

Cisco Cloud Unfiltered Podcast Series, Episode 8: Joe Weinman



Business strategists, this one's for you. In it, author and speaker Joe Weinman talks about the incredible array of possibilities opened up by the cloud as well as the complications that come with it. Read on to be inspired, cautioned, and more well-informed than most about the reality of digital transformation.

- Niki Acosta: And we're live. Good morning, good afternoon wherever you may be. This is Niki Acosta. You are on Cloud Unfiltered. I'm joined today with my cohost Vallard.
- Val Benincosa: Hey everybody.
- Niki Acosta: And we have an awesome guest, author, writer, former corporate employee but now doing his own thing and keynoting all over the world it's Joe Weinman.
- Joe Weinman: The best intro I've ever had.
- Niki Acosta: We were going to do a theme song but we didn't want to get copyright infringement. He recommended Nine Inch Nails and that has some bad words in it.
- Joe Weinman: Right.
- Niki Acosta: And then he recommended a Katy Perry tune which I don't even...
- Joe Weinman: Chained to the Rhythm, it's a philosophically brilliant song. It's all about being independent of the grind and not buying into the vision of utopia, and it's a catchy tune.
- Niki Acosta: Sounds [inaudible 00:01:02].
- Val Benincosa: That sounds like a theme song that you can get behind.
- Joe Weinman: Exactly, for sure.
- Val Benincosa: That's pretty awesome.

Niki Acosta: So Joe I try to do my best to introduce you but do you want to add anything else to the introduction? No?

Joe Weinman: No.

Niki Acosta: No, okay, cool.

Joe Weinman: What else is there to say.

Niki Acosta: Wait, let's talk about your new book that just came out. Well, it came out a while ago, but it was like at the top of the Amazon charts for a while.

Joe Weinman: Yeah so most people know me for Cludonomics which is still on good days randomly Top 100 in cloud computing which most things in cloud computing are all sort of something about the latest release of something like Adobe Creative Cloud or something which is lumped up in there, but that's gratifying because all the equations are still correct and everything I predicted is true. People were making fun of me like eight years ago when I said that hybrid had advantages and they were like, "Joe you just don't understand the public cloud." And I said, "I think I do. What's wrong with the equations?" And then everyone was like, "You idiot." And now it's all hybrid, hybrid, and flexibility, and avoiding lock in, and multi-cloud, and so forth. I talk about hyperscale data centers being a little bit overrated because there were sound reasons for dispersion and everyone said I didn't understand, and then now of course the fog is hot. I predicted sustained use pricing. I predicted spot auctions, so that's still good and still very relevant.

But back in the day when I used to speak at various events that are no longer around I would put up these slides with equations and everyone would be like, "Oh cool, equations." And then after about two seconds I'd see their eyes start to glaze over and they check their phones. But I was presenting the stuff on cloud-based strategy and then their eyes would light back up again, and so that really was the foundation for the new book, Digital Disciplines, which came out a little over a year ago, probably a year and a half ago, and then the Chinese version came out just under a year ago so I did a lot of day trips to China the last year to do big keynotes. Basically that's about how not just the cloud but big data, and analytics, and social and mobile an iterative things, and cognitive, and robotics and all of that new technology stuff all fits together to create differentiated business strategies. So that's still relevant and that's the one that was the number one hot new release on Amazon, and Computers, and Technology for a week or two, so that was good.

Niki Acosta: And you've had a pretty wild just in terms of experience. I remember seeing you at the old cloud conferences, you were a staple there, but take us back before that. What were you like growing up and how did you get down this path now to being an author and pseudo-analyst I'll say.

Joe Weinman: Are you sure anyone wants to hear that. I mean I'm happy to do it.

Niki Acosta: I do.

Joe Weinman: Oh you do? Okay. So computer science background, Cornell, UW Madison, executive education at a school called IDM Lausanne, and then I was at Bell Labs for a long time, AT&T corporate strategy. I left AT&T to go to HP, then left HP to go to Telex, and somewhere in that period I wrote Cludonomics, it was published. There is two Chinese translations. For some reason, I don't know why there isn't one, but there are two different translations of it, and that then led me to the keynote circuit, 300 thousand miles last year in the air, and now I've been doing less keynoting and more writing for

various clients which actually I'm happy to stay home. People are like, "Where do you like to go on vacation?" I'm like, "When you travel everyday the best vacation is in your backyard with a glass of wine." So that's...

Val Benincosa: Yeah. So tell us about this book a Digital Discipline, who is it written for, why should they read it, and what are some of the insights that they would get from it?

Joe Weinman: So when Cloudonomics ... So to help explain that I'll give you a little bit of background on Cloudonomics. I was writing this book called Cloudonomics and most people have seen the original egome piece where I came up with the term and it was called the 10 Laws of Cloudonomics and it was like these cleverly worded things like you can save money even if you pay more, and then that was like huh. And then the explanation has to do with unit cost versus total cost, and elasticity under variable demand, and so I was writing all these things about cost optimization and in some cases about performance optimization. So for example, if you're using the cloud for geo dispersion, for latency reduction, if you double the number of nodes that you have what does that mean for your latency. And that's true whether you're an enterprise that's doing a build out or you're let's say an Akamai or a cloud front or what have you.

