

Inside LinkedIn's IP-First Infrastructure

Matt Stagg in conversation with Gary Schneider, LinkedIn

IAMT Studio Visual Podcast Series

Duration: 15:19

Hi, welcome back to the IAM — IAMT Podcast. I've only said that about 20 times today. I still get it wrong. This is going to be really interesting because this is part of what is a running theme of — we're a broadcast show, but broadcast isn't all we do in terms of broadcasting to TV. Now, you will obviously know LinkedIn. What you won't know is the size and scale of their media operations within it. So we're going to get to the bottom of this. I'm delighted to say Gary Schneider's joined us. He's the senior staff media systems engineer at LinkedIn. Gary, would you just like to introduce yourself and give a little bit of an idea to the audience of what happens in that department and what you've got going there?

Oh, certainly. Yeah. You introduced me just fine. At LinkedIn we have three teams that do video content, being live video production and so forth. And what I do is build up the infrastructure that supports all of these types of productions globally. We have facilities in Ireland, on the East Coast US and the West Coast US, and we're a small team on the West Coast, in Silicon Valley, that manages and maintains all of these facilities.

So when we were talking — and I think this is really good because people will go, "Oh, I get it now." But so you've got three core teams, isn't it? So you have the editorial, media production and LinkedIn Learning. Can you just explain a little bit about what each of those do and, more importantly, how they work together to get this massive production capability up and running?

Sure. LinkedIn Media Production — that team is mostly internal-facing type productions. They do a lot of work with partner teams within LinkedIn that are trying to get messages out around product.

Yeah. And I think one of the big things that I didn't know about is LinkedIn Learning and how that links in with what you guys do. What would you do for that? Is that producing a video for a company to do learning?

Sure. The LinkedIn Learning team — that was an acquisition of lynda.com that came into LinkedIn and became LinkedIn Learning, and they do all manner of learning content: some live action, some screen capture, so trying to explain how a piece of software might work, and then that's narrated by some instructor giving all of that information. Their workflows are very unique. They're all virtually video productions that go through a full post-production process and all of that. And our team supports all of the post hardware and infrastructure to support all of that globally. We have learning facilities in Tokyo and Graz, Austria. A big bulk of the foreign-language content is created in Austria. And so that's mostly what LinkedIn Learning does. They're also part of the publication pipeline, so all of the work to get the videos processed properly and get ready for VOD viewing and all of that. So most of that is done out of Carpinteria, California, which is just south of Santa Barbara.

Yeah. Okay. Is that where Apple are from? Is it? No, no, no, I'm thinking — my geography is terrible, although I have been to, and I have not. We've only got a tiny country. We'd a lot to worry about.

California is pretty big.

Yeah. Well, I think probably — I think it's bigger than England. Well, it will be. So this was really interesting to me when we were discussing the difference between enterprise — and I worked in, and still do in some aspects, premium sports, Champions League. But when we discussed it, a CEO of thousands and thousands of people putting out and talking to them about whatever it is the company plans for the next year, or doing an announcement to the market — for them, that's Premier League, and so the pressure is still on you. Do you think that the vendors here, and as part of this, have enough understanding of the enterprise requirements?

I think things have been getting quite a bit better with the vendor relationships over the years. Many don't really see or understand why we would want to be using some of the same equipment that some of the sports groups would use, or any of the major broadcasters. But quality matters. Resiliency matters. And so when we're looking at how we're going to build our facilities, we have to think that failure is not an option. And that's what people, I think, maybe don't quite understand: the level of importance to a senior executive, what this time means for them. The amount of time that they put into prep, rehearsing, the build, the comms team building the excitement around what the messaging is going to be.

Media bit — oh, have to have media training. You know, it's a big deal.

Yeah, yeah. Well, they're becoming more sophisticated in wanting to use IFB and things like that, and how their notes and teleprompters and all of that work. It's very important to these folks that they get their message out. And the pressure is on to ensure that we do not have failures in our tech.

Yeah. And if you're putting your quarterly numbers out and you're in a tech team saying you've either made or lost money, and you're doing it on — somebody's sat there with an iPhone — it doesn't really send out the right message to markets.

It really — you're absolutely right. One of the other teams that I alluded to, the editorial team we talked about in New York — the gentleman that runs that has spoken to this: that the quality, and how it's viewed, whether it's by the employees or people outside, can either build trust or bring it down in terms of the way they view the company. Poor audio can give people the impression that the company is not as savvy as they may perceive, or present themselves.

