

KAL HOUHOU: Good afternoon, everybody. Thanks for joining me or joining us. I hope you had some fun last night. Yeah. You like the party? Anybody bowls?

AUDIENCE: Yeah.

AUDIENCE: Oh, yeah.

KAL HOUHOU: Yeah? Some hands up?

AUDIENCE: Yeah.

AUDIENCE: Yeah.

KAL HOUHOU: Yeah? OK. I did too. Yeah, I'm saying. Yes, I did. Ah, 120 something-- not too bad. But I had to leave early to go sleep.

All right, guys. Today-- for me, it's like a new thing because-- not the new-- the topic. But the duration of the session is a 90-minute session because I'm going to try to go in depth through the process. OK. So really we're going to look at all the features and, as much as possible, the one that actually we use in our workflow.

So we're going to have like three parts of that session. So I'm going to explain to you the challenges-- the workflow with joint-venture projects. So you can be the prime in having another firm or multiple offices within the same organization-- doesn't matter. And then we go through, showing how we made our decision to go-- using Collaboration for Revit with BIM 360 Team.

Then I will go more into the BIM 360 Team itself. Then we'll have our kind of a break around-- maybe 35, 40 minutes from now-- to have kind of Q&A. Because I want you also to feed me. OK.

I feel more comfortable when I have a lot of questions. Some presenters-- they prefer to wait until the end. I'm not that kind. So like you around-- so if you can refrain questions for the next 38 minutes, it would be good. Then we can rush all the questions as you wish.

And then we'll-- I will pursue the second part on the Collaboration for Revit. And then we'll go see some-- the latest features that were added to BIM 360 Team. OK? So that's our agenda.

Well, that's me. Nice picture, no? What is that? What is this? OK. I pressed a button. But I'm sure it is-- my bad.

So what is the status-- most of-- OK. Before that, I would like to see some hands. How many architects here? All right. Oh.

MEP? All right. Structure? Others? Owners?

Yeah. OK. Thank you. So where are we now? So most of the time, when you work on multiple offices or you have joint-venture projects or all your models are located at different area, location, et cetera, then the communication is completely broken. Not only about the exchange into Revit, if you use Revit as your main application, but also you do the communicating your design intent across all the disciplines.

Then you don't have enough feedback to validate that is an intent across your organizations. And the last point-- that is, also, you have to take in charge is the expense. So the expense up-front investment-- it means that somehow, you-- in order to collaborate efficiently, you might need to purchase extra servers, hardware appliances, et cetera. And we're going to look into that in a second.

So that says-- I will say, are the very common workflow. That thing is happening before the cloud era. So having-- from A, B, C, D, E, or it can be the multiple offices within your organization. So do we have a lot of companies with multiple offices today? Yes? Oh, OK.

Then the communication in silos outside of application means that the communication on the exchange of data is happening, not from your main platform like Revit. It is through emails to exchange of PDF attachment, maybe FTP-- stuff like that. OK. And the-- all those firms are using a model offering software-- and then different, maybe, than yours.

So see, Firm A is using Revit and AutoCAD. Firm B is using Navisworks and Revit. Firm C is all Revit. Firm D is using-- it's a construction company. It will be using BIM 360 Glue.

And you must be familiar with documents like that. So it's unfortunate, but it is happening. And we're going to see later how to fix all this. And then, why is it the fuel? It's because you're always adding more and more resources on the IT, on your hardware, if you are in that type of situation when you are trying to share data across an organization and multiple offices.

So the project-- apparently, someone here has been working on that project, so I'm glad. So let's say a project that was opened a couple of months ago is the African American Museum-- National African American Museum, History and Culture. You worked on that, no?

Your company worked on that? Which company is that? Clark? Yes, absolutely. Latista. So you're familiar with that job.

We had the distributed team, at least on the design side, with the five-- three-- four architect firms. Two in New York's. Two in DC. One in North Carolina. We had a consultant in the Netherland.

We had the MEP-- sorry. The ME in Houston takes us. The structure in DC, et cetera-- so you see the picture. Plus the time zone. Minus one. Plus six. I mean-- nightmare for sharing data.

And then we have-- so we talked about the offices, the different time zone, the geographic location. And then we have the problem with the budget and IT hardware. So how are we going to-- who's going to support the financial charge of the collaboration system? The architect, off record-- they are the smallest firm of the four organization. So they don't have the money.

Then we were SmithGroup at that time. I was SmithGroup at that time in DC-- big organization. So we said, OK. We can back you up and find some ground thing. And then the backup and archive storage-- because we were a multiple offices firm, so we had a data center. So we could handle that. But it was too complicated.

So these are the four possible solutions. And I'm coming in detail in a minute. So Revit Server-- so anybody use Revit Server? Yes? Couple. OK.

Do you like it? [INAUDIBLE] OK. I'm so sorry that you like it because-- no problems with it? Not usually? No data corruption? No locked files? No stopping in production?

We've been using Revit Server for five years. When the next thing that we're going to talk came out, we said, bye bye-- gladly. Whatever.

But private clouds or private cloud is-- it's like-- within your servers, you're hosting the cloud into your organization or a main office. And then you have appliances that are distributed among your partners, et cetera. So that's also the problem with the finance because if you don't have Revit Server and there is a company who needs to come and work with you, they

need to buy appliances and have people supporting-- the Riverbed was that. All the other appliances are not so me.

Sorry?

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Yeah. The accelerator for the WAN. I'm coming. I'm coming. And I don't want to go too much on it.

So on the public cloud, there is like the Amazon or Google or Microsoft. And virtual and remote workstation is-- we also tried that. And I'm going to show you. So we tried to have the remote workstation.

So workstation's in our basement, let's say, and another company is accessing with a lot of issues. Although we were using the HP RGS-- anybody familiar with that? The Remote Graphic Software from HP. Dell has one for the past two years as well. Not as powerful as RGS, but it's OK.

So what is happening is that it's transmitting data. It's the software-- it's the solution that was made for the broadcast companies for Hollywood. So 60 frame per second, 100 frame per second. I don't want to be too IT. I guess that because I didn't introduce myself, did I? No.

It's OK. You're all used to it. And virtual-- anybody, VDI? No? Yes? OK. You like it? Is it OK?

The VDI is-- have you been in any labs this week at AU? You saw they had that small wise Dell? That's VDI. That's Virtual Desktop. So they are virtual workstation connected to data center and they replicate the information across.

So what do we decide to do? We decided to send-- because you have four architect firms, so we decided to send a technical survey-- an IT survey-- to all those companies to try to find out, what's the picture? What are we facing here?

So just an example. So site to site capabilities, FTP, et cetera-- after we sent-- we got the technology survey back. We sent them out a way factor spreadsheet. So showing-- so on the left-hand side, which is the rating factor. So you have PM 1, 2, 3, 4. This is-- PM stands for Project Manager.

