

Introduction to Embedded Graphics Webinar-20260827_125919-Meeting Recording

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1h 20m 44s

● **Emily Malin** started transcription

AB **Andy Beaveridge** 0:41

We're going to record to see how many times I say Delta controls instead of Delta IBT.

EM **Emily Malin** 0:47

It's OK, just say you're referring to product. It's fine.

Fine, it's what I do, it's fine.

Okay, we will go ahead and get started here. It is right on the dot. So hello, everyone. Thank you so much for joining. My name is Emily Malan. I am your product marketing specialist.

Thank you so much for joining. We're very excited about this one. We've gotten a lot of good material here for you. So we're going to be jumping back and forth between live demos and presentations. So just kind of bear with us as we have a couple seconds delay between each thing. Housekeeping items, as always, these are being recorded and we will send out the presentations, the webinar, and the transcript within about a week. If you haven't seen it within about a week, then reach out and ask me.

If it has not been a week, don't reach out and ask me yet. We do have all of you guys' mics muted right now. It just makes it a lot easier for everything as we go through. We have quite a few people on here, but feel free to pop any questions that you have into the chat and we will be going through them at the end. We should have about 15 minutes for questions at the end there.

As always, if we do go over, we will compile all the questions as well. So if you have to drop off, don't worry about it. They will all come out to you guys. I've popped all of our emails as well in the chat if you need to reach out to us for anything. Our next webinar, it's very exciting. I'm sure most of you know that we have officially merged with our friends at Loy Tech to create Delta SBS.

So the next webinar that we will do is actually an introduction to the entire Loy Tech

brand and portfolio, really around like the sales features and going through a few of the different controllers and things like that. That will be done by Luke Barr, and that is September 10th from 11 till 12 Pacific Time.

And there is a registration link inside the chat. Make sure you go and register for that one. The next one after that, it'll actually only be about two weeks after. It is the Building Canvas External Sales webinar. And that will be on September 24th, hosted by Hanbo Lee. So make sure you join us for those. And without further ado, the two men of the hour.

Here they are, Andy, Zach, let's go.

AB **Andy Beaveridge** 3:11

Good day, everybody. Good morning, good evening, good day, wherever you are. I am Andy Beveridge. I am the product manager for Red 5 products here at Delta IBT. I'm here with Zach Stephen, who is our product manager for IntelliWeb.

And this is a cross-platform endeavor. You may have heard a little bit about it for embedded graphics. This is the biggest partnership since the forming of the Mega Powers in 1987 here at Delta. A lot of work went into this, a lot of...

bantering back and forth between our two business enterprises, but here we are and can't wait for you guys to get a hold of this. I would just like to point out before I move to the next slide that

Macho Man is the cooler of the two. Just wanted to put that out there.

ZS **Zach Stevens** 4:07

Hey, hey, hey, I'm taller and muscular. I'm taller and more muscular. I like it. I think I got a better deal here.

DL **Darren Lyons** 4:10

agreed

AH **Andrew Harper** 4:13

cream of the crop

AB **Andy Beaveridge** 4:13

Matcher Man is more crazy though, so it perfectly suits with me. It fits with me. So we're both going to be switching back and forth between slides.



Allan Lanzador 4:20

Oooooh yeah



Andy Beaveridge 4:22

live demos, 2 presenters, what could possibly go wrong, right?

So we want to talk to you guys about what embedded graphics are, a little bit about how the workflow works, and where you can find documentation and performance guidance and guidelines and that sort of thing. I would like to talk about the current functionality and what we're planning on in the future as we phase this in.

over time. We have to walk before we can run. So right now I think we're kind of in the walking stage. But before we get going, you guys can find all this information on the support site. You can download IntelliWeb 4.33, firmware version 4.21.

And that will give you access to the embedded graphics you'll need IntelliSketch and IntelliWeb as well. What else did I want to say before we get going on this? Yes, it is currently in beta. We're going to be leaving the embedded graphics feature in beta. Zach, I think, might tell you more.

I can't remember whose responsibility was, so I'll just say it anyway. Hopefully I don't steal the thunder too much here. We're going to be leaving this feature in beta until we go to 422 in firmware. We just want to get some usage statistics and we want to get some feedback on how everything is working so we can adjust our guidelines as we go.

So, what are embedded graphics? What can I tell you about this? Well...

If we take a look at from the user perspective, if we're looking at facility managers, they need to access their equipment from anywhere and they need a localized visualization of that equipment from anywhere. Getting the benefits from mobile-friendly real-time graphics and

avoiding having to use some sort of IT workstation. Maybe they don't have access, maybe they don't, maybe they don't want to walk back and forth. They can use a mobile device in any device that has a browser. Same with BMS operator, want to do a quick override fault diagnosis when they're at the equipment and save yourself time.

with local graphics and built-in commands right at the device. For OEM customers, they want to build up graphics with specific data, allowing them to program their units without having to have a reliance on IntelliWeb. And finally, for end users or

occupants, you can have a...

We could build a simple read-only or limited control view. You could do a kiosk view to show energy data or menus and that sort of thing. So that's sort of the intent of what we're doing with the embedded graphics right now.

We're providing localized visualization, as I said, controller level graphics without having to use a front end. We're supporting this essentially in all IP based V4 controllers, with the exception right now of O3 devices. O3 are sort of left out of this list for now, but all of our standard unitary controllers and building controllers that have IP capability, meaning Ethernet IP, will have graphical functionality. This includes T1L. And incidentally, I'll be doing my demo today on a T1L VAV controller. But we want to provide a consistent experience across all the devices. We want to give you guys the tools to improve your efficiency, whether you're troubleshooting or whether you're doing maintenance or whether you just need access to local equipment.

What they are not is a replacement for IntelliWeb or IntelliCloud. So it's not a overall navigation of the entire system. This is a localized graphic. It's not a multi-building supervisory interface, nor is it a graphical editor. All the graphical editing still needs to be done through IntelliSketch, which Zach is going to show you in a minute. So this wasn't designed to be a replacement for IntelliWeb or IntelliCloud. But it is powered by IntelliSketch and V4 firmware. The controllers themselves are hosting the HTML5 engine, which is essentially stripped down IntelliSketch. And we want to be able to provide you with basic operator functionality in the controls. So if you want to adjust set points.

