

8760Inc. utilizes cloud computing technologies to help customers realize strong ROI and improve overall efficiency

Interview with Jason Alvarez, CTO, 8760Inc.

Interview conducted by Ron Bernstein, Chief Ambassador, LonMark International

Jason Alvarez began his career in the controls industry in 1995 working for a large manufacturing company that offered a variety of proprietary and open solutions. After working his way up to construction manager, he left in 2003 to start his own building automation company, 8760Inc., where he could implement projects based solely on an open philosophy. Headquartered in New York City, 8760Inc., provides clients with round the clock energy monitoring services in order to reduce operational costs and gain the key feedback needed to make actionable decisions. To service their customers better, 8760Inc. is expanding to California, Florida, Texas and Illinois.

RB: Can you explain a bit about 8760Inc. and the types of customers you service?

JA: We have a very broad customer base including a large financial institution with a global presence. We currently manage, control and monitor all their retail locations within the Northeast region, and are now expanding nationally with them and several other customers in the retail, financial and service industry as well.

RB: You mentioned you're familiar with LonWorks. Is that your primary solution, or one of many solutions?

JA: 8760Inc. is protocol agnostic. We predominantly work with LonWorks as this makes up about 80 percent of our installations, but there are occasions where we apply other protocols including BACnet. Our engineering group here is well versed with many of the larger companies' products and technologies in addition to LonWorks and BACnet. We have a very strong core of engineering people here which allows us the opportunity to go after and integrate a lot of these facilities all into one holistic platform.

RB: You mentioned you have customers that are nationwide and in some cases outside America? How do you work with those customers from a logistics standpoint being based in New York? Do you have contractors and sub-contractors, or are you doing all that in house?

JA: Our management team is based out of the New York metro area. Two months ago we opened up our California office, so we're bi-coastal and we can handle a lot more with our presence in California. We have a traveling management team and we hire local installers who we've vetted having seen what and how they install systems. Providing quality installation for customers is always key, so 8760Inc. goes through a rigorous process of finding the right installers in every geographical area we enter.

RB: It sounds like you're growing as a business and looking at new opportunities. That's a great thing to see in this economy.

JA: It's definitely an expanding market. As customers become more knowledgeable about the products and services provided by an open protocol and open platform, they become more receptive to incorporating all their control elements into a single platform, whether it is a BMS, lighting controls, work-order management software. Customers understand that as these elements are unified on a single platform, they can cross utilize the information gleaned from these systems to make intelligent decisions that ultimately save them time and money.

RB: With respect to the current integration market where do you see the industry going over the next five years in regards to some of the hot topics such as Smart Grid, Demand Response, energy efficiency and cloud computing?

JA: The open protocol is what is going to enable us to tie these variables together by utilizing one standard platform and being able to aggregate that data into the cloud. It's a very loose term, cloud computing, and I think Google and Microsoft are really helping push the concept along. We don't have to do the heavy lifting anymore. The technology has become so mainstream that by integrating all the data into a cloud database, we are able to utilize that information across multiple platforms.

When it comes to balancing between the grid, DR, performance optimization of buildings and so forth, they're all pulling from the same source of information. But in this day and age, everyone is putting data in the cloud but not really cross utilizing it. They're storing it, but what are they really doing with it? What quality are they pulling out of it?

RB: What do you see as the next generation of cloud-enabled applications? What would be helpful to you and your customers?

JA: What we're providing to our customers is exactly that: determining what applications we can apply to a specific customer that will help utilize the data he/she is collecting and what services can we offer as a SaaS. We provide these services through a cloud environment where the client can not only access the information, but it's presented in a usable and understandable format. It's not just a collection of engineering terms, it's custom-tailoring the information we're pulling out of the cloud and giving it to the customer in a format where it's optimized for various roles from the CFO level to the building engineer level.

RB: What about the negative side of cloud-based applications? What concerns do you see when organizations start to investigate their options?

JA: The biggest concern has never changed when it comes to computing, the web or the Internet: security and exposing information. You are opening up an external port into your customer's building and that is a very risky situation, especially when you're dealing with financial institutions. Another concern is data storage--where is the data going and who is going to see it? And the biggest question: Who owns it? We are storing it for the client and we're providing a web-based software package from which they can extract the information, but at the end of the day, who owns that information? Customers question whether their data still belongs to them or whether the service provider is going to hold them hostage to it? There are a lot of insecurity issues when it comes to customers and their storage.