So it's the four project managers in charge of those four architect firms that are going to all

work together out of the same Revit model. So they had to-- we explained that we had some [INAUDIBLE] to explain-- was the ins and outs. So we have the cost. We have the latency, the data loss, the model performance, user-friendly solution, model access time, work sharing time, version control, IT support involvement, BIM management, and setup time of any of the solutions that I explained before.

And then each of them send me-- so we said, we are going to have like a factor from one to five-- one being not important. Five being very important of something that we would like to look into it. The spreadsheet that is below, where it says draft, is actually the information that we got from that multiplier. So it'd become the multiplier, the average value. That's become the multiplier of number I'm going to come.

And then that draft is to show the different solutions that are possible solutions. So Revit Server by itself-- Revit Server with WAN acceleration, public cloud-- like a BIM 360 Team or others or Collaboration for Revit. The private cloud with the different appliances. If you have read the handout, it's explained in detail-- the different solutions out there. Then the remote workstation or the virtual workstation.

And then the-- what it says-- solution rating is all those numbers multiplied by the multiplier. So of course, the highest number is the solution that is the best to use. That's very objective. There is no input from either the IT or the BIM management. It's project management. So it's really the people in charge of budget, people, stuff, et cetera, that came up with those numbers.

And the results are-- so two years and a half, we jumped on the train of Collaboration for Revit. You are going to tell me it has not been out for two years and a half. You're right. It has been out since December 7, 2014.

We were fortunate. We were invited by Autodesk to participate at early testing on the production project. That was kind of risky, but I mean, I have actually three finest people from Autodesk that are here today-- Adam, Brett, and Bud. So they are from the support team.

And they work closely with us to find out-- any time we have flaws or issues, we had a response like within 10 to 15 minutes, sometimes half an hour-- Adam. But it was good. So what is that platform, BIM 360 Team and Collaboration for Revit? Allowing us is really-- this is not just commercial thing. It's really an independent platform solution.

So no matter what device you use-- phone, smartphone, tablets, Mac, PC, or-- what do we have else? Atari? No. PlayStation? No. Xbox? Yeah, we can do. We can.

So you can all use that. And you can access the information because it's on the cloud. So where is that information residing? It's reside on the hub. So what's the hub?

I would say, OK. You can read all this. Most important is at the end. So every project belongs to a hub. And it has own data, people, calendar, and wiki.

The rest you can-- has the stuff. Anyone else? This is how it looks when you access BIM 360 Team with already a project or projects. So this one is not the hub. So I'm going to jump in-- what time is it now?

It's-- OK. In like five minutes-- into a live demo, huh? Because we're not here to look at slides, correct? So quickly this one.

This is when you start-- when there is nothing in your hub or in your project. So when you really had to go to your start. So we'll look into it. Sorry. So here is the different project types that is coming from the settings over there.

That thing here is for inviting the project members. You can create folders. And you can upload files on BIM 360 Team on the hub. You have different possibility. You can now upload an entire folder and from your storage-- whatever servers that you have-- and it will populate from the parent folder anything that is contained inside.

So we'll have to be careful. Don't copy your Revit project there because it would tell all the background and backup. And let me check. What is it after? OK. We'll go back to that.

Let's do some action. So I have a question for you though. Would you be interested if we have some time by the end to talk about licensing, entitlement? Do we have IT managers, BIM managers, here? No? Couple.

Well, all right. Because this is not for IT people. I'm just teasing. So BIMsphere is my consultant company for BIM. So I own it.

And I created the hub specifically for AU 2016 because the project that our current-- with my firm-- you know, the firm I work for-- we are under non-disclosure agreement for a lot of the projects. So we were not allowed to present them at AU. But this is live. This is live data. So no

worries.

So what do you need to create a hub? So you need-- somebody can answer that? What do you need to creating a hub? You need air? No. Before-- Huh?

AUDIENCE: Team site?

KAL HOUHOU: Team site? No.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: You need to-- you're almost that. You need an Autodesk ID. Oh, yeah. Without Autodesk ID, you cannot-- you have to log in somehow. Then you go to the trial version on the website and you can start the trial.

And then you can, after 30 days-- so that the trial portion of it is going to give you only like 5 gigabyte of storage per user for free at a time. And then, after 30 days, if you want, you can move to a paid hub. A month ago, there was a superb offer. There was an 80% off. Anybody saw that?

I did. I bought mine. It was just like \$2 a month, so \$24 for the whole year-- for the first year.

So the hub. So hub, you put as many projects-- you can have as many projects-- unlimited projects, unlimited users. And each user, when you have the entitlement, will get storage of 500 gigabytes per user. So it's a lot.

Why 500 gigabyte? Because they might be invited at multiple projects within the same hub. Make sense? So when you go to your-- on the top right where you see my superb picture-- that's me again. See? It says a subscription for the Team BIMsphere.

I have two entitlements. It's me and me, actually. But my other me-- his name is Kevin. You will see. You will see him.

He's there. His name is Kevin Twin because he's my twin, correct? And then you have the-- always, when you start a BIM 360 Team, is you have the-- sorry. When you start your Autodesk ID account, et cetera-- right? Allows you to get your My Hub. So it's a free BIM 360 hub-- OK, team-- that you can test. You can do whatever you want. So you can stop the playing around. And I think it's only one project-- correct, Bud?

AUDIENCE: [INAUDIBLE] 5 gigs.

KAL HOUHOU: 5 gigs. That's what I said earlier. So one project-- 5 gigs. It's not that much. It's just to really get familiar with the interface, too with the tools, and et cetera.

But there are a lot of tools that are not in the BIM 360 Team-- the one that is under subscription. And we'll see what. So you can have multiple hubs here. When we go-- so I am-- so now, what do we have? The BIM 360 Team hub has one or more team administrators.

The one who create the hub is, by default, the team administrator. Then you can assign team administration to other people. I'm coming. Then you have, per project-- so you have what we call project administrators. So they can administrate only that project.

They can invite people. They can delete people. They can delete files. They can delete the projects, et cetera. They can archive their project.

Clear? And then, after project, to be able to be a project administrator, you need to be a team member. So that means that you need to have an entitlement, a license, to use-- not to kill. A license to use BIM 360 Team.

And then there is-- oh, sorry. There is the last group. After the project team members is the unpaid users that are the project contributors. So let's say you need occasionally to have people accessing your hub. I will say, it's not something that you might use a lot.

You might if you don't want to pay. But I think it's going to disappear because there was abuse. So companies were having like one team admin, so one entitlement. And everybody else has project contributors. So you have to be careful with that.

