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Breaking the Chains in the Cloud: How Cost Balance Fuels Data Freedom & Innovation: A conversation with Paul Scott-Murphy of Cirata

Steve

Cloud computing has revolutionized the way businesses operate, but there's a hidden challenge many don't talk about—data freedom. The cost of moving data between cloud providers can be a massive roadblock to innovation, locking organizations into expensive ecosystems. In this episode, I sit down with Paul Scott-Murphy, Chief Technology Officer at Cirata, to explore the real costs of cloud, why balancing those costs is critical for future-proofing your business, and how true data freedom fuels innovation. If you've ever wondered how to break free from cloud cost constraints without sacrificing performance, you won't want to miss this conversation. Let's dive in. Paul, welcome to the CloudTweaks Podcast.

Paul

Steve, thanks very much for having me here. It's great to be able to talk to you today and follow up on some of what I've written in the article. Pleased to be here.

Steve

It is a truly excellent article about how balancing cloud costs drives data freedom for an innovative edge, something that is really important for people to consider, given the changes that we are facing in all areas of cloud. But I'm going to turn that over to you. The article itself highlights the harsh reality of being a customer of large cloud providers, especially the cost of data transfer from a major cloud provider, of data egress. This can become very large, very fast. Maybe we should start by a little bit of a fast recap of the article for those who have not yet had a chance to read it. What's your message in your article?

Paul

Well, thanks for the kind words on it. Steve, the article highlights some of the drivers behind market economics with cloud service providers, explaining the important example of misbalanced costs for data movement. How does this natural tension between cloud providers, users and regulators, but that said, what the article talks about is the costs and benefits of having data freedom. It's really about competition and innovation and why there's more that will happen to improve the benefits we all get from using the innovation that's accelerating with technology that's driven by massive data volumes. So it explains how cloud providers have established this cost imbalance between some of their fundamental services, particularly storage and data transfer, particularly making ingress costs free, while egress costs are quite expensive. And then that, of course, is being recognized by regulators. And I gave some examples from the UK competitions and Markets Authority, the European Union, the California Consumer Privacy Act, and by some other industry initiatives, where I mentioned one example being the bandwidth Alliance. And in response to those regulatory changes, some of the large public cloud vendors and many small organizations have begun to comply, offering some ways of reducing costs associated with data movement among platforms. And then lastly, of course, my company Cirata advocates quite strongly in favor of the benefits that come with data freedom, providing technologies and products and solutions that help our customers get advantages from these outcomes that become possible with access to the massive innovation that's occurring in technologies driven by large data sets.

Steve

So it sounds like things are moving forward in a positive way. This isn't like it's a pitched battle from the very beginning, if some of the major providers are complying to these various regulations and suggestions within the industry. So where is the problem at this point? Obviously, there's a way to go. Or are you simply just wanting to remind those who are hesitating or who are doubtful about the benefits? You know, are we still in the middle of this battle to even out the essential monopoly of what large cloud providers have been doing thus far?

Paul

Well, firstly, I'd say, of course, there's a large way to go right, many more things that can be done in the market, and that what we're seeing so far is very much consistent with a long arc of progress in technology. In general, systems naturally move from being closed, proprietary platforms to becoming more open and interoperable ones in response to customer demand, and because that's really what the market dynamics favor, that's the direction that technology moves in in general. So simply put, innovation adds value and benefits those with access to it. So to follow that, of course, there's a lot more that can be done to foster access to innovation in the cloud, but particularly for the systems that are driven by large amounts of data or access to large amounts of data. So think about language models, optimization and business analytics platforms, customer service platforms, the innovation we see in generative AI and similar technologies. So what I said in the article is that there's obvious benefits from data freedom, which is really access to innovation, some regulatory response to that, with the CMA, the EU, GDPR and similar, and then some industry response to that, with vendors like Google, Azure Oracle and AWS offering limited options for customers wanting to comply. But of course, they need to balance that with the natural business strategy that they have to make their own platforms more attractive and more beneficial for their customers. So that can and will go a lot further, full interoperability of data among the sorts of systems that offer these competitive, innovative outcomes from data doesn't yet exist. Impediments remain with platform costs associated with data transfer and with interoperability among the sorts of systems that use those large data assets. So yes, there's some movement, but still a long way to go.

