Windows 10 - A Game Changer for the Software Industry and Microsoft?

Company Participants

- Al Gillen, Program Vice President, Servers and System Software
- Anurag Rana, Senior Technology Analyst

Presentation

Anurag Rana {BIO 7440273 <GO>}

Good morning everyone. My name is Anurag Rana. Welcome to the Bloomberg Intelligence Webinar on Windows 10. I'm here with my guest panelist Al Gillen from IDC, who will be our guest speaker and we will be doing mostly Q&A about Windows 10.

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So with that I'll now move into Al, who can give a quick introduction of himself and then we'll start the discussion.

Al Gillen {BIO 3529173 <GO>}

Great. Thanks, Anurag. This is Al Gillen so I'm responsible for a number of areas of research at IDC. I've been doing the operating systems research both client and

server side since 1999 at IDC. I also oversee our virtualization software research and our enterprise server research so collectively we see that all as infrastructure research the foundation for cloud as well as the OS layers on the client devices.

So what I wanted to start was -- start with was just a brief overview and just offer a few opening thoughts around how I see Windows 10 and what some of the positioning is; what some of the improvements are just in general give you a sense of where I think the product fits into the market.

So if you think back to when Microsoft brought out Windows 8 part of understanding Windows 8 was to understand where Microsoft was focusing and targeting that particular product. It was very much a consumer-oriented play. It was very much a touch first solution. And certainly, I think you could argue that Microsoft over rotated [ph] on those two dimensions and they brought out a touch-centric device, which was very consumer oriented; it didn't have many of the features that business users would have wanted and would have expected nor would business users have adopted Windows 8 anyway even if it was a perfect product for them for the simple reason that Windows 7 had already been the solution that was displacing Windows XP, most business users skipped Windows Vista so we had this momentum going to Windows 7.

And our experience in watching how business customers move, they don't jump from OS to OS every two or three years; they tend to wait a much longer cycle than that. And frankly, I think you could even argue that just getting those Windows 7 businesses to move to Windows 10 is this -- is at sometimes is going to be a challenge for at least some segments of Microsoft's customers or Microsoft's sales force to bring those people over.

Probably the most important differential between Windows 10 and Windows 8 was is the graphical user interface. So instead of having a touch oriented user interface, which really put classic keyboard and mouse applications at a significant disadvantage, Windows 10 integrate those two environments together and has a UI that you really truly can move between the two paradigms very comfortably.

You can use touch oriented applications alongside of and conjunction with keyboard and mouse applications, you now have the ability to resize both Windows side by side or on top of one another unlike the scenario with Windows 8 and Windows 8.1, where you had really a fixed number of configurations, where you could size your Windows 8 applications alongside of your windows -- your older Windows 7, Windows early or early Windows applications.

So start menu Microsoft got a lot of grief for removing the start menu. There was a half-hearted addition of the start button at least to Windows 8.1 and the update and really what that did is it brought you back to the native UI, which is native to the Windows 8 environment.

So what they've done is they've actually brought back the UI, which looks a lot more and performs and behaves a lot more like the Windows 7 start button, which frankly for business users is very, very important. And again the paradigm shift that didn't happen here is that the users did not go out and replace all of their applications to be Windows 8 nor could they because in most cases business applications weren't even updated to be Windows 8 native, so you couldn't get the Windows 8 native UI in your applications you're still running Windows 7 applications in a Windows 8 environment.

So going forward those applications will be -- won't be second-class citizens the way they were at Windows 8. -- 8 and 8.1. In terms of the applications itself, I really believe perhaps the single most important thing technology, which has been added in Windows 10 is the universal application platform. The universal application platform allows developers to build applications that can be leveraged across all of the different devices that Windows 10 will run on. So you can write one application and with relatively little work extend that application to both phone, tablet and PC user experiences. And frankly that that does two things, one is that it creates a much larger ecosystem for those developers. Microsoft is having a hard time courting developers and getting them to get excited about the relatively small installed base of Windows-based tablets and relatively small installed base of Windows-based phones. So by integrating all the PC environment together with phone and tablet, Microsoft has this larger overall ecosystem that they can pitch to the developers and get the developers to bring their applications and upgrade their applications to the Windows 10 Native.

And honestly I think that, again that's probably one of the more important things they've done simply because they can allow these application developers to be successful in building an application that will run across multiple platforms will give you essentially the same look and feel and granted the form factors a little different on a phone than it is on a PC, but the user interface is similar enough that you really feel like you're using the same application. So I think that's an important technology.