RB: When you talk about security with the customer, are you working with the IT department or perhaps a higher level? Who on the client side is establishing the standards as to what you can and can't do?

JA: Generally, when working with the infrastructure of any organization, you enter through the IT department and the CTO of their information lines that we are in contact with. For example, it took us over a year and a half to get approval to sit within the customer's intranet and a VPN connection between their firewall and our servers that are being posted within a data center. All the issues I mentioned earlier were brought up: Where are you storing this data? How are you entering into it? What ports are to be open? Are there secure sockets between the two servers?

RB: Did that lead to a corporate standard that established the rules and best practices?

JA: This client produced a very technical document internally, and it detailed the rules and regulations as to how they were able to segment just the BMS portion on the intranet that they gave us access to in regards to the security levels and the ports that were available. This document covered practices from day one to the final sign

off. We learned from that experience and produced our own document that precisely outlines the processes we put into place. This document shows what our customers demand from us, how we address their security concerns, and what information we provide as a standard going forward. This document for us starts the conversation going down that same path again with another customer, getting on their intranet and accessing their firewall.

RB: It seems that one of the big keys in the industry is getting the standards. Often IT and building automation professionals don't always understand each other's languages and environments, and having that cross over is very important.

JA: It's the next phase. We used to joke that BMS contractors, building automation contractors, and systems integrators need to be versed in a lot of different languages in order to speak to the mechanical engineers and the IT departments, but the industry is changing. IT is obviously the dominant language and your in-house staff needs to be comfortable with IT in order to handle those directives of IT for these customers.

RB: How did you bring your team up to speed on the IT issues? Did you hire or did you educate?

JA: It was an educational process. We had some employees with strong engineering and IT backgrounds, but it was walking them through the process with the customer that really took them to next level. There's nothing like real education in the field. A book can tell you one thing, but a book is not going to tell you what the customer demands. Addressing those needs and concerns are more important to us than doing what the textbook says.

RB: Sounds like you've taken a step more in towards the IT world than the IT department is taking a step in the building automation world.

JA: Yes, from the perspective of the IT department, the BAS is just another box that's sitting on the network, and they have to make sure that box isn't some type of hole in their network that allow people in for hacking, etc.

RB: That's a differentiator in the marketplace for what you're doing. I would like to come back to data mining and the cloud...what do you see as the main benefits for building owners and also for you as an integration company?

JA: At 8760Inc., we adopted the concept of cloud computing relatively early-around 2005-because we saw the benefits. As a small- to medium-size corporation, we don't need to have network engineers on staff all the time. So we chose to move all our servers and software packages into a cloud computing situation and now we're all able to access all our applications--Excel, Word, Outlook, etc. All our data resides on a secure server farm with the comforts of the backup coming from the server farm itself. So they're performing the maintenance, they're performing the system checks and data storage for us is—if we need to expand from one to two terabytes—it's a simple call and we have more storage.

Once we adopted cloud computing in house and vetted the process, we took the next step and determined this is what we need to provide for our customers: a secure location for their data, an accessible way for them to access to that data so all of our apps and software resides in a server farm. These are not dedicated servers, per se; it's one massive server farm for us which we have allocated a certain amount of space for our customers. As customer demands rise, we're not taking the route of just throwing another piece of hardware into the mix, which typically requires reconfiguration. It's a simple request that can be easily appeased with a phone call.

The other side is the day-to-day operations of a BMS system. What we provide is a path for the data to be brought back into our servers and allowing our applications to optimize, to manage, and report back to that customer any

anomalies or deficiencies within the systems. We call it a monitoring-based commissioning application; it brings all the trended information into our servers, our software turns through it and automatically issues work orders pertaining to the deficiencies we see within that facility. The key benefit to us is that this data management is pulled from one source. We are able to provide that cost effectively and across multiple facilities. For the customer this becomes his/her common standard platform where all the information is seen in the same way for every site they have.