You want to see the data, you want to get the feedback from the equipment. That's what these graphics are doing. It's accessible from any device that supports a browser. We support Chrome, we support Firefox. And we even have a kiosk mode for those screens if you just want to present a visualization. We also have an administrator mode and a graphical mode.

And with that, I'm going to hand it over to Zach to get right into some of this workflow.



Zach Stevens 9:29

Thank you very much, Andy. So what I'll do here is I'm going to just go to the next slide here and talk about the embedded graphics workflow, specifically the IntelliSketch and IntelliWeb component. I'll do a live demo in a moment here, and

then I'll talk a bit about some documentation we have.

and then I'll pass it back to Andy to go through the embedded web side of the workflow. So how this works is you create your beautiful graphic in IntelliSketch, as you can see right here. You then export the device to be, pardon me, you then export the graphic to be device ready.

And then you upload it to a file object. That file object needs to be named IntelliSketch Project. And then you upload it to that file object, which then gives you access to that graphic via the embedded web of the controller. So at a high level, that's how this works. I just wanted to highlight each step there just to show you that it's

This is by no means an exhaustive process. It's very simple. So what I'll do now is I am going to jump into...

IntelliSketch. So what you're looking at here is you're looking at IntelliSketch, our graphics editor. I've created this beautiful graphic. If I go into preview mode here, just to make sure things are working, if I go to 100 and I go save, you can see that it gives me feedback that it is in fact written to the device and the animation goes red. So I am in IntelliWeb right now. I'm inside of IntelliSketch Editor. I'm not inside of the embedded device yet. So this is where the creation of the graphic happens.

So what I want to do now is I want to go to Projects.

Export for device. So before I press this, I just wanted to explain what's going on here. What's happening is when I press exports for device, it's going to localize all your device references and site names so it becomes device agnostic. So there's no more references to this exact

device number that's being referenced in this graphic. So what that means is this can be easily reused across hundreds or thousands of devices, depending on the scale of your projects. So I just have to create one VAV graphic and reuse it over and over again. So you can just do that upload I'm about to do.

on mass across multiple devices if required. So if I go export for device, what it's going to say is it's going to say select a start page. So as Andy said, this is a multi-page interface potentially, although we just support local points right now.

But right now, I'm just going to select embedded VAV SKH file as my homepage when I log into embedded web. So if I go select, you're going to see it starting the export process, and it does export my project very, very quickly.

So the next step here, I'm just going to go into IntelliWeb. You can see here I'm in a

file object on my device. I've created this file object and the naming is a bit proprietary here, so you want to make sure that you name it IntelliSketch projects so that Embedded Web can pick it up.

Um...

And what you're going to do is you're then going to go upload file, and then you can just select your project file and upload it to the device. So, Andy, if you wanted to go back to the slides now, I'm going to stop sharing and just talk a bit about documentation on the.

Intelliweb and Intellisketch side before I pass it back to.

before I pass it back to Andy to talk about the embedded side of it. So, oh, sorry, I got to take control here. One moment.

So I did a brief demonstration of the workflow on the IntelliSketch and Intelli website here. So if I go to documentation, we have, we recently released a graphics deployment guide, which you'll find on the IntelliSketch product page. So

These items here, they're not 100% in relation to embedded graphics, but this is helpful information for embedded graphics. This is about a 10-page document. I'm not going to go through every single detail in this webinar. It's a very good read, but I just wanted to highlight some of the major helpful topics that

outlines. So this guide outlines best practices for designing, deploying, and optimizing graphics across IntelliWeb, IntelliCloud, as well as embedded web servers. So the topics that are covered is which graphics editor should you use to create graphics? So as you

may know, we currently have two editors, IntelliViz and IntelliSketch. We talked about performance optimization, browser compatibility, as well as current embedded graphics limitations, which Andy is going to go into in a bit more detail.

So when it comes to graphics platform selection, just to give some definitions here, IntelliSketch, we have active development happening on this. We do recommend using it for new projects. IntelliVis, we still support IntelliVis. We will continue to support it. I've said this before, that your licenses are perpetual if you do already have it.

So for existing deployments, you can continue to use IntelliVis. But when it comes to embedded graphics specifically, IntelliSketch is the product that you do want to use for this. And that export for device feature is available in IntelliWeb 4.33.

and will be available as well in future versions.

So this graphics platform selection guide goes into a bit more detail in the document

talking about campus style projects, how to deal with mixing and matching and stuff like that. But just for the scope of this webinar being embedded graphics, I just wanted to make sure it's understood that

Intellisketches is what to use for embedded graphics.

Performance optimization. So when you're creating your graphics, you want to prioritize performance-related things during development to ensure you minimize memory usage on the client side. So when I say client side, I'm talking about the browser viewing the graphics. So it's very common if we hear feedback about a graphic running slow or something like that, you may jump to see what the CPU or the RAM of the server itself is, the server that has IntelliWeb hosted on it. But with this being a very front-end tool, the issues are usually very much client side in terms of memory usage on the laptop that you're viewing the graphics. So we have details on that of how to find how much memory is being used on a graphic by graphic basis, as well as recommendations of how to lower that. So a specific example of that is if your graphic has a lot of LED images, if those are actually PNG images or JPEG images, the browser tab has to render all of those one by one. It can take quite a while and use a lot of

memory to do that. So we do recommend if you're just doing squares or rectangles to just use native HTML elements like the group element that IntelliSketch has, which will load a lot quicker and be a lot more.

lighter weight to render, reduce heavy bitmap images, as well as data point count consideration, because there is some stress on the network depending on how many points you're pulling. Andy will be going into real specifics on this, on embedded graphics at the moment, but we do have all of that documented.

I am now going to pass it back to Andy to get into some more detail here.

AB **Andy Beaveridge** 18:27

Thanks, Zach. OK, so let's take a look at what this what this embedded graphics can do and go through the feature set of it.

So what we're supporting today, what you can download right now.

Zach mentioned that when you export the graphic, you have to designate a homepage graphic. That happens during the exportation phase. So whenever you log into an embedded graphic, that's the page that will always show up first and you

sort of navigate from there. So we do support multi-graphic navigation.

So I would recommend if you are going to start loading up a lot of data points, you probably want to separate that into multiple graphics. And then you can put in the URL and the button and you can jump in between graphics just like you normally would.