Of course Microsoft has the challenge today of getting their application developers to use the universal application platform and modernize their apps. We'll talk a little bit more about that in a couple of minutes when I get on to the topic of the larger Microsoft ecosystem.

Some of the other features the Cortana integration; we certainly have had a need for having a smart intelligent assistant or intelligent agent on your devices. And the nice thing about this is that again Cortana exists not only on PCs, but on phones and tablets so you can move from one device to another and have a common experience there and have the same value and benefit.

The application experience -- the Microsoft store is going to offer a convergence point for all of the applications that customers will want. So everything from their phone to their PC applications will be able to be acquired through the Microsoft store, which again creates a more unified experience for Microsoft's customers that creates a larger ecosystem for the developers, which again is pretty important.

I think I talk a little bit about unification of the experience. I think that -- again that together with the universal application platform those two features really go hand in hand. We've got some new technologies; the Edge browser got a lot of publicity earlier this year when Microsoft rolled it out. We recognize that that Internet Explorer does not disappear and go away. I mean it is still embedded in the system and for certain application types or should I say for certain websites you're still going to be using Internet Explorer for the simple reason that the Edge browser doesn't support all the same protocols and experiences that the Internet Explorer browser did.

So for business users in particular, where there are a lot of older websites that require Internet Explorer I mean will still be used in those cases, where it doesn't have to be used the Edge browser is going to be the preferred browser. And I think that part of what happened was Microsoft had embraced some -- really there were standards that were developed by the industry that really nobody else embrace and Microsoft went and developed these things; customers use them and those technologies were never used by other browser makers and the other browsers one of being lighter and faster and Internet Explorer one having to carry all those baggage around from these old APIs and old programming techniques that were -- were not necessarily used by the other browsers. So Microsoft was frankly, as something of a disadvantage in terms of how their browser could compete, which is why the Edge browser became fairly necessary for them.

And finally, I think that it's important to think about ecosystem. From my point of view, Microsoft has enlarged its ecosystem and is on a trajectory, where they are going to really have a single larger ecosystem for all of the devices and again spanning from phones all the way up through PCs however, it goes beyond that. And if you look at what Microsoft is doing for example with HoloLens and granted HoloLens is not necessarily an end user productivity solution in the conventional sense, but it is a platform and it is a Windows 10-based platform.

And frankly it creates really fascinating new opportunities for developers and the excitement around that particular technology was not really a surprise to me. I had a chance to see it early in the year when Microsoft demonstrated it for the Analyst Community back in January (inaudible) some of the press community, but when they brought it forward to the Microsoft Ignite event and so forth. The people that were attending these events were really quite excited to have a chance to try out the HoloLens and they had some developer workshops and so forth to help people understand how to program to these products.

My sense is that that creates a greater ecosystem; a greater reason to develop for Windows overall; and frankly I think that helps create more interest in the Windows family overall and that in of itself is important. So it's been long time, since Microsoft did anything that truly got developers excited.

Surface Hub is another one, you've probably seen the announcement of that I think it was last week and two weeks ago possibly the Surface Hub is a really a collaboration system, which is designed for large format and it provide some great interoperability with other Microsoft products and it's going to create a -- I think -- we think it's going

to create some waves in the large collaboration space. Equally important is that's a Windows 10-based device as well and we'll be bringing more windows 10 opportunities from a development perspective, so again more target locations for developers to put their applications.

And finally with Xbox One, Microsoft is continuing to bring Xbox and Windows closer together. You can run Xbox applications on the Windows 10 environment and frankly the experience is becoming more and more like a Xbox environment. So you can see that the goal here is that Microsoft is moving to unify its ecosystem into something of a more cohesive and complete ecosystem.

Anurag Rana {BIO 7440273 <GO>}

Al, thanks that was a very good description. So let's start talking about the ecosystem I think at the end of the day, that's all the fight is about. Let's talk about the strategy behind this. And enlighten us, when I look at Apple and iOS, Apple has a different operating system for their MacBook or and they have a different operating system for the phone. And I believe it's the same case with Android. What is the critical reason why Microsoft decide to go all -in with one operating system for all devices. I mean, from a technical point of view, is there an advantage to it or is there a disadvantage to it. I've had discussions with software developers that have picked both sides. I mean, there are people who believe one is better than the other. What's your take on it?

