Patrick Moorhead: Hillary, thank you so much for being part of this year's Six Five Summit. Data is this track and a huge part of everything that we're seeing today, and you are from Teradata, who was doing big data before it was cool. Thank you so much for coming on the show.

Hillary Ashton: Pat, thanks so much for having me and big data is the new cool and the old cool so I'm excited to be with you and talk a little bit about data.

Patrick Moorhead: Yeah, it's incredible. Hillary, there's been a lot of talk about this notion around open data, and beyond the many layers of interpretations, the many different definitions, there's also a lot of hyperbole about what is open and what isn't. You have to expect something like that, but can you provide some perspective on this?

Hillary Ashton: Yeah, absolutely. I agree, there's a ton of hyperbole and sort of nuance around open data and what it really means, but let me start with how we, at Teradata, see it. We define open data as data that's not proprietary. It basically belongs to the users and it's based on open standards, but it is governed. It has to be compliant. It has to be ethical and it has to be secure, especially in the world that we're living in today.

Patrick Moorhead: Right.

Hillary Ashton: When you work with data, these expectations are just table stakes. And so, if I sort of build on that a little bit, sort of what is open data? Open data is about interoperability and it's based on open standards so that organizations have the freedom to choose what formats they want to leverage, what environments they want to use it in and based on the business needs that dictate how to use that data at any given time.

And then, I would just add to that companies really want to call the shots about how to use that data, how to integrate it, how to use it ethically rather than being hamstrung by vendors who try to dictate their future and their technology over how to use it. Companies really should have 100% control over the ability to manage data and manage the cost of those data over time.

Patrick Moorhead: Yeah. let me ask the contra question. Open data is not what?

Hillary Ashton: Oh, right. Open data is not, it's not a proprietary platform or data formats that result in data monopolies within a marketplace that are based on sort of a pay for play model. It really needs to be open. And so, while some unicorns out there have recently enjoyed lofty valuations based on that strategy, this approach really leads to lock ins. When you're moving to the cloud, you don't want to lock in. It actually can even lead to a worse outcome like antitrust behaviors, if we think about this over the long term.

I think we learned a lot about data and database lock ins in the early '90s and we're looking for something new and open. It's also not a walled garden that undermines access or discourages

experimentation or innovation. It shouldn't undermine collaboration with a closed system because we know that that's what kills innovation.

Patrick Moorhead: Yeah. Is there anything around, let's say PII data or anything related to that that has to do with open data or is that just something completely different?

Hillary Ashton: Yeah. I mean, we strongly believe in protecting PII data and while there's different formats and systems that should be open, companies really have the absolute legal need and right to hold that confidential data and use that for good following the PII guidelines that the governments have set out for us all.

Patrick Moorhead: Yeah. It's funny. I've been in this industry over 30 years and I guess I've been maturing in my way of looking at lock ends in that every enterprise or every government organization will have some sort of north star where it's like, "Okay, I have to make a commitment to this." I think we've learned from the mainframe and the mini computer days of there are certain things you don't want to get locked into because it really holds back innovations.

By the way, nothing gets mainframes. Ironically, there's more MIPS on mainframes this year than any other year in its history, but it's one of the biggest reasons that we saw mini computers and then client server relationships is that there was bigger innovation outside of that. I think net net, what you're saying is partially that open data is an answer to many of our problems and, dare I say, all of our problems if I'm going to be a little bit dramatic, but I like drama. But is this really the case though?

In your opinion, when it comes to open data, what are the biggest opportunities as well as the challenges? I do want you to address both, the opportunities and the challenges.

Hillary Ashton: Yeah. Yeah, absolutely. I mean, open data sounds like a great big idea and I believe it is.

Patrick Moorhead: Who doesn't like open, right?

Hillary Ashton: Open is great.

Patrick Moorhead: I like closed. I like proprietary.

Hillary Ashton: No. Closed and proprietary, run away. You shouldn't be doing that, especially when we're thinking about data and analytics and experimentation and innovation. Given data's historical ownership and access challenges, I think it's really easy to support efforts to broadly increase data accessibility. It just generally benefits society. It benefits all of us. For instance, leveraging school performance data, like scores and socioeconomic status, to better inform school funding and resources, and even after school programs or trying to understand where to put the best firefighting. I live in San Diego. Where should we put the best firefighting outfits based on the climate change that we're all seeing?

But for those of us in the data business, we know that not all data should be treated the same. As I mentioned before, we know that we have a special responsibility to protect data containing PII, or personally identifiable information, and we have to use that to balance our support for openness with respecting individual privacy and respecting rules and governance. But the open data movement really demands incredibly complex technology and societal changes and this sort of magic wand scale transformations also introduce many challenges, especially when it comes to data responsibility and kind of walking that line between cool and innovation and creepy. We want to avoid creepy obviously.