So I worked out all that stuff and was basically almost done with the book and then I'm like one day I wake up because you're deeply entrenched in the book digging up references and making sure that your commas are right, and things like that. And I just woke up one day and was like oh my God I just wrote this whole book and it's not quite about something I don't believe, but it's missing a very large point which is that the cloud is not just about cost reduction, and if you think about that way then you're completely missing the boat. And the reason is if you figure that IT expenditures on average are 4% of revenues, and let's say you were a great CIO and you do all this clever stuff with cloud migration, and hybrid, and cloud bursting, and multi-cloud and you manage to save 25% of your IT budget, you're only operating at a 1% level relative to your revenues which is good. 1% is better than 0%, but it's not compelling. But conversely, if your let's say Netflix and you create \$10s or \$100s of billions of market cap, and drive your competitors out of business because you're leveraging a cloud-based strategy then that's really important.

So Cloudonomics like chapter four or five is about cloud-based strategies, and once you start down that path, I try to be intellectually rigorous with these things, and so one question begets another question. So if you say, "Well is the cloud strategic?" You have to say, "Well what do you mean cloud and what do you mean by strategy?" And so even saying, "What is strategic?" Then there's different formulations of corporate strategy, and competitive strategy, and they're different because one is about portfolio optimization, the other is about product optimization and differentiation, and then what's a product versus a service, and the four Ps models, and Kepner-Trigoe Driving Forces, and Michael Porter five forces model, all of that stuff.

So anyway, I settled in on a model that is called the Value Disciplines Model which simply put is just about better processes, better products, or better customer relationships. And these guys, Michael Treacy and Fred Wiersema over 20 years ago coined the phrases operational excellence, and product leadership, and customer intimacy that we all use today, but not necessarily giving them credit. And I really liked their model so...

Val Benincosa: And there's was the value model?

Joe Weinman: Value disciplines, right.

Val Benincosa: Okay, I just...

Joe Weinman: They have a famous Harvard Business Review article from the early 90s called Customer Intimacy and Other Valued Disciplines. They wrote a best selling books that's been translated into I don't know dozens of languages, called...

Val Benincosa: Two Chinese languages maybe?

Joe Weinman: The Discipline of Market Leaders. Multiple Chinese, Cantonese, Shanghainese Mandarin, et cetera. But it was very insightful, it's very clear, it's easy to remember which is really important because maybe there's a better model but if you need a PhD in rocket science to understand or apply it that limits its broad applicability. So it's a great model but remember, back then cell phones were something that you mounted in your car and were too heavy to hold, and the Internet was barely alive, it was HDM.1.0, pre-CSS, pre-dynamic HTML.

Val Benincosa: GeoCities.

Joe Weinman: Exactly, right, GeoCities, AOL, Lycos, all that stuff. So they sort of anticipated the relevance of IT, so they talk about what GE did in terms of creating virtual inventory through a mainframe based system and that kind of thing, but the point is, it wasn't really leveraging modern technologies. And the other big point is that it isn't just that you can say, oh yeah, it's the same basic strategy and all the change is you put the word digital in front of it, or Internet, or e, right? Because...

Val Benincosa: Right.

Joe Weinman: Everything's easy. SO just to give you an example, obviously having a better product is one way to achieve competitive advantage, but what did that mean for the past 5000 years, it meant better materials like you used gold rather than bronze rather than stone, it meant maybe finer aesthetics like clever they had all those script logos, brand has been important for a long time, and so forth. But now when you think about what makes a leading edge product it's got to be smart, digital, and more importantly, connected. And when you say it's got to be connected to the cloud and from there on to partner ecosystems and peer to peer environments, and customer co-creation, and over the air upgrades and things like that, you're really not just saying okay it used to be a better product now it's a better, smart, digital connected product because everything changes because of that. So as an example, I'm going to take Nike as of a year and a half ago where I thought they really had a strategy that exhibited all my points very well, and so consider Nike 5 years ago or 10 years ago, you make sneakers, okay...

Val Benincosa: Right.

Joe Weinman: And that's very nice, and you make some athletic shirts, and shorts, and things like that, and you get celebrity endorsements and one of the keys is product innovation like Nike Air or the original waffle sole and so forth. Another part of it is marketing innovation like celebrity endorsements. But at the end of the day, you're selling sneakers through a third party like let's say Sports Authority, they were around at the time, and a customer walks in and they say to the person, "Hey I'm a runner and my knee's been hurting, what do you recommend?" And the salesperson says, "Well you can try these Nike's, you can try these Adidas, you could try these..." and it's like okay great the person buys a Puma, the manufacturer never knows, maybe even the retailer doesn't know unless there's loyalty cards, but that's the end of it. As an apparel manufacturer you are intermediated by a retailer to an anonymous customer and the only way you have any insight into your customer demographics and needs is maybe you have a focus group, you station someone outside the door, whatever.

Now though if you're selling sneakers first of all that have accelerometers in them, motion sensors, they're tied through a Nike plus iPod, or various Xbox coaching applications, the customer of your product is no longer anonymous. Secondly, you're collecting all of this historical data on workouts, and paces, and routes run, you're tying it into their social network, you can offer personalized coaching services, you have a high degree of customer value ad. And there's a model called the experience economy that says that there's a hierarchy from commodities, to products, to services, to experiences, and ultimately, transformations. And a transformation, like a university education, like brain surgery, or like becoming a better athlete through coaching services is the highest value and it's the highest profit. Then you add in the stickiness because you have years of historical data, you enable these connected digital products to open up an ecosystem of partners through a developer API, NSDK, and cloud-based services for all this historical data. And it's not just that you have a better product the way that the Nike Air was better than the original Nike sneaker or athletic shoe, it's that you've completely transformed the relationship with the customer.