So let's check it out on the admin maybe session here. So what do I have? Because I am the admin of the hub. So I got the admin button here.

So that's the first thing I will see is the team hub setting, so the team hub name. Since it's a Gmail account-- so we will show Gmail-- blah, blah-- .Autodesk360.com. But let's say you are Sutherland Industries. What is the domain name of your email?

AUDIENCE: [INAUDIBLE] Southland.

KAL HOUHOU: [INAUDIBLE]

AUDIENCE: Southland.

KAL HOUHOU: Southland? OK. So let's just-- so you will have that Southland, Inc.-- whatever-- .com as your domain. So .Autodesk.com. So they don't do your company name. .Autodesk.com will be the address.

Generally, there is a number. It's not like only Southland. It would be Southland three, for example. But you can edit the name of the hub if necessary.

Then the project contributor access. This is very important to allow or not allow. So again, if you not allow, when you invite people, they become automatically team members. But if you don't have entitlement, going to be kind of a problem.

Team member invite mode. This is, how do you want to approve? So in that project, since we had four architect firms-- so we needed four project administrators for that project. Although that project was a part of our hub that has multiple projects.

You have visibility possibilities within the project. So I'm going in a minute. So in your team member invite mode-- I know it's a little bit complicated. But when you get all the picture, you will see. It's easy.

And you let me know if it is seriously confusing. Are you? Not yet. Lucky you. So the team member invite-- so see here.

Team member invite mode, not project contributor invite mode. Team member invite mode is-- you have three possibilities. So you can-- so you want to have the admin invite only. So only the admin of the hub can send invitation to team members. And he will moderate the access.

The admin approval required is-- this is the one I would say we use. I'm going to tell you why. It's because, since we know the four firms-- but beside, let's say-- SmithGroup, [INAUDIBLE], Sutherland, et cetera. You can put that in that box, like right here.

BIMsphere-- that's my domain name. And Autodesk.com because I invited the custom engineer's support. I needed a team. So when I send an invite to-- let's say to Bud that is here, seated. Since he's Autodesk and he says Autodesk.com in the domain, in that box, automatically when he logged in, he can access to the hub. Because he received an invitation with the address of the hub.

And no admin approval required is-- anybody can invite almost anybody. All the team members can invite anybody. Make sense? And each time they sign up, they become a team member. So you don't want that, because you want to be able to change the role upon the invitation.

And then we have three roles. I know. We're adding the complexity here, so bear with me. We have-- that's new. We have now, if you were role-- so it's people who can view or download files that are on the hub.

But they cannot copy. They cannot modify. They cannot--

[MUSIC PLAYING]

I say, that's nice, huh? That's a reminder that I need to drink water. You can't forgot. Thirsty though. Well, where was I?

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Thank you. Ah! If I had a candy-- but actually, I have a vintage Autodesk 30 years anniversary t-shirt. So for the best question ever-- one t-shirt. New pitch.

So you have a viewer. You have an editor. And you have the project admin. So the viewer has limited access visibility. And we're going to see that in a minute.

And the editor is anybody who is team member, for example. And then you have the project or project contributor. And then you have the project admin that can have-- let's say, more administrative activities or functionalities. And we're going to see that here.

So we saw team hub settings, member, and the roles. So you have the list. You can filter your visibility. So in that project, we had 65 users. That's a lot.

And sometimes I had to find somebody by typing their name under Search People because-- actually, I'm looking-- the Autodesk guys here, I'm looking to have a filter by company. Adam, I'm looking to have a filter by company, not only by name. It would be great. So the show here is going to show only the all active or inactive. So what do you think is an inactive team member?

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: No. No t-shirt for you. I'm teasing. The inactive is not anymore in the project-- kind of-- in the hub. In the hub. Sorry-- in the hub.

Because what's happening now is they added-- you know, when I started to write the presentation, et cetera-- so I was done like, say, by September. And then mid-September, they added new feature. Early October, they added more features that we started using in the office. I had to rewrite half of the documentation.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Yeah. Maybe, as we speak. Absolutely. So let's finish that.

So we have on the right-hand side is-- that's the most important portion, is where it says Role. Is where you're going to change-- switch between a project contributor-- if you read the handout that I sent, there was a table explaining the different monetarizing for the users-- the pay, paid, unpaid. No? I can show it to you later.

So project contributor can be switched between project contributor or team member. Team member-- so project contributor is an unpaid user. They don't pay anything. But they have still limitation in the future of access, et cetera, within the hub. Team member is full membership-- paid membership.

Contributors. Contributors. See? Kevin. He's here.

Kevin Twin. That's me. It's me with sunglasses. So he's a-- I am team member, but he is team member. Then we have the other guys from Autodesk. They are project contributors.

AUDIENCE: For active and inactive, do the admin have to do that?

KAL HOUHOU: Here, we are administrating the hub. So it's on the hub level. So on the hub level is only the--

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Exactly. The team admin. And the team administrators can be-- so you can, as a team-- and if you were the creator of the hub, you can push that role to any other team member. So you can make a team member-- paid subscription-- as a team administrator. As many as you want.

I mean, just-- you know, you have to be realistic. So that's why we try to limit the number of

team admin. But you remember that feed where I put the domain name? I'll give you an example.

We have this project-- super top-secret project-- in Times Square, New York City. So the engineer's company-- they are full service. There's people-- BuroHappold. They are global. They do structures, civil, MEP, FA, FB, et cetera. Utilities-- they do everything.

So those guys-- they are so big that we were small compared to them. They are huge. They'll extend [INAUDIBLE] 40,000 people. So those guys-- the guy he wanted to be team admin-- I say, I cannot give you team admin access. Because team admin access, you will have access to all the projects in the hub. He needs access only to one.

So I told him, I can make you project admin if you want on that top-secret New York project. He say, yeah. But you know, because, Kal, I don't want you to spend too much time moderating. I said, no worries. I will put BuroHappold.com as your domain and anybody you invite will be accepted automatically.

Make sense? You follow? And see, under the people here, like in Adam, that is-- he's sitting here. I can deactivate him so he won't have access anymore in the hub. On the project themselves is whatever project you have.

So like the one that we are talking now is a closed project. Then we have secret. I'm going to come to that. And then we have open.

So an open project, you cannot have project contributors. It's only team members. But it's open, so anybody can invite anybody else. Second, I would say, level of permission and security within projects is the closed one that I will say, the most common.

And then you have the secret project. Your secret project, when you are a team member of the hub, you can see that project only if you are invited to that secret project. If you are a team member, you are going to see all the closed projects. So you have different levels of visibility permission.

At the extents-- my company-- or I mean, my consultant company-- we are trying to check if we can have the owners using that for bidding purposes. So because they need to have documents that are viewable-- visible-- on the hub, but they don't want the bidders to see each other. So you can create as many copy of the same project as a secret project.

