**CSD 101 - Day 2 - What do we service\_ How long do we service\_ (Lifecycle)guru**

0:03  
Hello, we can get started.

0:05  
We just started recording.

0:06  
Welcome back everyone.

0:09  
Day two CSD one O 1 James is here.

0:14  
And so before we jump right into day Two's content, I wanted to just take a moment and ask, Oh, you did bring a puppy for me today.

0:26  
Take a moment to look at the puppy first.

0:28  
Hello, sweetheart.

0:31  
All right, I wanted to take a moment to stop and ask if folks had any questions on the content that we covered yesterday.

0:39  
I'm happy to address those before we jump right into D2's content.

0:45  
Any questions?

0:51  
Nope.

0:52  
You're just you're just too good at explaining things, Namratha.

0:56  
It was all easy stuff, so I'm very lucky.

0:59  
All right, well, let me I think I'm sharing my screen.

1:03  
And so if I were to do this, can you guys let me know if you can see my screen?

1:12  
I am projecting a slab duck.

1:16  
Not yet.

1:18  
Not yet.

1:18  
All right, give me just a second.

1:20  
I'm working on it.

1:22  
Nope.

1:23  
Wrong screen.

1:24  
Don't want to see ourselves.

1:27  
Oh my.

1:29  
Here we go.

1:31  
All right, let's jump right into day 2.

1:33  
So yesterday we talked a lot about what, what is our organization's name and our mission right, keeping customers protected and productive.

1:45  
And we, we talked about our org structure.

1:49  
And so now I want to spend a little bit of time today jumping into some of the details because you know, we keep saying we're servicing, right?

1:57  
We're, we're, we're servicing, we're keeping customers protected and productive.

2:01  
I did share this great slide yesterday that talked about all the different businesses and all the different types of customers and all the different parts that we contribute to.

2:14  
But I, I wanted to kind of take a step back and I really like this.

2:18  
I know it's a very simple view that it kind of helps us wrap our head around what is it that we're servicing?

2:24  
And so right at the top, of course you see the Windows OSS, that is, you know, a large part of what we do.

2:31  
And so you see it there.

2:32  
What's not actually called out explicitly here, but that is implicit is that we a large amount of work that we do in Windows is towards Azure, it's towards supporting Azure, the platform itself, right?

2:49  
And the customers that are on it.

2:52  
And then you'll notice here I have first party devices, you know, Xbox, Surface Hub, HoloLens, I just bought an Xbox, very excited.

3:00  
And then browsers, you know, Internet Explorer and Edge.

3:03  
And then, you know, pretty soon here, I think Anaheim, right, because we started rolling that out, the Chrome based browser apps.

3:11  
There's a whole slew of apps that we support.

3:13  
You'll notice that the apps that are called out here, AGPM or MDOP, if you've not heard of them, these are enterprise targeted.

3:22  
You know, the, these are not apps that my mom would use.

3:24  
AGPM is to manage group policies, for example, and something that enterprise would use.

3:30  
And so there's a whole slew of these that are out there that support our customers and our ecosystem.

3:35  
Then there's all of these things around daylight savings certificate, you know, a whole slew of things that fall under that and then cross-platform servicing.

3:43  
So sometimes it can be a little overwhelming to think of all the different places that we kind of have our fingers in the pie.

3:51  
And this is sort of a simple simplified view.

3:55  
James, would you like to add anything to this?

3:58  
Yeah, I was going to say that while we can give you some examples like this and give you a good kind of general sense, know that this also is not exhaustive.

4:09  
And there are many, many, many, many other things that you will find people working on or approach you about.

4:16  
And and so this is know that this is just this little tidbit of that is there.

4:22  
Yeah, kind of helps in the beginning to have these kind of clean buckets, doesn't it?

4:26  
Yeah.

4:27  
But then you'll find as you work on different projects, so depending on the group that you're in within CSD, you know, you might be working on a new product offerings, right, that are coming up, or you might be working on new technology to support Azure, or you might be working on, you know, Jedi, which is in the news.

4:46  
So, you know, there's always these new projects, new ventures that come in too.

4:52  
And they don't always neatly slot into one of these buckets.

4:55  
You know, James, totally right about that.

4:58  
But this kind of helps you organize a little bit in the beginning.

5:00  
Your thoughts on, oh, what is all the things that I'm touching?

5:04  
It's a good, good way to think about it.

5:06  
So let's talk a little bit about Windows OSS.

5:08  
What does it mean when I say, oh, we're servicing windows?

5:13  
Well, let's take a look.

5:15  
This is a whole slew of Windows OSS that are out there right now.

5:20  
And I, you know, one of our goals is to leave you with some terminology with the ability to be in a meeting or to be on an e-mail thread or Teams chat and people are using terminology and you understand what it means.

5:32  
And so I'm going to, to spend a little bit of time in the slide and, and kind of going through a decoder ring, so to speak.

5:40  
So you'll notice that I have a whole slew listed here at the very top, Windows 10 version 2004 or 2004 all the way down to Windows Embedded.

5:50  
I'm going to take a moment here.

5:52  
You'll notice that there's this dark line about halfway through the slide, and you'll notice everything above it starts with Windows 10, and everything below it does not start with Windows 10.

6:03  
It has some different name.

6:05  
We are going to come to this line over and over in the next few days.

6:09  
So just try to remember that when Windows 10 was introduced, many things changed for customers and for us internally and that is what that line signifies.

6:20  
So we're going to be we speaking about that divide or about that change many times.

6:26  
So let's talk about some of the the terminology and nomenclature here.

6:30  
You'll notice that Windows 10 has, you know, it says Windows 10 version, it has a number, and then in parentheses it has something else.

6:38  
Well, what's in the parentheses is our internal code names.

6:41  
So you'll find that, for example, if we put out a blog post or we have release notes or anything public facing, we wouldn't be actually using that terminology.

6:51  
We'd be using the full name.

6:52  
You know, Windows 10 version 1703.

6:55  
We're not going to say RS2.

6:57  
That's because those are the official names, and so what's in the parentheses is an internal code name starting at the the very beginning of Windows 10.

7:07  
TH stands for threshold.

7:09  
That was the internal names initially Threshold one and two.

7:12  
Then we moved into Redstone.

7:14  
That's Rs one you go, it goes all the way up to five.

7:17  
And then you'll see here that we made a switch and it's 19H119H2, 20H1.

7:24  
And this signifies the year 19 or 20 being the year and H1H2 being the first half of the year or the second-half of the year.

7:32  
So that's what those code names are.

7:33  
And so when somebody says RS3, first of all, it's a code name Redstone three.

7:39  
And that this gives you a bit of a mapping that, oh, it actually stands for Windows 10 version 1709.