And if you think about things about pay as you drive insurance, or SolarCity, we'll buy and pay for the solar cells on your roof and the charge back model based on remote metering over the Internet, or American Family insurance that gives you a premium discount with Nest Protect smoke detectors, all of these products now enable new business models and new stickiness. And of course it isn't just products because you also have services like connected healthcare where using a Proteus pill, or gate monitors, or things like that to provide continue healthcare as a connected service rather than a connected product. You can develop a 360 degree view of the customer, for example. GE Healthcare has something called Dose Watch where what they do is individual pieces of radiological equipment like x-ray machines, and CT scanners are all good as far as they go, and they do their job, and they're calibrated to give a safe dose.

But if you just left the doctor's office, you go to the hospital and the doctor sent you for a diagnostic, but you're slipping in and out of consciousness, and the x-ray, does a CT scan, and then they do an x-ray, then they do this, and then they do an MRI, and then you can get an unsafe dose by the aggregation of all of these safe doses. So unless you have all this equipment linked to something it's not something that you can well we'll send in the form and it will be processed a month later, it's got to be done in real time. That gives you a 360 degree view of the customer.

Val Benincosa:

Wow.

Joe Weinman:

So those are some examples of the basic idea of one way to compete is through better products or services hasn't changed. And by the way, these guys, Treacy and Wiersma, they are great writers, I only wish I could write half as well as them, and their only flaw was that they were brilliant but they were brilliant in 1993.

Val Benincosa:

Back then.

Joe Weinman:

Right. So I updated the book. Once you start thinking about this stuff you're like oh my God, what GE has done, but Bill Rue will say, who I know from one of the cloud events that Niki and I were at a long time ago, Cloud Connect Silicon Valley which is probably four or five years ago, Bill Rue talks about GE's digital transformation and the industrial Internet. But I've spoken to him over the years multiple times and one of his key themes is the ability to focus not just on product sales, like if you're a business usually it's what's the funnel, how are we doing this month, this quarter, this year, same period last year, same store sales, those kind of metrics. But now because you are connected, and thanks to the Internet and things on the cloud, you can focus not just on your own internal view, but on customer outcomes.

So things like power by the hour where GE doesn't just sell you an engine for whatever it is, \$5 million and say good luck with that, hope it works okay, fill out our annual customer satisfaction survey, now they've got 20 sensors in each engine collecting 5 thousand data points per second per sensor that are locally compressed, but then uploaded for analytics, and the IOT over the cloud leads to better predictive analytics, leads to predictive maintenance, leads to optimal maintenance where you can say, "Look, we know that this engine is going to start to have a high risk of failure in another 100 hours of flying." Rather than maintaining it or having to fix it when it fails in some airport where you don't even have maintenance facilities just fly it over to one of your main maintenance center depots and then you can fix it with your own certified staff, and your parts, and minimize systemic outages as well as maximize engine time and the airplanes flying time.

You can use these things the same way that Netflix does personalized movie recommendations, you can do personalized airline recommendations where you can have airlines adopt best practices from each other, or best practices that are relevant to their own operations strategies like single engine taxiing to conserve fuel while you're kind of in line. I fly in and out of Newark all the time and from when you leave the gate to when you're actually in the air is 20, 30, 40, 50 minutes as a rule. SO if you can conserve fuel while you're doing that that's very helpful obviously. So the point is, everything changes when you take the cloud as the center and then you factor in all these other things like cognitive, and now quantum, and IOT, and fog, and edge computing, and you transform architecture to now have everything central but you can do data compression, or distributed query.

I'm also one of the ... I guess one of the things I should have mentioned, I'm the Cloud Economics Editor for IEEE Cloud Computing Magazine. I end up writing about two-thirds of the articles but we're always looking for submissions. So I just did one on the hybrid multi-cloud fog which is my new mantra because hybrids of private and public are provably optimal. For most customers there are reasons to use just private or reasons to use just public obviously, but for many enterprise customers the hybrid strategy makes sense.

A multi-cloud strategy makes sense and by that I don't just mean randomly using multiple clouds, but using them in some sort of integrated fashion, whether it's supporting a single workflow or enabling some degree integration between the various cloud service providers. And then this mix of let me call it appropriate balance of hyperscale, more centralized consolidated cloud with more distributed fog edge disperse computing achieves the right benefits in terms of data compression, back hull, network cost reduction, and traffic reduction, response time for either users or things, like if you think about autonomous vehicles. So there's lots of different benefits and you can look at these things from a qualitative angle, from a quantitative angle, or from a strategic differentiation angle and between Cloudonomics and Digital Disciplines I think I've covered all those.

Although obviously technology marches forward so we just did a piece on microservices that Adam Eivy from Disney did a really nifty analysis that shows that microservices is obviously great and fits with today's architectural methodologies and container strategies, and things like that. But the challenge is that when you start doing enterprise scale like for a Disney you have so many hits per second that what sounds like a great free offer through free tiers, and per hit pricing, and gigabyte second pricing turns out to actually be economically disadvantageous versus an old style dedicated server running in your closet or even just a VM running in a pre-microservices cloud. So...

Val Benincosa: So when you're'...

Joe Weinman: There's all kinds of cool things to look for.

Val Benincosa: So when somebody's hitting all those services all at once then it's too much and the economics don't make sense, it's better to have an old school system set up rather than...

Joe Weinman: Exactly.

Val Benincosa: [inaudible 00:22:59]. Interesting.