You can put read and write elements into that graphic. So if you need to do set point adjusts, you can. So you can override outputs, you can set your set points, toggle switches, that kind of thing. The graphic itself, the project that Zach showed where he exported it, then loaded it into an FIL object. You can then deploy that graphic via the database. So if you save the database of the controller out, the graphic goes with it. So if you say with the VAV example, if you put it into a VAV 101.

export VAV101 as a database, you can load that database into VAV102 and the graphic goes with it. We support a maximum of three concurrent clients. I should have said rather than users, 3 concurrent clients. So if you have three different people logging in with three different...

JB **Jeff Boston** 20:17

Hi Gents

-

AB **Andy Beaveridge** 20:22

devices is a max of three. And as Zach mentioned, we support local data points only right now. It's something we are looking at in the future, but for right now, we got local data points. Other things that are coming into the future, object,

JB **Jeff Boston** 20:25

would an override of a point in the embedded graphics

AB **Andy Beaveridge** 20:40

Object pages, trend logs, schedule specific pages. These require a significant amount of development work. We wanted just to get the simple graphics done first, that you had something embedded in the controller that you could deploy. But we are going to be working on object TL schedule pages, event handling.

JB **Jeff Boston** 20:58

be indicated in eWeb or the Niagara front end?

AB **Andy Beaveridge** 21:01

We also want to implement a controller graphic export so you can just export this single graphic to edit it without having to go back to the original project. That means you can give that graphic to anybody to load it into a Satelli sketch and they can make an edit to it. We are going to be supporting remote data points. Again, that's extra work that we have to do and more guardrails that we have to verify. And we also are looking at different ways to improve our workflow. Maybe we can make that export process automatic where it dumps it right into a target controller rather than having to do the two-step thing.

YM **Youssef Meddoui** 21:33

will the graphics be accessible via bluetooth / Provisio or

AB **Andy Beaveridge** 21:43

So what we're starting with right now, and this is one of the reasons why we're leaving embedded graphics, calling it beta. I'm not a huge fan of doing this, but we're just doing it so we can gather data from people so that they, and it's basically setting expectations. And it allows us to get an understanding from you guys of how things are operating.

YM **Youssef Meddoui** 21:44

only by ethernet connection to the device?

AB **Andy Beaveridge** 22:03

Things that are working, things that aren't, things that you'd like to see improved. So, our data point limit is essentially based on the controller level with the Red Five plus controllers with the most memory, highest power. We have 150 data point limit per graphic, and the total project size.

is 20 megabytes. And it scales from there. Edge controllers have 100 data points with a 10 megabyte, et cetera, et cetera. These are not hard limits. These are what we've tested to. We may adjust them in the future, but what's important is that we provide

you guys with the guidelines so you know where your limits are and where we've tested to and what the performance standards are. We'd rather you guys not have to guess and then get yourself into trouble. But we want to set those limits up so that you know what the rules of engagement are, so to speak.

We may reduce those data point limits, we may increase them based on feedback from the field.

Zach, was there anything else you wanted to interject into that? I think I covered it, right?

ZS **Zach Stevens** 23:20

No, I think that's good. Yeah, it's that's important there, but it's not a hard. performance, so they may change as we get into a fault release.

AB **Andy Beaveridge** 23:30

Yeah.

Yeah, now we mentioned this a couple of times. This is powered by IntelliSketch. So basically, controllers running an IntelliSketch light in the background.

NB **Niko Bhagwandin** 23:42

How to

AB **Andy Beaveridge** 23:44

And I've already shown some of this data here. We iterate the three concurrent clients.

NB **Niko Bhagwandin** 23:52

effectively diagnose when a controller has too much DDC + Graphics load? Is this just a CPU consideration + Scan-rate monitoring? Are there posted margins

AB **Andy Beaveridge** 23:54

Just coming later on down the line.

Abu.

Now, the embedded graphic users themselves. So we have two user accounts within the controller. We have the admin account, which can access basically all of the

controller configuration and the graphics. And then we have a special graphics user, which basically has no access to any of the...

the configuration, but we'll jump straight into the graphic, which I'll demo for you in a second. We also have a non-authenticated mode that we're calling kiosk mode. So if you put the controller into kiosk mode, basically you can bypass and go right to the URL of the graphic and it'll display.

the data on that graphic.

So that's how we would set the graphics to read all length.

NB **Niko Bhagwandin** 24:44
per controller ?

AB **Andy Beaveridge** 24:46

And I should also note that graphics can be disabled. So the entire, not only can the graphic itself be disabled, but we could also disable the entire web server. So if you are on a site that would frown upon this sort of thing, you can disable either the graphic or the entire web server in the controller should you need to. I bring that up because we are currently working on all sorts of different cybersecurity fun

CA **Cotton, Andrew** 25:02

Would embedded graphics integrate with eWEB graphics project or are they independent of the overall project graphics package?

AB **Andy Beaveridge** 25:12

And it's good for you guys to know this ahead of time.

So before I jump into the demo, I just want to give you guys an understanding of how you know how to access the graphic and where the data is for that URL information. So this is a screen grab of my IntelliWeb. I've got the controller URL and IP address.

from the network tab. If you go to the HTTPS settings of the controller, that'll give you the, here if I can annotate here, that'll give you the IP address of the controller, and that'll navigate you to the admin window or the graphics should you use the graphic user.

Within the graphic administration page.

If you go through the application settings, you'll notice that there is a...

JB **Jeff Boston** 26:11

Can test & balance use the

AB **Andy Beaveridge** 26:12

setting, if you click on the graphics link at the bottom there, this will be where you set up your graphic user, the access type, whether it's read-only or read and write. This is where you'll set up your security, whether you want kiosk mode, and you can update the password for the graphics user.

JB **Jeff Boston** 26:22

cont
controller graphics for test and balance

AB **Andy Beaveridge** 26:35

To access the graphic, there's a little orange graphic button there. Let's see, there we go.

JH **Jeff Hutchinson** 26:37

Can you click the Got It button on Copilot

AB **Andy Beaveridge** 26:44

Pressing that button will take you directly to the VAV graphic.

And that's where you can start interacting. And this is where the embedded graphic part begins. So I'm going to attempt to do a live demo here.

And let's just see how that goes.