7:45  
And you'll find over time that depending especially on your role and your job and your day-to-day work, you might end up with some of these memorized and paged into your head like I do, for example, because I deal with life cycle.

7:56  
But for others, it's a good handy guide.

7:58  
And James, if you would put the PLC link in the in the chat, that would be great.

8:03  
That's always a great cheat tool because it has all of the internal names and the external names.

8:08  
It's always a great tool to help you figure out when someone says RS4, you're like, wait, what?

8:12  
And you can go to PLC.

8:14  
So what is the official name?

8:16  
Windows 10 version eighteen O 3 or 17 O nine?

8:19  
Well, these are meant to be the year and the month.

8:23  
So if we say Windows 10 version 18 O3, that means March of 2018.

8:28  
Now, you know, you'll notice we've used this nomenclature all the way until 2004.

8:34  
This is a good time for me to tell you that it's actually going to change and there's a reason for it.

8:39  
You know, very often we pick a name, 1803 or 2004, and then that signifies the year and the month.

8:47  
And then for some reason or another we don't quite make that date.

8:52  
It might be there was a quality issue, it might be there was something with our OEM partners, Any number of reasons, right?

8:58  
And they might be very small reasons, totally legitimate reasons.

9:02  
Of course, you wouldn't be delaying a release for some small random reason.

9:06  
But what this would generate is a little bit of confusion, right?

9:09  
First of all, it's confusing because you go, oh, 2004, does that mean April of 2020?

9:14  
And then you're like, Oh, well, actually, you know, it it it actually launched in May.

9:19  
OK, well, so it's not quite accurate.

9:21  
But the other thing is it really just generates these unnecessary speculations and press cycles, you know, of, oh, they were going to release in April, but they didn't, they released in May.

9:30  
Hmm, what went wrong, Microsoft?

9:33  
You know, it's totally unnecessary.

9:35  
And so we thought, OK, we're going to move away from this.

9:37  
So there was very recently this decision from Windows leadership to move away from this nomenclature and they're actually going to align to what is currently our code names, 20H1, for example, where you have the year and then you have, you know, the first half or second-half.

9:54  
Now, I say all of this, it was, we know that was announced maybe a couple of months ago internally, but as we're also looking at Windows release cadence, again, these things can change.

10:04  
But this is what we have today.

10:06  
This is how you interpret these names.

10:08  
And you'll notice as you look further down below the line, you'll notice that, you know, it's Windows Server 2012, Windows 8.1, Windows Server 2012.

10:18  
You'll notice here things look a little different.

10:22  
One, I haven't called out any code names.

10:24  
There were some code names, you know, there was wind blue, for example, which was, you know, Windows 8.1.

10:31  
But there isn't as much of A consistent, you know, like how we have Rs 12345.

10:35  
We didn't have quite the same consistency of code names and they certainly didn't follow any pattern.

10:40  
You'll also notice something else a little bit different, which is up here in Windows 10.

10:44  
It just says Windows 10 and some version down here, it says Windows Server, Windows 8.1 kind of, you know, looks a little different because with Windows 10, what we did was we said, hey, we have a version and everything that's going to be based off of that version is just going to hang under it.

11:02  
You know, if we have a server release, if we have a client release, if we have an embedded release, they're not going to come out with these different names.

11:08  
Those are just going to be additions.

11:10  
You know, you can kind of think of it as kind of the hang off of the main name.

11:13  
The name is this, right?

11:15  
It's Windows 10 version 1709.

11:17  
Yes, it had server release.

11:19  
Yes, you know, it had client release, but that's all sort of hanging off of it.

11:23  
Whereas earlier you'll notice we had Windows Server 2012, R 2, Windows 8.1.

11:27  
They're actually considered sister products, right from our perspective internally, engineering wise, right, because it's a poll base and everything is shared.

11:34  
But when we were externally, when we were selling it, we were marketing them as these separate, completely separate entities, right?

11:41  
So you'll see a little bit of that difference, one of one, one of the many, many examples of things that changed above the line and below the line.

11:49  
So let's talk a little bit about what's in these brackets.

11:53  
Here you says Windows 10 and here it says eight one and earlier down level in quotes.

11:58  
And then here it also says down level.

12:00  
So let's chat about that a little bit.

12:02  
So, you know, for a long time we had these products, Windows XP, Windows 7, Windows 8.1 for example.

12:11  
And when we had this big shift and we introduced Windows 10 for the first time, many, many, many, many things changed.

12:19  
And as we were talking about it internally in CSD, or at that time, it was actually WSD, you know, we would say, oh, OK, Windows 10 and down level, all that stuff before Windows 10, that's how we would talk about it.

12:32  
And it made a lot of sense at that time, didn't it?

12:34  
Because that means that that was literally, it's just that one Windows 10 product and then everything else, you know, all the old stuff.

12:40  
Of course, you'll notice though, that now there are many, many Windows 10 products that are in support.

12:45  
And so some of this terminology around down level, you know, kind of stuck around, but it wasn't quite 100% accurate because you know, when people would say down level, what do they really mean?

13:00  
Do they still, are they using the old terminology?

13:03  
Are they really talking about 8-1 and earlier or are they talking about all of these older versions, including older versions of Windows 10?

13:12  
So when someone says down level, you should ask them, did you mean 8-1 and earlier or did you mean really down level like everything that you know that that's minus the last release.

13:23  
So that's some other terminology.

13:25  
What's the and when people say Windows 10?

13:28  
So again, good thing to ask, you know, do you mean all the versions?

13:31  
Because there certainly are a lot of versions in support.

13:34  
Couple of other pieces of terminology you'll notice here it says latest in market or current branch and the next release active branch.

13:42  
And so, you know, the the latest in market is the thing that we've released last.

13:49  
The very last thing that we've released the active branch is the one that's about to be released.

13:53  
And actually, as of a couple of days ago, this has changed, hasn't it, James, because we just released twenty O 4.

14:00  
So what you would notice happen is that 20 O four will become the latest in market and whatever we're working on next will become the next release active branch.

14:09  
And so you'll notice that this chart will need to keep getting updated, you know, every so often, every six months or depending on the release cadence, because every so often we'll have a new version that'll become the latest in market.

14:20  
Everything else will become down level, including the Windows 10 versions that came out previously.

14:25  
And then whatever the next releases will be the active branch.

14:28  
So that's some terminology that I wanted you guys to, to have in your mind.

14:35  
And I'll pause for questions and it's gonna say, well, people ask questions.

14:39  
I'll just add one thing that whenever you are discussing a problem, an issue work, one of the questions you are always, always, always gonna ask is what products does this apply to?

14:51  
Mm hmm.

14:52  
And, and clarifying that will save you a lot of time and energy because you'll see that it will make differences of what you decide to do depending on which products you will be working with.