Joe Weinman: So that be out any day so you can just Google Adam Eivy for Disney or many of your listeners are probably IEEE computer society members so they get IEEE Cloud Computing magazine for free and that will be in the latest issue.

Val Benincosa: Yeah, that's fascinating especially I know [inaudible 00:23:23] being billed per transaction is a hot topic now days with that and so it sounds like that's something for enterprises to really take a hard look at when they're looking to go down that path.

Joe Weinman: Yeah. I love the strategy and I think ultimately, I have to tell you, the one thing that I really detest about cloud is usability, what made Lotus 123 transform really was ease of use. It wasn't that you needed a PhD in economics to use Lotus, anybody could do it. And things about, come on, IP addresses, seriously, it's like it's 2017 and we're still worried about managing IP addresses, like it doesn't make any sense to me. So it should be as easy as email, and actually I don't know whatever happened to this, but Microsoft had a cool thing that they were working on it was Excel something, data something, Data Scope or something like that.

The whole idea was that if you wanted to manipulate small data sets you did it in Excel on your laptop or smartphone even, and if you wanted to manipulate enormous data sets you could do it by Excel on your laptop. So it was completely transparent the fact that you had a trillion records sitting in the cloud didn't mean you needed to be a cloud expert, it just meant that you ... Kind of the same way that you might just type into Outlook the fact that here's your mail server and from there on everything is transparent. You don't know ... Most people have no idea, they're like wait is this thing running on my laptop or running in the cloud and how do I know, and if I deleted something is it gone for good, or can I get it? So in the same way that Data Scope, I think it is, let's you manipulate large data sets in the cloud transparently and obviously people are using data visualization tools but Excel there must be a billion people or more in the world that can use Excel with their eyes closed.

Val Benincosa: Right, yeah.

Joe Weinman: So that whole model of making everything easy to use I think ultimately with microservices that's it, okay, I get programming, I learned programming before most people on this call were even born and I can do it. Even I can do it. But it should just be transparent, it should be I want to say A equals B plus C and the fact that B is an enormous trillion record columnar record or column I don't care just A equals B plus C. It should be the same ... Or colon equals, or whatever it may be it should just be easy to use and I think that once the economics of microservices get past entry level pricing and we start seeing price wars there too then they'll actually be economic and then you start just get into performance optimization issues.

But again, even there, the point is that if you have let's say 100 millisecond minimum run time for a hit then it doesn't make sense to tune up your application below that, that was one of Adams' insights in the piece. And so he was like, "Man we spent weeks trying to tune this application and it turns out if it's running on your own resources under a classic strategy then of course it matters because if the application runs in 50 milliseconds rather than 100 milliseconds then it's half as expensive. But if you 100

millisecond minimum for a microservice transaction then it doesn't matter if it runs in a millisecond, or a 100 milliseconds, or a microsecond, or a picosecond, it's still going to cost you exactly the same.

SO then obviously you get into that whole interrupt driven type of, or event driven, architecture and obviously if you're latency sensitive even if the time from the trigger to the execution is really quick it may not be as quick as leading things through some sort of message queue into a running application. So obviously there's some performance optimization issues but I think that's the right architecture for the long term, especially once cloud becomes as easy as...

Val Benincosa: Like Excel.

Joe Weinman: Email or messaging. When my nine year old can do it I'll know we've arrived.

Niki Acosta: So in terms of this data collection that's happening, I was on a really interesting panel last week at the Open Stack Summit, I Tweeted out the link today, but I had Thomas Cameron from Red Hat, I had Rafi Khardalian from Cisco, and I had AI Sidowsky from 451 and we were talking about this notion that in exchange for having these more intuitive experiences you're also giving up a lot of privacy. And I don't think that we have fully grasped what our futures will look like when large companies have a bunch of data. People are going to know if we work out because we have our connected shoe or whatever, or they're going to know what our buying habits are because they're able to see inside of our refrigerators. What is that balance of more intuitive experiences versus privacy?

Joe Weinman: Well ultimately what it comes down to is companies are going to carve out, like they already have to some extent, at least allegedly that as a differentiator. So if you have a choice between let's say a free app that does x but they may use your data versus one that you pay for, it's like the difference between free but you've got to listen to ads versus paid for and the ads are cut. So that's a choice. So some people will say, "Hey if somebody wants to know what's inside my refrigerator let them have at it." And someone else might say, wait if my insurance premium is going to go up because I've got a lot of sugary food that are proven to raise cholesterol and lead to obesity and heart disease and I'd rather pay the \$5 for the certified secure refrigerator grocery store reordering app than save the \$5 there but pay \$10 thousand more a year in healthcare.

Val Benincosa: Or just put everything in aluminum foil in your fridge so they can't tell.

Joe Weinman: Right exactly. [inaudible 00:30:35]

Niki Acosta: Do you think consumers are hip to this though, like everyday consumers?

Joe Weinman: No, but I think that the third parties that have their own economy based on exposes like this, whether it's New York Times, Consumer Reports, CNN, news at 11 where your refrigerator may be telling your health insurer. So there should theoretically be, I'm not saying there are now, but one can hope that it's a mix of consumer choice coupled with some companies that are more ethical and make it their business to be ethical, just like no GMOs, it's no peeking inside your refrigerator. And I think that there's a market for that where right now all these things are ad supported, but people do pay for a higher degree of performance whether it's security or timeliness or what have you. So you pay extra for a safety deposit box at a bank that presumably has video surveillance than you do for a locker at the train station, and that's why.