Al Gillen {BIO 3529173 <GO>}

I think you can -- I think just both an advantage and a disadvantage for having a single ecosystem and let me explain. From let's do the disadvantage first. So (inaudible) forward and made clear they are going to have one ecosystem for their -- for all of their device types, but the downside of that is that they didn't really offer a way for the developers to optimize to any of them and that the problem there is that they were basically asking their PC developers to develop for phone and they are trying to recruit phone developers to develop for this, myriad of devices when in reality, many of those phone developers -- the phone and tablet developers were really focused on a singular form factor of deployment or two very similar form factors for deployment.

And I think that part of it is that Microsoft was seen, it was perceived by the developer community as clinging onto its PC roots. And why would Microsoft -- why would Microsoft go away from that PC business because it was so important to them over the long-term. And I think lot of people would see it as Microsoft trying to prop up their PC business by expanding it. And I don't necessarily agree with that perspective. But I can see why many people in the industry would see it as a negative and see it is not being attractive for the developers.

So from the positive side, Microsoft is able to leverage what is frankly a very large developer community around the Microsoft Windows product base. And when you think about it, there is an excess of $1 billion PCs, in market billion and a half PCs something like that installed and majority of those are running some form of

windows. So they have this really large community. They had been able to sell a lot of product and developers have been really successful there. So from that (inaudible) from that point of view, Microsoft is leveraging its strength; leveraging its relationship with the developers to give them a new platform to develop for.

Again footing back to the negative side for the developers that were not in the Microsoft ecosystem, they probably looked at this and said well, there really aren't very many Microsoft tablets and are very, very few Microsoft phones in market right now why should I develop for such a small market, when I've got this really large market with the Android or with the iOS.

From my point of view, I mean that's the pros and cons that Microsoft was struggling with there.

Anurag Rana {BIO 7440273 <GO>}

Yeah. I completely agree with you. Now at the end of the day, it's all about the apps; it's all about getting developers to start making apps for your own ecosystem. And so let's touch on universal windows apps for a second and you gave us a good description of it. If I look at the apps right now, Windows have somewhere you know around 350,000 somewhere in that range, iOS and Android are skirting around the 1.5 million mark.

And one of the ways software development has worked very well over the last 15, 20 years is you give a lot of incentives to the developer community to make those apps and at the same time, if the user community thinks you can -- you have good apps, they can get your product so it's like a chicken and egg problem.

Now Android did it by making their software free and getting it licensed to all sorts of OEM vendors out there and you know, it worked very well for them. Microsoft is also going down the route as to they are making it, you know the Windows license fees extremely variable in nature below a certain size, they don't have to pay anything; you don't have to pay anything to upgrade. So they are going all-in to make sure that the ecosystem around Windows 10 becomes very large, which would incentivize the developer community to develop apps.

Do you think this is the right way to go because if you talk to people in the financial services community or the financial investment community, a lot of them are not happy about the free upgrades. They are not happy about Microsoft giving away their license fee for smaller screen devices.

Al Gillen {BIO 3529173 <GO>}

Yeah. So you touched on two different things, you talked about ecosystem; you talked about the motivation for Microsoft to give away product in certain market segments, which relates very directly to ecosystem. So my sense, my perspective is that Microsoft absolutely did the right thing in making Windows free for small form

factor devices mobile devices and in particular. that's important simply because there is no revenue to be gained there.

I mean, of course Apple doesn't sell, it doesn't sell iOS exclusive of its hardware just not like developers can go and build a phone and then get buy iOS to put on it and Android is effectively free. So if Microsoft is going to compete with something, which is effectively free when they arguably didn't have another value proposition that would justify paying for a Windows license, there is no way they're going to sell it.

So what are the choices? The choices were to come to market with a product that has some price tag on it and sell nothing or give the product away and hope that you get some traction with developers and with device makers and by doing that you help build the ecosystem or the device ecosystem since you have a place for the software developer the go to. I think the latter was really the reason why Microsoft is doing this? They need to have an ecosystem. They need to have a large installed base of devices so that there is a place for the application developers to sell their product and you hit right on the head it's a chicken and egg problem. I mean, you can't have a -- you can't have a robust ecosystem and a robust set of customers, if you don't get your product in market. And your product won't go in market, if there is no reason for people who develop devices using the product because they feel there is no ecosystem to sell the device -- sell devices into.

So they are really, the two go hand-in-hand. Microsoft needs to create a strong interest among device makers to use its product and it has to create an environment, where the software developers see a lot of Microsoft, where a lot of devices running Microsoft software to be an attractive place to build their applications. So getting those two things to move and sync is actually a hard thing to do. So giving away windows on smart phones and tablets, I think was a smart thing to do.