Yeah. And the audio's really the big one, and unless you're an audio engineer or in the business, you don't realise the importance. But as someone once said, "You can look away from the TV, but your ears don't blink." And I was like, "Well, yeah, you're right." People will pick up on that. And it really does need to be thought about, because I think, especially in some of the — we would say — emerging areas for major broadcasting, which, rightly or wrongly, some of the industry here will say is emerging, when we know, especially in a production the size you've got, it's understanding the importance of different aspects of broadcast. And that's where they've got a broadcast engineer running it, and not the IT guy who was really good at networking. But the networking bit does bring me on to... So, the IP-based comms of the broadcasting and the media

— do you run that on a global backbone that is on your IT, like, I don't know, a VPN over an MPLS network, for instance?

Yeah, it's not an MPLS network, but it is a very, very robust WAN that is global. And we do a tremendous amount of REMI. I think that's where the touch points come with the people that are perhaps listening to this: we have a lot of the same issues and concerns, cost to serve, and REMI brings the cost to serve down.

But some of the viewers might not know what REMI is. If you could just give them a — just because they're different concepts.

I see. Okay. Well, REMI is essentially your operations team being geographically remote from where the actual production is happening, and we leverage networks to move the media across, whether it's a WAN or a leased circuit or something like that. And so centralising your team for the production... Our CEO has travelled the world, and we follow and we REMI to Mountain View. And what's been really important for the creatives and the comms team is that it's a consistency of production regardless of where he is. We're using the same tools, the same graphics, everything.

And what do you think that broadcasters get wrong? Because you were a lot quicker to REMI and remote production, and for the sports industry, it was really only when COVID came along and we didn't have a choice. In terms of remote production, we went from what was a three-year roadmap to three weeks: "We can't do it. We can't go." So you've actually been doing it, but do you see, in some of the approach of — I wouldn't say traditional broadcasters, but if we take live sport or live news — are they making mistakes that you've seen, that you could lead them into, "Hey, watch these pitfalls"?

That's an interesting question. First of all, sports was a model for what I wanted to do. In the States there were two broadcast organisations, the Big Ten Network and Pac-12 Network, and they established this model where they have central hubs, and then they would have dedicated circuits to all of the stadiums and colleges where these events would take place, and they ran what they would call multi-cams. And I had already been tuned in to IP and how to leverage that, and then watching what those organisations were doing — that was really compelling to me. So it did really start with sports. College sports.

Well, you still get a lot more than Bristol City Football Club do. For people who don't know, college sports are as big, in the biggest numbers, as you get in the Premier League in the UK. I mean, it's massive, isn't it?

Yes. In certain states it is very, very important to the people in those cities and towns.

So we're going to be coming to the end at the moment, and I think because of your unique insight — really, I'll be honest, it's the poster for REMI, what you guys do, because you've been doing it and you understand the pitfalls. And like you said, some of your guys come from an IP world, which is the other way round, because you were going into broadcasting, where broadcasters are going into what would be traditionally seen as an enterprise. I'm from datacomms. It would just be IP, and what's the problem? But you've really been doing it. And I just wondered today, where do you think vendors should be, who should they be working with, and how should they look at their engagement to get that trust from your industry, for instance?

What I've been seeing, and I think it's been working well, is that those vendors that are recognising that there is this market, they are bringing in people that have the kind of experience, that understand what's happening. And we're getting to meet and work with account executives that understand, and they know where we're going, and they understand some of those things. We do look at the tech and the application a little bit different than a lot of the major broadcasters. And I've had some amazing conversations with so many organisations, NEP being one of them. We just want to be able to leverage tech in very much the same way, but for different reasons. And it's been really interesting to have the convo. But with the vendors, I think they just have to — I guess, learning the importance, right? You alluded to that earlier: it's top tier. It's premier sports. If we have any kind of errors or issues with what goes on, there are escalations, and there are all sorts of things that happen. So the criteria for success for us is every bit that of professional sports.

And I think that was a great topic to wrap up on, because it's that key for vendors who want to work in this industry, and they're exploring other verticals. And I think especially after things like this, you're going to get a lot of people — sorry — picking up the phone to you. That's my fault. But it is getting to the mindset of: this is as important to the people who are buying this stuff as it is to the people playing high-class sport. And I think that's a great analogy for the industry. So I know you would've found this really interesting, and certainly I've been looking forward to it, and we've had lots of chats, and we'll continue to. So Gary, thank you so much for making the time.

Thank you.