



Bitcoin hosting provider moves to Tier III data center

Bitcoin ASIC Hosting leads the bitcoin industry in adopting data center colocation to deliver reliable, resilient service to its hosted bitcoin-mining customers



Customer profile



Company	Bitcoin ASIC Hosting
Industry	Hosting Solutions
Country	United States
Website	www.bitcoinasichosting.com

Business need

Bitcoin mining requires power-hungry, purpose-built servers running all out 24x7, so Bitcoin ASIC Hosting sought a colocation partner near low-cost energy sources to run its machines.

Solution

Bitcoin ASIC Hosting avoided higher-cost power and gained redundant connectivity, cooling and backup emergency power by colocation its high-performance PCs at the Dell Western Technology Center in Washington state.

Benefits

- Avoided much higher power costs
- Launched collocated operations in less than 10 days
- Gained redundant network connectivity
- Increased hosting reliability and resiliency via backup power
- Improved its carbon footprint

Solutions at a glance

- [Cloud Computing](#)

“Large residential operations are no longer feasible for the latest generation of bitcoin-mining hardware. We have all the cloud-computing capabilities we need to host all our current customers as well as future ones at Dell’s Western Technology Center.”

Lauren Mieke, Co-Founder and Head of Operations, Bitcoin ASIC Hosting

In recent years, an online currency has emerged called bitcoin (BTC). Using digital signatures, it lets one party pay another over the internet without needing trusted third-parties like banks or credit card issuers as intermediaries. Unlike dollars, euros, or yen, no nation backs the BTC. And unlike online payment systems such as PayPal, no central electronic platform supports it. Online exchanges exist, however, to turn BTCs into sovereign currencies.

Bitcoin started in 2009 with the debut of its open-source client software, which makes each user a node on its peering network. Initially, one BTC was worth a little less than 25 cents. By 2013, online speculators had bid the one up to more than \$1,100, although it has since traded in a range of \$400 to \$700. Worldwide, about 60,000 BTC transactions take place each day. In 2014, Dell announced that it would expand its payment options to include bitcoins.

The rise of bitcoin "miners"

Although a bitcoin dispenses with the need for trusted intermediaries to validate its exchange value, users must trust it as a currency or it becomes useless. The foundation for this trust is a permanent ledger — called a "block chain" — of all BTC transactions ever done, with each one known as a "block."

About every 10 minutes, a node somewhere on the global BTC network will authenticate the block chain, which goes back to the first transaction in 2009. It then publishes the new block chain to all the other nodes and awaits another authentication of subsequent BTC blocks from around the world.

Those authenticating nodes (and the people or entities behind them) are called bitcoin miners. That's because the network rewards 25 BTCs — worth about \$12,500 on any given day — to the first miner to update the block chain. A winning miner will also garner all the relatively small BTC processing fees associated with the hundreds

of transaction blocks that occur in a particular block-chain time frame.

Intense, fast-growing competition

With stakes like these, BTC mining has become intensely competitive. Not surprisingly, the longer the block chain grows, the more computing power is needed to authenticate it. Early miners could do so with ordinary PCs, often using video cards for extra processing horsepower. But today's miners must use purpose-built PCs with specially designed CPUs. These PCs run 24x7, using almost all their cycles to crack the SHA-256 security hash code needed to authenticate a BTC block chain and win the bitcoin miners their rewards.

More and more, BTC miners are turning to specialized hosting providers like the startup Bitcoin ASIC Hosting, based in Seattle, Washington, to manage their machines. "Our customers are people who want to get into bitcoin mining but find that it requires a lot more micromanagement than they want," says Bitcoin ASIC Hosting co-founder Allen Oh. "Chances are their power is a lot more expensive than ours, too."

"Our bitcoin-mining customers can't afford to be offline for any substantial time. We got our racks of servers moved and online in less than 10 days — with less than 12 hours of total downtime — with Dell's help."

Allen Oh, Co-Founder, Bitcoin ASIC Hosting

Products & Services

Services

Dell Cloud Services

Hardware

Dell Networking S-Series Managed Switches



Low margins demand low-cost power

Oh explains that energy costs are the largest operating expense for a BTC miner. That's because the CPUs in their high-performance PCs need lots of power to process BTC block chains continually. "At the same time," he adds, "the PCs need air-conditioned cooling due to the tremendous amount of heat they generate. They also need resiliency and reliability, because if a PC goes down, there's no bitcoin mining going on."

Bitcoin ASIC Hosting began hosting BTC miners out of its own Seattle facility. The monthly fees that it charges its 30-plus customers cover its costs plus a small profit margin. According to Oh, the local utility's rates cost as much as \$350 a month to power a BTC-mining PC. With the number of customer machines it was hosting, Bitcoin ASIC Hosting's monthly energy bill was fast approaching \$10,000. The company needed to find a cheaper power source and a stable, mature and scalable data center to provide resiliency and reliability.

Hydroelectric power to the rescue

While investigating its options, Bitcoin ASIC Hosting learned about the Dell Western Technology Center, a 40,000-square-foot data center in Quincy, Washington. It's a 10.8-megawatt, fully redundant, Tier III facility. Thanks to nearby hydroelectric dams on the Columbia River, the location offers greener, much less costly power. It also meets a range of cloud-computing requirements, such as redundant network connectivity, cooling,

security, an uninterruptible power supply and backup emergency power generation.

Bitcoin ASIC Hosting decided to colocate their BTC-mining machines at Dell's data center, using its Dell Network Networking S-Series 10/40GbE managed switches for redundant internet connectivity. Now, with power costs much less than what it was paying before, Oh says the company will split almost \$7,500 in monthly savings between its own bottom line and lower prices for its customers.

"Large residential operations are no longer feasible for the latest generation of bitcoin-mining hardware," says Lauren Miehe, a Bitcoin ASIC Hosting co-founder and head of operations. "Bitcoin miners must now consider colocation to reach the maximum potential of their hardware investments. We have all the cloud-computing capabilities we need to host all our current customers as well as future ones at Dell's Western Technology Center."

Fast deployment, greater resiliency and a greener profile

Oh appreciates Dell's willingness to work with his startup company, especially Dell's concern to help Bitcoin ASIC Hosting get its racks of customer equipment deployed as quickly as possible. "Our bitcoin-mining customers can't afford to be offline for any substantial time," he says. "We got our racks of servers moved and online in less than 10 days — with less than 12 hours of total downtime — with Dell's help."

The Dell data center's uninterruptible power supply and its backup emergency power capability helped Bitcoin ASIC Hosting enhance its promise of hosting reliability and resiliency to its customers and prospects. At the same time, Bitcoin ASIC Hosting can claim a smaller carbon footprint because its colocation takes advantage of the facility's hydroelectric power sources and uses its highly energy-efficient rotary heat exchanger for cooling. Oh says, "Now we can differentiate Bitcoin ASIC Hosting much more from our competition, having colocated at the Dell Western Technology Center."

¹ <https://blockchain.info/charts/market-price>

² <https://blockchain.info/charts/n-transactions>

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