Anurag Rana {BIO 7440273 <GO>}

I mean [ph] that's in theory that is -- that was as you said the right thing to do but it's been some time now. I -- If I remember correctly was it the Mobile World Congress last year or the year before when they decided to do this and so it has been sometime. And we saw the restructuring yesterday at the company and I just, I'm not sure how what is the kind of the traction the Windows phones are getting because it seems like the competition, which is both Android and iOS is doing pretty well at this point.

Al Gillen {BIO 3529173 <GO>}

Yeah, they are doing pretty well. It was a year ago, it was last spring when Microsoft made that announcement. It was around the same timeframe when they announced the version of Office for iOS, which also was very much a mobile first driven decision. So from my point of view big part of this was Satya Nadella trying to make clear that he was going to create a Microsoft ecosystem in these spaces.

And with regard to the restructuring yesterday, I mean, obviously, we don't know how that's all going to sort itself out in the end. But it seems fairly clear that they are deemphasizing some of their focus on hardware. But at the same time, they're also bringing the hardware and the software teams much closer together, which I would have to argue makes them more agile and able to put a more integrated device together.

Anurag Rana {BIO 7440273 <GO>}

Yeah, absolutely. Let's -- let's I mean, I think you brought up a very good point on Satya's Mobile First, Cloud First initiative let's talk about that a little bit. And one of the things we have written extensively over the last six months is, we have seen a huge cultural change in the way things have operated at Microsoft now whether it'd be, as you said making office available for the iPad or starting to partnering with people like Box, Dropbox to going out and making Azure open to other rival basically the biggest stuff rivals out there. Is it that something out of necessity or are they being pressured to do that or is it just genuinely that the company is becoming a lot more open and that's the only way to go for them in terms of the next leg of the IT infrastructure out there.

Al Gillen {BIO 3529173 <GO>}

Well, it's really a little bit of both. I mean, if Microsoft could ignore Linux, I'm sure Microsoft would ignore Linux because frankly at the end of the day it's a competitive threat from a lot of different dimensions. The problem is that Microsoft can no longer ignore Linux and has recognized that Linux is a viable operating system, which has its place in the environment.

Customers are using it; service providers are using it, so Microsoft has no real choice, but to except this new, this new structure or the new world order if you will whether they play in. So in terms of supporting Azure or should I say Linux on Azure specifically. I mean, in that particular case, I mean, I don't really see that as being necessarily a bad -- well certainly not a bad decision, but it's -- I don't think that's, it doesn't necessarily drive or accelerate Linux in anyway.

I mean, customers that want to run Linux in an IaaS environment are going to do it somewhere, whether they are going to do in Amazon or on Azure or if they want to do it on Rackspace or some other service provider I mean they can do that anywhere they want.

In the end, what Microsoft is doing is, they are focusing on a longer-term goal, and the longer-term goal is about making sure that they're successful in a cloud ecosystem in the future. And part of that involves supporting the workloads and let me underscore the word workload, not operating system that customers want to run.

So if a customer wants to run something on Linux on Azure, Microsoft is selling the cycles and really is there any difference in the monetization that Microsoft experiences running a Linux instance on Azure versus Windows instance on -- in IaaS

environment on Azure. The answer is no, not really. I mean Microsoft is selling the -- they are selling the cycles; they are selling the disk space; they are selling network connectivity that's all part of what they are doing there.

So from my point of view that's sort of where they have to go. In terms of supporting some of the competitive products in other dimensions especially on the mobile, the space. I mean, again Microsoft is recognizing that the world has changed. It's not a Windows-centric world anymore, and Microsoft still basically owns the PC market, but that's a market, which is not growing is not necessarily, where the future is for a lot of customers.

So they have to be part of this new ecosystem and since they don't own it at the OS level, Microsoft is focusing very hard on being part -- an essential part of that ecosystem in other ways. They are doing it through things like Office 365, Azure AD, some of the mobile device management they have I mean these are all ways of being part of that ecosystem.

Anurag Rana {BIO 7440273 <GO>}

Absolutely. In fact, you hit the nail on the head when you said that they don't own this particular market. And I think that's the best you can do, but this cultural shift is actually something that people who have followed Microsoft realized that completely comes as a shock to them, but definitely. So let's jump on to you brought the Azure Active Directory. Let's discuss, Azure Active Directory and Windows 10 and what are kind of some of the features that would make it easy for enterprises to start using mobile devices let's talk about that?

Al Gillen {BIO 3529173 <GO>}

Yeah. Well, again, I think as you -- you think about where the enterprise ecosystems are moving to they're moving to an environment where they've got on prime applications and they are going to be increasingly using applications that are off prime, some of them are going to be SaaS applications; some of them are going to be applications running in an IaaS environment. And over the longer term, we're going to see net new applications being built that are beginning to run in a platform-as-a-service environment.

