Are Niagara systems expandable? (the truth you won't hear from the salesman)

Article by Greg Bergel

Everyone selling Niagara systems will say 'yes' when asked if they are expandable without hesitation, and I do agree, yes they are. However, as always there is a 'but', otherwise I wouldn't be writing about it right.

The systems based on Niagara are expandable, in fact this was one of the priorities when Niagara was first developed. When I talk about expandability of the systems, not just Niagara but in general, two things come to my mind.

Firstly, can I start small?, e.g. upgrade one plant room, one AHU, one floor, and extend my upgrade in time, which I may want to do for number of reasons - budget, specific building constraints, other projects, etc.

Secondly, what are the limits of the system I'm installing - will I be able to one day, should I find a reason, for example integrate my BMS with lifts, access control, property management system or say with my car parking number plate recognition system which I can teach to send the info to the café that I'm arriving, and will be picking up my favourite coffee in 5 minutes.

Yes, you can do all of the above with Niagara, so what is my Niagara salesman not telling me?

Life of Niagara during project

When you start a project, be it a refurbishment you want to complete in 2 years and divide it into a few smaller projects or a new building, which will take 3 years to complete, keep in mind that when you start your project, you and the rest of the world will be using say Niagara 4.10, by the time you finish the project, let's say it will take 3 years, the world will probably be around Niagara 4.14. How do I know this? It's not a secret really. Niagara 4 came out in 2015, in 2021 we're looking at Niagara 4.10, it's not hard to see that you can easily expect at least one new N4 version per year and often two.

Why is this important? Obviously the new N4 versions come with extra features, cyber security upgrades and so on, and you want to be using the latest development and not be left behind the rest of the world. You can also communicate between different versions of N4, it's not a problem. However, I think it's important to take into account right at the start of the project and decide what I'm going to end up with after the upgrade, and how to manage that. Therefore the following should be asked:

- if I'm doing a project on a contract, what are going to be my client's expectations at the end of the project?
- will I need to upgrade all JACEs on site to the latest version?
- how am I going to manage the upgrade, how much time will it take and how much money will it cost me?

I should have answers to these questions at the start and unfortunately that is not often the case during projects, it becomes a grey area and one of the points of argument at the end - who is responsible and who's going to pay for it.

Development of custom stuff

Niagara is a framework. It has been designed that way to give you an absolute freedom to do whatever you want with it and connect it to anything. If there is no standard driver for something, you can either buy a driver from somewhere, write it yourself or pay someone to develop it for you. However, with any custom development comes a price, and I'm not talking just about a price of development. As soon as you start adding custom modules to Niagara it's becoming 'custom', it's not a fully open system any more. You are often making it dependable on that someone that wrote the module for you. If you change your mind and want to use

a different system integrator it's not going to be easy for him. He will unlikely have the source code for that module or documentation, he will often struggle to modify it if required.

Ok, so I've decided to follow this path, I need a special module to communicate with my lifts, what should I take into account? I would be asking the following, and shouldn't even mention the obvious, like the person working on a module is an experienced and fully trained developer, registered Tridium partner with proven history:

- do I own a source code and will I receive it?

- will full documentation be provided?

- will the module be signed by the CA ? (I will need an extra article to talk about this item)

- how will my module be affected with the new versions of N4?

- what if we want to upgrade to Niagara 5 in the future? Will someone be able to convert this module? How much will it cost me?

I'm not saying that adding custom modules to Niagara is a bad thing, and sometimes you don't have a choice, all I'm saying is take the above into account if you want to do it.