**RedZone Podcast Episode #114: CIOs Must Be Able to Forsee Potential Trends to Guide and Assist Decision Making and Strategy – with Jason Kasch**

Bill: ... we'll just jump right in.

Jason: Okay.

Bill: Patrick is going to make sure we keep this close. Testing. Okay, looking good?

Jason: Testing, testing.

Bill: Yes. You too. Well, Jason, welcome back to the show. It's been 105 years. I've just seen.

Jason: Close to that.

Bill: Not quite 105 years, but 106, 110 shows or so I forget where we are right now, but you are number one.

Jason: Quite a few shows since then.

Bill: I had an entrepreneurial seizure a couple of years ago and decided to launch a podcast. But, I thought that it's got to be a way to capture knowledge. We have this unique perspective of humanity now, where we have the ability to capture what someone said, and look at back at 20 years. 20 years forward, looking back 20 years. You can look back and say, "What did I say?" I look at it as almost voices of wisdom, show many respects for CIOs and what they've done. You and I were talking beforehand about imparting knowledge. And that you've got this broad workforce working for you right now. But let's take that as one of the primary intentions that imparting knowledge. Tell listeners what your business looks like today. What does it look like? What industry are you in? How has it evolved for you?

Jason: We're in the architect, engineering, construction, vertical. We're not an architect, but we do civil engineering. We do, generally, rehabilitation of structures that are already existing, and they're ailing, for some reason. But we're an engineer, we are a product manufacturer, and then we also have a global workforce, to be able to actually do the work that's prescribed either by us, or by someone else. The company's been around a while about 35, 40 years. I've been here for a little over 19 now, which is quite some time. I like to say it's not my first rodeo, but I've been on this bull longer than any other, any other bull. I've been in the industry about 25, 26 years.

We have a very dynamic group of people that work for us from a size perspective. We're about $700 million. So we're under a billion. Very, very squarely in the mid-market, but very large from what we do. So from the specialty engineering and subcontracting, we're in the top 10 in engineering news record. We're fairly large in our very focused niche of what it is that we do.

Bill: What you do is very, very interesting. Just so people really appreciate some of the things you guys are doing. This will lead to some of the innovation that I know you guys are doing within the field. What would be like an example of a project, a normal project, regular project that might make up 80% of the portfolio and what would be an example of something cool fringe projects that you guys are doing throughout the year?

Jason: Constructional repairs. square in our bailiwick. We do a lot of parking garages, especially in cities. If you've ever driven through one, and if you haven't, you're going to notice now every time you go through it, they're all falling apart. They all have sprawling concrete, which is just concrete breaking off. We call that a sprawl. You can see the rebar behind it, it's corroded or it's failing or the columns are bent. That's very much in our bailiwick, it's repair of structures that are existing. Either have a design flaw, deterioration mechanisms, change in use, multifamily buildings, garages, chimneys, things like that. That's probably our 75%, of what we do.

Bill: Is it because of its exposed to weather, typically?

Jason: Either exposed to weather or there are, which would be a deterioration. It could have a design flaw, so it's not as strong as it was supposed to be okay. Or someone wants to change the use of it. Think about after 9/11 we had all of this heavy equipment for x rays that had to go into all of these airports. They never thought about that when they designed it. So the flow was set to carry a specific load and now you want to bring in this multi ton unit, multiples of those and put it in there and what's going to happen. That floor is going to start to buckle up and crash through it. How do you redistribute the load. Kind of like your house. If you wanted to move your kitchen around and you had to take a wall out of the kitchen. What does that mean?

Bill: That's true, right.

Jason: Before you do it, you really should understand what's going to happen. That's a change in use model.

Bill: Okay. Okay, that makes sense.

Jason: Some fringe things that we do that are better, pretty interesting. We repaired Frank Lloyd Wright's falling water building.

Bill: Oh, really?

Jason: It was pulling off the side of the cliff for anyone that's seen it, it's a pretty neat structure. It's a house basically, that's built on the side of a cliff.

Bill: In Pennsylvania.

Jason: Yes. In Pennsylvania or Virginia, I'm not sure which. It started to pull off the side of the building, and we basically yanked it back up against the side of a building. We have a bunch of proprietary repair techniques that we use, and that's well outside of my skill set. But the way I understand it is we basically core drilled through it, and then used an anchorage type system with cables and we pulled it back up against the building and used a kind of epoxy to help keep it in place. That's an interesting project, very interesting project that we worked on. We've been on Alcatraz more than once.

Bill: Really?

Jason: Repairing different things. You wouldn't see it because it's not a working prison. But it's owned by the Parks and Recs, it's a historic land site. We've been out there and we've been doing some work on that. These are a couple of marquee... fringe marquee style things that we do. We also build, repair and demolish chimneys in the power industry. Thousand foot high structures-

Bill: Like nuclear or something?

Jason: We are a nuclear facilities also. Mostly these are coal fired. You see those smoke billowing out of the top of them. Thousand foot high structures 100 feet in diameter. It's pretty interesting. I was at one that we built from the ground up and I wrote, catch a ride in this. They called it a man cage but it looks like a bird cage that one or two people can fit in. It takes five minutes or so. There's like one cave, when you're looking at this thing thinking, "This can't be." I rode in this cage up to the top of it, but to stand at the top of that thing and look over the Ohio Valley was amazing. I understand why people enjoy doing that for a living.

Bill: If it's deteriorating, you have a project to go basically just shore up the [inaudible] stacks, make the smokestacks solid again.

Jason: Yes, we can repair them. We also build those from scratch there too. We're one of only a few companies in the country that can do that. Pullman Powers, the company that we own, that does that. But yeah. We can repair it. We can build it from scratch. We also demolish them, because they are decommissioning a lot of the fossil fuel facilities. So those have to be safely decommissioned. We can do that too.

Bill: Do you see your business at all moving into some of the solar or wind as focus shifts from coal to some of the other energy variants.

Jason: Yes, absolutely, and platforms. If you think about wind driven, those are all on concrete, but not all of them. There is a lot of them that are on concrete platforms. We're not in the steel, we're not making the either the hierarchical turbine or the wind farm, but we make the platforms. So yes, so that's going to change our business and an interesting thing too. Talk about changing businesses. We talked about what's our bailiwick. I'm going to call that parking garages. The company would tell you, we do a whole lot, we do a lot of parking garages still. Think about the Uberization of business.