Zach, can we see my screen okay after that switch? Okay, Emily's giving me a thumbs up. Great. So, I'll just show you now. I'm going to log in as an admin and I'll show you where it defaults. So, if I go...

To my admin page, for those of you that have never been in here, this is my application setting.

Clicking the graphic page or that graphic link, this is where I can enable my graphic user. I can enable kiosk mode, just like I said, change password, et cetera, et cetera.

I can also go directly to my graphic page by clicking the graphic button.

EM **Emily Malin** 27:44

hey yeam, can you type these in the Chat instead of RTT? I dont know how we turned this on, but ites easier to go through them in chat :)

AB **Andy Beaveridge** 27:46

And this will load up the embedded graphics. So this is running in a T1LVAV controller right now.

And our intent was to have the data points load up in less than five seconds. That was one of the big, that was one of our big requirements. We want to make sure that this thing operates correctly, operates quickly and efficiently. That's another reason why we're putting up those data link limitations.

is to ensure that the graphic is operating in an optimal fashion. Now, incidentally, if you want to go to your graphics user, so I've created my graphics user here, I got the password, it'll bring up the login page when you access the URL. And if I log in through my graphics user, it'll just take me directly.

to that graphical page.

Um...

And I guess this would be two clients now to have accessing my graphics, and from here, as Zach demoed, we can, you know, we can adjust our, we can adjust our... outputs or set points and hit the save button and all our animations are working and just like it would be running if it was actually in IntelliSketch.

And then we've got a bunch of other data points here. You can change your set points, you can override your outputs. Basically, that's it. There's not a lot of, it's not rocket science, it's just a VAV graphic. I'm not the best graphic creator in the world, but there you go.

So I am going to go back to my presentations.

And I believe what we're going to do is start opening up the questions. We're almost exactly 30 minutes in, which is what we had planned.

Almost like we had it thought out in advance.

EM **Emily Malin** 29:41

Oh my, oh my. Okay, yeah, so I'm not sure how or why the RTT sometimes gets turned on. It's a different text thread. So I'm going to go through the ones that are in the chat first, and then we can go through the real text thread thing. Zach already

answered Phil's question. So the other one was, what happens if a fourth device tries to connect?

Does it drop one or does it ignore the 4th person?

ZS **Zach Stevens** 30:08

That's, I guess, Andy, we've got to be careful about talking over each other here. So it's my understanding of it is it's a tested limit, it's not a hard limit. It's like if you go over that, you may see performance degradation if you go over 3 users. But Andy, you can correct me if I'm wrong there.

AB **Andy Beaveridge** 30:13

You go.

That's correct, it's a tested limit.

ZS **Zach Stevens** 30:30

Yeah.

Yeah, it's not just like data points, it's not a hard limit, but we started to see performance decrease once we went over three.

EM **Emily Malin** 30:41

Okay, of that same area that we were talking about, somebody asked, will the O3 DIN room work on 4.21 firmware?

AB **Andy Beaveridge** 30:50

Yes.

The O3 DIN, also known as the old school name for the integrated room controller, which later was rebranded as the Red 5 Room Controller, it's all the same, it's the exact same hardware, it's just a new rebranding we put in, yes, you can run 421. On that.

EM **Emily Malin** 31:12

Perfect. Will the data point limit be based on traffic volume in the network? I think you kind of covered that.

AB **Andy Beaveridge** 31:19

Um...

Like I said, the date, that limit is, we're trying to provide a safe space that we know that it's going to operate under typical conditions. So we're trying to put a little bit of margin in there as well. But that's one of the reasons why we're leaving it in beta until 422 is just to...

get some indication on how the performance runs over time. And we may adjust, like I said, we may increase it, we may decrease it. We want to get runtime data on it.

EM **Emily Malin** 31:55

Is there a timeline for phase two, particularly SCH? And that got a bunch of thumbs up. So the people want it.

AB **Andy Beaveridge** 32:01

Yeah, I'm not going to commit to anything because we have to basically build that interface into the controller. So it's going to be probably a couple of firmware iterations. I don't expect it for 422. Is it something that we might be able to make the train on 423 or at least get some of the stuff in?

ZS **Zach Stevens** 32:03

K.

AB **Andy Beaveridge** 32:25

Maybe. That remains to be seen. We have to, again, we have to come back to our Macho Man and Hulk Hogan Mega Powers team to make sure that we haven't stabbed each other in the back yet to make sure that we have that team cohesion.

ZS **Zach Stevens** 32:26

Um...

AB **Andy Beaveridge** 32:43

But yes, it will be coming, I would say over the next year, we'll start seeing that stuff phased in. We may do phase three, phase four as well. The important thing for me and for our team, and I think for you guys, is that most importantly for you guys, is that you have something to work with. And just because we don't have

a schedule object in the controller doesn't mean we say, well, we're not releasing anything yet. I want to build on things as we go and improve it as we go.

EM **Emily Malin** 33:13

Makes sense. So would embedded graphics integrate with eweb graphics projects or are they independent of the overall project graphics package?

ZS **Zach Stevens** 33:23

So it's say when you export the graphic that you created in Intellisketch, it is a copy of that graphics project in the, I guess I call it device ready format. It's got the device references and site name stripped out of it. It's got all the palette images localized to that

projects. So they are different things, but I don't know if this was asked, but just to clarify something, you can download the device graphics project from the file object and re-upload it to the IntelliSketch graphic.

That is supported. I just tried it just to make sure, because I know that was one that we weren't sure if we were going to make it into beta, but it looks like we did. But you can pull the graphic out of the database into the editor and send it back. So that is supported as well. But it is a separate thing.

That's part of a database.

EM **Emily Malin** 34:26

Okay. Is there an easy way to update passwords in the controller so we don't have to know the serial number serial number to log in as admin and do this one controller at a time?

AB **Andy Beaveridge** 34:37

Well, there's, unfortunately, with anything cybersecurity related, inconvenience comes along with it. So there will be no, I'll tell you this flat out and you guys can shoot daggers at me, that's fine, but there will be no mass password changing ever. That's a major cybersecurity hole.

So we have to start with a password somewhere, and we cannot have a known admin password in our products. The days of a known password that's standard across all products are over, and they'll never happen again. So for now, I hate to tell you, it's got to be through a serial number based, and then...

you have to adjust it one by one.