Niki Acosta: I think about that a lot. I heard a story on NPR after the recent Google hack and they were talking about services that are already connected to your Google accounts and so immediately I pulled open my app and I was like uh I still have unroll.me installed.

Great. And look, unroll.me was a great service for me because I subscribe to a lot of things that I don't necessarily need to see individual emails for, I'm just bombarded by email. But I started to think about that, I'm like okay, who else has access to my Gmail account, Tripl't's in there for all my trips, what else do these people have access to. Presumably someone could get a pretty darn good feel of my purchase habits, things that I'm interested in, my political or religious affiliations.

- Joe Weinman: Yeah I reviewed all your stuff because I had access to your Gmail account, but it's something that it's just like there's only so much time in the day and like whatever, I started to get the pattern.
- Niki Acosta: Would people pay for Facebook if they knew that their information wasn't being shared, if they knew that they didn't have to see ads, do you think people would pay for it?
- Joe Weinman: Well I think you're already seeing that some companies have better behavior, so Facebook is kind of realizing with the whole links that lead to viruses, other malware, or if nothing else they're just a way of serving ads but don't have any content ... I have 22 patents that have been issued, but one of them or two of them are around...
- Niki Acosta: That's all Joe, just 22?
- Joe Weinman: What's that?
- Niki Acosta: Just 22 patents? That's all?
- Joe Weinman: Yeah only so far. But a couple of them are basically on looking at a better search algorithm based on instead of just the page rank algorithm and those kinds of relevancy based returns based on recursive analysis of links that you could actually look at traffic without doing deep packet inspection to better understand if someone was clicking away fairly rapidly, and you could either do it in the network or you could do that on the edge. Which actually when you click on a Google result and you're actually not taken straight to the URL you're first taken to Google so it knows which one of the links you've clicked on, and then ultimately to that link.
- Val Benincosa: Yeah and I remember when that changed too because I remember I was like, "Why is this so much slower now?" I remember that.
- Joe Weinman: But again, I don't think Google is doing anything unethical with it, it helps the algorithm, right?
- Val Benincosa: Right.
- Joe Weinman: If they know when these five links are presented humans are smart enough to ignore these four that are just random garbage and they always know this one, then that helps tune the algorithm. But in addition, what would be really useful to know is if you clicked on something and you were like oh geez, I can't believe I just did that this is nonsense then that should be worked in too. So it's the whole time at the destination, not just the initial choice that's relevant.

So it's one of those things where technology can be used for good or bad. It's like clean electric power or nuclear war and well is it good or is it bad, it's both. And in the same way, these kinds of things for some demographics is going to be this is great, I'm not a billionaire, and every penny counts, and so I don't want to pay \$30 a month for a Facebook type of service, so I'll look at ads I don't mind, and they're kind of interesting some times. An ad in itself is not bad or good if it's very relevant it's good, if it's irrelevant it's a waste of time, and obviously if it's malware it's bad. So the kinds of things that let companies tune these things can be good. Obviously if I'm sold, I'm

actually one of the few people that still watches the nightly news which is basically a non-stop pharmaceutical commercial interspersed with bits of news that I got on Google news 24 hours earlier...

- Niki Acosta: Because you need a more comfortable catheter, let's be honest.
- Joe Weinman: Exactly, yes. So...
- Niki Acosta: Those commercials are horrific. I see them too and I'm starting to see them more and more...
- Joe Weinman: Yeah well...
- Niki Acosta: And I click around and I'm like...
- Joe Weinman: That's how it is, I know. It was pharmaceutical, pharmaceutical, pharmaceutical, pharmaceutical, Trivago guy, pharmaceutical, pharmaceutical, pharmaceutical, Trivago woman so it's pharmaceutical, pharmaceutical, pharmaceutical, Trivago women, pharmaceutical, pharmaceutical. But whatever, it's a choice that I make and if I don't like it I should do something else with my time. So...
- Niki Acosta: What are the implications of humans being bombarded with this much data, do you think our brains have evolved to be able to handle the amount of input that we're getting on a daily basis?
- Joe Weinman: I know mine hasn't, and there's some studies out of Stanford that says that multitasking is a myth. People think that they're good multitaskers and they say, "Oh yeah, no, no I can do that, I can listen to music while I'm doing work, while I've got the TV running and I get it all." And then you ask a simple question like, "Okay well was somebody murdered?" "Oh what?" Or, "What happened with this plot twist?" "I don't know. I just missed that one thing." So I think through the existing mechanisms there's limitations. I think as you maybe deal with direct brain interface technology there will be some improvements because you're no longer limited by the interface bandwidth, but still you have limits to attention, so unless there's some pharmacological mechanism for changing our brains we're kind of limited by what we can do now. It doesn't matter whether my eyes are open or closed I couldn't have this conversation if I was trying to watch TV, I'm very much of a single tasker. And the robots are going to take over sooner or later anyway so we don't have too much longer to have to worry about being bombarded by ads.
- Niki Acosta: And then you won't have to be at your mom's house helping her move because robots would do it for you.
- Joe Weinman: Well that's a very benign view. Yes, hopefully you're right.
- Niki Acosta: If someone could invent something that would move you, man I would pay for that, for sure.
- Joe Weinman: True, it's called...
- Niki Acosta: You'd have moving companies still old school, you know?
- Joe Weinman: Oh yeah, true.

Niki Acosta: So Joe one thing we were talking about just before the show and we didn't get too deep in it because I wanted you to save it, but one thing that's been getting a lot of attention just in tech circles is this notion of net neutrality and what the future of net neutrality is going to look like given some of the announcements made by Ajit Pai. And you said that there are pros and cons, but what are those pros and cons in your mind as far as net neutrality goes and what is your stance on it?