Bill: Right.

Jason: Let's just hypothetically say, a large portion of our business, whether it's 50 or 75%, your parent car parking garages, what happens with self-driving cars. If you can't see around the corner and fortunately, the owners of our company have this superpower of being able to see around the corner of certain things.

What happens when you have self-driving cars everywhere? Which doesn't seem like it will affect the construction industry at all. Because we have the same number of cars driving, they're just going to be autonomous or semi-autonomous. One of the great things about them is that they don't have to park. If you can get into this model where none of us own cars, but we time-share cars or we lease cars, or we hail a car that's not driven by an individual. Where's it going? It's not driving you. It's driving someone else. It's not parking.

Do we actually need parking structures, at some point? Do you tear them down or do they become something else?

Bill: Right.

Jason: How do we redirect our business so that when that happens, whether that's 5, 10 or 50-years down the road? How are we able to pivot into a world where that's one-half or more of our business? Then it goes away tomorrow. …the minute that self-driving cars become prevalent.

Bill: Well, you've seen many times the disruption curve that I put on the screen at my CIO Innovation Forum events.

Jason: Yes.

Bill: It's the quiet phase right now where people call it, ‘seeing around the curve’. But if you're involved in the community, it's actually here. It's just a matter of timing of when things happen before it becomes a disruptive event. Or even turning those garages into something - like a place for Uber to land its planes. You know they've just put filings into the FAA to start flying people from the airports, places you hail your Uber hover plane, and they're going to need parking garages.

Jason: Or your jetpack.

Bill: Or your jetpack. They're going to need a parking garage for that. Turn them into many little airports.

Jason: Or different, like in Dallas, where they've got these Carvana ones. You can buy a car from these places. It looks like the old Tonka toy you put it in, and you crank this crank, and it goes up and there's this elevator of cars, of glass walled cars. Maybe that's the future of parking. It becomes vertical instead of horizontal, who knows? But you got to be able to pivot. That's a real world example of it. We have to pivot in the technology space too.

Bill: I wonder if you guys could set up like an innovate ticket – a garage that maybe you own and not just repairing. Maybe buy one of the ones that you repaired and just take it off someone's hands and turn it into like a test bed. Where you say, "Hey, listen." You got all these Uber cars and stuff that are self-driving and Waymos and stuff. Have a contract in the city - because they're in Pittsburgh and they're in like 10 cities right now. You need some place to park, you can use them at nighttime for repairs, or whatever. They’re going to park at our parking lot.

Jason: I read the studies, those are the studies where in parts of California has, that you have to have a license now to do self-driving. What they found, what they thought would happen, was when self-driving vehicles happened, that traffic jams would get better. That there would be traffic jams, there would be less cars on these congested streets. What they found was, they still charge for parking on street. Because people can have their vehicle drive for them, read a book, or get work done. Instead of paying $35 an hour to park on the street, they would just have their cars drive around. They're just driving around the city causing more and more and more congestion, because they didn't want to pay, because gas is cheaper than parking.

Bill: Yes. Some of them are electric.

Jason: It's very interesting. It's very interesting, the whole thing about data. Measuring something is, here's what you thought, it's the scientific method, ultimately. It’s - here's what we thought was going to happen. Now, let's test it. The test is a pilot program. Then what really happened and how do we react to what really happened - which wasn't anything like what we thought was going to happen. We thought we would have less traffic, and now we’ve got more traffic.

Bill: I know I just came up with a little bit of a seizure suggestion for your parking garages. But you actually have a pretty innovative program here. I know your CEO is always coming up with ideas; and I know you're always helping, assisting and doing your own thing. How does that work within Structural and what's an example of something that's popped out of your innovation group that you think is part of your company’s DNA and culture that is really cool?

Jason: Yes, our owner has this thing he calls an Invention Convention.

Bill: Invention Convention?

Jason: Invention Convention. It generally pops up when there's a very interesting job that comes up. One that we could solve one of many, many ways. Part of our fame is our ability to solve basically any construction problem. Interestingly, it doesn't have to be interesting, but being able to solve it, save money for the client, and ultimately make more money for us. If you can save the client money, and you can increase our profit because we're able to use some technique or material or something that has not been applied to that in the past, our CEO, Peter Emmons, uses these Invention Conventions to get people in the company who, let's say, it might look and smell like a waterproofing or a strengthening or an electric problem. How do I get all those people? Let's just explore what are all the possibilities on how we could repair this.

You know what you're deep in or what you're an expert in. The Peter superpower is being able to know a lot about a lot. He's able to take that problem and what everyone says and start it down a path. One really interesting repair technique that we have is inside of water pipes. If you think about the traditional mechanism for repairing a water pipe, Baltimore City is a perfect example. Every day we hear about some water main, whether it's waste, whether it’s pressurized supply water or wastewater that is either burst or collapsed in the City. So now the block gets shut down. A whole City block gets shuts down. We have to excavate - it depending on how bad it is - we have to excavate it, we have to cut out that section of pipe and we have to repair that section of the pipe, we have to put it all down and that could be out for days to weeks to months.

There's ways to repair it from the inside, depending on how bad the structure has been compromised. But we have a technique of, in a nutshell we call it ‘Slinky in a Pipe’. If you can imagine what a Slinky looks like? This piece of steel that's continuous, that's wrapped in a cylindrical nature, and epoxy it to the inside of this pipe. If you could take a toilet paper roll and put a Slinky inside of it, and epoxy the Slinky, to the toilet paper roll, it retains the size, you lose a little bit of the diameter, ultimately, but you've also increased the amount of pressure that you can put on it. Then the outside actually becomes sacrificial. None of it matters. You could destroy the entire outside of that because now the inside Slinky can take care of it. Now the way we do it, is we use straight-

Bill: It's almost like a band aid or do you have to do-

Jason: No, it's permanent.

Bill: Permanent. Okay.