Steve

So to play devil's advocate, what's wrong with the uneven data management model, given the value of what an organization would rely on to work with a large provider like Google for guaranteed uptime, for example, the infrastructure that they, Google, have invested to make this work. Is this not worth the cost? Is it not simply the cost of doing business?

Paul

Well, of course, there's benefits that you gain from the innovation that's occurring within individual platforms, but the strong argument I'd like to make is that innovation won't be isolated to a single environment, and particularly for the types of systems that require use of large data assets, the broader benefits that come from access to innovation across the ecosystem as a whole should really be kept in mind. So the cloud providers, of course, are going to, and do, offer very unique and very compelling reasons to choose their platforms. They will continue to innovate in ways that make it more beneficial over time to commit to their offerings. It's not just a cost driver that's causing this imbalance in the market, but the outcomes of innovation across cloud providers and across platforms that are available in the cloud.

But there's two important things that are really wrong with the foundations from that. First, of course, is that it's a truism that change is the only constant. It's just completely true, and data gravity is a very real aspect of how organizations need to think about the notion of that. So exponentially growing data volumes means that the choices organizations make today to optimize in the short term may well become a burden. Tomorrow. You can gain advantages from using or benefiting from innovation in one

environment that makes sense today, but that tomorrow may prevent you from accessing innovation elsewhere. So the second thing that's fundamentally wrong with these foundations though that many organizations are already bound by regulatory or competitive requirements to enable operation in a multi cloud manner. The examples that we see most dominant there come from the financial services industry, where large financial services institutions are already compelled by regulations not to be beholden to the operation of a single cloud provider from many parts of their infrastructure. So there is already a need in many industries to establish a means of operating in a multi cloud manner, which is an imbalance against the innovation that might occur in individual platforms. But these are all just natural outcomes of what we see in technology in general, what we see as the result of the innovation that's occurring in the cloud, it just happens to be magnified by the fact that much of that innovation is an outcome from having access to large volumes of data, and there's a real impediment to being able to benefit from innovation more broadly, as a result of having data co located and all the technical limitations that come with that.

Steve

I just want to revisit that term that you used in your explanation, data gravity. Many of our listeners will be familiar with is, but others may not. So could you take a moment to explain what it is and why it is important?

Paul

Data gravity is the notion that data are more valuable with access to other information, meaning that data accumulates in silos over time, because having more data is better than having less data. The natural outcome from that is that you build up data assets in single systems or in single locations, and those data have gravity associated with them, meaning that they both attract other data assets and they are difficult to move or use from systems or applications or locations that do not have access to. So it's a very natural element of data management overall, and probably a term that most people are familiar with.

The challenge with data gravity, though, is that data are accumulating at exponentially growing rates. So this has been the case for over the 50 years that IT systems have been accumulating data. This is a trend that is undeniable. It's unchanging because it's exponential, it makes it difficult for people to understand the degree to which future considerations need to be weighed into the decisions being made today. Basically, the future is always more important than the present, particularly so for the types of systems that use large data, assets. Data gravity is really the general term that describes this natural outcome from how information is processed, stored and used.

Steve

When you talk about the importance of strategic flexibility and innovation, allowing organizations to choose their cloud services to best meet their needs, do you find that there is some stifling, any collusion on the part of the big players to maybe fix the game a little bit to make it very difficult for people, as we have seen in other industries, or are they being good corporate citizens in helping organizations of any size do what they need to do?