We're not seeing so much of that today, but that's where a lot of the excitement is in the developer community and that piece hasn't really begun to manifest itself in the enterprise space. But in the consumer space, we've got a lot of pass based applications that are already being deployed.

In terms of using Azure, Azure is really the vehicle that Microsoft is banking on as being one of their key revenue producers in the future. It's reasonable to believe that existing installed instances of Windows Server and pick your number, whether it's 2008 or 2012 or even some of the old server 2003, they are still out there.

All the applications that are running on those windows instances continue to live in -- in a Windows environment; they are not going to be ported to some uniquely different environment certainly not for Linux and probably not natively to Azure. They are going to be running in an IaaS environment probably for the rest of their lives, which I had to argue in many cases is not going to be measured in years but rather in decades.

And if anybody doubts that just remember what and let's not forget what happened in 1998-1999, when our industry was in a panic to update or replace all of the Mainframe and AS-400 applications that were out there that had two digit decode problems. In most cases we fix those applications and in most cases, we're still using those applications because they had business value then and they have business value today.

So anyway dialing it back to Azure that's kind of how Azure plays in as a platform to support those apps. But from a mobile and end user device perspective, you have to access all these different applications and increasingly the influx of mobile devices, which are not corporate owned, which are not necessarily going to be fully authenticated into their Windows infrastructure. Microsoft is encouraging its customers to look at using Azure AD, as the key entry point for those devices into their on prime and their off prime applications.

So you see the things starting to get stitched together. There is also some other things for example, Windows 10 has some multi-factor authentication capabilities that's going to improve security that sort of thing is being built into Windows 10 as well. I think that the integration that we see between Azure AD and Windows 10, I mean that's one of the things that Microsoft is really positioning themselves for in the future to drive customers to use that solution.

Anurag Rana {BIO 7440273 <GO>}

I mean I -- this is -- well this is one of most exciting things I'm looking forward to how that comes from into the corporate world. Now if I was to think about it, the consumer world, you may have been behind, no doubt about it because they were late to the game. But with this integration, I think there is an opportunity to break into the enterprise space, as that space starts to move more into the tablets and the mobile phone area to get a lot of the work done.

Right now, we are seeing some pure play, let's say mobile device management companies out there or there are specialized solutions, do you think down the road stuff like that would be integrated at either in the core operating system or it will be part of as something like an Azure Active Directory where you don't have to pay a whole lot for it. I mean you pay something for it.

But in case of tying up [ph] products it becomes a little more easier in that case than it is buying a separate bundle. What are your views on that?

Al Gillen {BIO 3529173 <GO>}

Yeah. I mean, if you think about what has happened through the last 20, 20 [ph] plus years of history in the operating systems market, what happens is the operating system provides some level of functionality. There is other products, which are built that are close to the operating system like management solutions and well, I mean you can (inaudible) back and say things like browsers and TCP/IP stacks and so forth that was exclusive with the OS. Over time, these technologies get absorbed into the operating system.

Hypervisors is another really good example. I mean, certainly Hypervisors -- when VMware brought audio ESXi [ph] it was very much a standalone technology. Today, every major operating system has an embedded and integrated hypervisor and it's really hard to go on and monetize the hypervisor in and of itself. And VMware does its monetization primarily through the associated management tools and frankly a lot of the stuff that software defined technologies that VMware has been adding as appendixes on to that basic hypervisor functionality is where the monetization is made possible.

So the point being that the operating system absorbs the functionality and either the cost of that feature that you use, you have to pay for is either just (inaudible) part of the operating system going forward or you pay some small uplift to have access to that. I think the same thing is true in Azure. I think that you're going to find that Microsoft is going to continue to absorb and deliver more integrated solutions that provide device management and again the authentication and identity management is really, really important dimension. I mean, there are too many players out there that can offer that kind of an directory infrastructure like Microsoft can and that in and of itself is one of the keys -- the kingdom that other people just would like to have it they don't.

Anurag Rana {BIO 7440273 <GO>}

Yeah that's exactly what I thought and that's why I was saying that as I look at the -- right now, you look at enterprises, your traditional enterprise. Now the newer companies that are based on clouds are completely different but if I was to go at a traditional bank today or a traditional manufacturing firm, you still have a whole lot of PCs and desktops lying around. I mean has that wave moves to some kind of a mobile device whether it's a tablet or whether it's a device.