15:05  
And so understanding this terminology is going to be really, really key.

15:10  
And memorizing it is really hard.

15:12  
So just use the PLC tool.

15:15  
It's true.

15:17  
Unless you're in a role where you're looking at these names all the time, you know, PLC is your friend.

15:22  
Yeah.

15:23  
But I do agree with James.

15:24  
I think it's so important when people are talking to really get that clarity because it's so easy to go, oh, yeah, Windows 10.

15:30  
What'll really happen though is you'll find, but sometimes they what they really mean is RS3 and above because there was some significant changes in the technology for RS3 and above.

15:40  
Or they'll say Windows 10 and what they really meant was just the last release.

15:44  
Not all of them.

15:45  
You know, it's really important to have that clarity or they'll say, you know, Windows 10, but you know, but, but, but not yeah, but not that particular version.

15:53  
And and Namrata, there was one question, which is where are the various architecture implemented like Win 10?

16:03  
What do you mean?

16:04  
Do you mean like X86, etcetera?

16:07  
That was from Mebeka.

16:09  
Did I say it right?

16:16  
Is there a table or chart?

16:17  
What are the Oh yeah, they basically fall off under these, Yes, correct.

16:22  
And so you will see, for example, that, you know, we'll have Windows 10 version 1809, we'll have, you know, a client release, and then they'll be the X86 and the 64 bit version.

16:34  
So server, for example, actually doesn't do X86 anymore, do they?

16:37  
They do just 64 bit, Yeah.

16:39  
So those are attributes that fall off of these.

16:43  
Yeah, underneath these.

16:45  
And then I think there's a question from Bulkip which says, is there a table or chart which is how many customers are in which version?

16:52  
That is a good question.

16:53  
We actually have multiple folks looking at this information quite regularly and quite actively.

17:02  
Yesterday I mentioned the CPC org, right?

17:05  
And you know, as part of that, they actually have folks who are mining this data.

17:09  
They're looking at, you know, how many customers we have on all the different versions, right?

17:13  
Remember we talked about sediment and currency a little bit.

17:17  
And so they're very interested in why are customers on these older versions, why are they not moving forward?

17:22  
So that's an example where they're looking at these numbers all the time.

17:25  
They're also looking at how many people are taking the monthly security already updates, right.

17:29  
Yeah.

17:30  
So there there is a a whole slew of information around this.

17:33  
And I think we have some Power BI pages on this, don't we, James?

17:36  
Yeah, and I think James can put the link in the in the chat and and we did the Daily Mail the the that shows the sediment and who's on on what customers.

17:46  
Absolutely yeah, yeah.

17:47  
And then there's another very closely watched yes.

17:49  
And then there's another question, which is.

17:51  
And this is gonna be an you're not gonna, this will be an interesting, interesting answer, which is is there a forum or chart where we know what features were added in to eat what versions of Windows?

18:04  
And that's a good question.

18:05  
It is a great question.

18:07  
And I will tell you this.

18:08  
No, there, there we answer.

18:11  
There is not.

18:13  
There is nothing that organized or simple where you can just go look up what features were added into which version of Windows.

18:22  
I think it's a fantastic idea.

18:24  
I have yet in my in all the versions of Windows 10 ever seen that completeness of a list, right?

18:34  
I mean, you know, I think, I think to be fair, it's all in ADO, right?

18:39  
It's all in our big database because people are working on the features, they're logging the scenarios, they're logging the work, they're doing it.

18:45  
But if you were to look for this all up list that is consumable, I think that's going to be hard.

18:51  
Now, you know, depending on whom you talk to, you might talk to the server folks and they'd be like, oh, yeah, I can tell you about the top five features that I care about for server.

18:59  
And that's what these are, you know, or you know, hey, I can talk about, you know, what's the top features coming in for IoT, but there's not this all up view.

19:07  
Yeah.

19:10  
Louise said how can we get added to the DLI?

19:13  
Think you can.

19:14  
I think it's open to everyone.

19:15  
Write the daily e-mail.

19:17  
James, I'm, I'm actually, it is open.

19:20  
I'm going to look and see who it's being sent to so I can send.

19:23  
Yeah, yeah.

19:24  
James will put Luis into the chat.

19:28  
The, the, the, the DL and then you can join that and get the information.

19:33  
I see a question.

19:34  
There should be release notes for each Windows release.

19:37  
Ah, this is a good question.

19:39  
We certainly have release notes every month for the security updates and the non security fixes that we put out when we have new versions of Windows go out.

19:48  
There's definitely some marketing messages around, you know, some couple of key things that we want customers to know about, but there isn't this comprehensive list if here's all the new features.

20:00  
Now again, as I mentioned, you know, you could, you could piece it together because you could say, hey, server folks, you know, what was the most important stuff in 2004 for you and they could tell you.

20:08  
Or for example, if I take my colleague, you know, Zane who also works in ENS with me and he partners very strongly with the.

20:15  
HoloLens team, you know, I bet he could tell you oh in 2004 they have improvement X or they have a new feature, but there's not this unfortunately all up view.

20:22  
I'm sorry, I realize it's a disappointing answer, but I also think it's a great initiative and it would be great to have it there.

20:32  
I see there's another question.

20:34  
Are we going to cover mum, PSFX, etcetera?

20:37  
No, we are not, but I can certainly point you to people who are very well worse than that, and they can help you with that.

20:47  
MI baca.

20:48  
So just if you drop, you know, if you just remind me towards the end, I can drop some names into the chat.

20:56  
Yeah.

20:57  
And then I think Sirk has a question.

21:00  
Microsoft had stopped to support old operating systems sometime after the new OS release.

21:04  
Are these versions stopped to support in different dates?

21:07  
This is a great question.

21:10  
I own that area.

21:10  
This is right up your alley, right up my alley.

21:14  
So let's talk about it.

21:15  
You know, if you will just hold on to that question for just a moment and I'm going to get to it today.

21:20  
We're going to actually cover that today.

21:22  
So that is a great question.

21:23  
You'll notice.

21:24  
Oh my goodness, look at all these versions that are in support.

21:27  
How incredible.

21:29  
We are still supporting Windows 8.1 or Windows 7.

21:32  
You even see XP on this list, which actually, I think technically I should strike out now because we are finally, finally turning this off.

21:43  
So I will actually go in and do this in real time.

21:47  
But you'll notice Despite that, there's still a large number that we are still supporting.

21:52  
So we'll talk about life cycle.

21:53  
But before we do that, I just very quickly want to double click even further.

21:57  
I, I alluded to this, but I just want you to see this is one Windows 10 version.

22:01  
You know, in the previous list you saw Windows 10, there were many versions.

22:04  
This is 1809, also known as RS5 internally.