RB: So this is a hybrid system that seems to take the best features of each side of the coin. It's cloud-based computing environment that collects and interprets day-to-day information it receives from a local server?

JA: When you're dealing with 100,000 sq. ft. and up, just the day-to-day operations generally relies on a server. We have a customer with more than 400 retail locations nationwide and each location reports back to our services in the cloud. As they are each small sites, they don't have the need for servers and data storage. Instead that usage data is brought into our servers and hosted up as a web service so the customer can take control of each site.

There are multiple facets to the information we provide to these clients. There's different information required by every department—these are customers within customers—and you can't just have a simple 8760Inc. box that generates one mass report. In simple terms, somebody needs a circle while someone needs a triangle; we have to accommodate these requests in a cost-effective way while still giving them the same visualization, integration and resources that we have established across every one of their applications.

RB: Let's discuss the cost differential for doing this type of very flexible environment. It sounds like you're able to cost out a system based on the size, square footage and application. Can you speak to the benefits of having that flexibility when it comes to cost?

JA: It's almost an economy of scale. Flexibility comes with the services that are provided by cloud computing. I know everyone says, 'It's another monthly fee', but what we see it as is a value added service that we're offering. It's not just storing information in the cloud, it's analyzing it and presenting our customers the option of viewing it in a format that's best for their need or role. We are giving something back to the customer that offers more value than a typical BMS that just exists on the network performing its pre-programmed functions.

RB: Do you see other companies like 8760Inc. embracing this concept?

JA: What differentiates us from our competitors is that 8760Inc. is complying. We are trying to give the customer the options required to move into a sustainable world. It's not walking into the customer's office and providing a new BMS and saying with this system you will save X amount of dollars, walking out and saying good luck. 8760Inc.'s model is to assist our customers by putting them on a sustainable path of making sure that building stays on that path. We tell our customers that we are putting the needle on two and we're going to keep it there. If it goes to 2.1, it's our responsibility to tell you it's off track today, not in a month or in an annual report. I think a lot of other companies out there are providing a piece of a puzzle; what we're trying to do is give the customer the whole picture. We want to engage with that customer and keep them on that path.

RB: So that sounds like the flexibility and various tool sets provide an advantage to you because you're able to give them a variety of solutions that meet their need.

JA: Correct. Developers are coming out with new applications, new hardware and new ways of thinking in how we're applying technology. I mentioned 8760Inc. is protocol agnostic, and we take that to the next level. For example, there's an application that we're using today to optimize a chiller plant; tomorrow there might be a

better application out there. Our customer just wants to get the optimization. He's there to get savings out of that chiller plant, and it's up to us to provide that service for him. By moving everything into an open platform, we're replacing these applications as better ones become available. This should not be a painful process; it should require removing ripping the computer out trying to make something work. It's applying technology in a way that we're always providing the right service for the customer. I think that's something other companies aren't doing...they're always pushing what they have. We're not about what we have. It's about the best in class for what we can provide you.

RB: That goes back to the model that LonMark has been talking about since the inception: It's best to breed products that evolve over time so it meets the customer's needs instead of only building products that the vendor community will support. Regarding the open system model and the open, independent concept, where do you see standards fitting in and how does it help your business model?

Jason: Our mantra here is open. We are 100% open from top to bottom. One thing we tell our customers and one of the major reasons why we became a national vendor for a large customer is at the end of the day we are installing a 100% open system from the controller that goes into a local retail location to the controllers installed into the corporate office. If we're not performing for you, and we're not doing our job for you, then you can fire us. Tomorrow you can have another integrator who is well versed in LonWorks take hold of the reins and run the horse down the rest of the field. Customers sometimes look at us like we are crazy, but you have to put some skin in the game in this industry these days and we've put our pride behind our service and the services we provide for our customers.

RB: So that sounds like it's been a great benefit working with LonMark...have the standards evolved, and have products come out that have helped you since you started the business ten years ago?

JA: Yes. When I was a lead integrator for the controls manufacturer early in my career, we started using LonWorks and that's when I started to really understand the open concept. I continued in the open LonWorks direction when I started my own company with the main reasons being the availability of different products from a variety of companies who were developing products that meet customer needs. From power meters to relays to controllers to really specific devices that are LonWorks-based, these products allow us to do what we do every day.