Do you think, I always felt because of this thing that Microsoft actually is might have an edge over here compared to other companies given they already have a huge installed base; they already have applications that's written on Windows with these kind of integrated tools; they can actually make that switch a little bit easier. What's your thoughts on that?

Al Gillen {BIO 3529173 <GO>}

Yeah. Well, so I mean there is really a big distinction between consumer markets and professional or business markets. And you're right, Microsoft has deep penetration into the commercial sector that doesn't change. In fact, even as we had mobile devices in commercial business, we continue to use PCs, I don't know about you, but I have as many PCs in my office now, than I had five years ago. I just happen to have a couple of tablets and couple of cell phones as well.

So in many cases for -- especially for -- certainly for knowledge workers, but frankly for -- even for manufacturing and retail, so forth the use of the PCs doesn't necessarily go away they get augmented by additional devices. So in that respect we IDC believes that the PC market on the commercial side, while not necessarily growing it's not -- not going to be contracting either.

So it's a relatively flat market as these business opportunities continue to consume Windows products. And you're right in as much as so maybe of the applications that were written for these segments of the industry were written on Windows PCs and you can't necessarily replace those things easily with the mobile device and frankly, I'm not sure it's the right thing. If you're in a manufacturing environment did you really want to move an app from PC over to a tablet. I don't know if that's the right thing to do in many cases.

Anurag Rana {BIO 7440273 <GO>}

Fair enough. So, let's jump and talk a little bit about devices at this point. We -- this has always been the case. We obviously went through a massive upgrade last year from an XP to 7 and you also mentioned that in your opening remarks. I don't think anyone in their right mind -- right mind is expecting a similar kind of wave in the corporate world. And but what do you think could happen in the consumer space in the second half of this year or over the next 12 month as -- will this trigger off new form factors, touch devices, what's kind of your view point on that?

Al Gillen {BIO 3529173 <GO>}

Yeah. So in fact, let me switch over to the next slide and some of the same talking points are on there. So my sense is that first of all let's talk about the one year upgrade offer that Microsoft offered and let's talk about what we think that means and what it doesn't mean. I've gotten a lot of questions from folks both in the financial services industry as well as, as our other customers in the manufacturing or the OEM space as well as end users about what this really means.

My belief, first of all, when you think about Microsoft's business of selling upgrades, they have two basic business of selling upgrades. They sell upgrades through enterprise agreements with software assurance. So the software assurance gives you access to the next more current version of the product each time it comes out. And large companies tend to be the ones that would buy software assurance contract.

On the consumer side or both on the small business side, on the consumer side, we don't see customers buying those kinds of agreements and certainly consumers

can't buy -- they can't buy a maintenance contract for their windows product. What the consumers would do is they would go down to Staples and they would buy a box of software, which says Windows 10 upgrade buy this for replacement of your Windows 7 or Windows 8 product. And if you have a genuine Windows 7 license, you can upgrade it to Windows 8 or to Windows 10 or whatever the version might be.

The reality is that business well, it was relatively visible because you would see the boxes of software in the retailers that was never really much of a material business from Microsoft. So they didn't really, I mean it's by offering a free upgrade to Windows 10 I don't believe they're leaving a lot of money on the table by moving down that direction.

But what they are doing is they are creating a motivation for customers to move and they put this one-year window around the upgrade offer so that if you want to get it, you got to get it now or in the next 12 months. And I think that's going to motivate a lot of consumers to move forward.

And if Windows 10, as long as Windows 10 doesn't get bad reviews right out of the box I don't really think that's going to happen. I would expect that the majority of the consumer installed base is going to take advantage of this and move forward over the next 12 months.

So what that does is that creates if you will a fairly instantaneous installed base of Windows 10 devices granted they are not phones and tablets, they are PCs. But Microsoft (inaudible) and made that billion device commitment in a three-year window. We actually went back and looked at I'm sorry--

Anurag Rana {BIO 7440273 <GO>}

Yeah. I agree. yeah. I remember that.

Al Gillen {BIO 3529173 <GO>}

Yeah, yeah, yeah. So we went back and we looked at the numbers and said how can Microsoft get to a billion devices and actually when you look at the numbers, you look at the number of PCs and market and if you don't even think about phones and tablets for a minute I mean, you could almost get there by upgrading all the consumers -- if you upgrade say 90% of the consumer PCs and maybe half of the business PCs you get pretty close to a billion units right there and that happened not even in a three-year period I mean, that's an like a one-year period because this is one-year upgrade offer.