Joe Weinman: So you know overbooking, people are irritated obviously by the recent incidents and I think it's pretty clear that dragging someone off a plane and nearly killing them is probably not a good idea either from an ethical perspective or from a customer messaging perspective. So people are like, "Well we should stop overbooking." Okay, but there's an example of where you make a trade off and that trade off is tickets would be more expensive and you'd have less flexibility. It's like concert tickets for example, they don't overbook concert seats but the issue there is that if you don't go you better find someone to buy your tickets or else you're out the money, you got to have a \$20 change fee for concert tickets or a \$200 change fee. So in the same way overbooking has its advantages statistically because it gives you ... Like the 10% of people that change their minds flexibility, but you're obviously playing a statistics game and whenever you have something that's outside of one or two standard deviations maybe then you end up with challenges, with bumping people from flights, or needing to buy tickets, and obviously mathematically, you're doing that economic optimum.

It's the same thing with net neutrality in the following sense, if you're an over the top player then you'd love to be able to continue making fat profits, basically printing money like leading over the top players do, and kind of let somebody else invest the \$10 of billions in capital investment and network infrastructure so that you can keep printing money. So yes, it's great from that perspective if you're an over the top player, it's great if you're a consumer that wants to be able to benefit from free services. If you're watching Netflix obviously you want not just 20 megabits per second of the house but 20 gigabits per second of the house so that the whole family can watching in HD Forte or soon 8K. So that's all great. But if you're the person that's investing in that infrastructure and trying to make a return that is just somewhere nominally, marginally above Christmas club accounts at the bank, then you want to be able to make fair risk adjust return on your investment, and I think therein lies the rub.

Like I said, there's pros and cons, it's depends on where you are in the ecosystem and are you making money or losing money. I would say that I have very little illusion that most if not all of the companies in the space are all profit seeking, growth seeking enterprises and so rather than listening to some appeal because we love the consumer so much it's more a follow the money type of thing and there's nothing wrong with making money, that's what drives innovation and people then make money, we wouldn't be in this Google Hangout right now, so that's all good. But that's really what it comes down to is who makes the profit it's not anything else.

Niki Acosta: What about browser histories as far as companies being able to, like they haven't before, capture your browsing history data and sell it to other people?

Joe Weinman: Yeah, well, that again, is something that was already happening, it's just a matter of now the players that were already able to monetize it don't want other people to enter the market and monetize it. So obviously I, as a consumer, don't want anybody, I don't care if they're an over the top player, network service provider, a foreign entity, or anybody looking at my browser's history, or I don't want them rifling through my drawers. I don't want them in my living room. I don't want them stopping my car on the road and throwing an ad in the window. I just obviously ... Most people like some degree of privacy, but again, I think it comes down to for every technology that says that we can look at browsing history, there's technology to sell browser or offer a browser that has incognito mode for every open Internet that is potentially eavesdroppable there is encryption and tor. So it's just a war of technologies and I guess what it comes down

to is the consumer/enterprise customer just needs to be wary and there's momentary advantage like with Unroll.me it was like nobody knew and then the news came out, and then there goes that business. There's also an ephemeral business models that they dry up and just this constantly evolving ecosystem.

Niki Acosta: Do you think that enterprises are ... If you had to give enterprises a grade on how they're doing in terms of adoption of or building out of things like artificial intelligence, or advanced algorithms to make decisions around the business, what grade would you give your typical let's say Fortune 1000 customer? How is the industry doing as a whole?

Joe Weinman: Look I talk to lots of CIOs and I go to lots of events with CIOs, and ITVPs, and director of IT and so forth and I would say that they uniformly have great heads on their shoulders, but we're also dealing with very complicated technological challenges, a lot of evolution, and also there's a well known problem just in staff. So if you are a super sharp, take whatever you consider to be the best school, MIT, Tsingyuan, Stanford, Cal Tech, whatever, if you just graduated summa cum laude from one of those schools you're either going to go private equity, McKenzie, Google, Facebook, Microsoft, Amazon. So the challenge is if you are the typical Fortune 137 company, whoever that is, I'm sure somebody can look it up, but it's Bob's North American steel continental can pick your favorite airline, et cetera, the first thing is how do you envision the possible. And there's some great work from Dick Foster from when he was at McKenzie that some people are familiar with but may not know that it was him and a colleague that did it around the notion that markets are much better at dealing with discontinuities than enterprises.

So they know the Christianson stuff, they might know some of the incumbents cur stuff around risk aversion, cannibalizing the existing product lines, et cetera, but markets typically are better at generating innovation. So if you are Yellow Cab you're thinking how do I get my tires at a better rate, you're not thinking let me create something called Uber, which is partly a lack of vision, partly a lack of traditional focus, and kind of the IT skill levels of lets say typical senior executives of these companies. So it's classic Thomas Coon paradigm shift stuff around it's either outsiders or young people that great new paradigms.