RB: Regarding education, what do you think the role of education is in the BAS marketplace, and where does it have to come from? For example, if a young start-up company wants to stay ahead of the emerging technologies, where do you see them getting this information?

JA: I'm a little torn on this. A lot of my training came from being in the field. There's a lot of training courses, LonMark courses you can take that will really get you in there, but what we've found is we like to really give them the field education of understanding how systems work because a lot of people---and we hire right out of school here---come in and see something on a piece of paper and that's exactly what they expect to find in the field. The education comes from the people who have been around long enough to understand how to correctly bring that system up, or tie that system in, or program that point.

RB: Where do you see people getting this education? Is it from schools, in the field, or maybe from organizations like LonMark, ASHRAE or BOMA? Do we need to be looking at training the next generation of facility managers in software applications, demand response, cloud computing?

JA: Today, the general knowledge is there, and trying to explain concepts such as cloud computing is a lot easier. Even my son understands that Google has a drive where he can store data; he understands apps on the iPhone and

the concepts behind mass storage and SaaS applications. It's becoming a more educated world, it's becoming more mainstream. Getting *that* level of education in the beginning is more important than getting the specifics from like BOMA and LonMark. The heavy lifting of general education is getting done by the big boys...we don't have to explain what cloud computing is and what open protocol is. It used to take us seven to nine months to explain why LON is open to some of our customers. Now, understanding open source and applying that to LON, we have examples they can draw from.

RB: So the market is evolving into a more flexible, open, and more IT-centric environment?

JA: They're starting to merge. Building automation was once just this thing that had to be in your building, and now it's becoming a useful and productive tool. You can buy a smart stat for your house now, it goes on your wall, it's internet based, you hit an IP address and see your temperature in your house from your iPhone. Building automation is becoming commonplace and more of a mainstream concept.

RB: Smart phone environments are driving the development of new sensors and actuators and other innovative applications. You can control your TV from your smart device; you can control your home thermostat locally and remotely. I've even seen apps that can control pool pumps and hot tubs, so it seems that more control options are being integrated into these devices. I would imagine that's going to affect the marketplace.

JA: BMS was once thought of almost as a simple commodity, something that just came along with the package. If you're constructing a large building, you *had* to put in a BMS system and it was there just to perform its pre-programmed functions. But now we can apply it to monitoring-based commissioning, work order management, utilizing your staff effectively, and how the company reacts to energy curves. We're into day-ahead pricing for electricity and really understanding how you should be controlling your building tomorrow, not today. That's all done through your BMS system. Where it was once just a computer, it's now becoming a real tool and a real return on investment for the customer. They see value in it now. They're not just spending the money to put it in; they're getting money back from it. I think that what's driving this market faster and faster is the municipalities with the rebates and the technologies out there that allow you to cross communicate and get quality information out of multiple applications that are running. It's the social networking of data.

RB: It also sounds like customers are becoming more knowledgeable, putting more focus into this because they demand ROI so they have to know what the investment is about and make intelligent decisions.

JA: That's correct. You're seeing sustainability as a line item now. We're there for the long term and keep it sustainable.

RB: What do you see as the prognosis for the building-IT convergence marketplace? Where do you see us in five years from now? What types of customers, new technologies, where do you see that going?

JA: In the next couple of years, I see the industry moving more into a cloud computing/SaaS atmosphere where we are able to give information back to the customer. Cross utilization of data is key in our world, and that's where everything is headed. You're going to see a completely hosted solution at some point, which isn't necessarily a bad thing. We're seeing a very big push for LON in the specifications that we haven't seen in a long time, and customers are demanding open solutions. As customers become more and more educated on their options, we're going to see a community of software applications that can be applied to any sort of building, from a local restaurant, office complex, or national chain.

RB: Final question for our readers: Can you explain where you got the name 8760Inc.?

JA: We provide the overall monitoring services to manage energy consumption and continuous commissioning, and we are on the lookout for any anomalies that impact the system so we can take immediate action. We monitor our customers' facilities 24 hours a day, seven days a week, 365 days a year, which together equals 8760 hours.