**The Cause and Critical Update Needed to Fix Data Center Storage, Water, and Energy Demands.**

**Attn: Key Stakeholders of Data**
Humanity
Governments/Regulatory Bodies
Data Center Companies/Operators
Energy Departments/Utility Providers
Non-Governmental Organizations
Local Communities and Residents
Researchers and Academia
Hardware and Software Vendors
Hyperscalers (Cloud Infrastructures)
Networking and Connectivity Providers
Real Estate Firms and Construction Companies
Military Operations/Government Agencies
Telecomunication Companies & StarLink
Technology-Enabled Consumers
MIT, IBM, Microsoft
Investors & Banks

I'm a technologist and figured out the root cause of the data center energy demand problem. In 1954 MIT & The Office of Naval Research designed **Whirlwind Core Memory** which is the code name for **The Binary Information Unit** or what we more commonly known at the **Bit**. Once **MIT** & the **U.S. Navy** succeeded in electro magnetizing data with the rudimentary technology they had, **IBM** turned the Bits into a type of **morse code** called a **Byte**. There are **8-bits** in a Byte. Regardless of whether the byte holds information or not -- meaning whether it is in a position of 1 or a 0, energy is spent on all 8 units.

This means that if you had a Byte and the sequence was [00010000] or even [00000000] that byte --of which there are 256 combinations would still cost all 8 in energy. This is why the data centers are full, and why the energy demand is so high. We are filling our storage up with empty space "0s" and using our energy on empty space or more specifically, place holders in a digital morse code sequence. **The first step is to stop putting energy towards nothing or that 0 state.** That happens by breaking the Byte through a few critical software updates and applying a mathematical key that can be read instead.

Steps to Implementation:

1. By modifying the firmware in the BIOS and UEFI and operating system kernel we're able to break the byte and change the systems fundamental interpretation of data which changes how the computer handles basic data units.
2. Next, we need the software, both in the OS and how these software developers and tech companies code their applications to be changed which is where the logic for handling data sequences processed by specific applications.
    a. The classical coding languages are rooted in calculus and are based on this 8-Bit language and are no longer valid, nor can they be used anymore.
    b. Classical developers and Automated Machine Learning Algorithms (AI) use squares (read as matrices). These squares are inefficient. This is because squaring errors are computationally expensive, and in large datasets, the matric approach leads to significant computational inefficiencies and a waste of energy.
    c. Meaning Machine Learning Developers intentionally built in computational waste (energy waste, data waste) as fundamental step machine learning algorithms to address a way to fix their miscalculations. Another reason data centers are full. We are wasting space on our incorrect code as well.

3. **Infoton uses physics-based equations that extend beyond simple calculus integrating trigonometry, combinatorics, hashing etc. and does not need to waste energy or processing power on reading the IBM Byte's morse code.**
    a. **The new physics-based language is wave based and has a key of numbers that unlocks trillions of states below the full blast of the "1" on switch of the Bit.**

4. Modifying the actual hardware of the processor's microcode and physical design of the CPU is next, although my developer found use in exploiting another bug, we found that allows us to bypass the processor completely through the graphics cards.

Those first three steps will handle the software component that can be implemented in all computers and data centers globally for instant reduction on the energy demand. The next step is more complex but I'm seeing hardware technologies that will meet the demand of building new computers and data centers with technology of the Millennium, not of the wartime 1950s.

The benefit of converting Bits to Infotons is that the data is folded into its energy precise and information precise state similar to old compression techniques. With the exception that the data does not have to be decompressed to be read. Depending on the type of data this frees up to 95% of the storage in these data centers in addition to precision energy the mathematics show a potential 99% energy savings by the completion of the project when the critical hardware components are also updated. Solving the power demand problem.

Further, as the update is applied and not as much energy is used the thermodynamics of computation will fall within Landauer's Limit. It's well known that the Bit operates at trillions above the Landauer limit (a law in physics). Rolf Landauer was a IBM physicist and proved in 1961 the thermodynamic cost of information. The reduction of energy usage will drastically cool down these data centers and simultaneously reduce the demand on water systems that humans need to live.

Infoton is but a small company that's done all we can to solve the data center energy crisis. I have successfully identified the underlying problem and designed a solution both in architecture and code. Going as far as to show a successful proof of concept.

The energy, data, thermodynamic problem is of particular importance to me because it's impacting the Great Salt Lake in Utah and causing significant health problems in our region. There are over 4,000 data centers in the USA alone producing heat at scale and the atmosphere traps most of that. Normally we have snow in Utah by now, but our mountains are dry. This October we experienced 80° weather. Unheard of. We're still in the 60s where we normally start dropping into the 20° range. If we can fix these data centers with an update, then those actions need to be taken immediately. We can save billions in dollars, stabilize the energy grid, and reduce heat production from these data factories.

My ask is to disperse this information and connect me into resources so that I may immediately start the next phase of this project. The situation is urgent and can be resolved immediately where we all come out with a win.

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