Harmail Chatha

The conversation is really changing around sustainability. What are the data center providers doing to be more efficient, lower their power utilization efficiency or effectiveness, and their water utilization as well.

Jason Lopez

Harmail Chatha is the Director of Global Datacenter Operations for Nutanix. This is the Tech Barometer podcast, I'm Jason Lopez. What you're about to hear is an insider's perspective on how people who run data centers think. In this podcast Harmail gives us his insights on the role data centers play in dealing with climate change. Data centers run the digital world. According to an Ernst and Young sustainability report, if you add up the power used by all the digital devices on earth, it accounts for 4 percent of global greenhouse gas emissions. Data centers contribute to almost half of that.

Harmail Chatha

Customers are getting into it and us as Nutanix, we have a number of customers reaching out to our sales folks saying, what are you guys doing from a sustainability standpoint?

Jason Lopez

One thing Nutanix has done in it's data centers is shift from a physical orientation to infrastructure as code wherever it can. Whenever possible, workloads run on virtual servers rather than on dedicated hardware.

Harmail Chatha

Anything and everything is pushed out through code versus having to manually go into operating system and do anything like that. And that in itself has been talked about probably for a decade plus and is finally coming to fruition with heavy usage of public clouds and heavy usage of private clouds like Nutanix. That provides some efficiency gains because you're able to better utilize the hardware if you're able to load it up with multiple VMs on it or workloads on it is if we get more people to do that, get off of dedicated bare metal horizontal buildouts, go more virtual, increase your utilization where you know, the average utilization of a server on a bare metal is 30 40%, with Nutanix depending on the nature of the environment and the workloads we're running, we can push that up to 70, 80%. That's where you gain sustainability. Being more efficient on how you utilize your hardware, increasing the utilization of your space, you're increasing the utilization of your power that you allocated for in the data center. And of course the cooling that the data center is providing as well, that's going to move us forward into that sustainability conversation.

Jason Lopez

Part of the conversation isn't just about CO2. It's about water which is used to cool data centers. Lots of water. This is a big deal, especially in the western United States which has experienced below average precipitation since the late 1990s. And despite some intervals of rainy seasons, climate scientists warn not to count on it. As innovative as the computer industry has been at developing networking, IoT, AI and the cloud, Harmail says they need to get more efficient in how they cool operations.

Harmail Chatha

They can't be using very traditional old school mechanical. They should be trying to go into environments where they can use outside air to cool hence leading to better sustainability.

Jason Lopez

Or move to where the water is.

Harmail Chatha

People just need to give up the notion that I need to touch my gear. You don't need to touch your gear.

Jason Lopez

And another factor is locating data centers is putting them in the wrong place... literally in the same building the company is in.

Harmail Chatha

Your cost to operate within office building versus a true and traditional data center is just so much higher.

Jason Lopez

He cites other factors in location such as the General Data Protection Regulation, which has sparked more localization in the countries where it's required.

Harmail Chatha

And then what you do have is least, you know, multi databases or multi-data center strategy, whether it's two data centers, three data centers for high availability, that distribution of compute networking and storage. Whether that happens in that traditional three-tier sense of big sands versus the Nutanix hyperconverged infrastructure. That's kind of the trend.

Jason Lopez

Sustainability in data centers is about using less power, less water, producing less CO_2. This, in the face of more. More apps, more storage, more demand. One of the industry's recent challenges was a moment of learning. That was during COVID. There was a lot of stress put on Internet providers, especially services like Zoom.

Harmail Chatha

Their demand increased so much by everybody working from home that they couldn't even predict that. So as much as we wanted to talk about sustainability and how we can be efficient and the impact of data centers, I think it's greater now than it was pre pandemic. So what's going to continue to happen is data centers obviously with smart cars and smart streets and smart cities and everything else, like smart homes for example, your home network in itself is becoming a data center. So the demand on data centers, it's going to continue to grow. There's a lot of edge connectivity going on, like edge data centers. As the car is driving it needs constant connectivity to offload data, pull data back X, Y, Z.   The entire world already relies on data centers quite a bit. The reliance is going to continue to grow as everything gets more connected. I think providers are going to have to change their mindset. They've been talking about it for a number of years of how we're sustainable. We're doing this, we're doing that, but that's a small set of data center providers doing it right now versus the broader set isn't focused on that and they're still operating inefficiently. So the industry as a whole has to start changing to combat climate change. Customers like us, we are getting asked by our customers about what's our carbon intensity, what's our carbon footprint, what are we doing about sustainability. And ultimately we're going to be starting to focus or we have been focused on and we'll continue to focus on only partnering with data center providers that have the same mindset about sustainability. If providers aren't focused on that, they're ultimately going to get weaved out of it.

Jason Lopez

In the post pandemic world there's one major change in how we live our lives... which is due to data centers. As much as some are trying to put the genie back in the bottle, working from home has been established not as a perk, but a real way of operating. Harmail says a similar wake up call is happening around sustainability.

Harmail Chatha

I think there just needs to be a lot more knowledge within the data center industry and folks that are getting into becoming data center operators like myself. If I can go back in 15 years and tell myself, "how do you operate this efficiently?" go out and really do the homework on it. Understand what your business initiatives are, understand what your business goals are and really customize a data center footprint that encompasses, you know, cost efficiencies, high availability ultimately gets you to your sustainability goals. You know, waste is just not welcomed should be the mindset, and partner with data centers that meet your requirements.

Jason Lopez

This kind of demand for sustainable data center services is just starting to be baked into the industry. It's become a part of the conversation that he says he has with customers all the time.

Harmail Chatha

We're trying to be as efficient, utilize the power in a most effective way, not having any waste, reduce our carbon intensity and where we can go as much renewable energy as we can and partner with data center providers that utilize the renewable energy. We're going to continue to get a lot more efficient just because CEOs, customers are asking providers like us or customers to be more sustainability efficient.

Jason Lopez
Harmail Chatha is the Director of Global Datacenter Operations for Nutanix. This is the Tech Barometer podcast, I'm Jason Lopez. This is one of three stories in a series on Harmail and the data centers he oversees for Nutanix. Check back at theforecastbynutanix.com for the other reports we have as we talk with hiom more about his journey as a data center engineer and the challenges of building a data center when the supply chain dried up.