Jason: It's permanent it’s not a band aid. Think about - you spread epoxy on the inside of this thing, whether it's by person or semi-autonomous or autonomous; and then we're working on things that scan that spectrum. Then you have this piece of steel, that looks like either the thickness of a piece of graphite in a pencil, or up to as big as the size of a pencil. We have this autonomous robot that's in there and it embeds it in the epoxy. Anywhere from, millimeters to inches apart depending on what you need. It embeds it in this epoxy. Then you come back and you put a coat on the outside of it so that the material is completely embedded in this piece of epoxy.

That’s one thing that came out of these Invention Convention, kind of thought-provoking processes. Because prior to that you would use – well, there's lots of different ways to do it; and again, I'm not an expert in that field, but I know how we do it now. Before that, we would use carbon fiber sheets. The same thing you make your golf club shafts out of, and we would buy it in sheets. Then you fly-paper it essentially. Just like putting wallpaper in your house in horizontal and vertical cross sections to have strength. That was a traditional means and methods and still is for things like... some people are still doing it with straight runs. We would prefer you use the strong-pipe ‘Slinky in the Pipe’ method, but going around corners is difficult for that process, so we'd still use some of those traditional techniques. But putting this flypaper style stuff inside is very typical to do it.

Let's talk about, how do we innovate and innovate in an environment that – well, its construction, it’s feels fairly benign. You may think with fairly tried and true methods, there's not a lot of innovation. It’s not true. There's tons of innovation going on in this field, including things like drones and AI.

Bill: It's interesting you're also doing some stuff with IoT as well for structural strength, no pun intended, but structural strength of concrete. Don't you embed a sensor of some sort? Or are you thinking about doing that?

Jason: We do. No, we actually do embed sensors. We embed sensors in the steel of concrete. There's a rebar mesh or a structure inside of concrete, generally for strength. Steel corrodes; and when it corrodes, it starts to.. it grows. That's what causes this flaking.

Bill: Oh, the flaking.

Jason: That's one method of causing the flaking. There's a lot of other methods, but that causes the flaking. If you could simply know, or predict, when or if that rebar has either started to corrode or you can predict when it will corrode, there's a lot of value in that for the owner of the structure.

Bill: Not the least of what the insurance companies would want to know that as well.

Jason: They would.

Bill: When’s my asset going to fall apart?

Jason: Oh yes, and these assets don't have one-week, one-month, or one-year lifespans. They have 50, 75, 100-year lifespans. But we have a method of basically electrifying through positive and negative anodes and cathodes to be able to read the electrical continuity between two points. If you create a grid system, with all of these, we can start to identify areas where continuity is changed. Up down, or whatever, but if it's changed, something's going on there. The electrical engineers here will tell you that they know what it means the up the down, I don't. I'm using it from a layman's IT perspective. I understand it in theory. Here's how it works.

Yes, in theory, you vary the continuity in it too. You could retard the corrosion process. So, another very interesting thing we're doing, is that.

Bill: What is the role of the CIO from 10 years ago, versus in the past versus 10 years moving forward? How have things changed for you? How do you perceive the industry right now and to the skill sets that you've had to date? Are they is useful as a skill sets moving forward? We you sunset some of those skill sets and develop new ones? I'm interested in what your thoughts are on that?

Jason: Yes, I think it depends on the size of the company. I think it's very applicable to size of company. If you think about small companies - and for small I'll say anything under 100-million dollars. That's what Gartner calls a small company. We'll call mid-market anything from a 100-million to a billion; and we'll call large companies anything from a billion and up; and finally we'll call very large companies 5-billion and plus.

Bill: Trying to get a good definition around small and mid-market.

Jason: It's tough.

Bill: Yes. Because everybody's got... but I like yours. Sub-hundred million, hundred to a billion and then larger than that.

Jason: Yes. I'm classifying that because the skill sets are similar. The skill set you need to be successful in those buckets. There is a different skill set that changes from 100 million to a billion as a big bucket. It changes. It changes at a quarter; it changes at a half; and it changes at three quarters. But it depends on the type of business as to where it changes, and the appetite for investment and how innovative the company is - it's flexible. But I'll generically say that. Sometimes people categorize size of business based on number of seats, or number of people. We have 3,000 people in the company, 1500 of them have computers, which number do I use? From an IT perspective, I have 1500 butts in seats that have computers. Does that make me small, medium or large? Don't know. We have anywhere from 2,500 to 3,500 employees, does that make us small, medium or large?

It depends. Are we buying an HR system that requires, you pay by the number of people in the system that you're tracking? Or is it Office 365? I didn't give them email address, so I don't need to count them. It all depends. I think on the small side, generally you're a jack of all trades. You're probably good at technology, communication… You can do those things fairly well, but you're probably technology heavy. You probably are very good at making the widgets do what you think the widgets should do. You may not interpret what the business needs, so you deliver a bunch of widgets to the organization that they may or may not use, and you've lost the middle piece, which is understanding how people are going to use it before you put it in place. In the small company, I'd say those are the skills you have and the skills that you need to continue to cultivate.

Once you start to get to the mid-market, I think you still need those skills. I think I'm going to probably say some things that's going to raise the hair on people's necks. I don't think that the Chief Information Officer should check-in or ever believe they can check-in their highly technical skills. I'm going to use, look at the CFO. The CFO is probably still a CPA, probably still carries a CPA, probably understands as much about the operations of what's on the balance sheet, and what's on the income statement and how tax works than anybody else in that company. They're never asked to check-in their highly technical skills. I'm going to call those very technical skills. They're definitely not soft skills. We're talking about this, what's the CIO of the future. The CIOs of the future still needs to understand technology, period.

There's a difference leading technical people or understanding how to apply technology that lives in the market. But the small to mid-market to under $5 billion, you still need to be a highly technical individual. It doesn't mean you need to have roll-your-sleeves-up knowledge on how to configure Active Directory. But it means you need to understand at a fundamental level, how is mail related to cyber security? So what tools do I need to combat cyber security that's delivered through a mail breach? Or delivered through applications that are SAS based? I think you still need that technical ability.

Now the skills you need to pile on are, ‘How do I take that and communicate it to people who don't want to hear acronyms’? They don't want to hear AD. They don't know what that means, so you should never use it.