Now, I think open data is responsible and cool when analytics can leverage accurate, broad based insights to really fuel positive societal changes, like some of the examples I just gave. Yet, it does become irresponsible and even creepy if anyone or everyone has access to PII data. It really would strip us of our personal reasonable privacy and, obviously, it violates the law. We need to make sure that when we think about open data and open data access that we respect the PII data and stay away from that creepy concept.

Now, I think data sharers also have to ensure data privacy. We have to understand lineage, where did this data come from, where did this analytic outcome come from, so that we can go back and make sure that we're doing things ethically and also that we're providing good governance models and good governance frameworks so that we can make sure that we continue to provide ethical data outcomes, even in an open data environment.

Patrick Moorhead: Yeah. I have to ask, is part of your business model through monetization of that data at Teradata?

Hillary Ashton: Yeah. At Teradata, our business model is absolutely not based on data monetization. We believe that consumers should have the right to participate or not in a market for their data. We also believe that consumers should be in control and companies should compete for your data ethically, and then they should manage that data and govern that data.

If we look to the future, we believe that business models should evolve not only to responsibly leveraging data, but also consider how consumers could be compensated for the use of their data, whether that's in the form of data dividends through incentive programs like loyalty programs or through other kind of innovation models.

Patrick Moorhead: Where does this start? I mean, does it start with self monitoring? Does it start with government regulations? How does that start?

Hillary Ashton: Yeah, I mean, I really think of the governance that has come in from the government and from watchdogs as, really, an accelerator to help businesses make smart decisions about how to use data. In a lot of ways, I think the change that we've seen from government agencies, whether GDPR or PII protection, really allows us to enable our customers to leverage data ethically, but also to compete on data and analytics for the best outcomes and really balance that governance and restriction on data with the benefit that it can provide to all of us.

Patrick Moorhead: I think what would help the audience to better understand this is for you to maybe talk about the market landscape of the open data movement, the technology, the philosophies, what people are saying, and maybe the overall traction of the movement. Essentially, what's the current state of play?

Hillary Ashton: Yeah. I mean, as we talked about before open is absolutely the direction that I see the market moving in. From a technology perspective, the industry is moving to more open data and analytics, more usage of a wide range of tools, moving away from that closed and proprietary mindset, which really allows customers to future proof their data and analytics business.

Now, it's important to remember that there's also several interpretations and flavors of open, and I think the most game changing version really requires more than just talking the talk. You need to have a strong understanding of data architecture, of robust governance capabilities. You need to have deep data and analytics domain expertise about how you want to use that data and, of course, in today's world, tremendous scale because the volume of data is only increasing. The usage of AI and ML is massively increasing as I know you know, Pat. Massively too. And so, that data scale, I think is really important. And then, the ability to integrate and optimize the data from a range of formats to realize the true value that data can provide to you.

Patrick Moorhead: Not all the players have the same philosophies and I'm curious how you see the difference between maybe private companies, public companies, and private data, how that plays out.

Hillary Ashton: Yeah. You hit one of the areas I like to talk a lot about, especially when I'm chatting with some of our customers. Not all players share the same philosophies. Some private companies are using the term open data with very closed intentions, aiming to open the formats of public and private data, but only as much as it really helps them manage their own proprietary environments. Some unicorns out there have done a good job of creating the perception that they're open, and then they actually stand to profit from that despite their data sharing marketplaces being actually much more proprietary and, essentially, sort of a walled garden. It's open as long as you're in my garden, which is really very different than true openness.

Patrick Moorhead: Right. Yeah. I got to tell you, sharing some of my data. I'm an equal opportunity. I have Apple, I have Android, Windows, Mac OS, and I'm sure some other stuff that I would really like some easier ways to share capabilities and data on those platforms and it's tough. If you're technologically competent, you can take care of all that stuff if you have the cloud, but it's harder than it needs to be. I'm curious, what are you doing in, let's say, specifically with open data, open analytics? You have something called QueryGrid, which is your data fabric, which helps people to do that sharing. I use the smartphone example, but you do things that I think are a lot more important between enterprise customers and data centers.

Hillary Ashton: I don't know if I ever want to give up my smartphone, but certainly I think QueryGrid is a game changer for the market in creating a true data fabric. Actually, I would even go so far as to call it a query fabric. And so, historically, because of architectural constraints, because of proprietary approaches, everybody in the market said you have to move your data into a proprietary environment in order to get value out of it. But now, with the cloud and the availability of a

broad range of areas where you may want to keep your data, maybe it's cheaper to keep it over here. You were talking about mainframes. Maybe you don't want to move it off your mainframe because it would be a ridiculous architectural exercise to do that for little or no value.

