

Transcript

July 26, 2023, 9:03AM

Interviewer:

So first, maybe you can just tell me a little bit about your operations.

Do you rent out space in a co-located data center or do you run your own data center?

Storage Provider:

Yeah.

So at the moment we have two locations.

One's in *anonymized location 1*, where we have 11 racks at *anonymized DC name 1*.

That's managed by *anonymized company name 1* and then we have another location in *anonymized location 2* which is at *anonymized DC name 2*.

Anonymized location 1 runs on 20% green and *anonymized location 2* runs on the grid over there, which is 100% green. Actually the purchase agreement for the *anonymized location 2* data center, is 100% green energy powered by hydro, but there is a coal mine on the grid which produces a small amount of coal energy.

But yes.

So for both those locations, *anonymized location 1* has 30 petabytes of storage, *anonymized location 2* has 30 petabytes of storage as well.

And we're just at the moment sealing data at both of them.

But ultimately, we want to move *anonymized location 1* to *another location* so we can be 100% green energy.

Interviewer:

Are these petabytes quality-adjusted power or raw byte power?

Storage Provider:

They're just raw byte power.

Interviewer:

And do the data centers that you use provide information about their PUE, that is power usage effectiveness?

Storage Provider:

Yeah.

So *anonymized location 1* 's PUE is like 1.25 and *anonymized location 2* is 1.3.

Interviewer:

OK.

And do you use multiple miner ID for these two locations?

How many minerIDs do you have in total?

Storage Provider:

We have about 40 miner IDs across both locations.

Interviewer:

And what is the reasoning behind how they are divided?

Is the raw byte power evenly distributed between minerIDs?

Storage Provider:

It's divided out per lending partner who we got the FIL off and we try and keep things quite small so it's easier to scale small miners to, you know, 10 petabytes quality adjusted power. So, we have lots of those instead of having one big miner.

Interviewer:

Would it be a problem after the interview if you just send me a list of your minerIDs because in my research what I'm trying to model is for example how much data each miner ID has been sealing and storing and then use these variables to model the total energy consumption.

Storage Provider:

Yeah, no worries.

There it goes, it's in the chat.

Interviewer:

OK, great.

Thank you.

Other than that, I suppose that the data center is working like a traditional data center, they have cooling, lights and so on.

Or is there also something else that's additional that's not typical for a normal data center?

Storage Provider:

Well, they all run closed loop water systems. *Anonymized: discusses large size of DC*, that's why the PUE is quite good, 1.25 just because of the economies of scale. But yeah, they're just normal data centers.

Interviewer:

Yeah, that makes sense.

Other than that, do you have more granular information about the energy consumption of your hardware, for example, how much energy sealing a sector consumes in kilowatt hours?

Storage Provider:

Yes, I pulled some numbers for you.

2 seconds.

So an HPE box basically, max uses 140 watts and that does 70 sectors a day.

So if you modeled that out 70 sectors times 140 watts every day, that's not really continuous.

But let me find the diagram.

I'll get that for you.

Interviewer:

And those sectors are all 32 gigabytes, right?

Storage Provider:

Yeah.

Interviewer:

And how much time does sealing a sector take on average?

Storage Provider:

We don't really care about how much time it takes, but on average the box does 70 a day because we do PC1 in parallel.

I've got this for you here too *sends a graph in meeting chat*.

That's the energy consumption over a 24-hour period of 1 HPE box.

You can see the maximum is 1300 watts, the average was 1000 watts. So that box used 1000 watts over 24 hours, and it produced 70 32GB sectors.

I actually I did this on 3 boxes because I thought I'd just double check and these are the other two boxes, there you go *sends 2 more graphs*.

Interviewer:

Is it possible to provide the information from this graph in a CSV or an Excel sheet type of format?

Storage Provider:

I will ask.

Interviewer:

I mean that's a that's still good enough, but if we can have the exact values, that would be awesome.

Anyway, so also regarding your storage hardware.

What is the power consumption and the capacity of a rack in your system?

So that would be something like 2 kilowatts per one petabyte, for example.

Storage Provider:

So the racks run at 8 to 10 kilowatts.

And yeah, so it's the Seagate Corvaults.

They're like 2200 watts at peak, so they probably run around 1800.

So each Corvault has 1.6 petabytes of usable data.

So you can put 4 Corvaults into one rack.

Interviewer:

Umm, that makes sense.

And then you already sent me information about the exact models of your hardware

and everything, but how many do you have in total?
How many racks, and how many sealing machines?

Storage Provider:

Uh, we have 34 HPEs.
And we have 30 Asus boxes, and the Asus boxes are the head miner box.
They manage Lotus, Boost and also make some sectors.

Interviewer:

Do you reuse the same hardware for also other cryptocurrencies like validating
Ethereum transactions or something like this?
Or is it purely Filecoin?

Storage Provider:

Purely filecoin.

Interviewer:

And then lastly, what is the average monthly power consumption for all of your
miners, do you have these figures for both data centers?

Storage Provider:

Yes, I'll get *anonymized colleague name* to give you the power consumption for
the last three months.
Has *he/she* already given you that stuff?

Interviewer:

No, what I only have access to is the public information from the energy validation
process. *Anonymized: discusses amount of publicly available data*

Storage Provider:

OK, no worries.
I will get you three months, let me write that here.
So I owe you 3 months of energy from both DC's and sign form.
Cool, I'll get those.

Interviewer:

Thank you so much.

So those were pretty much all of my questions.

Do you want to ask me anything?

Storage Provider:

That's OK.

What I'll do is when I send you an email, I'll CC *anonymized colleague name*.

So if you have any other questions, you can ask *anonymized colleague name* and *he/she* will get that information for you.

Interviewer:

Sure.

Thank you.

That's great.

Storage Provider:

No worries.

Alright, I'll leave you to it.

Have a good day.