Paul

I definitely state there's no such thing as collusion on the part of cloud providers that. Absolutely not. There's no secret cabal of oligarchs. It's just a simple, natural outcome from market dynamics. Innovation occurs, of course, and that will continue. Regulations will emerge in response to that, recognizing that the limitations imposed on users of innovative technology need to be accounted for, and of course, the customers of those platforms and systems and solutions are going to continue to look to achieve their own goals with access to that innovation in technology, and they'll always do what's needed to make that happen. It is just a natural outcome from market dynamics. This just happens to include for those

customers, of course, recognizing and accounting for the need for flexibility to access and benefit from innovation.

So the natural dynamics in the market where cloud providers, particularly with the notion of data gravity, giving a natural impediment to establishing systems that can benefit from their peers, again to innovate and provide good reasons for their customers to adopt technologies in their platforms. Customers, of course, are going to want to adopt and benefit from those technologies, but with the longer view of technical innovation, will absolutely require systems that allow them to gain access to that innovation, regardless of where it occurs. The natural impediments to that are a general part of how information is occurring over time, particularly around data. So data is fundamental, of course, to information systems, and because of what occurs with the types of drivers behind the outcomes you see from data gravity, this misbalance between how systems are built over time, how innovation is accessed, how providers of platforms generate the technologies that customers gain benefits from, and the users of those customers gaining those benefits will continue over time.

What it means, though, is that organizations will continue to recognize that what they want to do is going to be achieved more rapidly and with better outcomes in the long term, if they adopt a strategy that enables the freedom of their data across these platforms, rather than where the cloud providers themselves obviously want their customers to consolidate on the use of their cloud. So it's going to be a natural tension that will occur over all time, recognizing that, recognizing that, again, innovation will occur in the industry in response to it just needs to be a part of how organizations using data at scale strategically think about their data architectures in order to benefit from it in the long term.

Steve

The next thing we have is talking about the fact that maybe this kind of data sovereignty is self-fulfilling anyway, given that so many territories or areas in the world are creating their own individualized privacy regulations. I mean, GDPR is the is the most important, and also proof of concept, right? I mean, how successful it seems to be. There are numerous states now, like California, obviously, which are becoming very aggressive with regards to protecting data, even inside individual industries like personal consumer data in the automobile insurance industry. Does this more or less force the need for proactive data sovereignty anyway, so that those people who are considering staying with a large provider, does this become a moot point? They have to become that agile, to survive cross border commerce?

Paul

We definitely see the emergence of those regulatory drivers influencing some of our customers' initial strategic response to how they think about their data architectures and the systems that they're building, so how they orchestrate and manage their data assets more effectively is influenced by the introduction of those regulations.

But the more interesting thing that we see is that the key drivers for organizations, particularly those with large scale data, come more from their understanding of the competitive benefits they gain from access to innovation, rather than the regulatory drivers for it. So although the emergence of regulations like those you've referred to is definitely a driver, in many instances, we see most of our forward thinking customers being driven more by the benefits they see in natural access to innovation in information technology systems over time.

The other interesting point about regulations in regards to data mobility and data freedom and controls around access to data is that they're not equally applicable across every type of organization. You'll find that some of the regulations imposed in GDPR, for example, only take effect for organizations above a certain threshold of size or with a particular type of customer. In other cases, regulations are more broadly applied, but it does mean that there's some difficulties and challenges in every enterprise understanding

what regulations apply to them, when they need to be compliant, to them, what they need to do in response, it's quite a complex environment in which they need to operate. So just understanding that alone is a difficult thing to do. That again, is another reason why the real drivers behind the need for data freedom, data mobility and interoperability across different platforms tends to be driven more by the benefits and outcomes that can be achieved with access to innovation. So while regulations are good and in many instances, they're driving useful outcomes for end consumers, the real market forces are those related to the costs, efficiencies and benefits that come with access to technology.