But they absolutely understand that it's where the IDs and passwords of all of our people live. They get that, they get that real quick. How I'm going to secure it, protect it, and you cultivate it. Can I use that internally for something?

I think you pile that on, and you start to pile on mentorship, because at under 100 million, you might only have one or two people. You're all working together. You're all kind of jack of all trades. This person is probably good at this, so they gravitate to that; that person is good at this, so they gravitate to it. When you start to get a little bigger and you start to fragment your organization a little bit. You need to start to build - not just experts in certain things, but strata too, because you’ve got to give people the ability to grow their skills, whatever those are.

Bill: So mentorship and communication as you move into the mid-market-

Jason: Correct.

Bill: ... are layered on top. A neurosurgeon just doesn't just mail it in and get, "Hey, I got my neurosurgeon MD long time ago, and I'm good. I'm good for the rest of my life."

Jason: I’m good. Well, you could if you're no longer going to practice neurosurgery. Here's where either the hair goes up on the back of your neck, or it doesn't. I'm not suggesting that you have to be a roll-your-sleeves-up, practicing neurosurgeon for the rest of your life to manage neurosurgery. I'm saying, at some point you had to have had it. You were probably very, very technically deep if you're a neurosurgeon. You were able to do it. Whether you were first or last in your class, you were able to do it. Roll the clock forward 10, 15, 20 years, maybe now you're managing a neurosurgery department for either a university or a hospital, but you're probably not rolling your sleeves up.

You're also probably not as mentally agile. I think we'll talk about these later about how that changes as we age. Our brain's not as agile anymore, whether we think it still is or not, but we have experience. The young person doesn't have experience, but they have a ton of agility. They're not bound by the rules and the constraints of whatever the field is. Think of the matrix. The rules and constraints of the physics.

Bill: These are layering. Things just don't get invented. There were 32, I think it's more than 32 technologies, many of the military that were contributed to the iPhone success. It was a layering. I think Steven Johnson wrote a book on this. We're inheriting the learning as we go and building up these capabilities. Now, the iPhone is born.

It's the same thing with I think what you're saying is, if you're going to be really technical, we use the neurosurgeon or the CFO example. They're learning a set of skills and then they're just layering effect so that when they move into higher levels skills or more the soft leadership skills, they don't lose that that technical Foundation, in fact, that helps guide. In fact, I was at a conference SU singularity conference last week, and I went to a session on basically how the old farts lead in a world that's going so fast. It wasn't old farts.

Jason: Well, that's you not me.

Bill: Was it? I thought, "I'm going to show up to this and see what it's all about." But it was really good. He talked about the elder, the modern elder in the modern wisdom. This guy was a chip, he wrote a book I forget the name of it. I'll put it in the show notes. But he was brought in by Airbnb when they're on their hyper growth. It was a bunch of young kids that were, he literally was the oldest guy in the company at 50. Everybody else was like sub 30. He said, "Why does the CEO keep hiring me?" He finally came in as the COO or something like that. But the CEO just didn't feel grounded on the guidance on the kind of the shift was moving so fast. He had a bunch of... That's why I think the role of the modern, older technologists, where does that person play?

Jason: Yes, seen it, done it. Think about, and I love analogies you know that. I love car analogies. I'll take brakes. Brakes have come a long way from where they started.. When I was a teenager, I was replacing drum brakes on a car. Then drum brakes became calipers, and now they've become these electronic ones for things like a Prius. But though I might not have ever replaced brakes on a Prius, I know in theory, our break works about the distribution of weight and the dissipation of heat. I still know how that is applicable. How to old farts lead in the modern world? What you do is you can apply the skills that you've learned., but not get in the way of the youngsters, the youth, because again, they're not burdened by, "Why do I care how a drum break worked? We don't." Because you're never going to encounter one.

But what we do know is there were points of failure with that. If you were never around for it, you don't understand how the point of failure happened. When you take technology and applying technology, it's like any new system you implement. Yes, there's ERPs, I've done a couple of those are financial packages. We've done a couple of those. But now you throw in while there's SAS based ones or cloud based ones that aren't even on premise, and how do you back it up? Those technologies, none of it changed in concept. But how you do it is very, very, very different. The youth doesn't have the value of all of the experience of why things broke, and why you did those things. It doesn't mean that a new implementation of it doesn't have one of those same faults.

The old fart brings that ability to know the history of it. But not necessarily the agility for the mental gymnastics required to hold all of in your brain as to how I'm going to do it. That's what you need those individuals for. If you're lucky enough... people will argue in the prime of your career, whether it's 35, 45, 55 but at some point, you start to lose a little bit of that agility, but you have an immense amount of history that you can apply.

Bill: I think this whole concept of, we're going to live to 120 years old.

Jason: I hope so.

Bill: Even if people don't believe it, our ability to extend life is getting better and better all the time. We're going to be making limbs and making external skeletal, your support mechanism. Maybe the cane of the future will be something a little different.

Jason: How are we going to keep the brain from degrading, though. Because you will still have degradation.

Bill: Our understanding of Brain Sciences is coming along, exponentially. We really do understand. But one of the interesting things I think that people listening is the concept in some of the innovation conferences is unlearning, being self-aware enough to know that as you get older, that the advantage a young kid has is they look at things without the baggage of the past mistakes. If you don't take a conscious decision, just say, "I'm going to actually learn... I don't actually have the safety net to not actually ask why? How can we do this?" You got to be able to, you have this whole thing on questions here, which I'll ask you about in a second. Because you're old, older doesn't give you the leeway now to pooh, pooh things. You have to ask really good questions. That's a big thing. It's called unlearning.

Innovation in how can we unlearn, for the older folks, in the areas that we need to unlearn so we can let some of the younger folks like the millennials and such come in. you and I talked about this earlier a little bit. What do you think of the youngsters? How is your role as a leader changed with the youngsters as you look around?

Jason: There's a lot of good things. The millennials are taking a beating right now. About people-

Bill: Some of it's deserved, but some of its but some of its really interesting.

