered into a raffle drawing, for a chance to win a fully integrated intel nook, which we'll be giving away for your participation in this webinar.

1:05:40
So, we'll take a look at everybody that joined us for today, and we will randomly pick a name and we'll announce that through e-mail.

1:05:47
Make sure everybody knows, you know, who are, who our winter is.

1:05:50
So I want to make sure, for all of you on line, that you come back and join us for the remainder of our sessions, which are taking place Wednesday and Thursday of this week, and then following next week, Tuesday and Wednesday where we'll close out. So I know we're getting a lot of questions coming in.

1:06:09
We will have the ability to answer those questions offline.

1:06:13
So if you did ask a question, and we didn't get a chance to answer it, you know, I apologize for that, You guys are out.

1:06:20
Excellent, excellent questions. And if we didn't get a chance to ask, answer them now, We will follow up through e-mail offline so somebody will get back to you with an answer to your question. Just be assured that you asked, and you will get answered. So with that said, I'm David.

1:06:38
I'd like to just, you know, give you a chance to kinda wrap it up, and close things off, and any final words are anything you want to say to the group, before we end.

1:06:50
Thank you can, And thanks, everyone, again, for joining. I think the message from the beginning of the presentation, is still stands, right? We know we've had it's hard 2.5 year period. whether it's supply a roadmap, that we really do think we're back with a bang. And we are roaring back with 11th Genk core. And we've got a very strong roadmap takes us through the next 12 months and beyond. So, this is an exciting time, supplies back and, and Thank you for your continued business.

1:07:17
All right, Excellent job. David. Thank you so much for joining us this morning. We really appreciate it, A great presentation. You had a lot of things to cover. A lot of great detail.

1:07:27
We really do appreciate it so valuable for us, for SSI, for all of our customers to have the benefit of getting this knowledge and training. So, thank you. very much from all of us on our side. Thank you, David, for a great presentation, and for everybody online, on, a go off and out, the end of a great day and a shocker day. I have a great day, and we'll see everybody back again tomorrow at 11 o'clock for the micron presentation.

1:07:57
Thanks, everybody, and have a great day.