22:07  
This is what I was talking about.

22:09  
All the things that hang off of it.

22:10  
These are all the client releases, right?

22:12  
Home Pro, Pro for work, workstation, education, enterprise, enterprise, LTSC, and we'll talk about that in a moment, what LTSC is.

22:20  
And then here's all the server editions and here's all IoT or embedded editions.

22:25  
And then to the question about architecture, as an example that would, you know, if I were to expand this table, it's kind of like a tree, right?

22:32  
And we'd go Windows 10/18/09, Rs 5.

22:35  
Then the tree would expand to three things, Desktop, server, IoT, that each of those would expand further into these additions.

22:41  
And then you could literally expand it further into architectures.

22:44  
So server, for example, would not show X86 at all.

22:47  
They do not support that anymore.

22:49  
They stopped some time ago.

22:51  
But you'll notice for desktop for example, you will see 32 bit and 64 bit because we do support both.

22:57  
So, so you'll see some of those differences.

23:00  
And for some of our very old, very, very old, like Windows 7, you know, it wasn't just 30 to bit 64 bit like we also supported Itanium, for example.

23:10  
And honestly, you could even expand that further and you could say, hey, what are the languages we support?

23:14  
So this actually gets quite complex.

23:16  
Our, our, how we build each of these individual skews is quite complex.

23:22  
But this gives you a little bit of insight into under that one simple Windows 10/18/09.

23:26  
These are all the things rolling up into it.

23:30  
Any questions before we talk about life cycle and, and answer that question about, hmm, do we stop supporting anything?

23:38  
So there's no questions.

23:41  
I'll move forward.

23:42  
So I, I think, you know, you asked the question really nicely.

23:45  
Other people tell me why are we still servicing XP or 7SP1?

23:49  
And this is the answer.

23:50  
This is the answer to why that list is so long.

23:55  
We actually have two life cycle policies and so the they're fixed and modern policy.

24:00  
And so I'll start with the fixed policy.

24:03  
You know, for many, many, many years when we would release an OS, it would have a fixed policy and it was for 10 years, which meant that from the day we released it, we're going to support it for 10 years.

24:14  
The first five years were called mainstream.

24:16  
The second five years were called extended and together they made-up this fixed life cycle of 10 years.

24:22  
And regardless of which year you were in, you absolutely got security updates.

24:26  
That's our, you know, keep your customers protected and productive.

24:30  
And so we definitely keep the customers protected and we provide security updates every month for 10 years.

24:36  
So what is the difference then?

24:37  
Why is it mainstream and extended?

24:39  
Well, what happens there is the non security fixes.

24:42  
So in the first five years you can you know request non security updates or fixes.

24:47  
We may or may not approve them.

24:48  
We may or may not say that they're justified, but we can.

24:51  
But we can certainly take that into consideration when you get into the last five years or the second-half.

24:58  
Enterprise customers would require a support contract to even raise a non security request with us.

25:05  
And of course, as you can imagine, the bar is going up, right?

25:10  
We are not going to be fixing the same types of issues in year seven that we were fixing in year one, right?

25:17  
Our bar is going up as we're getting closer and closer to the end of those ten years, right?

25:22  
And there's multiple reasons for that.

25:25  
One is, you know, honestly, the number of issues that we should be seeing should be reducing, right?

25:31  
Sometimes you have some issues right in the beginning, but you really should see that tapering off, right?

25:35  
Quality should get really stable, really high quality.

25:39  
The other reason is, you know, it's expensive.

25:42  
Every fix that we do is expensive, isn't it?

25:45  
And so do you really want to be incurring the same expenses for all 10 years?

25:51  
Probably not.

25:51  
As it gets older, you want to invest less in the older OS and invest more in the newer OS.

25:57  
So we want to focus our energies and our attention there and the newer OSS.

26:01  
So we want to reduce the cost of supporting an older OS.

26:05  
Also, don't forget we support millions of customers.

26:08  
So every time we put out a fix, there is a chance that we're going to break somebody.

26:13  
And the older the OSS, remember technology keeps changing, right?

26:18  
Our expertise and that particular old technology is reducing, right?

26:23  
These are complex systems.

26:25  
Our ecosystems are even more complex than the OSS that we build.

26:30  
And so we really don't want to take that chance.

26:32  
So we have to keep weighing, is this fix really worth the chance of a regression?

26:36  
And then the last thing is we want people to move forward.

26:41  
And so if I keep fixing everything and I keep bringing everything back down to Windows 7 or Windows 8, why are you ever going to move forward?

26:49  
You're not.

26:50  
And, and, and I will say one more thing.

26:52  
They're actually honestly some things that we can't do in the older OSS.

26:56  
And I think the most scary thing there is that there are actually some inherent security risks that we just can't close in older OSS.

27:02  
We really do want customers moving forward.

27:05  
So, so yeah, the bar goes up because you get further and further from the release date and closer and closer to the end of life date.

27:11  
But that's what the fixed life cycle is, 10 years.

27:14  
You get 10 years of support.

27:17  
And you'll notice that it says in the in the orange bar, it says Windows 8.1 and earlier this was, you know, below that dark line that you saw in that list.

27:25  
I'm going to park for one second the Windows 10 LTSC and I will come back to it in just a second.

27:31  
So then there's the modern life cycle.

27:33  
You'll remember that when you saw the list of OSS, I, I told you that there was this dark line and many things changed when we started with Windows 10.

27:40  
This is an example of one of the many, many things that changed and this is a customer facing thing.

27:45  
We changed our life cycle policy.

27:47  
We said, hey, we're no longer going to do this 10 years fixed life cycle.

27:52  
We are going to have a modern policy.

27:55  
And the modern policy really says that customers are going to get on to a particular OS version and they're just going to keep moving forward, just going to keep moving forward, right?

28:07  
It's kind of like when you think about, you know, if you're using any service, you know, you just keep moving forward, right?

28:14  
They make changes in the back end and you just kind of keep moving forward with them.

28:17  
Sort of that idea.

28:18  
Some of you might have heard of the WAS strategy.

28:21  
Have folks heard of that?

28:22  
Windows as a service strategy?

28:25  
And that was really the idea that a customer gets onto a version of Windows 10.

28:28  
It never really goes out of support because they just keep moving forward.

28:32  
And so they keep moving forward.

28:33  
Every month they get updates, and when we release a new version, they just keep moving forward with that.

28:37  
And they're always current.

28:39  
They're always moving forward.

28:41  
Landing that was harder than we had hoped.

28:45  
Change is always hard, isn't it?

28:48  
Even if it's good change, and for our enterprise customers in particular, this was a huge change to how they manage their infrastructure, to how they manage their ecosystem, to how they certify, you know, their line of business applications.