Today obviously with the cloud the ability to innovate between app store, and AWS, and/or its competitors, literally even a 12 year old can innovate. So there's this super cool guy, Tom Maybockshi who I've seen at IBM Interconnect Now twice, he's 12 years old, he's an amazing keynote speaker, does live demos, and he's like, "Oh yeah here's what I'm doing with the IBM Watson API and I created this new service just this morning that does this and that." And you're just like, "Oh my God." So the ability, you're just unleashing innovation as never before, but everybody is not Tom Maybockshi, so the whole thing is that that's the issue I think is first how do you envision what's possible, secondly, how do you deal with a classic Clayton Christianson type of disruptive innovation incumbence dilemma. He calls it the innovator's dilemma, but it's really the incumbent that has the dilemma. So how do you deal with that, and then even if you can deal with that and you say we'll cannibalize existing product lines, we'll create a skunk works, or we'll work with partners, we'll do a JV arms length, whatever it may be, how do you staff it. I think those are all the challenges.

Then when you get into some simple things like in Cloudeconomics I talk about well just look at the unit cost of your own enterprise data center versus running the similar services with that architecture in the public cloud, so that is easy to say, but hard to do. Here's the analogy, if you want to know how much a hamburger costs at McDonalds you'd drive there or look it up on the web and you look at the menu and it's like hamburger \$1, so it's pretty easy. You know that the unit cost of a hamburger is \$1.

How much does a hamburger cost in your own house? Well the cost of the beef you can figure out per quarter pound, but how do you allocate the cost of the kitchen, and if

you use this frying pan to make seven different dishes how frequently do you make hamburgers, and therefore, how do you allocate the cost for the hamburger versus that of making pancakes. And by the way, you use your home office to pay the electric bill which goes to the lights so you can see what you're doing, so it's the exact analogy if you're an enterprise data center. How do you figure out how much a transaction costs in your own data center. Well what's the overhead costs, SGNA for the enterprise, how much gets allocated, what about the salary and bonus of the CIO, well about the team that's working on operations but this is just one of the applications that they're worried about. And by the way, seven of them are on a new DEVops initiative.

Envisioning something completely innovative is really hard, and again, it's markets with disruptors and global innovation are probably a better way to do that. Once you envision it actually executing in every dimension in hard. And then by the way, if you thought you were kind of understanding hardware as a service then VMs come along, and then you thought you were understanding that and then containers come along, and then part of your team was there, but then microservices come along, but then AWS introduces this new service, but then Microsoft has cloud functions and they do that, but is it better or worse, and what's cost, and what the comparable Google function is. And then with IBM I can run OpenWhisk, and maybe I can do that in private or public.

So doing anything intelligently and optimistically takes information, which is constantly changing and which takes money to gather, and you kick off an initiative, and by the time that initiative reports to you and you revise that and you report to the board there's already been five new generations of technology. So it's not easy. So you've got very smart, very well meaning professional people, that it's a challenge being in this industry today.

Niki Acosta: How do you keep up Joe? How do you stay up to date on things? What...

Joe Weinman: I try...

Niki Acosta: Sources your information?

Joe Weinman: And listen to Cisco podcasts.

Niki Acosta: Shameless plug. By the way this is available on iTunes and ... Please subscribe.

Val Benincosa: Good answer.

Joe Weinman: Yeah so I'm more of a ... I either get my information through reading and Google news is the source of everything, or through conferences. So one of the advantages of being a frequent keynoter is I'm a frequent attendee and I like listening to what smart people are doing, and then I meet them when somebody is intriguing. For example, I was talking about this Adam Eivy article I like accosted him, he was probably ready to call the cops on me in Shanghai at Cloud Connect China. I was like, "Oh my God, this is great. Would you do a piece?" And he was like, "Get away from me before I call security." I was like, "No, seriously, I'm not a crackpot." So that's good too is things like IEEE Cloud Computing, there's some lesser known academics, and some pretty well known people David Linthicum that write for it frequently. But it hard, there's an infinite amount of information and there's only so much time in the day so it just seems like it's getting harder and harder, which goes back to my theme about why usability is so important. Nobody had to go to six week \$10 thousand training class to figure out how to use their first iPod and that's the key, is you just make things easy and usable, and then anybody can do it, and that's ultimately a mechanism for adoption and crossing the chasm.

Niki Acosta: I was at the OpenStack Summit last week and it just happened to be attached to a mall, there just happened to be a Barnes and Noble there, and I was meandering through Barnes and Noble, but one of the end caps was completely devoted to xphone for seniors, like how to use an iPhone for seniors, how to use a Samsung Edge for seniors, how to use an x, y, z device, how to use a computer, it was amazing to me the cultural divide, how much has happened. You can see it, you can see it between my generation and my mom's generation, and my grandfather's generation like the older you are...

Joe Weinman: Were eBooks available for download on how to use an iPhone?

Niki Acosta: No they were physical books and magazines that I saw.

Joe Weinman: Now when you use the term physical books, what are you referring to exactly? Sorry, just kidding.

Niki Acosta: Those things with pages.

Joe Weinman: Oh got it.

Niki Acosta: Meanwhile I was there to keep one of these grocery list things and to-do lists, I needed actual, dedicated notepads. This company makes these great like hey here's the things that you should do, keep track of it, and they put it these...

Joe Weinman: Oh very clever.

Niki Acosta: Mousepad format.

Joe Weinman: That's called digital physical fusion.

Niki Acosta: I need it.

Joe Weinman: Paper that uses a mousepad.

Niki Acosta: I wish there was a calendar that I could have on my desk and I could just write out on it and it would just feed to the cloud and sync with all my own devices, in my own handwriting. Wouldn't that be cool?

Joe Weinman: Well your nest cams have already been hacked into so the one that is where your calendar is in view actually is already in the cloud.

Niki Acosta: Oh great.

Joe Weinman: So don't you actually have an appointment coming up? I can't really see, I have a window open on your calendar.