It will never change to anything else. We, it's a cyber security requirement.

EM **Emily Malin** 35:22

Makes sense.

Just to confirm the data point limit is per graphic slash page.

AB **Andy Beaveridge** 35:33

Per graphic.

EM **Emily Malin** 35:36

Are the embedded graphics able to pull data from other controllers for applications such as isolated room control where there are multiple VAVs slash venturi valves needing to be displayed on local HMIs?

AB **Andy Beaveridge** 35:49

As of right now, no. The version that we've got right now, no, it's local data points only, but we are going to head to the remote data points as well. So yes, that'll be in the next phase.

EM **Emily Malin** 36:01

OK, does the override use the priority array configuration from the point object or a new priority array?

AB **Andy Beaveridge** 36:09

No, it's standard priority array, standard backnet commands over the prior over priority, just like, like, just like a standard graphic would work.

ZS **Zach Stevens** 36:10

Ohh.

Yeah, it's the sketch. It's the same way that works.

EM **Emily Malin** 36:20

Would commands issued via embedded graphics be recorded in eweb logs, or if not, are they recorded anywhere?

AB **Andy Beaveridge** 36:28

Awesome question. Yes, they're not in, they're not in Eweb. They're in the SEL point of the controller.

EM **Emily Malin** 36:35

And then are there any plans for the pre-made Delta VAV databases to include an embedded graphic or have matching templates available?

AB **Andy Beaveridge** 36:44

I love that question. Yes, it does not right this second, 100%. That's where I want to go. That's like, that is one of my big dreams is to have a package that you use proviso, you tell it what VAV algorithm you want to use, and it brings the graphic with it. That is my dream.

EM **Emily Malin** 36:45

Question that was.

AB **Andy Beaveridge** 37:03

my hope and my dream. It's more than a hope. I'm the product management, I get to say it. So yes, it will do that.

EM **Emily Malin** 37:05

That is Daniel's stream.
Perfect.

AB **Andy Beaveridge** 37:10

Eventually, not yet, but yeah, it will.

EM **Emily Malin** 37:13

How does an OEM without access to Intelliweb slash Sketch create graphics?

AB **Andy Beaveridge** 37:20

Well, that's a bigger conversation because you do need IntelliWeb to create the graphic, but maybe that's something that comes along with it. It's sort of related to

the last question. If we have that template built into the controller, then an OEM doesn't need it and they can actually load it in through Proviso.

So that is something that we're going to have to.

Design so that it sort of meets the needs of both partners and OEMs and everybody, but it's kind of related to that previous question.

EM **Emily Malin** 37:53

Okay, I think you guys touched on this one, but will IntelliSketch graphics replace the IntelliViz graphics in the future for eWeb?

ZS **Zach Stevens** 38:02

So I did mention this earlier that IntelliVis licenses are perpetual. We'll continue to support IntelliVis. IntelliSketch, we are in early days of this. As you know, I think this is, we're on release version two of it. But as you will see it evolve, and even in its current state, the simplicity of it.

you'll have a very strong reason to use it just for the time savings and the value add of exactly what we're talking about right now.

EM **Emily Malin** 38:36

Can we acknowledge alarms from the graphics or is anything planned for that in the future?

AB **Andy Beaveridge** 38:42

What is planned, we can't do it right now, but we, yeah, sorry, I should have made more of a big deal. It was on one of my slides.

We are going to be adding event handling into the controller. It doesn't do it yet. It's a big lift right now, but it is that is planned to go into the controller as part of this, yes.

EM **Emily Malin** 39:03

When loading slash saving databases to different controllers, is the embedded graphics automatically included? Is there a way to load slash save databases to a new controller without including embedded graphic if the controllers already have created embedded graphics that you want to maintain?

AB **Andy Beaveridge** 39:22

Hello.

Oh boy, that's a complicated question. So yes, the graphics, as I mentioned, the graphics come with the controller. They, or sorry, they come with the controller database. I guess what you would have to do in that case, this would be something we have to...

ZS **Zach Stevens** 39:41

Just delete the file object, right?

AB **Andy Beaveridge** 39:43

Yeah, you'd have to delete the file object and you'd have to save out the file object in the target controller, load the database in, then load the file object back in. That's what you would have to do. It's a bit clunky. That's something that we could look at for a workflow improvement.

EM **Emily Malin** 40:00

Yeah, the next one said, I assume you could put a link in the graphic that links to another embedded in another controller.

AB **Andy Beaveridge** 40:06

Yep.

EM **Emily Malin** 40:08

So that would be, okay. For a graph, which I'm assuming graphic, for a graphic created in eViz, do you have to export it to IntelliSketch and then to embedded graphics or is there a direct tool? So basically IntelliViz to embedded graphics.

AB **Andy Beaveridge** 40:09

Yeah.

ZS **Zach Stevens** 40:23

Um...

Yeah, so we have our, on that same support site, IntelliSketch product page, we have

our current list of supported features within IntelliViz that can be converted to IntelliSketch. That's still kind of a work in progress. So there are some cases where, yes, you can.

export eViz graphics into eSketch and then into the embedded. We're working on some performance improvements there. But graphs specifically, sorry, do you have a, oh, sorry, I don't know if you mean graphs.

MF

Marc-André Fortin 40:49

Could a user access the graphics via the use of an Access card, a RED5-MODULE-1DOOR which would be local on a RED5-PLUS?

ZS

Zach Stevens 41:06

like the feature graphs or graphic created, but I know we have some limitations right now with historical graphs converting from eViz to eSketch. So I'm not entirely sure if that answers your question, but we have documented support levels of eViz to eSketch.

That would be the answer, yes, is EVIS to e-sketch to.

embedded, but historical graphs specifically, we currently have some substantial limitations there from eViz, but not eSketch directly. Sorry for the long-winded answer there.

EM

Emily Malin 41:43

It's okay, we only have 400 questions to go through. It'll be fine. It's good. Can you elaborate on the statement made regarding large installations where you're going to discuss how IntelliWeb and IntelliSketch might live together across different buildings on one campus?

ZS

Zach Stevens 41:58

I'm actually going to share my screen on this one. This is a very good question. I was wondering if I should include this in the presentation because it's not really an embedded traffic thing, but also it could be. So let me just share my screen. This is a pretty quick answer here.