QueryGrid allows you to connect to data wherever it is, and that is a huge difference when we compare ourselves to others in the market who are saying, "Oh, put it in here. Put it in our closed and proprietary environment." We believe that you should be able to use data and not have to move it. And so, with QueryGrid creating a query fabric, we allow you to do a remote push down query wherever the data is, whether it's in AWS Redshift, whether it's on BigQuery, whether it's in Teradata Vantage, or maybe it's running on Salesforce, and be able to leverage the insights from that data and pull it back to be able to do AI and ML at scale.

Patrick Moorhead: That sounds incredible. Does that include the Edge too, by the way? And what I mean is not, not the Edge like a smartphone, but like an Edge server that's sitting in a restaurant or that is creating a ton of data. Can I query on that too?

Hillary Ashton: Yes, absolutely. In fact, we support streaming, which is kind of what you're talking a little bit about there, the ability to take live streaming data, whether it's sitting at our retail shop or maybe it's sitting on a factory floor, it's streaming off of these manufacturing machines and being able to detect something like maybe this machine needs to be taken out of service before it gets shut down and brings your factory line down. Being able to real time ingest just the right data from that stream, and then run that query locally without having to do a lot of feeds and speeds back and forth across a large and potentially expensive, and maybe bottle necked throughput depending on where that factory might be in the world.

Patrick Moorhead: Yeah. I love the maturation of not only the thinking because, before you get to action, you have to recognize you have an issue, and not you meaning Teradata, but the industry having an issue. I would say, gosh, seven or eight years ago, you had pressure from boards and executive staff that says everything you need to do needs to be in the public cloud. And then, the industry sobered up about four years ago and realized, "You know, this hybrid thing is real." Regardless of where the data is and, oh by the way, let's not forget about the Edge, which is going to have the highest growth rate of any place out there. It's where the data's being created. We have to have some sort of mechanism, a fabric, a query fabric like QueryGrid, to make that happen. I'm glad we're no longer in denial. Now, the industry just has to make it happen in mass.

Hillary Ashton: That's right. Yeah. I mean, if you think about it, data has weight to it. We call it data gravity, right?

Patrick Moorhead: Right.

Hillary Ashton: Do you really want to move this massive chunk of data? You're not even sure how useful it is and say, "Oh, move all of that over." It's going to take your IT team what, nine months to make that migration. Maybe there'll be something useful in it when you get there. What if you could use the data where it is, understand the value that it can create for your company, and then make

some choices about any data movement that would be appropriate in order to suit your business needs.

Patrick Moorhead: Yeah. We talked a little bit about the past, or I talked about the heritage of Teradata with big data. We talked about, really, what you can do with an open data approach today. My final question for you is what should we expect in terms of the future? I mean, it has evolved every year for probably the last decade and it's going to keep evolving. What can we expect?

Hillary Ashton: Yeah. Well, I mean, I'll start where we... Maybe I'll end where we started. If you believe in open, which I haven't met anybody who does not believe in open, open and shared data, then we need to understand that walled gardens really kill innovation. It's simply the wrong approach for the future and the technology has really blossomed in a way that allows us to be open in terms of how we think about data and analytics.

The second thing I'll say is if it can't scale, you should look elsewhere. Teradata just announced a thousand node test in AWS. It's the largest single system test in an AWS environment, which means you don't have to move data around. You just use it where it is. Think about that? A thousand nodes, that's crazy. This doesn't mean that our customers can't create their own and proprietary walled gardens if they want to, but we're here to be enablers of open data, respecting that data gravity that we talked about, leveraging a remote query grid capability well beyond what we know today and into some of those Edge areas that you talked about, into remote data locations and, actually, through the amount of scale that we're expecting AI and ML to really grow into over the next decade. I think that notion of open data combined with that scale is really critical to successfully competing in the market.

And then, finally, as we look to the future and consider other emerging trends like Edge, like we talked about.

Patrick Moorhead: Right.

Hillary Ashton: The walled garden platforms are already being predicted to be unable to keep pace with those industry challenges. We're already seeing that some of that is becoming cost prohibitive in the market that we have today. We're really excited about the future here at Teradata. I think we're looking at huge opportunities to circumvent the lock ins that some competitors are out there with making data. Where we're focused is making data much more available and open in the ecosystem that we're all living in today.

Patrick Moorhead: Hillary, this is the best conversation I think I've ever had on the big picture of open data. I've certainly enjoyed it and I'm certainly the audience is enjoying it right now. I just want to thank you for coming on The Six Five Summit 2022 data track. I mean, you are Teradata.

Hillary Ashton: Thank you, Pat. Thank you so much. Enjoy the rest of the summit, everybody, and have a great day.

Patrick Moorhead: Thanks so much.