Jason: The millennials want to work when they want to work. They want to be... they get gratification or a lot of them get gratification out from what they do, and their interactions with other people. The things I'm learning from them are anytime, anywhere, access to anything.. It's at the speed of light. It's not just your work, it's your personal. There's this mix. Just because there's no butt in the seat doesn't mean there's not work being done. The thing that I've learned about millennials is, they work when the feeling hits, and being okay with that. Because if you're end goal focused and not focused on, a series of small steps, along the way. You're not focused on the individual activities, you're focused on the goals, and you give them the freedom to be able to work in teams, to work when they want to work.

So you have to supply technologies, how it's applicable to this. How do you supply technologies, so that they can do that? Right. You put them in teams, they're very, very good at working in teams, which is something the older generation... We talked about, we had TQM and we talked about all the things. We were trying to teach people these millennials grew up with it. They don't know anything different than working together on a project, data, information at their fingertips from Google. Now, whether it's right or wrong, that's a whole other... this whole concept of fake news.. But whether it's right or wrong, that's a whole piece.

Working with those individuals, giving them access to work when they want, how they want, giving them very interesting projects. Right. That's what keeps them around. Then how you marry those with individuals that have been in the workforce a long time? So I take SAS based computing, perfect example. They don't know anything. Millennials don't know anything other than real time, always up, always available. But how do you deal with it when it's not? How do you architect a solution that's mostly online? Or is fragmented online, or maybe offline completely for a while, but needs to have a synchronization process. The only way to understand how to apply that is to have lived through that world.

You got these old folks that didn't ever, we didn't know anything about online, everything was done offline. Then you got this group that knows almost everything its online. What's the middle? Unlike in our world, in the construction world it's a partially connected, because Internet's not ubiquitous.. There's a lot of places there is no internet access. You can't go off and build a solution that expects to have 100% ubiquitous online access, to then put it out in the field and realize, "Crap, I don't have any internet. Now how do I solve this problem?" Very elegant solution, but requires real time access to the internet all the time. Right? How would Redbox do it? If Redbox couldn't have a connectivity to the mothership 100% of the time? How would they handle it? How do they know what inventory is on site? What inventory is in the one that's two blocks over? When you turned in that whether you're delinquent on your account, so you can drive to the next block, and go get another one?

How do you deal with that in a world that's partially connected? You need history, you need the people who have been in that world.

Bill: Yes. It's been really fun actually taking on some of the new economy kids, but really, that kind of the 20 to 35 crowd because it's really, really interesting the ability... It's a blank slate in many respects. It's really open to what's being taught. That's, I find really, really refreshing, that perspective. I think it's all good. I know there's a lot of, as you mentioned, shifts that the older folks have to make for the younger folks coming. I'm not sure that's ever been any different.

Jason: Agreed.

Bill: I think that's been going on since the beginning of time. Maybe it's a bit more amplified now. But I really do think that it's been going on. I think just now, though, people and this gets me completely aggravated in the Innovation Group, when I got late 40 and 50 year old guys that are basically planning their retirement, and they don't say it. But they're basically planning their exit. I'm like, "Are you kidding me? You're planning your exit?" The country can't even support 65 year olds. Much less I said you need to plan you as a leader into your 85. Then how can you be juiced and pumped up to be doing this for forever? What's your role? If you're not as passionate about the technology, what are you passionate about in moving forward?

Jason: Yes, which piece of it? It has to one of those legs that you're passionate about. You have the years of experience that you can drive that into wherever it is that you want to go, or whatever it is you want to do next.

Bill: What's your superpower? What have you consistently been able, over 19 years? You've been heroes as long as RedZone been.

Jason: I knew you when you had brown hair.

Bill: I had brown hair? You remember that-

Jason: We got pictures.

Bill: We have pictures.

Jason: We got pictures.

Bill: Man, Bill's getting grayer.

Jason: It's on the internet.

Bill: It's on the internet. Yes.

Jason: Yes. Yes, it's on that MySpace thing.

Bill: What do you think of if you look back, if couldn't work anymore, and someone had to do a complete biography on you. What has been your superpower, do you think? Always you go to?

Jason: Yes, I think I can figure out how to make things work. Why that's applicable? I grew up in a small company, to a large, to a mid-market, to now, we're fairly large. I came from a much larger company than this. But I think my superpower is being able to see these different technologies, which are potentially point solutions, could not any technology works in it of itself completely across all aspects. Figuring out how to take two of these like a Chinese menu. I have two from column A, I have one from column B, three from column C, and I'm going to tie this piece to this piece over here. I'm going to tie that piece to this piece over here. I'm going to deliver to my company, a solution that works without fail.

While the industry figures out where the applicable pieces that can be sold are. SD-WAN a perfect example. We've been doing SD-WAN as a company for eight years, which is a pretty long time. But we were talking about SD-WAN, me and the engineering group here, about delivering SD-WAN, for 15 years.

We said, there's these circuits we can buy, because it's all about inter-connectivity for the business. Because we want this always on all the time. Because then I don't have to architect a really elegant solution that deals with when it's not. Why it's important, why are we talking about technology? We're talking about it because it enables the business to do something, which is, use it's IT assets for other things, besides watching logs, putting connectivity in place, making sure routers work.

Bill: Explain for folks that aren't familiar with SD-WAN. Many people hear the term, what does that mean to you? Why was that a magic bullet?

Jason: Yes, in a nutshell, it's taking cheap internet circuits, like which you would buy from Mom-and-Pop.

Bill: Like Comcast and stuff?

Jason: We actually buy them. We buy them from Comcast, we buy them from [inaudible]. It's buying those cheap circuits, as cheap as I can get them, bundle as many of them as I can together to provide for me multi path redundancy, fault tolerance, disaster recovery. In practice, if I could put three circuits, consumer class that get me 90% uptime each, I have zero probability of ever having two out at the same time.

Bill: You try to for pennies on the dollar?

Jason: For pennies on the dollar.

Bill: But what about your ingress, where are they dropping these... You're obviously not riding last mile, you're trying to find, not traditional last mile but sideways, you have multiple end points of entry. Right?

Jason: Exactly. Cheaper is better. We actually have circuits coming into three size this building, north, south and east, from three different companies.

Bill: But they're all then meshed together.