This is that document that I was referencing here. So we have new graphics, IntelliSketch, existing graphics that use IntelliVis, just to keep maintaining them. But we have large campus or multi-building deployment. So you may want to look at a

mix of IntelliSketch and IntelliVis there. So you want to treat each building as a separate IntelliSketch or IntelliVis project.

So new projects should be created in IntelliSketch. Avoid mixing e-sketch and e-vis graphics within the same project. That just starts to become confusing and difficult to maintain. But the important one here is create a centralized homepage. So if you have a campus, you typically have like a map view, you know, building one, two, three, 4, 5, etc.

You want to make sure that that one is built in IntelliSketch, and then you just have open page links to an IntelliSketch building or an open web link to an IntelliViz building. And then we find that to be the smoothest. That's how we dealt with EViz and OrcaView saved to web graphics.

As long as the homepage is e-sketch, you can, or pardon me, as long as the homepage is the newest graphics editor, then it's very easy to maintain. So that's our recommendation there, if that answers your question, and that is documented right here.

EM **Emily Malin** 43:37

Cool. Would an override of a point in the embedded graphics be indicated on eWeb or Niagara front end?

AB **Andy Beaveridge** 43:46

That is recorded. There's 2 answers to that question. It would be recorded in the priority array of the object that's been overridden, and it would be logged in the SEL object of the controller.

EM **Emily Malin** 44:00

Could the tab contractor use the controller graphics for test and balance?

AB **Andy Beaveridge** 44:05

Heck yes, this is this goes back to a couple of questions ago. If we had a template built into the controller, you can absolutely build your own. You could build in a tab graphic that's.

Kind of want to, that's where I sort of want to go with this, especially in a VAV.

But if we could, I would like us to provide a template graphic, which is basically something similar to what we used to do in the eZone, where you have a nice tab

graphic that allows you to override the damper and put in the K factor and the adjustments and all that kind of thing. So yeah, you could do that right now. You could create your own. You could do basically whatever you want as far as that's concerned.

EM **Emily Malin** 44:49

Cool. Can you display the embedded graphic in an iframe on the full site so there isn't a chance of two different versions of a graphic floating around?

AB **Andy Beaveridge** 45:02

I'm gonna let Zach answer that question.

ZS **Zach Stevens** 45:03

Um...

EM **Emily Malin** 45:05

Stomp Dom. Way to go, Ryan.

ZS **Zach Stevens** 45:09

Yes.

Yeah, I guess short answer, yes.

EM **Emily Malin** 45:16

Okay, cool. Any more than that or?

ZS **Zach Stevens** 45:17

Yes.

Yeah, I think that's okay. I'm just trying to think if that would be recommended or not. I'm trying to think of...

EM **Emily Malin** 45:27

Okay.

ZS **Zach Stevens** 45:28

Yeah, I would have to think about that a little bit more, but technically, yes. But I'm trying to think of, I'm just trying to be negative and think of why not. Yeah.

EM **Emily Malin** 45:32

K.

D.

Yeah, you chew it up. Let us know if you come up with something different later.

Okay. Are the points counted like IP slash OP or, oh, I'm sorry, IP slash OP only or every point, even GVS? What are the points counted like IP slash OP only or every point?

Does that make sense? Are the points counted like IP slash OP only or every point?

AB **Andy Beaveridge** 45:58

I'm not.

I'm not sure I understand the question.

ZS **Zach Stevens** 46:05

Um...

I believe I can answer that. I might need to bring my documentation open again, just one moment.

Um...

EM **Emily Malin** 46:23

You want me to do the next one while you think about that? Oh no, you're good. Go ahead.

ZS **Zach Stevens** 46:24

Sohel.

Yeah, let me, I'm trying to think if I should get this detailed.

AB **Andy Beaveridge** 46:31

Oh, okay, I think somebody just typed in a follow up. They're meaning like is in a licensing thing in the, in like a IO licensing. So if the data point limit, maybe I'm wrong in thinking this, but the data point limit isn't a licensing, it's a limitation of performance.

EM **Emily Malin** 46:45

Hello.

ZS **Zach Stevens** 46:46

It's not a, yeah.

Yeah, it's not a licensing thing, but here's a bit of something that is documented in that document I was referencing, but I have a graphic open. I press F12, I go to network, I go to data, I go to preview.

And that's how many data points are in this graphic, 39.

So you can see object name is considered a data point, units is considered a data point. So that's what we mean by our data point limits, just to be very clear. There's lots of, you can get up to 150 pretty fast if you look at what is considered a data point right here.

AB **Andy Beaveridge** 47:37

Yeah, think of it like if you're looking to a...

ZS **Zach Stevens** 47:38

Um...

AB **Andy Beaveridge** 47:40

room temperature input, you've got the object name, room temperature, you got the object value, which is the value, and then you got the units, which is, you know, units. There's 3 data points for one object.

ZS **Zach Stevens** 47:48

Ahmed.

Just to clarify that, that is if you show it in the graphic, like that 21 degrees, that doesn't pull three data points. This is pulling object name. So this and this, that is 2 data points. I could choose to type out Office 102 RT, but this is actually pulling the object name. So I want to be.

clear on that, that just value doesn't pull multiple data points. It's if I choose to do that in the graphic. And then I have.

like that is a data point of writing. So it's whatever you choose to display in the

graphic as well as any background logic you might have. So that's me getting nerdy there.

EM **Emily Malin** 48:32

Yeah, and...

Okay, and Nathan Hampton also chimed in and said it's a data point slash property limit, not point limit, i.e. out of service flag and present value from a single AI would be two separate data points.

So we get a little from Mr. Hampton as well, but he's also on mute. I know.

ZS **Zach Stevens** 48:48

Yes.

AB **Andy Beaveridge** 48:50

Yeah, loving that Nathan's chiming in, hey, he's just lurking in the background, waiting to pounce.

EM **Emily Malin** 48:54

I know, I know. I should really let him speak. We'll turn his on in a minute. Okay. Okay. Yes. Is there a specific local HMI device that you have been using to test viewing embedded graphics or one that's recommended?

AB **Andy Beaveridge** 48:58

He's laughing right now. The next question.

Yeah, that's on the Equip website. What's the product called? Here, I'm going to look it up for you. Just go to the next question and I'll look it up for you and then I can put that in the chat.