Let's say the museum project, RFB, blah, blah, blah. And then you can have A, B, C, D, of that museum and just invite-- and they're all secret projects. And you invite specific companies to bid on the package that is on the hub. Make sense?

And then, of course, if you go to Subscription is where you're going to see-- so this is the one-- so we work on joint-venture with an architect firm that is in Pittsburgh. We are in Washington, DC, for a project in Cincinnati, Ohio. So they own their hub. They invited us-- the DC firm-- into that hub.

When we-- and they made me team admin because they didn't understand that. And they just put one project, so it doesn't matter. So when I went to Subscription on the site, it shows two-- oh, I don't know. These-- let's say 13 entitlement. And out of like 35 users.

So they were in their company, whoever they invited-- the other engineers-- they didn't make them pay. But they were all collaborating with Revit on the cloud. More coming.

Confused, no? Little bit? No? Yes, confused? Who said yes? OK. Tell me.

AUDIENCE: Yeah. I still don't understand [INAUDIBLE]

KAL HOUHOU: You don't understand the entitlement?

AUDIENCE: Yeah.

KAL HOUHOU: Sure. The entitlement is a licensed usage. You pay your license to use-- becoming a team member of that hub. That's for BIM 360 Team.

Now, if you are buying an entitlement or license of Collaboration for Revit, it includes an entitlement of BIM 360 Team. So if you own Collaboration for Revit, it's included. So you don't need to pay twice. That's the thing. Yes.

AUDIENCE: Is there a difference between like-- from an entitlement standpoint-- between having your Autodesk ID and being on A360, A360 Team, and BIM 360 Team?

KAL HOUHOU: There is no A360 Team. They rebranded the name. Just now, it's BIM 360 Team.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Yeah, like-- was it a month ago?

AUDIENCE: There will be some A360 Team still. [INAUDIBLE]

KAL HOUHOU: Yes.

AUDIENCE: It's exactly the same system, right? [INAUDIBLE]

KAL HOUHOU: So the question here is how we made the differentiation between A360 Team and BIM 360 Team. So a month and a half ago, there was a rebranding at Autodesk to have two type of hubs. One is more for the manufacturing industry-- so Fusion 360 Team. And for the AEC industry-- so Architect, Engineer, Construction, owners, and operators-- is BIM 360 Team. That's it.

So one is big B and the other one is the F word. Oh, sorry. It's the F letter. I almost got you again. F-- yeah. Right. Fuzzy. Go B! I'm a B guy.

So you can see when you modify subscription-- and that will open. Like if you-- so you can pay more. I mean, you can buy more-- sorry-- entitlement. It will go directly-- that's new. If you used to not go to that website, it is much easier now.

One that we started two years and a half ago, it was terrible. I'm telling you. We were like the archaeologist sites. People looking for the information. And don't ask Autodesk. They didn't know either. Woo.

Now, how you can check also that you have everything in good place is you go to your profile on Autodesk ID. So the management of license or manage.autodesk.com. If you are a contract manager like me, you might see stuff. So you will have the management side of it. But if you don't have, you will see your [INAUDIBLE], but they're more limited. Here I have 10,000 applications.

So I have the BIM 360 Team and I have the two contracts that are-- two entitlements-- that are associated with BIM 360 Team. Actually, they are Collaboration for Revit entitlement that I assigned the BIM 360 Team hub to those licenses. We'll go into more details on that. When that'll start-- the Collaboration for Revit. I mean, I can show you at 3:00.

Where is this one? Here. Let's go back to-- I don't want to spend too much time on that because I'm planning to do maybe a class next year on the management of licenses, the hardware requirement. All the stuff that might help a lot of companies, I think, to apprehend better this.

Let's go back to our project-- the African American thing. So you saw maybe just earlier, there was one project-- it says museum-- and then you have the African American museum project. It is because we had two version of Revit. One was Revit 2016, where it says museum. And this one is on the Revit 2017.1-- so R2.

So that's the latest version of Revit. And why is that? Because you cannot have projects from different Revit version in the same project folder.

Because Revit-- when you go to Revit 2016, for example, anybody-- you are still on 2016? Maybe 2015? Really? 2014? Any 2014 here?

AUDIENCE: I'm not going to argue with that current [INAUDIBLE]

KAL HOUHOU: Yes.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Yeah, but Revit--

AUDIENCE: But we have to follow whatever department [INAUDIBLE] has.

KAL HOUHOU: Ah. Because you are--

AUDIENCE: MEP.

KAL HOUHOU: You're MEP. OK. Sure. You don't have your own projects with architects that are not using Revit? No? OK. It can happen.

So what I'm saying here is that, when we go to Revit and you do the open, and I go now-- it changed. It used to be an A360 logo. With Revit 2017.1-- on the 2017, you still see the old logo. On the 2017.1, you see now BIM 360 Team because it has been rebranded so like a month ago. Last-- in October.

So when I click on BIM 360 Team, I will have access to all the hubs I've been a member. So there is a AU, 2016. That was for testing. The African American museum that has 2017.1 [INAUDIBLE] files. And the Villa Savoye for the architects. That's the Le Corbusier project.

So when I go to the African American thing-- so I see all the projects-- all the models that are on the hub. I did on purpose-- I left the original name for the technology, et cetera, model--

telecom and technology-- because I'm going to show you how to rename if somebody forget to rename it per the naming convention that was accepted among all the teams. Because you all work with a BIM project execution plan, correct?

BIM project execution plan. Some? Some. You should. Doesn't matter.

This one is very complex project. So it has 275 pages. But it-- we had a lot to address because four firms. If you can have 15 pages of BIM execution plan-- BIM execution plan, if you don't know what it is, is just a live [INAUDIBLE] document throughout the project life cycle of different practices and what-- different standards among the project that also include delivery and project control delivery. Most important.

So we have different models. They are all on the cloud. So you have the architects, the AV security, the sustainability. Yeah. You can tell it's G.

The MEPF-- so Mechanical, Electrical, Plumbing, and Fire protection. The QF is the-- is Q by the national [INAUDIBLE] standard, is equipment. And we added the F because we had another Q. So the F is for food services. So we have a model for foods because the museum, food services is huge. Have like three or four floors with equipment.

And the last model is structure because also not too heavy. So we can access this. Let me-- I believe so. This already exist. Yes. Are we on?

I'm going to show you how to-- we're going-- and you saw that first model that says nine seven, blah, blah, blah, et cetera. They were not following the same naming convention. So since all the models are through Collaboration for Revit on the hub, they're all in the cloud. So if you are a team member, you can access any of the models, not only yours.