So when you start to add in, factor in the net new PCs and phones and tablets that ship over the next three years getting a billion devices is not so -- it's not outrageous at all. In fact, I had have to argue that that was almost a fairly conservative statement that they made, and from my point view it's doable.

Anyway, back to the point, what happens is we think that the consumer side of the market, we'll make a fairly aggressive move to Windows 10. And again assuming that number one, that when customers click on upgrade me to Windows 10, it works effectively and doesn't break for a lot of users. Number two, if after they've done the upgrade, the Windows 10 functions as well as Microsoft promises for two. And the early people that upgraded, if there's bad experiences that could actually slow down the upgrade momentum. But if the early experiences are generally pretty good, I think that will help open the doors for the consumer market to move forward.

Same thing holds true particularly for small businesses, which typically behave more like consumers then like large businesses. When things get a little less certain is when you get into the mid-size and the large businesses. If there is any kind of a structured IT department in place, they're probably going to be resistant to moving to Windows 10 simply because the guarantee that they can support 10, they're going to want to qualify, they going to -- we'll make sure their applications are compatible. That all of the things that typically break on an upgrade, so they're anti-virus software, they're back of the agents, some of the management tools are using. Those are the things that they have to make sure will work with Windows 10.

So if those things are actually able to move to Windows 10 without a problem that lowers some of the barrier for movement. So finally, in terms of the enterprise customers, which typically have software assurance in place. If they have an SA contract, these businesses, they already have access to Windows 10, they didn't need a free upgrade offer from Microsoft to get it.

So in that respect, they have the option to go to Windows 10, whenever it's right for them, which ironically enough, will probably slow them down means that there is no one year time pressure on the larger organizations having SA, simply because they've got -- as long as they continue to stay current on SA, they can upgrade any point -- at any point in time that they want to. So that's kind of the scenario for that upgrade.

Now in terms of -- one last comment on this point. In terms of this one year offer, Microsoft has been I don't know vague is maybe the best term to use about what happens after the end of one year. In fact, at one point, we wrote a document that we had shared with Microsoft for review and we made a comment that after a year, you'll have to pay for the upgrade. Microsoft gave us some feedbacks that well you really should strike that sentence because we haven't said that. And I thought that was a really telling comments.

So what they're telling us is that we shouldn't be telling customers that after a year you're going to have to pay for Windows 10. So what I think they're doing here is I think they're leaving the door open, so that if they have to extend this one year offer to two years or something like that, they're prepared to do it. And again it all comes down to building at that immediate ecosystem, so that the developer community feels the pressure to get their applications upgrade for Windows 10 and new developers, they maybe don't have Windows, Windows-based products at all today say iOS or Android developers are going to look at this and say okay, yeah there

really are a lot of devices out there running on the Windows ecosystem maybe I should be there.

Anurag Rana {BIO 7440273 <GO>}

See a lot of those developers that you said and that are only writing for iOS and Android. I mean, also, I mean, probably, in my judgment might have never thought of Microsoft as one of the cool companies out there, but do you think, when you have HoloLens, you have the Surface Hub and you're trying to be the platform for internet of things, do you think that changes stuff because internet of things you need decent enough platform and if Windows 10 works the way it's supposed to work I mean, it could be one of the choices customers make and if that's the case then you would see developers rushing after that to build applications on it.

Al Gillen {BIO 3529173 <GO>}

Yeah, I hate to say it, but Microsoft lost its designation as a cool company probably a decade ago. And I agree with you that things like HoloLens and what they are doing with the Windows 10 Ecosystem, the universal application platform makes it a lot more attractive to developers. HoloLens in particular, I think -- I don't think anybody can argue that that's not a cool technology.

I mean, I think that things like that it gets the attention of the developers because it enables new developers -- enables developers to build new applications that do things that people haven't thought of doing before.

So I'm actually -- I'm very pleased to see them doing some things and stepping out of their comfort zone and it felt to me like during the early 2000s that Microsoft was -- we saw themselves as a conservative company that wasn't willing to take a risk on things until it was fairly certain that it was a safe bet to do and you saw them drag their feet on things like virtualization for example. I mean they're very slow getting into virtualization and VMware took off and it was until VMware taking off then Microsoft realized that maybe we really have to be in this space. So the fact that they've gone out and done something where there is no precedent for it really that speaks a lot toward being innovative and being frankly something that developers will look at say that's really cool.

Anurag Rana {BIO 7440273 <GO>}

And they bought Minecraft so you know some cool stuff over there. Let me just ask you this? I mean, this I found it to be a very interesting thing just because I think it's very logical. You have this Windows Insider Program that -- what close to 4 million users right now. For any software development, the better feedback that you have, the better your product is going to be. So why is that that has taken them so long to even think that something like this they should be -- why didn't they do this like five years ago or seven years ago or anything like this?