EM **Emily Malin** 49:22

Cool. Would IntelliWeb be replaced by Canvas and once so, what is the future of IntelliSketch slash Intellivis within Canvas?

ZS **Zach Stevens** 49:31

So IntelliSketch is already in Canvas. That was a pretty new addition. So IntelliSketch is going to be the graphics tool within Canvas. So and then when it comes to

IntelliWeb being

Replaced by Canvas, that's.

I guess kind of a longer conversation about what the plans are there, but we are, we have an integration plan of how all that's going to work. But I guess, but to get to the, yeah, yeah, yeah, there you go.

EM **Emily Malin** 50:02

Shameless plug for our, oh, sorry. I was just going to say join our webinar on September 24th and you'll find out.

ZS **Zach Stevens** 50:10

Yeah, that's definitely covered in that webinar. That's a good comment. So yeah, show up in that webinar. But yes.

EM **Emily Malin** 50:15

It's Hendra. He will.

ZS **Zach Stevens** 50:19

Intellisketch is in Canvas already.

EM **Emily Malin** 50:22

Perfect. If a controller loses database, if a controller loses its database, is there a way to recover the graphics from it? Is there a task to back up the embedded graphics weekly or monthly?

ZS **Zach Stevens** 50:35

Just part of the database, so...
Um...

AB **Andy Beaveridge** 50:40

Yeah, that's part of the database. So if you were backing that up weekly or monthly, just be part of the, like, you can set that up through IntelliWeb to back it up automatically. And then it is part of the database.

EM **Emily Malin** 50:56

How to effectively diagnose when a controller has too much DDC plus graphics load? Is this just the CPU load and scan rate monitoring, or are there posted nominal limits slash a guide for acceptable values per controller?

AB **Andy Beaveridge** 51:11

That's a great question. That's, again, that's one of the reasons why we're leaving, why we're continuing with an extended beta is to get those guidelines from data that we receive from you guys. We do have performance statistics in the DBI object and in the device object. I think this is something we actually have to improve on because it doesn't actually show the embedded graphic portion explicitly. Of course, you'll see that when you look at the overall usage in the device object. But it would be, I would like to see that broken out into the DBI. So that's something that we're going to have to improve on.

EM **Emily Malin** 51:50

Okay. What is the future of EWM style graphics? Can they be embedded into these databases?

ZS **Zach Stevens** 51:58

So to comment on that one, IntelliSketch currently has a template project called Graphics Generator. That is a rebrand of EWM. So EWM is already in IntelliSketch, but saying that it is, we kept it as, it's got a big beta flag on it. because we were seeing some performance issues with it. We didn't want to hold back the entire product just for that template, even though we know that it's a heavily used template project. So to answer your question, graphics generator projects, aka WM projects, won't yet be officially supported in embedded graphics yet, but they definitely need to. That embedded graphics, pardon me, graphics generator performance optimization is our priority in our IntelliSketch product development right now. So you should see some substantial improvements to that in Eweb 434, which is our next release, which is October.

EM **Emily Malin** 53:03

Perfect. Can empty objects with pertinent objects?

MT, I'm sorry, MT objects with pertinent objects, can they be linked for browser viewing?

AB **Andy Beaveridge** 53:15

That's next phase. So in this release, no, but that is something that we're going to be like trend log schedule, multi-trend views coming later.

ZS **Zach Stevens** 53:29

We do have a chart palette item. That's what I was struggling with that earlier question. If you meant graph or graphics, like graph slash chart, we do have a palette item for that, which you can link trend logs to, to sort of create your own multi-trend, but we want to have it more official, as Andy said, as an object.

EM **Emily Malin** 53:30

Bumped.

ZS **Zach Stevens** 53:50

page, just like how our management software has it.
But the chart palette items an option right now.

EM **Emily Malin** 53:55

Cool.

Okay. Are graphics created using the graphics generator supported? The template size is already on the limit of your supported file size. So that's what you were just talking about. Yeah.

ZS **Zach Stevens** 54:07

I already answered that one. Yeah, I answered that one not yet, but definitely we need to.

EM **Emily Malin** 54:12

Okay, can IntelliSketch be used to create the entire front-end BMS user interface for a project hosted on eWeb and not use IntelliVis at all?

ZS **Zach Stevens** 54:25

Yeah, that's an option. Yeah, that's the intended use of IntelliSketch is to create graphics for your entire building. The difference there between Intellivis is primarily ease of use, not as much

EM **Emily Malin** 54:32
of the sketch.

ZS **Zach Stevens** 54:46
complexity in terms of learning curve and stuff like that. Although we are adding more features to it, it's undergoing some rapid development right now. But yes, that's the intended use case of IntelliSketch.

EM **Emily Malin** 55:00
Okay, could a user access the graphics via the use of an access card, a Red 5 module 1 door, which would be local on the Red 5 Plus?

AB **Andy Beaveridge** 55:10
Well, yeah, at that point, you're just creating, um, you're doing an IO extension, but from a...
From like a...
IO point of view, that IO is now local to the controller. So basically that IO is adopting the address of the controller. So basically it's the local address of the IO or, you know, ABs or BBs or whatever.

EM **Emily Malin** 55:33
Okay, a few more from the real time chat here real quick. Will the graphics be accessible via Bluetooth slash proviso or only by Ethernet connected to the device?

AB **Andy Beaveridge** 55:43
OK, so.
Oh, I can't say it too much.
I'm going to say no to Bluetooth. It won't, we won't support it over Bluetooth. It's too much throughput for Bluetooth.
But there will be a method later. We're working on something right now that will allow that to happen.

EM **Emily Malin** 56:09

Okay. I think...

AB **Andy Beaveridge** 56:12

I know I'm being vague, I don't mean to be vague, but short answer, no, not over Bluetooth. But I'm just going to leave that hanging.

EM **Emily Malin** 56:14

That's OK.

Oh, a cliffhanger. How exciting. Okay, cool. I this, I don't know if this was an accidental question, but Jeff, you said, can you click the got it button on copilot? Was that a cheeky comment? Was that a real comment? Was that an AI accidental text comment? I don't know.

AB **Andy Beaveridge** 56:24

Yeah.

EM **Emily Malin** 56:41

Does that mean anything to either one of you?

AB **Andy Beaveridge** 56:43

No.