29:03  
And I'm not even talking about heavily regulated industries like financial or health industry, right?

29:10  
Even just just regular industries, you know, they have line of business apps.

29:13  
They need that.

29:14  
They need the apps to keep working.

29:15  
They need to make sure that they're supported and they're certified.

29:19  
And So what we found when we launched Windows 10 and the WAH strategy, despite all of the efforts we had made to evangelize this Windows as a service, always modern, always moving forward, it really took customers some time to get there with us.

29:36  
And so we had to take a step back and we had to listen.

29:40  
We had to listen to our customers and hear what they were saying and understand that, oh, this sounded like a great idea to us.

29:46  
It is a great idea, but it's going to take a little while for customers to get there.

29:50  
So in that process of listening and understanding and evaluating, you know, our Windows 10 policies sort of evolved over time from the time that we first released Windows 10.

30:03  
And the policy that we now have that I think about two years ago, almost almost two years ago got locked in, is the policy you see on the screen, which is that if we release in the spring, which I realize works in this part of the world, spring and fall, if you release, you know, in the in the first half of the year, then you get 18 months of support for all the additions.

30:24  
So you know, whether it's home or pro or IoT or server, everyone just gets 18 months of support.

30:31  
If you release in the fall like 1809, right, September of 2018, Rs five was released in the fall, then the consumer editions will get 18 months of support.

30:42  
The enterprise editions will get 30 months of support.

30:46  
And so this would mean that Home Pro Pro for workstation, you know, all of those those editions are going to get 18 months, but enterprise education, IoT enterprise are gonna get 30 months, which is really 12 months added to the 18.

31:01  
And this was in recognition of the fact that for some enterprises even 18 months is not enough and they really need that thirty months.

31:10  
And so we had this modern policy.

31:12  
Now, as I mentioned, we locked on this almost two years ago, just under two years ago.

31:17  
So if you were to go back and you were to look right, you're like, oh, I heard about this in the training today.

31:21  
I'm going to go look at the life cycle dates for TH1 or TH2.

31:25  
You know, some of the earlier versions of Windows 10 or RS1, right?

31:28  
Windows 10 version sixteen O 7 Rs one and you're going to go look at them and you're going to say, wait a minute.

31:34  
You said 18 months in the spring and you know, 18 or 30 months in the fall, depending on the addition.

31:40  
What's going on here?

31:41  
It looks like a lot more than that.

31:43  
That speaks to the IT took us time to figure out how we really need to adjust and adapt our policy.

31:50  
So you'll see that this 18 months and 30 months really starts getting properly and fully enforced from RS5 or Windows 10 version 1809 onwards.

31:59  
And then I'll say one more thing and then I'll pause for questions.

32:03  
So this is all great, right?

32:05  
We recognize customers need more time.

32:08  
Windows as a service is a good idea, but they can't move quite as fast as we'd like and so this is a policy we came up with.

32:16  
But for some customers, even the 30 months isn't enough.

32:19  
There are some customers that have really mission critical, super specialized scenarios.

32:25  
And I'll give you 2 examples.

32:26  
An MRI machine in a hospital is one example, and a very specific piece of equipment that's on an oil rig, right?

32:35  
These are some really sort of extraordinary circumstances, really mission critical one off super specialized scenarios.

32:43  
For those even 30 months isn't enough.

32:46  
They really can't be upgrading those to next version every 30 months.

32:50  
And for them we have something called long term LTSC, long term servicing channel and that actually gets 10 full years.

32:59  
And so you'll notice that for Windows 10, we have these semi annual channel, right, twice a year, semi annual releases that have the modern policy.

33:08  
Every so often though, we'll have a Windows 10 version for which we will declare an LTSC or a long term servicing channel and that will get 10 years.

33:17  
Now we don't do that every year, right?

33:19  
Because imagine supporting every version of Windows 10 for 10 years.

33:22  
I mean, we're going to be supporting every version forever.

33:25  
And if I were to go back, Namratha, you muted yourself.

33:54  
Oh, when did I do that?

33:56  
There you go.

33:56  
Just just a couple seconds ago.

33:58  
Oh, OK, Sorry about that.

34:00  
I don't know what I did.

34:02  
And and so we, we declare an LTSC, but we don't do it every time because otherwise you're going to be supporting every one of these for 10 years.

34:09  
And that's not really a feasible, you know, feasible for U.S.

34:13  
business wise and cost wise.

34:14  
And honestly, customers who are taking a long term servicing channel release, they want the 10 years, they're not going to be upgrading every six months anyway, right?

34:22  
They're going to take it and they're going to hang on to it for multiple years and then move forward.

34:26  
And so we we have an LTSD for TH1RS1RS5 and there'll be one probably next year.

34:34  
That's the plan.

34:35  
So with that, I will pause for a second.

34:38  
Are there questions about the life cycle that I can help answer or James can help answer?

34:49  
I see there's some questions in the chat.

34:50  
And James, did you take care of all of them?

34:52  
Yep, I think I've gotten all of them.

34:55  
And we'll talk about Esus in just a moment.

34:58  
Just a moment.

34:58  
And I wanted to check in with with Rika.

35:01  
Did I get did that answer your question fully?

35:04  
Did that make sense to do?

35:08  
OK, good.

35:10  
Thank you.

35:11  
You're welcome.

35:11  
It, it is very confusing why we have made these 1830 like and a lot of it centers around how we think about consumer versus enterprise.

35:25  
Mm hmm.

35:26  
And then our other lens that we shift is our servicing commitment and how do we reduce that commitment while still making sure that the enterprise are getting what they need, consumers are getting what they need.

35:41  
So while it does add complexity, there really is rationale behind all of it.

35:47  
Whereas in our, our, our fixed life cycle, everybody just got 10.

35:53  
I mean it, it didn't, it didn't differentiate consumer from enterprise.

35:58  
And so it really helped kind of turn the dial to be more precise because of how often we are shipping versions of Windows 10.

36:06  
It's not every like five years anymore, it's every six months.

36:10  
And so the pace just got really fast, right?

36:16  
And I think that, you know, the consumer versus enterprise is a great example.

36:18  
Like great, great way to think about it.

36:20  
Like my mom, right, if I buy her a machine, like I bought her a laptop sometime back has got Windows 10.

36:26  
You're right, she gets 18 months, right?

36:27  
And she's she keeps moving forward, right?

36:29  
She gets offered the next upgrade and she takes it and she keeps moving forward.

36:33  
Enterprises are really the ones commercial customers where they really care about 18 months or 30 months, you know, and so you'll find that they are usually picking up the fall releases because they want the full 30 months.

36:43  
They want to have less, less, you know, frequent upgrades.

36:48  
So are they not notified about the spring releases or are they are they given the option that if you if you choose it, you'll you'll get 18 months of support?