Niki Acosta: What a scary future we're living in. My goodness. And great too, I think a lot ... You have a nine year old, I have an almost seven year old and I think a lot about just the path of education and how outdated it is. We used to have to memorize things and I remember telling my programming teacher who was also my geometry teacher I'm like, "Why do we have to learn this stuff? Can't computers just do this already?" And he's like, "It's not a matter of the content, it's a matter of using your brain." And I thought, huh, that's interesting, so you're telling me I should do this because it's good brain exercise. So looking back at those times it's pretty amazing to see that education how desperately it's fallen. My kid is asking Siri for anything.

Joe Weinman: True.

Niki Acosta: "Siri, how do you spell..." I'm like man, never before.

Joe Weinman: Well it's true. Talking about education, like my daughter would spend all her time in Minecraft if it were possible.

Niki Acosta: Yes.

Joe Weinman: Which is not really a big issue. I used to play with wood blocks when I was a kid. She plays with virtual blocks, and wood, and many other substances. But if they could just figure out a way to deliver history, and multiplication tables, and learning how to do division, instead of these enormous 80 pound workbooks, I'm surprised she doesn't have back problems from carrying her backpack. I can barely lift it. So if they just put it into Minecraft, then...

Niki Acosta: We'd be good. It would solve world hunger, it would be great.

Joe Weinman: Everyone would have a PhD in astrophysics as long as it were just a world of Minecraft or blocks.

Niki Acosta: You're a tech guy and I'm a tech gal and I'll tell you what, my kid loves his video games, he loves them. And I hear all the time, "You should limit their time", and I'm thinking about it, and I'm like man, on one hand I feel like I should, on the other hand, I interview a lot of podcast guests who were that kid. So it's always a struggle but we do the best we can do, right?

Joe Weinman: Exactly.

Niki Acosta: Well Joe we are about out of time. I think somewhere along the last few minutes we lost Val, but that's okay.

Joe Weinman: He dropped [crosstalk 00:58:19]

Niki Acosta: Thank you so much for joining us. Where are you going to be coming up? You're working on a new book.

Joe Weinman: Yes.

Niki Acosta: Can you tell us anything about that?

Joe Weinman: On innovation.

Niki Acosta: On innovation. Where can people find you?

Joe Weinman: I figured out the secrets to innovation and where some prior people have good arguments but they're not quite right, so I figured out where they're wrong and what to do. And it's funny how one thing leads to another like Clouonomics, one chapter in there led to the new book Digital Disciplines, and Digital Disciplines I was looking at innovation as a strategy and specifically cloud mediated innovation, like innovation networks, and idea markets, and online contest and challenges, like folded or the Netflix prize. So I did a couple chapter on innovation and as I thought about it more and more I realized that I think there's some valuable insights that I have so I just got to find a few free minutes, much less months, to actually bring it to a close. So hopefully...

Niki Acosta: Well I'm looking forward to it, most definitely. I got a copy of your autographed Cloudeconomics many, many, many years ago and I still have it.

Joe Weinman: Someday that will be worth a lot, like if it's a cold day and you need to start a fire and...

Niki Acosta: To stay warm?

Joe Weinman: Exactly.

Niki Acosta: When our electric grid gets hacked and it's freezing cold outside, and the only source of warmth you have is the books in your home?

Joe Weinman: Exactly. Well actually I just watched Day After Tomorrow last night, I watched part of it, and that's why they do there in New York Public Library...

Niki Acosta: Yeah, I remember that.

Joe Weinman: The [inaudible 00:59:56] freezes. But speaking of which, I know you got to wrap up, but am I the only person that thinks that Kindle was partly named for book burning?

Niki Acosta: Oh good one.

Joe Weinman: I just thought that was like ... I don't know, not to start another conspiracy, but that was my original thought for it's worth when I heard the name of it.

Niki Acosta: Well I do know that there are some deep meanings behind some of the project names in OpenStack and I won't say what they are because I've covered that in other podcasts like with John Dickinson of Rackspace if you want to go back through the old podcast archives.

Joe Weinman: What's one of the project names that you can't mention?

Niki Acosta: Swift, where they got the name for Swift. And there's a handful of people at Rackspace that knew where the product name for Swift came from. When I found out what it was, I was like, "Oh interesting." So you may have to go on a wild goose hunt because I'm not going to say it here. Or you can stick around after and I'll tell you.

Joe Weinman: All right, I'll see. All right, well thank you so much [crosstalk 01:00:58].

Niki Acosta: Follow Joe, it's w...

Joe Weinman: That was fun.

Niki Acosta: J-O ... On Twitter, J-O-E-W-I-E-M-A-N?

Joe Weinman: J-O-E-W-E-I-N-M-A-N.

Niki Acosta: E before I.

Joe Weinman: Wein kind of spelled the German way rather than the English way, and man.

Niki Acosta: Awesome.

Joe Weinman: All right.

Niki Acosta: And with that I will toast you a glass of wine tonight. Thank you so much for joining us Joe.

Joe Weinman: Oh you don't have to toast me, feel free to just express mail the bottle.

Niki Acosta: I'll think about you when I burn books for warmth, how about that?

Joe Weinman: All right. Fair enough.

Niki Acosta: I hope you can come back sometime soon Joe, thanks...

Joe Weinman: All right, sounds good.

Niki Acosta: For joining. Those of you who are here, SoundCloud, we're on YouTube, don't forget to subscribe, please leave a comment, leave a message, we'd love to hear from you. And with that, farewell. Good bye.

Joe Weinman: Farewell.

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