



AD: Podcasting monthly from the shores of the Delaware River in Trenton, New Jersey, this is Tech NJ, powered by NJOIT - the New Jersey office of Information Technology.

CP: Welcome to TechNJ. I'm your host, Craig Parker, and today we'll be introducing and interviewing Chief technology officer Chris Rein. Hi Chris - thank you for joining us on the podcast, and welcome back to NJOIT.

CR: Thanks Craig.

CP: Chris - what were you doing before you came back to NJOIT?

CR: So the eight months before while I was at the the cyber organization within Homeland Security was a terrific experience, allowed me to learn and immerse myself into a number of new and cyber technologies that I had not been exposed to before. These techniques, these software products and technologies were quite a learning experience. Prior to that, my last two stints - one within the private sector, and one within the public sector, about 7-8 years each - really gave me a good view of some government operations, especially in the law enforcement arena, as well as, you know, private sector, software development, software deployment, and sales.

CP: Chris, you are the state's second dedicated Chief Technology Officer - how does that feel?

CR: Well, it's certainly an honor. When Governor Murphy's office contacted me, I was filled with excitement. It's a very daunting responsibility, and I hope to serve the Governor's Office and the the agencies within New Jersey well. It was a little unexpected, but at the same time I think it was fulfilling for me to be brought in and considered for this position, so I hope that I can live up to the task.

CP: I'm sure you will.

CR: I believe it's important for a person in this office to be a good communicator, and to be accessible to our staff as well as our customers. I know that we've gotten feedback, I've solicited feedback and we've received it that says in times past that's been a little bit of a challenge, so that's one of my takeaways. I'm going to make it a point to make sure that I maintain a high level of interaction and accessibility and availability for both our staff here, as well as our customers. Sometimes being a good listener is the most effective tool that one can use.

CP: Do you think it's essential to have a security background for this position?

CR: That's a terrific question. So I don't think it's necessary, but I think it, for me, I've seen it as a huge plus. This may not have been true 5 years ago, or certainly 10 years ago, but currently, the ability to protect our network, our assets, our servers, our entire infrastructure is just mission-critical, and I think that security background really has been a help.

CP: Are you assembling a new team to help with your goals for Tech in NJ?

CR: Well, I see it as a mix of current seasoned professionals that are within OIT and have been serving for some time, and I think I have the opportunity to infuse that senior leadership team with some professionals that are outside - outside this agency, and some cases outside of the state service, and I think that set of perspectives give it a good mix. So, I think this leadership team is been terrific here, and again, I'm very much honored to serve with them. Among the new staff is Carrie Parikh. Carrie is our Chief Data, Privacy, and Security Officer, and in addition, Carrie has also taken on the role of our Chief Operating Officer. It's been terrific to meet and begin to work with Carrie. She brings a focus and energy into OIT that I think will really be complementary, and I think having a private sector, legal, and technology background are tremendous strength areas for Carrie to join our team with.

CP: So in the coming months, what are you looking for your team to focus on?

CR: In the immediate term, certainly stabilization of our environment, right? We want to make sure that everything we're doing within our both new systems and our legacy systems are managed carefully and are brought to a state of stabilization that our agencies expect. Another thing that I'm going to focus on is killing that which needs to be killed. What I mean by that is there are some projects, there are some processes that I've seen already in just the first several months that definitely need to be rethought, and and done away with. In some cases, it's a technology, in some cases it's just a process that I don't think there's a value in doing that process any further, and I hope to bring some of these efficiencies operationally to our state agencies very quickly.

CP: I know one process that has been looked into is the SAR process within OIT, and how it relates to the agencies.

CR: So the SAR process, for those that aren't familiar with it, is fundamental to any technology procurement or technology project. I've used that process, both as a consumer, as a participant and as a vendor, so I have quite a bit of experience in it and I know the pain points and quite frankly some of our agency's have been suffering those pain points, and I'm excited to have already instituted, with my staff here, some dramatic reduction in process time, cycle time. In one case, a 16-and-a-half page document that required filling out is a page-and-a-half, and it instills a better collaborative environment, I believe, with our customers, and so yes - I am excited about the reductions in cycle time for our procurement. Procuring technology is tough in

New Jersey, it's tough for a number of reasons, and I hope that the OIT portion of that can be seen as an improvement in very short amount of time. And that doesn't cost a lot of money, that's something that we can just make decisions on, and implement these process improvements.

CP: So Chris, with the IT staff - how do you see their roles changing, and do you see a need for a different skillset?