36:57  
Absolutely, absolutely.

36:58  
That's right.

36:58  
We would love for everyone to do the 18 months.

37:01  
Absolutely yes, that makes sense be on it.

37:03  
But but then you'll notice that some enterprise will say no, it's too, too much for us.

37:08  
OK, thirty months we can do 18 months is too fast, right.

37:10  
And, and when you say, and what we have found is that the ability for all of these enterprises to upgrade their, their whole infrastructure is really hard.

37:23  
And so they will usually a lot of times skip a couple of the Windows 10 releases because they're like, we can't go that fast.

37:30  
And so they'll jump almost two or three releases they could get on everyone if they chose to.

37:36  
Absolutely.

37:38  
But a lot of we would love it.

37:39  
We would love it.

37:40  
Yeah.

37:40  
Yeah, we would love it.

37:41  
We would love for them to go from RS3 to four to five as soon as they come out.

37:45  
They're absolutely right.

37:46  
They they'll try to kind of stick onto it, you know, so 24 months.

37:50  
So if they stick onto one version, they're given 30 months of support.

37:53  
And after that they don't have support.

37:55  
If they want, they'll have to pay for it probably.

37:57  
No, no, no, there's no, there's no paid support for Windows 10.

38:00  
They need to move forward.

38:02  
Yeah.

38:02  
OK.

38:02  
OK.

38:02  
This is a good segue.

38:05  
Should we talk about the afterlife, James?

38:07  
Yes.

38:08  
Sounds very spooky, doesn't it?

38:10  
And Lewis was already asking, so it'll segue in.

38:12  
Well, Lewis is gonna have two seconds.

38:15  
I'm gonna talk about ESU.

38:17  
All right.

38:17  
So this is the life after end of life where I call it the afterlife.

38:21  
And it sounds, sounds a little bit like zombies.

38:24  
So, you know, I mean, we have really clear life cycle policies, right?

38:30  
And, and you noticed for Windows 8.1 and earlier, right, the old down level, right?

38:35  
It was, it was 10 years and you would think that at the end of 10 years, customers are ready to move forward, but sometimes they're not, right?

38:43  
And, and it might be a variety of reasons, right?

38:48  
Some examples of those would be, hey, I'm in a really heavily regulated industry and moving forward right from Windows XP to Windows 8.1 or whatever was available that time.

39:01  
It's too, it's too much work, too expensive, too disruptive.

39:05  
I really just need to stick on to this version.

39:07  
OK, great.

39:08  
So that's an example.

39:10  
And so we we recognize that was happening.

39:12  
And So what we used to have was something called custom support agreement also known as CSA.

39:18  
And I will take a moment to say that we no longer have Csas, but we did for many years have Csas.

39:24  
And so for example, when Windows XPSB 3 went end of support for about five years after we had Csas and these were paid.

39:33  
So a customer would contact Microsoft and they would say, I really need, need you to, you know, help me out here can't move forward from Windows XP.

39:42  
And we would say, great, pay us X millions of dollars and you can have a year's worth of updates, right?

39:48  
We would give them updates every month for a year and they would make the business decision of paying that money, while expensive, was still cheaper than them moving their systems forward and doing all the work that's associated with that.

40:02  
And so we would have the CSA programs.

40:04  
And so XP, for example, is one where we actually support it for 15 years, right.

40:09  
There was 10 years of the original life cycle and then there was five years of CSA.

40:13  
Now CSA, again, it was a paid program and it was a private program.

40:17  
So you know, if if if a particular company, let's say Boeing paid for it, right, we would give the update to Boeing.

40:24  
Like we wouldn't make the update available to the whole world.

40:26  
Whereas during the first ten years when it's, you know, in support, everyone in the world gets the update.

40:30  
So that was the CSA program.

40:33  
And then we also had for server products only a premium assurance program, which was this idea that, you know, customers that are using server products really are even slower to move forward.

40:47  
And so we were said, OK, fine, we understand that we'll have this premium insurance program where at the end of those ten years you can get another six years, but you pay us all up front.

40:58  
Whereas CSA was, you know, every year you would renew your contract, right?

41:02  
Every year you would renew a contract.

41:04  
I see a question, did CSA generate profit?

41:06  
Certainly not for us.

41:07  
So no.

41:11  
But technically it, it did bring in a lot of money and, but because the CSA was originally done through the sales organization, it was a little umm, they would use sales techniques and tactics to basically say, hey, if you buy this level of future product, we will discount this support.

41:35  
And then we the servicing team would just cross charge them for the work, right.

41:40  
So we, but I wouldn't say it was a hugely profitable model for it.

41:44  
Yeah, it was.

41:45  
Yeah, it was.

41:46  
So, yeah.

41:47  
So then we had premium assurance only for server products.

41:51  
It actually was not very successful.

41:53  
This was where you had to pay upfront for six years, additional six years of support.

41:59  
And so you'll actually find that customers who did buy it, you know, we will of course honor it because they signed a contract and we have an obligation to do that, right to hold, to hold our word and legal obligation and also to be a trustworthy partner.

42:12  
But but for example, if if you were a company right now, you wouldn't actually find premium insurance being offered to you.

42:18  
There's no offering publicly.

42:20  
You can't actually go purchase it through your account team.

42:23  
It was discontinued.

42:24  
But we do have to honor the agreements that we've made.

42:27  
So then where are we left?

42:29  
We don't have Csas anymore.

42:31  
Premium insurance isn't being offered anymore.

42:33  
Well, we have two things.

42:36  
Let's talk about ESU.

42:37  
We'll, I'll come back to service inception in just a second.

42:40  
The ESU is it stands for extended security update.

42:44  
And this program was born out of when we realized, Oh my goodness, we have so many millions of devices and customers on Windows 7, SP one and on Server 2008, just staggering the amount of customers number, the sheer numbers customers on this.

43:06  
And we realized, Oh my, you know, I mean, we really would love, love for these customers to move forward.

43:14  
So we started with, OK, again, consumer and a commercial.

43:18  
So consumer, we started all of these hey, advertisements, social media advertisements, television advertisements, inbox product notifications, right?

43:28  
So it show up on your, on your machine guys.

43:32  
Move forward, 10 years are coming to an end in January of 2020, move forward.

43:36  
And we were doing that program for over 2 years of that notification to consumers enterprises.

43:43  
Yeah, that was coming to an move, move forward.

43:46  
It's coming to an end, absolutely.

43:48  
But now our commercial customers also now we weren't putting in product notifications for them because that's quite disruptive.

43:53  
Imagine if you got a notification on your machine, which is managed by Microsoft, you know, you can't really, you know, do the same level of control on your machine as a consumer has on theirs.

44:03  
And so, but we did a lot of targeting commercial customers as well.