EM **Emily Malin** 56:44

Okay, all right. Well, I think that is all the questions were real, but it is resolved. Okay, all right, cool, Jeff. Good to go. Good to go, buddy. All right, thanks.

AB **Andy Beaveridge** 56:52

Okay.

You know what? I can give you a thumbs up for that one. Okay. I like problems getting resolved.

EM **Emily Malin** 56:57

That's good.

Yes. And then we did find out the HMI brand is XOR. Alex Sheen, with his love of a quip, came in and saved us all with a link in the chat there. And then Andy gave the exact same link. So we now have two. Guys, we have 4 minutes. Is there anything else that anybody has?

AB **Andy Beaveridge** 57:10
Yeah, bailing us out.

EM **Emily Malin** 57:22
that we need to go through. Is there any other questions, comments, concerns?
Should I let you guys unmute yourselves?
Just to say hi, because we have 4 minutes.

AB **Andy Beaveridge** 57:36
I just want you guys to remember too that the cream always rises to the top.

EM **Emily Malin** 57:41
Oh, oh, I don't, that was good. I let you guys unmute yourselves. Oh, here we go.
One more. Have the card swipe success. Oh, I'm sorry.

AB **Andy Beaveridge** 57:53
Oh, have the card success? Okay, so trigger a value that enables the visibility, but that isn't hard to have. I'm not sure, John, about the answer to that. That would require some testing. So I hate to say it, I'm not exactly sure.
The answer to that question.

EM **Emily Malin** 58:15
Okay, we can take that. Oh, it's not a question. It's a possible solution to the access one door module. Ah, okay, okay, that makes sense. That makes sense. Way to go, John. I think you guys are unmuted now since we have 3 minutes. Does anybody have anything else? They just, you know, we can use it.

AB **Andy Beaveridge** 58:19
Yeah, yeah, yeah.

Yeah.

Are you not entertaining?

EM **Emily Malin** 58:35

Yes, all of this PowerPoint presentation as well as the transcript and everything else will go out probably within right about a week. You get it to your emails and you can download everything. One more that says, does Ethernet have to be enabled in the controller in order to view the embedded graphics?

AB **Andy Beaveridge** 58:53

Not Ethernet, but you have to have HTTPS enabled in the controller to do that. And that would be, hold on, let me look at my Eweb. I can never remember the NP object numbers. That would be.

If you look into your controller, that's NP8. Ethernet one HTTPS has to be enabled for the web server to be enabled.

EM **Emily Malin** 59:18

Okay, we got one more straggler. Will there ever be a way to access Red 5 field devices directly if they are not using an EZNS stat?

AB **Andy Beaveridge** 59:28

That, no, because the Red 5 field does not have an internal web server in the controller. So you would actually have to map the points to another controller to do that. Or when we support remote data points, you would have to do something like that as well.

EM **Emily Malin** 59:46

Vincent can't wait for IntelliWeb to do the graphic synchronization automatically for each controller, just so you know.

AB **Andy Beaveridge** 59:52

You and me both, Vincent, you and me both.

EM **Emily Malin** 59:55

Everybody.

Okay, folks, is there anything else? We have one minute. Does anybody need any, you know, any therapy time? What do we got? You're, I'm surprised that nobody unmuted themselves. They're allowed. They're allowed to unmute themselves.

KH **Ken Hart** 1:00:01

Thank you for all your time

AB **Andy Beaveridge** 1:00:07

They are, yeah, I know, they're just, they're afraid, they're afraid 'cause there's too many people. Yeah, oh, Manos said, how's it going? It's going good, Manos, hope you're doing good too, dude. Hi.

EM **Emily Malin** 1:00:12

They're afraid.

ZS **Zach Stevens** 1:00:12

Don't encourage them.

EM **Emily Malin** 1:00:14

Nobody even has their camera on. Yeah.

There we go, alright. OK, guys, I...

VR **Vincent Ratté-Sylvestre** 1:00:22

Thanks for the presentation, guys.

AB **Andy Beaveridge** 1:00:23

No.

Yeah.

EM **Emily Malin** 1:00:24

Nice, there we go. We get some, we get some thank yous now. OK, everybody, we're gonna go ahead and...

AB **Andy Beaveridge** 1:00:29

Rob, Luke, you just can, oh, Rob, Luke is harassing me.

EM **Emily Malin** 1:00:34

We're going to go ahead and finish it all up. But yes, all of this will be bundled up and taken to you guys within the next week. Please do join us for the Loy Tech presentation that we will be doing on September 10th. And then the following one will be all about building Canvas on the 24th. So be on the lookout for those. The Loy Tech one's going to be super interesting just because it is a brand new thing for all of us. So

AB **Andy Beaveridge** 1:00:34

Perrin.
Yeah.

EM **Emily Malin** 1:00:57

Please do join for that one. It's going to be awesome. What else?

ZS **Zach Stevens** 1:01:01

Okay.

AB **Andy Beaveridge** 1:01:02

Alright, ohh my goodness.

EM **Emily Malin** 1:01:03

All good.

ZS **Zach Stevens** 1:01:04

How did I not know you could do GIFs and comments? I gotta use this more.

AB **Andy Beaveridge** 1:01:07

Yeah.
Yeah, we know. OK, thank you guys so much for everybody for the cream rises.

EM **Emily Malin** 1:01:09

Bunch of nerds.

SP Sam Pradhan 1:01:14

Thanks all..

AB Andy Beaveridge 1:01:16

Ohh, boy!

EM Emily Malin 1:01:16

Sarah, for the Canvas one, not yet. We will open up the registration page for that one during the next presentation, or maybe about a month before. You should see it in your e-mail. But yes, I will. I will send that.

AB Andy Beaveridge 1:01:28

Okay, I gotta go do some work, guys, so have a good day, everybody.

EM Emily Malin 1:01:29

Lovely.

Yeah. Cool. Thanks everyone. Really appreciate it. Bye all.

PL Pascal Lambert 1:01:33

Bye.

AB Andy Beaveridge 1:01:34

Take off. Nice, guys.

CM Christopher Mcleod 1:01:34

I.

JT Jeremy Truett 1:01:35

Thanks, guys.

PR Phillip Ramsey 1:01:35

Thank you. Bye.

● **Emily Malin** stopped transcription