CR: Most certainly. Technology evolves quite quickly, as we all know, and to match that, we need to be evolving organization, right? So, whereas the skill sets that were required and were necessary in years past, they're evolving. The state of the industry is changing, and I think that we're going to see shifts there, we're already seeing them. The use of COTS products, the use of cloud services, the use of private enterprise within our state and within our executive branch is going to be more prevalent than ever. And I think to match that, our staff, our entire organization, will see and evolution of skill sets. I think, whereas coding and testing and deployment were critical, and supporting large arrays of compute and storage mechanisms - that's going to shift a little bit. It's not going to shift overnight, but it certainly is going to shift where we're able to be more consultive, collaborative, and, you know, be integrators for our customers, so we have to put pieces together, and help them put pieces together, that's going to serve their agency needs so, most certainly, a skill shift and thus, our roles.

CP: Now you speak of legacy systems within the state. Do you ever see the mainframe and/or the COBOL programmer going to the wayside?

CR: I was doing some research just within the past 48 hours I think, and something along the lines of 90% - there is estimates between 85 and 92% that I've seen - of all the business in the United States is still conducted on the mainframe. That blows a lot of people away because the prevalent use, and the promulgation of servers, and the shared server environment is important to us, but if you look at the mission critical agencies and operations within the state, absolutely still performed much of it on the mainframe. So, I don't see it going away in any short period of time. Maybe there will be a displacement of that technology over time, but I don't think it's going to be within any single digit number of years. Now, when we talk about the mainframe, one of the challenges there is you look at the talent available to us, and the skill sets coming out of either private industry or the universities, that's a challenge, right? Because there's not a whole lot of emphasis placed on that skill set in those areas, so that becomes a challenge for myself, my HR department, the managers, the senior leadership team - we have to make sure that we can supply the mainframe-based technology talent to support it.

CP: So what's the most pressing thing that you want to hit the ground running with, Chris?

CR: Well, I think there's actually several of them, Craig. I don't know that I can pick one. Heck, if I could pick just one then we'd be single threading things, and this job would be pretty easy so I think the several that I can think of is, first of all, supporting and executing on Governor

Murphy's technology initiatives that were developed by the Governor and his transition team. That's a major focus - we're talking about technology security and innovation. We all saw that the Governor just recently announced a new Innovation Officer, and her task is going to be wide-ranging. It's going to be involving businesses, it's going to be involving internships, it's going to be involving incubation centers, so it's not just the next cool app. I mean, we may have a next cool app, and that'll be terrific to help support, but I think that innovation, as far as the Governor's concerned, goes far beyond that, and and I look to assist with OIT support of that in every way that I can. Secondly, I think we kind of touched on it before, process improvements. That's another one of my focus areas. We've already begun that, and there's a few more that we're going to be tackling. Lastly, a rapid acceleration of how we're using the cloud - cloud applications, cloud security measures, cloud-based data where it makes sense, so I hope to enable that from both of procurement perspective, as well as a technology skill set support of cloud services.

CP: Speaking on the cloud, that is still very new to citizens, government... Where do you see the cloud as far as how it's going to be for New Jersey and our state?

CR: Well, certainly we've seen the cloud adoption as being much faster in the private sector. There are certain businesses which, you know, by the nature of what kind of data they host and what kind of protection measures are essential, the adoption has been wide-ranging. I think, within the government sector, the adoption has been a little slower. New Jersey is, I would say, has not been one of the most rapid adopters of cloud technology. Other states are placing a greater emphasis on that, and that's part of the reason why we need to as well. In order to keep pace with the ability to provision computing platforms for our agencies, we need to be more nimble at that, we need to be better at that, and so that's where I think it's an opportunity for New Jersey OIT to really kind of grow a skill set in that area.

CP: So Chris - how do you see the cloud and the relationship between our citizens of New Jersey and the government intersecting?

CR: Ideally it should be invisible to them, right? Our customers, meaning our citizens, should see a more consistent, and easy-to-use, and nimble face of the State of New Jersey to them. Whether or not our technologies are computed and stored in the cloud, versus in our datacenter here, that really should be invisible, and if we do things right, it will appear that way. So, that was a terrific question, and I think that also underpins one of the challenges for an organization like OIT to work effectively to make that seamlessness for the part of our mission.

CP: Executive order number 225 - What's the progress that you want to see happen?

CR: Since arriving here, clearly EO225 has been, you know, one of, if not the most frequently discussed topic. We project manage it, we have staff providing a lot of support for EO225 activities, and it's not been all good. You know, we hear about smart cities, and smart cities enabling a smart state through sensor technology, through integration and so forth, and even

though those are mission-critical for New Jersey, I think we also have to apply that to EO225. We got to have a smart Executive Order 225 implementation, and what I mean by that is consolidation and shared services, and consolidating activities certainly makes sense where it makes sense. Now, that that may sound a little bit cliché, but there are certainly some cases where consolidation is not the right answer, and we have to be smart enough to realize that. We have to understand where the square peg is trying to be hammered into the round hole, and that's part of what I've been working with the Governor's Office on, and I expect an announcement along those lines to be made with the Cabinet very shortly on that topic.