44:06  
Guys, this is coming to an end, move forward.

44:09  
And so they were actually entire teams that were dedicated to especially our top customers.

44:15  
You know, guys, let's help you move forward.

44:17  
Let's.

44:17  
And we gave them consultations for free and we gave them resources to help them forward to modernize their infrastructure.

44:24  
But we realized, you know what, no matter how much of that we do, how much of that we try to move them into Windows 10 and move them forward, there's still going to be a really large percentage of customers still on these old OSS.

44:37  
And so we thought, well, you know, doing ACSA or customer support agreement, it's probably not the right way to go.

44:43  
You know, CSA was for a handful of customers, 1015 customers, 20 customers.

44:48  
This is hundreds and hundreds and hundreds of customers with millions and millions of devices in total.

44:54  
And this isn't the way to go.

44:55  
And we really wanted to productize this and monetize this.

44:57  
And so we created an official program.

44:59  
It's also a paid program, but it's publicly launched.

45:02  
You can actually search for extended security update on your favorite search engine, bing.com of course, and then you will find it.

45:09  
You will actually find documentation about it publicly and it'll tell you how to sign up, how you can get there, and a couple of small things about this program.

45:17  
It has been a very successful program.

45:19  
Of course, our goal was move to Windows 10, and if you're not gonna move to Windows 10, take your Windows 7 and Server 2008 payloads and go into Azure, right?

45:28  
But it's amazing the number of customers that are on it.

45:32  
So we basically tell customers if you wanna keep your devices on premise, you need to pay for this, pay for it.

45:39  
We will give you a license.

45:40  
You put that license on your device and then you can get, you know, updates for for a year.

45:45  
If you want another year, you got to pay for year two and then there's year three.

45:48  
So there's three years that they can get, they can pay and get updates for.

45:53  
However, we really want to move customers forward into Windows 10 or Azure.

45:57  
So we tell customers, if you take your payloads go into Azure, you'll also get three years worth of support, extra support right after the end of life, But you don't have to pay for it.

46:06  
We will do the detection on our end to say, hey, you're actually an Azure, you get it for free.

46:11  
You don't need to get that, pay that money, get that license put on your device, right?

46:17  
And so really number one goal, move customers forward.

46:20  
Windows 10, move customers in Azure, right?

46:24  
But we recognize there's such a huge need, such a huge need here.

46:28  
So we created this paid offering and that's what ESU is and and I was going to say it created a really strong value prop to Azure only as a cloud service because we could offer that as a free incentive for being in Azure versus a third party cloud.

46:47  
So it was really helping drive the Azure value prop very quickly for a lot of our enterprise customers.

46:55  
Correct?

46:56  
Absolutely.

46:57  
Because, you know, if they had gone to another cloud, they would still have to pay, right?

47:00  
They have to pay, get a license, deploy it, right.

47:03  
Yeah.

47:03  
So, and and, you know, that's an important distinguishing thing.

47:07  
So.

47:09  
So, yeah.

47:09  
So ESU, now you'll notice the calls out here, ESU for seven, SP One and Server 2008.

47:14  
At this time, those are the only products for which we have ESU.

47:17  
There's a good chance we'll probably do an ESU for Windows 8.1 when it hits end of life in about, you know, 2 1/2 years.

47:24  
But that is to be determined.

47:25  
We don't know yet.

47:26  
And you'll also notice that under Windows 10, you do not see an ESU option.

47:32  
It does not say that.

47:34  
With Windows 10, our philosophy has been a little bit different.

47:38  
Our philosophy has been we do not actually want to enable you to stay behind.

47:43  
We want you to move forward.

47:44  
How can we help you to move forward?

47:47  
What can I do to make you more successful in that?

47:51  
Can we help you modernize your infrastructure?

47:52  
Can we help you modernize how you deploy updates?

47:56  
Right.

47:56  
So we haven't actually created any kind of paid offering to do Windows 10 beyond the end of life.

48:03  
Now we do fully recognize, right, that customers may still need some help.

48:07  
So what we do, when customers reach in to us and they say, hey, we really need more time than the 30 months, you know, we first try to get them to modernize and give them all the resources possible.

48:18  
So we have teams at Microsoft outside of CSD like fast Track and Aperture and analytics, and we say, how can we help you?

48:25  
Let's connect you with them.

48:27  
And these teams help them to modernize how they're deploying updates, how they're managing their infrastructure, how they're certifying their line of business apps, you know, all of those things.

48:38  
And many times customers get that help.

48:41  
Microsoft provides that help.

48:42  
And it's kind of, you know, contributes to our longer term strategy.

48:45  
And the customers are on their way.

48:47  
Some customers will still need some time.

48:49  
In that case, we then will give them a servicing exception.

48:52  
But it's a very finite, not paid finite time.

48:58  
It's usually a Max of six months.

49:01  
And they have some conditions they have to meet, the first of which is they need to explain to us why they really got themselves in this mess and why, you know, they knew it was coming and they didn't get, they didn't, you know, weren't able to plan and execute and upgrade in time.

49:14  
And then they need to actually develop a plan for the future because we really don't want to hear from the same customer multiple times.

49:21  
I don't want to hear the same bank or the same, you know, financial company calling me and saying, hey, now I need another service exception for Windows 10, you know, 1809.

49:31  
And then later on, oh, I need it for 1903 and then I need it for 1909.

49:34  
It's like no guys like this is we're helping you, but you need to do the work so you're not in this boat over and over.

49:40  
And then there is the expectation that as we give them that six months and they get that time or that breathing room that they are giving updates on how they are modernizing.

49:52  
And so that's we have servicing exceptions.

49:55  
You will notice that I call out servicing exceptions for Windows 8.1 and earlier.

49:59  
Those were very, very, very limited in scope.

50:01  
I think we did maybe just one for a couple of months for pause with the strategic customer pause being an embedded product.

50:08  
But yeah, but, but typically service exceptions over Windows 10 and then for 8/1 and earlier, the big thing we have right now is ESU.

50:16  
It's a really, really quite, quite a large business.

50:21  
I think half a billion.

50:22  
Is that right, James?

50:23  
I think we're up around 700 million right now, but just know that we we expected it to probably reach around a billion once everything's fully played out.

50:35  
But also remember this is a one time situation.

50:39  
So this isn't a from a financial perspective.

50:42  
They, they can't recount on that, you know, year over year.

50:46  
So it was a huge, big deal.

50:49  
And we'll do the same thing when Windows 8.8 goes out of probably we will create another program.

50:54  
But remember, our goal is not, this is not even counting the money that has made by Azure of move.

51:01  
So it's a huge, big deal.

51:04  
It was huge revenue back to Microsoft.