Jason: Here's in building. They come in from multiple providers. Then there's this magic black box that you plug all of them into. All three circuits get plugged into it, and it makes a determination which path is the best one to use right now, at this point and time. It does that every single time it has to communicate to the outside world. That means the most underutilized best available path will be taken every single time it has to do something and if one is bad, it just marks it as bad, it won't use that one. I got two other ones I could use, I could pick from.

Bill: Inbound or outbound or both?

Jason: Both.

Bill: Both.

Jason: Both inbound and outbound.

Bill: It's just with the black box that you're using?

Jason: We use a black box called Talari.

Bill: Talari.

Jason: T-A-L-A-R-I. It's owned by Oracle now. It's on its way out for anyone listening to this. Real interesting technology we're looking at right now. We're piloting as a company called Cato Networks.

Bill: Cato, how do you spell Cato?

Jason: C-A-T-O. There are very, very interesting up C-A-T-O. I'll call them SD-WAN version 2.0. In a nutshell, SD-WAN is about cheap, uptime, availability, multi path, disaster recovery, so that you can use those IT dollars to be spent on something else. Very good example, a 10 Meg MPLS circuit cost about $1,000. Right? Amp that up to, I need two them, I need three of them, it's easy, gets into the two to $10,000 range per month, per site. Three consumer grade circuits about $150.

Bill: It's unbelievable.

Jason: Yes. What we were talking about 15 years ago was, "Okay, how do I make that happen? Because there's not a black box company yet." But in theory, you should be able to take these cheap circuits. Right? Cisco had protocols to be able to do it. But it was all manual, you could do it manually. How could you do this?

Oh, by the way, we could throw cellular on top of that too. Now we can throw satellite on top of that, we can throw microwaves.

Bill: Some of your job sites that's how you help them.

Jason: Exactly. That's what we use. We use satellites and cellular. Same concept and they're actually a node now on our network. Now, SAS based delivery has negated some of the need for SD-WAN because we've moved the data out of our data centers into the cloud.

Bill: You need to mesh into the cloud?

Jason: What Cato Network has, Cato Network is pop into these SD-WAN or SAS based providers. They're at AWS, they're at Salesforce, they're an Azure. Now you've put AWS Azure and Salesforce. Basically, they're right on your network now. We've moved it out. We've moved out of layer. But when you talk about what's my superpower? It's constructing this saying, well, here's what we would like to do. Now, how do we go find someone that can do it. We pieced together parts of it, to get us to a place where at some point, I can buy it. We went from MPLS, this was 15 years ago. We went from frame relay-

Bill: Yes, I remember those days.

Jason: ... to a company called DSL.net, which provide consumer class network to businesses. We buy three or four of them. We use a company called WatchGuard networks to build a N+1 meshed, fully meshed network on top of that. Then we would plug a PCMCIA for those people that remember what those are, into a Cisco router, and put that on as another connection so that we would have cellular. We had just built a poor man's version of a mostly autonomous SD-WAN. Five, six, seven years roll on, we're still looking for this thing. We found to Talari.

Bill: Talari.

Jason: That says, now's the magic, we can get out of the business of duct tape and bale wire, which is really what it is. We can get out of that business and now we can deliver this thing that's got SLA's around it, and contracts, we can deliver that to the organization with less risk.

Bill: For a cloud world, Jason, you're evolved. For people listening, it's really important for them to understand in a cloud based world, how you provide this super high availability to the major platform providers Azure, Salesforce, AWS, maybe hosting facility [inaudible]. It doesn't matter. But really what you're conveying here is you're thinking about connectivity from much different levels and capability. How you can do it less expensively?

Jason: Which is that-

Bill: That's $1,000, every month, every month.

Jason: That's something the CFO very well understands. It gets back to one of the very first things you asked me. I if checked in my technical capabilities, when I took the CIO job. How would I ever be able to architect. Because my superpower is being able to take all of these things that aren't necessarily designed or it's not obvious that they all work together. And be able to architect that. Now, how do I communicate that to the business? How do I sell it? How do I get funding for it? How do I support it? How do I put them at a comfort level where they don't believe it's just bale wire and duct tape? Right?

Bill: Right.

Jason: Because you have to deliver it. That's just one example, I've a series of those that I could go back through my whole career and say, "It's this, it's this, it's this, it's this, it's this." You've been in those rooms with me, I'm able to articulate at a non-technical level.

Bill: We've been going back and forth with you. I mean, even yes, you're obviously, you show up for a fight when the vendors show up in the room and Jason walks in, you're showing up with a machete, handgun, shotguns, "I hear, I thought we were just getting in a fistfight." Jason is, "I'm coming here shooting for bear, I'm hunting for bear right now."

But in defense you've asked us to step in with you and some security conversations with some guys that had some magic sauce at the end point, [inaudible], AI tool that they're promoting through their marketing. You've got to reverse engineer through questions, what they truly are delivering at that end point. Because truly endpoint Next-Gen AV is working, everybody knows that. What's the next version of that going to be and don't just tell me, it's a marketing capability. But you've been on some of these calls with our guys. I think that is a superpower of yours, being able to understand what someone's current state readiness is, and capability and then figuring out a way to make that work for you.

Jason: RedZone Gives Me the ability to leverage my team and I’s capabilities so that we can understand the real IT Security issues and not get hung up on vendor Theory or Marketing Hype but really focus on practical and real usage of the technology and solution in my environment.

What RedZone does for me is there's always someone bigger, faster and stronger than you. There's always the 10 year old, that's ready to come and take Maradona's position. Or Ronaldo's position, or Messi's position, whoever, whatever your sport is. There's always that next person that's working harder than you. They have more resources than you and that's RedZone. I think I'm fairly good at that. I'll call that my superpower. But with RedZone, there's two or three or four or more of that exact same type of skill set, which allows me to not always have to be the one thinking about the questions. Because there's people at RedZone, they're thinking the exact same way that I am. One of the luxuries they have. Some of them can be highly technical, and are only going to talk to technical people.