Steve

And I think people are seeing the need for that kind of agility and sort of market influence so much more in these last couple of years with the existence of AI in everything. I mean, even though this is not a topic about AI, the pace of change is remarkable. I mean, the whole release of DeepSeek just sort of shocked so many people to sort of say there's always something else coming along that we've got to react to.,

Paul

Well I think I'd echo much of what I've said, innovation is the primary driver that leads towards the outcomes we're talking about here, rather than regulation. And that's been an obvious outcome from the IT environment over all time is that it moves very rapidly. The accelerating pace of innovation is clear and obvious at all times. And innovation is not isolated to particular jurisdictions or particular countries. The emergence of outcomes like deep seekers further evidence of that. And while there might be some questioning the cost basis that they have discussed about what they've done with the introduction of their model and where they have made use of other technologies in order to achieve those outcomes. It is further evidence that innovation is the sole constant in information technology we can expect, and should expect accelerating rates of innovation, particularly in artificial intelligence, right? It's clear that that is a huge area of investment across it. It's a clear that it is driven to a large degree by access to and the use of large data assets, the drivers behind much of the innovation that's occurring around language models today is based on the degree to which there's access to accurate, well curated data assets that's a consistent aspect of information technology overall. So overall, I think innovation and the degree to which that drives outcomes in information technology is of paramount importance that's recognized broadly, and we can continue to expect that over time.

Steve

Let’s bring the C-Suite into this discussion – the people whose role is to ensure the prosperity and long term security of their organization. They are becoming increasingly involved in the technological side of their operations – as they should. What points should they take away from your article?

Paul

There's normally a few things that I would try to keep front of mind whenever I'm talking with anybody about data strategy or IT strategy at the high levels. So the first thing is always to think forward. Don't base your data strategy solely on your existing CapEx versus OpEx spending model, your existing customer requirements or your existing understanding of what your business needs are. Think forward. always consider the technical interoperability of your data assets. Data is fundamental to your information systems, and therefore fundamental to your business. Data become more valuable when they can be used alongside other assets of information. So data gravity is the outcome from that, consider both the access to and the technical interoperability of your data assets, and find good ways in which you can enhance that going forward, because it means you will have greater access to the innovation that's occurring across the breadth of IT systems, artificial intelligence, and every other area that has not yet emerged in the market. Technical interoperability, physical interoperability of data is important for that.

Think therefore carefully about what you can do today to benefit from data architectures that allow you to consider access to multiple types of systems and platforms, whether that's multiple clouds across your on-premises environments, different types of technologies. Don't just think about the cost overheads of a multi-cloud model or a hybrid architecture. Think about what you can do to benefit from the innovation that that gives you access to, and keep that in mind in how you think about your large term data strategy or large term, IT strategy.

And then lastly, obviously, plan for growth in data. Whether that's the data assets you don't yet have or you don't yet have access to access to information, access to data is only going to grow over time, and this is occurring at an exponential rate across the industry. We see common trends of 20 to 30% data growth in most of the customers we work with, and understanding the impacts of that type of exponential growth is a difficult thing to do. So keep those things in mind. Think forward, understand what innovation means, understand what it means to have access to innovation, and what you can do to enable that, and then plan for data growth, not just growth in the types of technologies that are available, but growth in your data assets, your proprietary data assets, your peers' data assets, and understand what that means to how you think about your long term strategy for accessing innovation in information systems.

Steve

Paul, I want to thank you for your excellent insights here – not just within the article, but your clear message about how access to data drives innovation and how a more flexible cloud data management strategy gives organizations the freedom to basically pursue their futures. This has been a delightful conversation.

Paul

Well, Steve, thank you very much for the time. It's always great to speak with somebody as knowledgeable as you are along the emerging important elements around large scale data platforms, around cloud technologies. And fantastic for me to be able to speak with you today and detail more about what Cirata views as important in data freedom and access to innovation across the cloud and across Information technology in general, thanks again for the time.

Steve

Paul Scott-Murphy is Chief technology officer at Cirata, and you can find out more about his company by visiting Cirata dot com (spell out). The CloudTweaks article upon which this conversation is based is entitled "How Balancing Cloud Costs Drives Data Freedom for an Innovative Edge" and is available on CloudTweaks.com. A direct link to the article is included in the show notes.

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