CP: Is there progress on improving the state's IT infrastructure?

CR: Yes, there has been progress. No, it has not been, in my mind, at a rate that we need to do so to move us to a more responsive and secure environment. We've been working on infrastructure improvements, augmentation, and, some cases, replacement, but I think that the Executive Order and the consolidation is really a much overlooked clause in that where it requires each of the CIO's around our state agencies to submit to us a modernization plan for those that have legacy applications, and pretty much all have legacy applications in some form or fashion. Some are Legacy in their infrastructure and hardware and software, some are legacy in their design and application. So, we really haven't received his modernization plans and I think there's a reason for that. I think the implementation of the Executive Order in late 2016 into 2017 really didn't foster that, so that's one of my mission areas, is to have some of our staff begin to work with these agencies with a collaborative modernization plan. The modernization of older legacy applications is quite often not glamorous and it's quite often not even visible to some of the citizens and some of the agency heads, so that's why sometimes it takes a backseat to some of the more visible initiatives that we have, but nonetheless it's essential to move off of these older expensive and less secure applications.

CP: What tech trends do you see shaping the New Jersey government?

CR: Well Craig, I think we've talked about a couple. Certainly usage of the cloud. In the industry today, blockchain technology is gathering quite a bit of notoriety. Some may call it hype, some may call it growing pains, I think maybe the answer probably lies somewhere in the middle there. None of our infrastructure right now, none of it, operates on blockchain technology, right? So, people hear blockchain, they right away think of Bitcoin. It's not just that, as we know, but it's a fundamental mechanism of transaction recording, transaction transparency, and storage. It was, you know, kind of initially put out there as bulletproof and hack-proof, and it's not, so we have to keep an eye on blockchain because the transformation of an organization like this to blockchain technology, it could be dramatic, and it could be large and lengthy and costly, so we have to keep a careful eye on that one. Certainly, mobile IOT devices. You know, I think the term persistent computing, meaning you always have it with you. We all live by these persistent computing technologies, and the security of those devices is critical. The security is not growing at the pace that the feature set is, so that's a challenge for us. Another one that's not really a technology, Craig, but it's really important to me - I think we

need to move forward, and we need to move faster on enabling remote knowledge workers. Remote engineering, remote QA, remote support for our customers. I don't know if that's just a state limitation within our human resources and our guidelines there, or if it's just been a cultural thing so I'm looking at that hard, I'm talking to folks, I'd love to be able to enable more remote knowledge workers. You know, we have some terrific people here, and I want to keep them here, and sometimes remote working it is an enticement. I know that's seen as a way to perhaps combat the structural or economic limitations that our salary structures are bearing. Lastly, if you look at what's going on out there, probably the Department of Transportation is as far along or farther along than most of the other agencies in their use of sensors. The integration of sensors to create smart transportation - you know, we're not building a whole heck of a lot of new roads, right? We don't have a lot of new acreage in this state, especially the density of New Jersey, so the only way to make traffic a little bit more bearable, and create efficiencies there is through intelligence - smart sensors that can talk to each other, that understand where your vehicle is, that alert you that, "Hey - 600 yards ahead, that traffic light's gonna turn red, so take your foot off the gas instead of jamming on the brakes when you get up to it." You know, that's just a very simple and crude example, but smart technologies through the use of sensors is going to become just more prevalent for us over time. Those are maybe some of the key technology trends that we have to keep an eye on and keep pace with.

CP: Chris, I want to say thank you for taking time out of your busy day and sharing your thoughts on technology for the State of New Jersey.

CR: Well Craig, thank you - I'm here to serve. This position, I think, is one that the best way sometimes to serve is sometimes by example, sometimes through decision-making, sometimes it's just to stay out of the way, and I hope that I can recognize those times when I can enable my staff - the leadership, the engineers, the developers, the network staff, by allowing them to do their jobs as freely as they can. You know, this has been very exciting to tackle this challenge, It's been great to work with my team, and I look forward to continue to work both at a leadership level, and sometimes I get involved rolling up my sleeves. I enjoy that, and I hope to stay sharp by doing that, and helping these small projects and larger projects out in every way that I can.

CP: It's been my pleasure introducing the State's new Chief Technology Officer Chris Rein to all of you, and let's wish him and his team much success as he leads our state going forward. I'm your host, Craig Parker, and thanks for listening.

CSP: This is Carrie Parikh, COO and Chief Data and Privacy Officer for the State of New Jersey. Listen to the next TechNJ podcast to find out the future of tech for New Jersey.