They don't have to carry this other backpack around that says," Oh, I got to have, if there's a pie. That pie has eight slices, I don't have nine slices." Right? If one of those slices is technology. For me, that's one of eight. For someone highly technical in RedZone, that may be one of four, or one of two. Their technical pie is way bigger than my technical pie. I have lots of scars, I understand in theory how it works, but they understand it in practice. What they allow me to do is ask a bunch of what might seem like some of them very silly questions, but they all have a reason. Because you generally have to lead someone to the answer, you can't just jump out and put it out on the table. Because the majority people don't get there.

Right? They don't draw the line between A and B. You got to walk it down that line, and eventually everyone in the room, it starts to click, and then the solution also starts to modify based on what they've done before, what their knowledge is, and you wind up with a better solution, then at the end of the day, if I just simply sat in a room, drew a bunch of lines and walked out. I get one solution. This is how it's going to work. RedZone helps me do that day in and day out.

Bill: I appreciate that vote of confidence in RedZone.

We talked a little bit about this. One of the things that I think you highlight is power of questions. You certainly can’t craft a great… You can’t be a design architect, and keep that skill alive, like you have without asking great questions.

But it seems like organizationally, what I'm looking at for... I probably should take picture of this before we go. This is the Structurals’, it's a card that you carry in your wallet. It looks like it has mission and vision on it. But on one side, it says effective questions. I think this is really, really good. Can you just give me the story, give us the story of what this is? I'll take a picture. Is it okay to put this on the website?

Jason: Oh, yeah absolutely. Actually I'm can give you a whole case of them too, to hand out to people. That's how open we are as an organization.

Bill: This is really interesting, because how do you scale intelligence? How do you scale culture? How do you scale the value structure that the company. Maybe you can just give the story around this in particular, I'd love to ask you about that questions part?

Jason: Yes, it's about inclusivity. We all talk about team environments. We talked about millennials don't know any different, because all of their projects have been with teams, they've never had to do something on their own. I'm not saying that's a bad thing. I'm saying that's a great thing. I come from a sports world where every cog in the wheel is got to be doing their thing. But you got to understand what the person on your right and your left are going to do? You got to understand that they're going to do it well. Military is the same way. For us, this started, the impetus of this was something called the Pearls of Leadership, which is an online program that you can get, it was made-

Bill: Pearls of leadership?

Jason: The Pearls of Leadership Wisdom by Sandra Davis, is almost 10 years old But what came out of it, now the card, of course, it's got our mission or vision. We have both an internal mission and an external mission. Just for an example. Our external mission is make new and existing structure stronger and last longer. That's what we bring to the world. Internally, is to provide an enriching work experience for our people, so they develop, have fun and grow with us. That's not something that you necessarily are going to go out into the world and say. Maybe not as a construction company.

Then we got a vision on the inside of it. We talk about operating principles, at a high level, where teamwork, performance, excellence and there's bullet points for each. But yeah, on the back, we got this little cheat sheet, which we call effective questions. There's one, two, three, four, five, six of them. The last one is just, what else? With a question mark. If you are at a loss in a meeting, and you're talking about how do we solve? It doesn't matter., what the problem is. It could be brain surgery, it could be repairing your iPhone, it could be putting in an ERP system. One of these questions is, what are your ideas.

Me as the leader of the group, or whoever is in the meeting, you could pick this little card up, and it's always in all of our meeting rooms, you don't even have to pick it up. Just ask one of those questions, especially when the meeting starts to stall.

Bill: Yes. Right.

Jason: All you're trying to do is entice thought into the conversation. Even if you know how to solve that problem you might think you know how to solve it, you know how to solve it one way. But there are n, number of people in that room that might solve it a different way. Simply asking, "What are your ideas?" Looking Bill right, in the eyes, and say, "Bill, what do you think about that? What are your ideas on that?"

Bill: It's really asking people to come with their own thoughts and perspective.

Jason: Come with your thoughts? Right?

Bill: Not to just take notes or to be... It's really encouraging involvement. You have that on your table. It's a tiny little three by five... Yes, it's a three by five cards.

Jason: It's a little 10 card.

Bill: Little ten. Yes, I'm going to get a picture of that. That is so neat.

Jason: Wide and deep.

Bill: Wide and deep. What does that bring for you? When you attend the Innovation Group, what do you leave with that is something that you feel you can bring to your life right away?

Jason: Yes, I think there's two, there's not one. There's really never any one thing when you ask me these questions. There's always two or more, three. I think one is affirmation of what I'm doing is heading down the right path. So that's one thing, because these groups can have anywhere from 10 to... the one I was just at had 60 people in it, we had to change the venue. That was enormous, that was an enormous meeting. But what you can get is affirmation from the group that, I'm heading down the right path. Not necessarily the exact solution, because my exact solution's not the same as the exact solution that someone else has. That's one thing I get. The other thing I get is the, aha moment that I didn't even think about it.

It's the inverse of the affirmation. It's the, "Oh, my goodness, that's a great idea." I didn't think about that, and I'm okay with that. I don't need to come up with all the great ideas, what I have to do is figure out how to take all those great ideas and use them. Those are, for me, if I had to say, what are the two things I get out of that, it's those. Those two, at its highest level. Of course you know it's networking, I get to connect with people that are both in my industry and out of my industry, and we have different needs. But IT at the end of the day, one of the core things we're all asked to provide, and CIO's will continue to have to provide until we don't have technology is solutions. How technically deep you are or how shallow you are in it, that varies by individuals.

But we still have, the blocking and tackling of IT still falls to the CIO. Whether you're doing it because that's the size company you're in, or you've delegated it, because that's the size company you're in, you still have to provide the IT blocking and tackling. You have to remember that. You got to do it well.

Bill: Where you're not given the right to come up with the cool new ideas and cool new things. Because we got to keep the trains running and keep your customers happy.

Jason: The thing that I've seen change over time is more and more money and more and more resources are being spent to the new interesting things, and less and less on the blocking and tackling. Because much of the blocking and tackling, you can outsource now. Right? I think of RedZone as a think-tank. But RedZone could absolutely be used as just, you used to be smart hands. Right?

Bill: Right.

Jason: You can also use them as staff augmentation. Right? There's other ways to do that. But we've outsourced our level one help desk. Why? Because you should be able to take any competent IT individual, and I'll call it Jiffy Lube. I'm not trying to offend anyone. But Jiffy Lube, they might not be ASE certified mechanics. But everyone there is about to change the oil. Right?