So if you are-- like you said, you follow the gentleman saying he follows whatever the architects are saying on the Revit version. And also they dictate them, not to-- I don't like the word, but it is that, unfortunately. Unfortunately, let's say they dictate or they lead the effort on the BIM standards for the entire project. That BIM whatever guy on the architecture site can decide easily, instead of asking you to do it.

The thing-- say, oh yeah. I don't have time. You just can change the stuff. We've been doing that because we make-- it's said in the BIM execution plan. So at the moment, your PM, your principal in charge of P-- sign up that document.

He allow or she allow the architect to be able to open your files and-- I mean, we're not going to delete your information. So how do I do that? So you have a Collaborate tab. You see one here. So Collaborate tab.

You have two major things on the Collaborate tab-- is communicator. I'm going to talk about it in a minute. But I wanted to finish on the management. And the Manage Cloud Models. So when you click on Manage Cloud Model, you have access to all the hubs. So all projects that exist under your user ID, since you would be logged in to that Revit-- you sign in.

Autodesk A360 [INAUDIBLE]. So here-- sorry. Now, where's my-- is it below? Let me go back.

You signed in here. When you sign in here with your user ID, Autodesk-- it will automatically understand that all the projects that are under your profile. So under Manage Cloud Models, accessing the African American, I can now click here to the Actions button. So I have Rename, Relinquish, New Versions, and Delete.

Generally, if you are-- I will say, on the-- let's say mid-management on the BIM side of your company, certain people are saying it's not good to show those functionalities to your alpha users-- your basic users-- because they can do a lot of damage. Like the Delete thing. You don't want them to delete. So there is no actually mechanism to protect the deletion, for example.

So let's see-- at least do Rename. So you can rename here. So I can rename it the way it should be. That is, just-- and then A-A-H-C hyphen T.

So you're going to tell me, OK. I renamed it. So what's happen next? Now, anybody in the hub in that project who is going to synchronize with central-- they are going to see the new name. So I mean, it makes a lot of sense to be able to have, I will say, the major disciplines on the Revit cloud-- on the Collaboration for Revit.

What can we do as well now, that is new with the 2017.1? See that little button on the top right? A little small-- it says Action. That's new. You can publish all of the models at once.

So why I will say it's nice is because we all work in that same industry-- AEC. And what we used to do is we used to exchange models on a weekly basis or every other day when we had, like, it's in some rush, correct? And you had to spend time detaching. Be sure that the name is following blah, blah, blah-- the naming convention-- post that on the FTP. Waiting-- no matter what's your intent bandwidth.

We had an architect we work with. He had a very slow connection on his side. So we were each time spending between two to four hours just to upload our models. I mean, nightmare. We don't wait anymore. We wait very few minutes.

I was just testing the bandwidth that we have in this room. I mean, for [INAUDIBLE]. So it's 25 on the download and like almost 400 megabyte per second on the upload. 356 exactly when I'm connecting to San Jose, California. So if we want to see-- so I checked and I synchronize and it was very quick. The model is 400 megabyte, just for the concerned.

So the thing is done here. You can refresh. You can access. Yes. So the last thing-- the publish, if you want to publish-- model by model is possible. It's the button that is next to the action one. So that's the blue file document.

And the next here is-- see. It's already published because it has the green checkbox. So let's see one that is not published. They're all published though. So this one, if I click again on Publish Latest, it won't do it because I need to sync.

So since it was done-- so you have to sync. And you go back to the manager console. The one feature I didn't want to show it to-- I mean, I can show it to you. It doesn't matter-- is the Relinquish. Well, of course, it is not going to show me anybody.

Force Relinquish. We had that guy, MEP-- no-- architect guy who left to vacation. So he's one of the project architect from one of the four firms. He left. His BIM guy was sick.

So nobody in his office had his credential user ID password, et cetera, to-- you know, because we had to log in as him or her into Revit and then synchronize. So now, there-- I mean, there is-- this has been here for quite a while-- the Force Relinquish. To Force Relinquish, we show all the people who borrowed elements within Revit listed. It is great when they borrow elements that are in distinctive areas in your project. Because one day, we had a loop.

You know when sometimes it says, you edit the request. Somebody borrowed the element. And you say, oh, yeah. He or she needs to synchronize to be able to relinquish that type of information. And then, OK. They do that.

Then you synchronize as well, but it's a loop because it's like this. The snake eating its tail. So look. They have the same problem because it's a Revit problem. They have the same problem with the Force Relinquish.

So if we are in that loop, you are stuck, baby. But you know, call me. BIM consultant. Sure. We can help. I'm teasing.

So Force Relinquish will show the Autodesk ID name, a person, whatever they logged in as. Like me, will be Kal@KalH. If it is somebody like Sam Rashid is Rashid@PWWG.com. It will show all the whole email thing. So we've been now here for one hour. Thus, now we have our another break for questions-- our first break for questions. Yes, ma'am?

AUDIENCE: Is there any way to schedule regular publishing [INAUDIBLE]

KAL HOUHOU: Your question is, can we schedule the publishing like we can with the automatic way? No. It's still a manual process. So you can publish. You decide when you want to do it.

Why is that? Because the different time zones, for example, in the project. You're going to tell me, oh. So we decide-- let's say, by Friday 12:00 PM-- pen down, mouse down, and we do a Publish All.

But because it's 2017.1, you don't have that Publish All. The Publish All-- I will use it with cautious because we have a very large internet bandwidth-- very, very large. So we are able to do the Publish All on 10 gigabyte of projects. In five minutes, it's done.

And so you have to be cautious on that-- on the information that you want to have up. Some models-- they don't need to be published every week. But you have a good question. I'm going to tell you why. It's not about the scheduling publish.

It's about the changes that-- when you publish, what's happening? You are creating a new version on BIM 360 Team. Your model can be maybe version 50. But because you'd-- why 50? Because each time somebody synchronize, it create a new version. Correct.

Unless there's no more Revit. But what's happening with Collaboration for Revit and BIM 360 Team? It's only when you publish two using that publish things that it creates a new version. So you can be in version 50 for Revit, but you can be maybe two-- version two-- in the BIM 360 Team. So I'm coming.

So then you have some model, some specialties, that they don't need to be as frequent as the architect MEP structure and maybe the sustainability model. If you have one, maybe save it every month. But I mean, OK. OK? Thank you.

AUDIENCE: In our office, we use Collaboration for Revit pretty heavily. And we like that we can control what can be published and when it can be published.

KAL HOUHOU: Yes.

AUDIENCE: Many times, I don't want to see-- you know, it also depends on who's [INAUDIBLE]

KAL HOUHOU: I was coming.

AUDIENCE: If I have a contractor on there as well, maybe they could start looking at the model for right now. [INAUDIBLE] reviews. We have it set up automatically because it's going to publish stuff you don't want people to see quite yet.