Al Gillen {BIO 3529173 <GO>}

Well, Microsoft used to make early copies of their products available to a finite number of close customers that would work with them. They never really had the kind of broad open developer experience like they're having with this insider program. And certainly with Windows with the move toward Windows 8, in fact they really slammed the door closed on collaborating with the community at large, and frankly I don't think that works well at all for them.

So I think that Microsoft has woken up and realized that the concept of community is real, the concept -- the using of community to your advantage is actually very beneficial. I mean certainly the Linux and open source developer community has illustrated that engaging large numbers of people to collaboratively work on projects is a way of really getting benefit from people you normally wouldn't necessarily consider to be collaborators. So, again if Microsoft really getting back in sync with the way the industry is moving today by being much more community-oriented. And if they hadn't done this, I think they would have left themselves a significant risk of being out of sync with their own customers.

Anurag Rana {BIO 7440273 <GO>}

I completely agree. We have a question from the audience that wants to understand that whether the Windows 10 will spur replacement demand in PC, especially consumer PCs?

Al Gillen {BIO 3529173 <GO>}

Yeah. So we've had a lot of talk about that internally. It's our sense in IDC that the Windows 10 -- giving away Windows 10 for free does two things. One is it makes it available on a very broad basis so that users that normally would maybe not (inaudible) if they buy new PC right now we'll get to experience the new product. And frankly, my experience personally is that if you have a touch screen even using Windows 8 and 8.1, I mean it's a much better experience with the touch screen and without.

So once you've had a chance to experience Windows 10, and if you've experienced that without having a touch screen, and then you go to a store, and get plywood machine on the shelf that has a touch screen, you realized how convenient and helpful it is. We think that there's going to be a certain amount of ah-has [ph] that are going to come from that experience and it may help consumers actually realize why buying a new PC with Windows 10 on it is beneficial. What we don't see, and let me be clear here, we're not suggesting that this is going to create a surge in the market for Windows PCs.

But we do think that it helps maintain the market evolution and frankly will help move customers more quickly toward considering new PC's by just giving them the experience of having touched Windows 10.

Anurag Rana {BIO 7440273 <GO>}

I have another question, Al, that says, will customers be forced to upgrade the hardware, or the hardware requirement is very different this one than it is in the previous versions.

Al Gillen {BIO 3529173 <GO>}

No. If you've got a Windows, certainly if you've got Windows 8 and even Windows 7 in most cases you can put Windows 10 in the same PCs without a problem.

Anurag Rana {BIO 7440273 <GO>}

Okay, cool. That's good to know. I have another question, that says is the supply chain, holding off production till Windows 10 has launched, do you -- have you've seen any bottlenecks on that end?

Al Gillen {BIO 3529173 <GO>}

I have to -- that's actually not my coverage area so I can't really speak directly to the supply chain. What I can say is, is when we look back at previous Windows launches, we generally see some contraction of shipments leading up to the launch of a new Windows product followed by some kind of a resumption or little bit of a surge following the launch. But if you kind of average that out over several quarters, it doesn't necessarily create a -- you don't see a sustained acceleration of product sales specifically surrounding a Windows operating system release anymore. That's -- that happened years ago, but it doesn't really happen these days.

Anurag Rana {BIO 7440273 <GO>}

Cool. Just a reminder, if you need to ask any question, please use the Q&A panel on the right of the PowerPoint slides. We will wait for a couple of minutes and see if there are any more questions. All right. I don't think, there are anymore questions. So, I mean, that's all I had. Al are there any ending remarks or anything else you want to talk about of?

Al Gillen {BIO 3529173 <GO>}

Well, specifically in the side of the Windows Client Product probably, we did a pretty good job on that. But I'll just mention they recognize that this is only one of a fairly large portfolio of products that Microsoft has and recognized that Windows Server 2012 is coming down the pike as well that will be launched sometime in the first half of 2016. That's going to lead ultimately to another wave of Windows replacement. So we'll see the Windows Server 2008 products starting to taper down and being displaced by server 2012 and server 2016. And from my point of view, that's going to be the product that's going to bridge a lot of customers into cloud-based deployments.

Anurag Rana {BIO 7440273 <GO>}

Sir, it's a very good point. Maybe we'll do another webinar just to talk about that. Thanks so much for your time Al and thanks everyone for listening.

Al Gillen {BIO 3529173 <GO>}

Thank you all.