Bill: Right.

Jason: There's certain things in IT, if I can Jiffy Lube it. Changing passwords, setting permissions, unlocking accounts, go through your litany of help desk calls, and I don't care if you're in construction, healthcare, baking, packaged goods, you're top 10, six or seven them are going to be the same as my top 10. You might have three that are different because your business is a little different. But seven of your top 10 is going to be the same. Can you get those out of your environment? Can you find someone to do those cheaper than you can do it yourself? Can you commoditize parts of IT? For us, we've commoditized what we term level one, which is not by complexity, it's by time. If it can be solved in eight to 10 minutes, it can be proceduralized, and it can become an IT commodity. How do we drive those things into that?

Bill: Yes, I think that's an innovation thing. It's funny because you're a who guy likes to control the solutions, you're command and control type guy, but you're learning how to... You've really reached out and now you're questioning level one help desk or have question and already saw. You're letting RedZone and other partners co9me in and be a part of your thinking process. I think that's where the new leadership is going. It's really being aware of where your core strengths are, and what your core capabilities of the team and then leveraging what's around you. Because there's ways for example, at RedZone, we've figured out ways to do things for three people at a time. We can have one to many model on something because we figured out a way to just do it more efficiently in regards to security, for example. Not every aspect of security, but the parts that are level one in nature, and making sure that we don't have drift on systems and such.

That's something is really hard for companies to do. It's really interesting how you've evolve with all this, Jason. I think as we wrap up for the second time, and this will be our final wrap up question I wanted to find out from you. If we're looking back three years in the past three years in the future. We are in…

Jason: 2022.

Bill: 2022. Looking back, what has to happen over that three years. We're having the conversation now, what's happened to make it a home run for you?

Jason: To make what a home run?

Bill: To make that three years, a home run for you individually? I'm making a little bit wider, contextually. But it could be you within the organization, you over all in the industry, could be you even wider than that if you'd like, it is not really a constraints on it.

Jason: Yes. For me, it's our company getting to a billion dollars. What drives me is how do I impart technology innovation into this company, so that they can spend for every $1, they have to spend on IT, it's $1, they can't spend on marketing or sales, or field labor. How do I continually extract $1 at a time out of the IT organization. Excuse me. So I can apply it to the business. What they do with it is... I have some say in it, but not as much as I'd like. But as long as they're not applying it to IT. I want to continually extract money out of the IT budget to be able to apply to something else within the organization. If that can help us get to a billion dollars.

It's funny I get the conversation all the time, when I talk to vendors are like, "Well, what are your key initiatives?" "Well, it's increase sales, profit and revenue." I said, "Well, what does that have to do with IT?" "Well, we are a mechanism to do that. That's why we're here. We're not here to just do IT for IT sake or for the fun of IT." Right?

Bill: I think people are afraid of that, though. I think a CIO that is afraid of that. Someone asked me, "What's your goal when you work with customers?" I said, "Strip 30% of their IT budget." "What are you talking about? Don't you want that 30% for your own company?" I said, "No, I don't." I said, "I want to look for every possible way to strip it out. I might get left with a couple of breadcrumbs. But to me, that's the only way to go. Businesses need oxygen and oxygen is profits."

Jason: If you can find 30, you can find 40.

Bill: Yes..

Jason: If you can find 40, you can find 50.

Bill: Back to questions, who's asking the question, how do I find another dollar? To your point, how do I find another 30%?

Jason: Yes, that should be the CIO. We shouldn't be sitting back saying, "Well, I need additional budget to do this." Well, why? Why do you need it? Is that important to the business? Do they want it? How is it going to equate to ultimately whether to short term or long term goal, reducing the footprint of IT. In our case, we took level one help desk. How do I drive that down? I can tell you my cost for level one help desk is $32 blended. When you look at the number of help desk tickets we take, and you extrapolate that out from I got level one technicians, level two technicians, level three technicians, engineers, software developers, my cost to solve the problem is $32. Now if I can extract out all level one, which remember we said that seven of your top 10, or in most companies between 30 and 60% of all of your calls that come in, could be categorized as one of those top seven and 10. Right? The company I found cost me $8.20 for 10 minutes. How do you extract that out?

Bill: Versus how much?

Jason: Versus $8.20.

Bill: Yep, versus, how much was your cost?

Jason: 32.

Bill: Yep. 32.

Jason: Versus 32. Then how do you get your team comfortable? Why are you doing all of this? We haven't lost one person-

Bill: It's leadership.

Jason: ... in the process? Exactly. It's because we defined more valuable things to do.

Bill: That's why it’s called offense and defense, freeing up. I just believe the CIOs in such a powerful position to help the business play offense. I believe they have to keep the defense running. Defense can be help desk.

Jason: This is a blocking and tackling.

Bill: Yes, blocking and tackling. But holy moly, the CIOs of the future, what you're doing, they're thinking about it in different ways.

Jason: Yes, its network, its security, its people, those are blocking and tackling. Now you can get creative on all of those and start calling differentiators. But at the root of it, they're blocking and tackling. You need to do as excellent and you need to figure out how to do them the most cost effective way you can deliver them to the organization. They're low lying fruit for them. Especially if you're a top level IT individual coming into a new company. It's all that low lying fruit that you can just destroy it.

Bill: Well, this has been blast. I'm really enjoyed this conversation. Do you have any final thoughts or anything that you want to end with?

Jason: No, I would say thanks for having me back. There's never short answer in Jason.

Bill: Now this is good. We have to do a round two. Because there's a lot of good meat here. Yes, I think maybe I asked question three years, maybe we should say 13 years, you should be a teacher. You should go into education.

Jason: It's funny. We didn't get that. That's time for another conversation. But when you talk about the old farts.

Bill: Yes.

Jason: Right. That is on my horizon. That's what I'm going to want to do in my next career. I want to impart all of this information so that the agile minds can use it. What I want to do is give them the life experience. That's a tool they don't have.

Bill: Help shorten the learning curve. Everybody needs good coaches. This is great. Thank you, and till next time. It's been awesome.

Jason: All right. Thanks, Bill.

Bill: Yes.