51:06  
So kudos to the team that worked on it, which yeah, Roth and myself and others like This is why we know so much.

51:14  
But it's, and you're totally right about that, James.

51:16  
There was, there was some analysis and because we do have a business planning team that we work with as well and marketing team and they're very knowledgeable on on that side of the house, you know, whereas we're on the engineering side of the house.

51:26  
A huge movement into Azure, especially on the server end, right, James?

51:31  
Yes, especially, especially on the server end, huge movement.

51:34  
And that was great because it's kind of like getting your foot in the door, isn't it?

51:37  
Yeah, you get your foot in the door.

51:39  
And then once you're in Azure, we're able to, you know, help you move forward, right, Do the lift and shift and upsell and you know, and, and the end goal is really to get customers to come into Azure and stay there, right.

51:50  
Yeah, yeah.

51:52  
But it also gives you a a perspective that we are not just a, we fix bugs and send out, we have these huge programs that we were able to create and and monetize and really bring strong value back to Microsoft.

52:06  
Yeah, this is a good point.

52:08  
Yeah.

52:09  
It is actually quite amazing when we think about some of these numbers.

52:12  
Yeah, it's a little bit mind boggling and a little bit humbling.

52:17  
I was going to say this project is near and dear to Namrath and I because we were some of the main creators of this from the beginning.

52:29  
Yeah.

52:29  
And and we had some really great colleagues, you know, Poornima and Murthy.

52:34  
Michael.

52:34  
Yeah.

52:34  
So a lot, a lot of people worked on this.

52:36  
Yeah.

52:37  
Yeah.

52:38  
You'll find quite a lot of people were involved in this.

52:41  
Any other questions about life cycle that we can answer?

52:46  
And, and I would encourage you to go and read through that PLC tool that gives you almost all the data for any product line, what type of fixes we're making per product line.

52:58  
It's a really powerful tool.

53:00  
I use that as the Bible.

53:02  
Namratha gets huge credit for because we used to track this in an Excel sheet and James had a print out above his desk.

53:11  
I remember that franchise.

53:12  
I was very happy when I could tear it up And and we would, I would look up at my desk and I'd point to this print out and go, what were you talking about?

53:19  
And the so we used to track all of this life cycle stuff in an Excel spreadsheet.

53:24  
And so huge kudos to get into that product life cycle tool it it's really helpful.

53:30  
And use that as your Bible.

53:32  
Yeah, absolutely.

53:36  
Any other questions we can answer about life cycle?

53:45  
No, all right, let's take a little bit.

53:47  
I know we have a couple of minutes, don't we?

53:48  
We'll take a bit of a sneak peek into what we are going to talk about tomorrow.

53:53  
So we've talked about, you know, here's all these things that we service and and we talked about how long we service them for, right.

54:02  
And So what is it that we're actually shipping to customers?

54:04  
And again, this is a simplified view, but you can kind of think of these things as being in four buckets.

54:12  
There's security fixes, non security fixes, features and sediment remediation, right?

54:20  
Again, highly simplified view.

54:22  
We do a lot of complex work and there's some buckets that aren't represented here at all and some things that don't quite neatly fit into any bucket, I think.

54:29  
But but this is sort of a good way to start thinking about it.

54:33  
And so you'll notice that that, you know, on the right side, I have some things called out.

54:39  
So I'm, I'll talk about very briefly.

54:41  
So security fixes, these go out every month, every month because yes, there are vulnerabilities and we need to keep customers protected.

54:48  
And you'll notice on the right side of the slide, it says they go out in the second Tuesday of every month.

54:54  
It, it really is the second Tuesday.

54:55  
And it's not just the day, but it's also the time, it's 10:00, our time here in Redmond Pacific Time.

55:02  
And yes, it's very important.

55:05  
We need that predictability for our customers.

55:08  
And it's often referred to as the B release or patch Tuesday.

55:13  
And, and, or it might even be referred with this nomenclature, which is the year and the month and B.

55:18  
So you know, someone will say 2024 B, you know, or they'll just say 4B and you kind of infer that they're talking about this year.

55:25  
So these are security fixes that go out every month.

55:28  
There's also non security fixes that go out, right?

55:31  
And these also go out in a Tuesday, but not the same Tuesday of the security fixes.

55:35  
They go out in the third or fourth Tuesday of every month C or D releases.

55:39  
And in fact that recently changed this Monday.

55:42  
So I will update this and we'll talk about that tomorrow.

55:45  
But you'll notice again the same nomenclature, right?

55:47  
The year, the month and C or D And then there's feature work, which is really twice a year we have new versions of the OS going out, right.

55:55  
You notice that we had, you know, eighteen, 03/18/09, you know, 19031909, you know, the spring and the fall.

56:03  
And there are across our organization, there are people that are working on features in that active branch in the next release.

56:12  
And so those are the feature sets that are going out.

56:15  
There's also work in our organization to sometimes back port the features.

56:19  
You know, we might say, hey, it's going in the next branch, an active branch, but we're really going to bring it down to maybe the, you know, the last two versions bring that feature set down because because it's some strategic reason.

56:31  
And then lastly, sediment remediation, this is, I briefly touched on this and we'll talk about it more later, but this is where customers are on older versions and we really want them to move forward and we're trying to, we're remediating, we're trying to figure out why they're not able to move forward and helping them.

56:45  
And examples of this would be we released it.

56:47  
We realized that there were these low end devices, they just didn't have enough space on them.

56:51  
So we released, you know, an update that cleaned up space and it allowed them to actually bring the update down and, and install it and they could move forward to the next version.

57:02  
So these are sort of some high level buckets.

57:04  
And tomorrow we will dive in to security and non security fixes.

57:09  
Any questions?

57:10  
I know we're right at 3.

57:11  
Any questions before we before we go.

57:15  
And yeah, oh, you're right.

57:18  
There is a typo.

57:19  
I will fix it.

57:20  
And in fact, I'm going to change that completely because this Monday, yesterday, we approved a change to the non security release cadence.

57:27  
And I'll talk about that more tomorrow.

57:29  
Yeah, officially approved yesterday.

57:32  
And and the other thing for everybody to think about which is we will teach you how things kind of work, but know that as a organization we are always thinking about how do we do things different, better.

57:43  
Absolutely.

57:43  
So know that we would, we might tell you something one day and tomorrow it's going to be different, it's true.

57:50  
But I would, but I would say that a lot of the principles and the things that we're talking about, they stay the same.

57:57  
And so it will still hold you in good stead.

58:00  
Yes, agreed.

58:01  
Yeah.

58:02  
All right.

58:03  
Any questions?

58:05  
All right, Thank you, guys.

58:06  
We'll see you tomorrow.

58:08  
Thank you both.

58:09  
You're welcome.

58:10  
Thank you.