KAL HOUHOU: So OK. So gentleman is saying about the aspect of what type of views we want to control to be seen upon the publish. Correct?

AUDIENCE: Correct.

KAL HOUHOU: So within our BIM project execution plan, we decided per phase what we want to see. So let's say, if you add a early stage of the project, you want to see a lot of 3D views, maybe not the sheets yet. So we are going to create a set that we can populate among all the architects. I mean, they are going to see it, first of all. And I'm coming.

So when I go to Manage to the Publish settings here, it will take some time because we have 628 sheets only for the architecture. Already? Wow. It's good, huh? Asus. My laptop. It's fast.

We have 628 sheets of architecture. This is a CD, 100%. So it's all completion. And we have like 300 3D views. That's a lot.

So it's over 900 views. So you can, if you want, publish everything. But I mean, what will be the purpose? So we have different sets. So here for the AU 2016, I had say, seven 3D views and 14 sheets. But we have plenty different sets that can be for coordination purposes, et cetera.

So actually, it give you flexibility to publish the views that are needed for a specific coordination task. So in the case of the gentleman over there, let's say they want to only the GC or some guy, some company, to show certain information. [INAUDIBLE] on a design asset with a structural engineer. Like for the museum, we had a lot of problems with the corona, with glazing panels.

So we shared specific views, like seven or eight, that like section-- the wall section-- special details on the roof, and that's it. But that version of the model maybe is version 18. Then two hours later, somebody from another firm needed to share different information within the MEP. So they published another set of views that is version 19 of the model. It doesn't matter.

They are not like clashing together since you can access-- I'm coming. So since you can access within the BIM 360 Team a different version. See. Here, it says version two. It's just that we're already at version nine.

And it has been only one month. I've been put this thing on-- I mean, doing the thing on this hub. So if I go to version nine of the architecture model, I can still access different version of that model. So version seven-- I'm going to show you why.

Version seven has a different set. So if I click on Overview, it says nine views. Nine 3D views and seven sheets. If I go to the last one-- that version nine-- so nine and seven. No?

How many-- here, you have more views. We have 10 3D views and four more sheets. OK? Make sense? Answer your question?

AUDIENCE: Yeah. It's very similar to how we operate. I mean, especially early on in the design, [INAUDIBLE] structural or MEPs. I don't want them to see the plans right now. Because they don't need to see all of the detail--

KAL HOUHOU: Exactly.

AUDIENCE: [INAUDIBLE] So we like that we have that control and the flexibility that we can publish what we want when we want, all the time.

KAL HOUHOU: Absolutely. And then later on, let's say, when we start to be the DD, generally, we ask everybody that are on the Collaboration for Revit-- sorry-- to publish only the sheets. We don't want to see any more 3D views. Why is that? Because the 3D views, you can still copy a link and send it to anybody by email or by copying the link so they can access.

But they don't need to be on the hub. We had a fabricator for the-- it was [INAUDIBLE] for the glazing-- a French firm. And they didn't want to access the whole thing. So we were just sending them links. So you-- when you go back to the project, you have--

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: By date they received the latest.

AUDIENCE: But if you're not sharing the latest information, [INAUDIBLE]

KAL HOUHOU: They are not-- yeah. They are not on Revit, those guys. They use CATIA. They can--

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Yeah. They're sharing information. It again is, you have to be flexible. It all depends with whom you are working. On the Collaboration for Revit, it makes sense to be-- of course, that's the whole point is to be on the same hub and share real-time data.

But you are not only using Revit. The engineers are using CadWorks for DWG. They are using energy analysis, modeling energy, et cetera. Files that are not the RVT classic or DWG classic.

So you can view up to, I think, 100 formats total. Like 50 or so in 3D. Use those. You know, you can see the Inventor file. You can see DWFX.

I can show you. On the Savoye, I think I have some stuff here. I have a clash avoidance file. This is an NWC file. Saw a Naviswork Cache file of the project. I traced a section of it.

So there is no problem about what type. It really is just to make you comfortable about what makes sense in your business and your workflow. So I mean, even in Inventor file, you can-- I don't know. And when are we fusing with Fusion?

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Huh?

AUDIENCE: Right now.

KAL HOUHOU: Right now. Thank you. All right. Yes, [INAUDIBLE]?

AUDIENCE: So you have your model files that are in the cloud. You still have a local copy, like on your--

KAL HOUHOU: Ah, sure. No. I mean, not really. No. There is no more. No. I'm going to show you.

AUDIENCE: So where does the model sort of live in your office before it's being published?

KAL HOUHOU: OK.

AUDIENCE: It's still on the server, but not necessarily accessible by everyone until you hit Publish or--

KAL HOUHOU: No. Oops. This is grey. This is greyout. This is greyout. So when you access a model that is on Collaboration for Revit that is already in the cloud, you access a central location that is on the cloud. The local, if we want to--

AUDIENCE: It's buried.

KAL HOUHOU: --is buried. Yes.

AUDIENCE: It's buried in your [INAUDIBLE]. They don't want you to find it.

AUDIENCE: There still has to be some you haven't saved.

KAL HOUHOU: No. I'm coming. [INAUDIBLE] So there is the local cache. So because it's internet-- OK. So it's in the back end of your seed lab and of your user profile.

There is a requirement on that, I says is three times on storage your entire projects. So all your models, all your links, multiplied by three-- that's what is going to reside on your seed lab that you don't see. It's real back end of this. It's behind the scene. That's not something that the users-- I would say it's on need to know basis.

It's on the support side. It is very on the support side. Technical issues-- when sometimes we need to wipe out your entire profile and the portion of that to be having access back to the models. Answer your question?

AUDIENCE: It's not going in a typical [INAUDIBLE].

KAL HOUHOU: There is no temp folder.

AUDIENCE: [INAUDIBLE] cleanup program [INAUDIBLE]

KAL HOUHOU: No. There is no more local-- central. When you synchronize-- when you SWC-- when you Synchronize With Central-- you synchronize to a portion-- it's not independent service between Collaboration for Revit and the hub. There's two mechanisms. You have the Publish that is a manual process of you push out information to access it.

And when you initiate the first time a model to be on the cloud, it does that. It publish as well. So it does two, but you don't see it. The files that are in BIM 360 Team, they'll not do exactly

the same one since I'm telling you they are different versions. Correct?

Remember? Version 15-- version nine-- published. Revision 18. So there is no temp, et cetera. It's local cache. Well, he was first.

AUDIENCE: [INAUDIBLE] it's like a model [INAUDIBLE] 360 and bring it down inside that [INAUDIBLE]. Is there a [INAUDIBLE] 360 saying, download all of the models, packaging them up, putting them out, and then just [INAUDIBLE]

KAL HOUHOU: In the folder? So you're not using Collaboration for Revit?

AUDIENCE: Yeah. I'm using Collaboration for Revit, but we only had like four realistic models. So we actually detached the models all together in 360 to send out. And that means a point in time--

KAL HOUHOU: Why do you send them out? Why don't you send the link?

AUDIENCE: Because you want to have something that isn't alive [INAUDIBLE] anymore.

KAL HOUHOU: Sorry. Because--

AUDIENCE: Because you want to have something that's going to [INAUDIBLE] hasn't been completely detached from [INAUDIBLE]

KAL HOUHOU: It is a detached from the hub. From the hub, it's already a detached.

AUDIENCE: Oh, it's still [INAUDIBLE]

KAL HOUHOU: No?

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: But it's a copy. It's a copy. So--

AUDIENCE: [INAUDIBLE] without downloading the files to your local drive.

KAL HOUHOU: Ah. No.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: No. It-- yeah. It does that as a--

AUDIENCE: --backup.

AUDIENCE: Yeah. So one we've got 109 files soon. If we don't control that, [INAUDIBLE] we'll actually manually download all of the files and then [INAUDIBLE] that's independent of the [INAUDIBLE]

KAL HOUHOU: Yeah.

AUDIENCE: So we've got [INAUDIBLE] Revit files--

KAL HOUHOU: Yeah, only people--

AUDIENCE: [INAUDIBLE] Because we can't actually copy directly from a cloud

KAL HOUHOU: Not yet.

AUDIENCE: The only other thing I can offer as just a possibility is you could share a link to that model--

KAL HOUHOU: That's what I was saying.

AUDIENCE: --and then have them access that model.

AUDIENCE: [INAUDIBLE] project, they only would have--

KAL HOUHOU: I was going to show you that.

AUDIENCE: [INAUDIBLE] to the model.

AUDIENCE: Your model is up by the [INAUDIBLE]

[INTERPOSING VOICES]

KAL HOUHOU: Yeah. So no, not yet.

AUDIENCE: OK.

KAL HOUHOU: What I will have to recommend is what you just explained. You go to the IDA station for BIM 360 Team, Collaboration for Revit, and you post that. And we'll vote for your feature. OK?

AUDIENCE: On the same mindset, archiving, providing some local storage that, if we decide, at some point, we don't want to use [INAUDIBLE] anymore, we could download all our stuff.

KAL HOUHOU: It's a manual process. It's zipped. It's zipped-- no. It's not one at a time. It's all of them.

There is no one at a time. It's all of them. All of them. All the Revit files. At a zip. So it's-- yeah.

You download all of them, but you will take as a name of the zip the first file that you selected. Or the one-- let's say, if it's the architecture model and you see a download, you check that box, you download. It will download all of them and zip it. Zip it. OK. Another question you had?

AUDIENCE: [INAUDIBLE] software--

KAL HOUHOU: No. It's AWS-- Amazon Web Services. So although on the internet bandwidth, we had some-- at the early stage of the Collaboration for Revit, transfer files, et cetera, we had a company that has like DSL on internet. So we had to have them upgrade that bandwidth.

So the calculation for 2016 was more or less, on burst-- means that, upon synchronization with central to the cloud-- so burst things or when the bandwidth-- you're filling the tank. It's like 10 mg per second [INAUDIBLE] or up and down. 10 for 2016. For 2017, Autodesk-- they put the numbers at 25.

I disagree. 10 is enough. Even on a very, very common-- so we did Cincinnati project. 1.6 gigabyte because it has the existing condition model on the cloud.

Latency-- very close to five or 10 between the offices. So very minimal is the data that goes from point A to point B. That's the latency. It's calculated in milliseconds. So the lowest number you have is the faster connection you will have. And yeah.

Well, we're syncing. Even people from New York accessing to that model. We sync in less than five minutes. We had like 18 people on that model at some point on the-- yes. Ah. Again? He wants the t-shirt. He wants the t-shirt! [INAUDIBLE]

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: The cookies?

AUDIENCE: Yeah. [INAUDIBLE]

KAL HOUHOU: Really? Which browser are you using?

AUDIENCE: Chrome.

KAL HOUHOU: Chrome? Are you--

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Ah, yeah. You have to upgrade it-- update it. Yeah. We don't have problems with the 54 or the 50. Anything 50 up on the Chrome, we never had any cookies concern. Now it's 54 point something.

AUDIENCE: [INAUDIBLE] anything to go on to 47 [INAUDIBLE]

KAL HOUHOU: I think the recommendation was 49. No? You have to look at the system requirement. I put it on the links on the-- on-- sorry. Yeah.

Said a problem with cookies. Yes. Be on diet. Be on diet. That's my-- eat salad.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Permission settings for--

AUDIENCE: Because anybody who accesses the model can change it, which is good. But what if you don't want somebody to access the model?

KAL HOUHOU: [INAUDIBLE] Ahh. OK. The gentleman is asking how we can restrict access to the open platform that we have because it's the cloud. You have to trust.

AUDIENCE: I mean, I like the option--

KAL HOUHOU: I understand. I understand. So there is, within the same project, you cannot restrict access unless you make the project secret. And then it's only upon invitation that those companies or people will be able to view. If you don't want them to access, don't invite them. I'm sorry.

[INAUDIBLE] No? Make sense? I mean, we cannot just say-- ah. There is a possibility, though.

You can do copy link like we just said to the gentleman. I'm going to show you. So when you share a file, you don't need to invite them to the hub.

Let's say we decided to not invite the owners-- our clients-- we don't want them to-- hey. Can you change that door? Wow. And that window here-- not good. I mean, come on. No owners are on the hubs. Yeah. I mean--

AUDIENCE: I need a toilet in my office.

KAL HOUHOU: Yeah. Sure. Ask your neighbor. He's a plumber, no? I'm teasing.

So let me show you that. Let me show you that quickly. So I am back on the-- yeah. I can stay here. That's fine.

So when you select-- let's say one file. You have the Share button here that the-- oops. And right here it is. So I have three options.

I have copy link. I have email. And I have embed. We love the embed because you can put any information in your website or in your HTML page. But I mean, you have to work on that a little bit.

But this is good. The email is great. I'm going to show you. A copy link is like-- you'll see. There's that copy link there.

You click on Copy. It will say, link copied. And you just paste it anywhere you want. Text message. I mean, because I use my phone a lot for BIM 360 Team. You can paste it on your Outlook-- your email client, whatever it is, et cetera.

AUDIENCE: So like Dropbox from that point forward?

KAL HOUHOU: Something else, kind of. Exactly. The difference is that is any browser that is compatible with WebGL. In my handout, I put the address to check if your browser is different than Chrome-- Firefox, et cetera-- if it is WebGL compatible, it has a spin cube. If you see that spin cube, it means that you are WebGL compatible. So maybe you do-- you have to check for the 47 cookies. Another question?

AUDIENCE: So project's over.

KAL HOUHOU: Sorry?

AUDIENCE: So let's pretend the project is done. we finished out--

KAL HOUHOU: You can archive it.

AUDIENCE: How to archive?

KAL HOUHOU: OK.

AUDIENCE: I want to zip everything in one big happy Ziploc.

KAL HOUHOU: No. You don't need to zip to download. You archive it on BIM 360 hub.

AUDIENCE: Oh, no. [INAUDIBLE] download exactly [INAUDIBLE]

KAL HOUHOU: Yeah. You just like-- we-- yes. Yeah. I think we once already did that. I guess are the-- so copy link, then email.

Email, you have two possibilities-- is either you use the nice-- what's with [INAUDIBLE] just because he's here. Yes. I need my gift card. So when you click on email-- sorry.

On the copy link-- here, you have privacy settings. It says, allow viewers to download to their computer. So if you don't want them to download-- maybe sometimes you just want them to view-- you just slide it on the left side. And you can also add a password if you want. I mean, some projects had some extra security to put on.

And because it's a public cloud and then you are sending through an Outlook-- whatever you want-- it's still in open on the Outlook. Maybe you want a password that you're going to communicate only with-- stuff like that. The email, like I mentioned earlier, is where you send a link too. So you will put the address. So it can be somebody from the hub or not. It can be an external person.

You want to be sure that they want to see something specific. The personal message-- so you're not talking about your grandma and the apple pie recipe here. But you are talking really about project. The problem of that-- sorry.

Why I don't like it that much, the email, is because sometimes people have a very weird user ID name. You don't use their email address, but it can be Kevin Twin 22 sassy, whatever. I mean, it happens. Believe me. We had that.

So when you go to message, coming from that, it might be blocked by your firewall. So you have to-- it's case by case. So something-- the privacy setting is the same. Download or not download. Password protected or not.

And the last one is the embed-- is the HTML. So you decide what type of resolution you want to be seen and it's HTML code to put in any HTML page. It can be not exclusively website, but remember to publish to Revit or AutoCAD internally so you can do that.

AUDIENCE: [INAUDIBLE] that's it. I mean, if you were not the actual download [INAUDIBLE]

KAL HOUHOU: You can.

AUDIENCE: the model. It's just if you were [INAUDIBLE]

KAL HOUHOU: You can download.

AUDIENCE: [INAUDIBLE] able to download

KAL HOUHOU: It can be to Revit because-- OK. I go back. Sure. That's what I'm saying. You copy link, allow users to download to their computer.

Since I checked the-- yes. So-- is-- OK. This is why-- why is it good? That one is, if you want to be sure that they are downloading or viewing only a model. Because if you download by checking that box, it will download all the Revit models.

And then you going to wait. Because you know, that African American here, I'm showing only eight models. We had 56 models. 56 Revit models at some point.

So each time we do-- first time we did that, woo. Cancel! Because you know, it took-- eat up the resource of that computer for the entire day. Yes, me? No, no. Somebody else.

AUDIENCE: It's about this. It's about this.

KAL HOUHOU: I'm teasing. Go ahead.

AUDIENCE: [INAUDIBLE] If I want to share it to my [INAUDIBLE]

KAL HOUHOU: You cannot share folders. You can share only files.

[INTERPOSING VOICES]

KAL HOUHOU: You need to invite them as a project contributor so they will have limited access-- or as viewers. So you can share the role as viewer so that they are able to view. They're not able to delete. They are not able to invite people.

They can just view. Why not? We love it. We've been asking for that viewing role for two years.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Yes. Yeah.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Yeah.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: It's on the-- yeah.

AUDIENCE: [INAUDIBLE] One other thing I forgot is you might want to add [INAUDIBLE] don't upload that publically. Go back to that shared [INAUDIBLE]

KAL HOUHOU: Oh. That's good.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: No. There is no limit time. But-- unless-- yes.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: What is nice about also the file management within the BIM 360 Team hub is you can copy now files to different projects. And not only that, you can now create a specific subfolder in project A, follow project B file that is going to be now contained to that project A. So sometimes you have, let's say, data blocks for specific families' content like that that you want to be populated automatically to all your projects within your hub-- it's possible. It's not automatic. You still do-- you do it as a human person. That's the automatic side of it. Tell me.

AUDIENCE: [INAUDIBLE] you said I could copy folders [INAUDIBLE]

KAL HOUHOU: Oops. Yes.

AUDIENCE: --from one project to another. Correct?

KAL HOUHOU: The folder structure--

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: No. No. It's contained.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Not folder structure.

AUDIENCE: And it's limited to the hub that this project is hosted on, right? I couldn't go across hubs--

KAL HOUHOU: No. It's just within the hub. Within the hub, you can have-- we have 25 projects in the hub.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Ah. You cannot do hub to hub.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: If you go to A360 Drive, you can decide--

[BANGING]

KAL HOUHOU: Oops. You can decide-- dah, dah, dah. Bah, bah, bah. You can decide exactly which hub you want and which project within the other hub. It's on the up left.

Switching it up. Let me just go back here. So if you go-- you have the access of A360 Drive. So if you're now under subscription, you have 25 gigabyte. If you are not under subscription or you have your own, it's 5 gigabyte.

All right. What else? Before-- sorry. I need to finish up. It's 2:30. We still have half an hour. I'd like to pursue a little bit about all this portion here.

AUDIENCE: Class actually ended.

KAL HOUHOU: Pardon me? I have one gentleman question. I saw you. Remember.

AUDIENCE: [INAUDIBLE] published files and published versions of those. Are you able to go back and delete a version [INAUDIBLE]

KAL HOUHOU: No. You cannot delete a version, but you don't-- yeah. [INAUDIBLE] Sorry?

AUDIENCE: 2:30 is the end of class.

KAL HOUHOU: Yes.

AUDIENCE: It is 2:30.

KAL HOUHOU: It is 2:30? Wow.

AUDIENCE: [INAUDIBLE]

KAL HOUHOU: Yeah. OK. Wow. See. I told you. It's the first time I do.

Because last year, I covered the subject and I didn't have enough time. I had 60 minutes. OK.
So the t-shirt goes to whom?

No. I mean the guy over there. The UK guy. That's it. Our cousins. Are you from UK?

AUDIENCE: Australia.

KAL HOUHOU: Australia is even better. This is easy. Because it's a medium size, you guys-- you cannot wear it. So after the thing-- thank you very much.

Appreciate you guys. Thank you very much. Thank you.