The Computerworld Honors Program

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Final Copy of Case Study

Status:
Laureate

Year:
2013

Organization Name:
Verne Global

Organization URL:
www.verneglobal.com

Project Name:
Dual-Sourced 100% Renewably Powered Data Center

Please select the category in which you are submitting your entry:
Sustainability

Please provide an overview of the nominated project. Describe the problem it was intended to solve, the technology or approach used, how it was innovative and any technical or other challenges that had to be overcome for successful implementation and adoption. (In 300 words or less.)

By 2020, the EPA estimates the data center industry will be the world's largest carbon emission contributor as more consumer and business processes move to the cloud. Additionally, the instability of carbon-based fuel sources and the limited availability of additional power resources is constraining the market's potential growth. Verne Global set out to tackle the data center industry's fastest growing problem: the rising and unpredictable cost of power. These factors, coupled with concerns over data center carbon emissions, led Verne Global to build an environmentally friendly, competitively priced data center campus, harnessing only renewable energy sources. Verne's data center campus in Iceland offers an optimized combination of location, economics, and ecological consideration for

large-scale data center implementations – 100% dual-sourced hydroelectric and geothermal energy, year-round free cooling, as well as protection against escalating worldwide power pricing. Verne Global offers companies the opportunity to have a zero carbon footprint data center. This is done with the help of Iceland's renewable power grid and ambient cool temperatures to keep the server rooms cool, avoiding the need for power-hungry chillers. Additionally, Verne's data center offering allows companies a fundamentally new approach to the data center market, and the Icelandic location presents a compelling, cost-efficient and flexible alternative to scale data center needs. Iceland's hydroelectric and geothermal power generation sources enable Verne Global to supply its customers with 100% renewable power, without a green energy price premium. The country's energy-efficient power grid is barely a decade old, ensuring that power quality and delivery reliability is among the best in the world.

When was this project implemented or last updated? (Please specify month and year.) Has it incorporated new technologies and/or other innovations since its initial deployment? (In 300 words or less.)

Verne Global announced the launch of its collocation service offering in October 2011 and the data center opening in February 2012.

Is implementation of the project complete? If no, please describe the project's phases and which phase the project is now in. (In 300 words or less.)

Operational at the end of 2011, Verne Global officially opened the new data center facility in February 2012 with four anchor tenants: Datapipe, a hosted services provider; CCP Games, a game developer and creator of EVE Online; Greenqloud, a hosted cloud services provider; and Opin Kerfi, Iceland's premier IT services company. Additionally, in October 2012 BMW announced it would be moving some of its high-performance computing (HPC) applications to Verne's facility. By moving ten of its HPC clusters (consuming 6.31 GW-h annually) from its German facilities to Iceland's zero emission data centre, BMW will reduce annual carbon emissions by 3,570 metric tons, the equivalent of the carbon produced by burning 1.46 million litres of petrol (www.carbonfootprint360.com). The move will also enable BMW to reduce the cost of powering its HPC applications by as much as 82 percent.

Please provide at least one example of how the technology project has benefited a specific individual or organization. Feel free to include personal quotes from individuals who have directly benefited from the work. (In 300 words or less.)

Since opening in February 2012, Verne Global has worked closely with several customers to ensure their needs and expectations are fulfilled. Quotes from such customers and partners are below: "Verne Global has engineered an environmentally sustainable data centre that will enable Datapipe to expand into a new market while continuing our environmental leadership," said Robb Allen, CEO of Datapipe. "Power and cooling efficiencies combined with the strategic geographic location will provide our clients with an option for carbon neutral, enterprise ready IT services and a 100% green cloud." "The great thing about Verne is that it allows us to host some of our equipment in a green data center, which is an important thing for us to help us to not be polluting the environment." – Hilmar Veigar Petursson, CEO, CCP Games. "However, the primary reasons for selecting Verne Global above all other alternative sites were the availability and predictability of power and the option of securing long-term price guarantees at attractive price levels." – Ingvar Bjarnason, IT Director, CCP Games. "We made our decision a lot based on the team behind Verne and we have the same vision for sustainability." – Eirikur Hrafnsson, CEO, Greenqloud. "In Iceland, you can quote today for the price of your power in 20 years time." – Guy Ruddock, VP Operations, DCS, Colt. "Iceland is a dream for data centers; there is no compression cooling so this is the most efficient form of cooling you can get because Iceland never gets too hot." – Guy Ruddock, VP Operations, DCS, Colt.

Would this project be considered an innovation, a best practice or other notable advancement that could be adopted by or tailored for other organizations and uses? If yes, please describe that here. (In 300 words or less.)

Verne Global is the first data center operator in the world to push beyond efficiency and place importance on the actual power source. Not only was it important that the primary source be 100% renewable, but that the secondary source also be 100% renewable. Iceland's power grid is the only one in the world to offer this dual-sourced solution from two distinct types of renewable power: geothermal and hydroelectric. A second notable advancement that clients find unique in the industry is the ability to know that an annual increase in power pricing is fixed for the term of the agreement upfront. This guarantees clients have predictability in the most expensive part of operating their data center day one. Verne Global set the industry precedent for offering a green solution, without adding a premium to the power price. Designed to support almost any data centre power requirement, from racks to megawatts, Verne Global's dynamic approach enables its customers to quickly meet the changing needs of their

business, a high-value benefit when compared to more traditional, static approaches.

If there are any other details that the judges should know about this project, please note them here. (In 300 words or less.)

The demand for high capacity, flexible and scalable data center campuses has increased in parallel with the growing concern of rising cost and environmental impact of traditional data centers. Verne Global, conscious of this pending crisis in the data center industry, set out to create a solution that could address these concerns. Thru the process, Verne is pioneering a new, potentially booming data center industry in Iceland, and is also bringing to the data center industry as a whole an offering that is based on 100% renewable power sources, something that has not existed until now. As the first data center campus of its kind, Verne's ability to tap into the modern, renewable power grid in Iceland is allowing it to design a flexible, dynamic solution that answers both the need for high-capacity computing and cost management. In addition to being located in the only place on earth where a data center can draw on two sources of renewable power, much focus has been placed on how to use this energy in the most efficient manner. As a result of Verne's knowledge and innovation, CIOs can take comfort in the standards of the facility itself while making a business decision to lower power costs by up to 60% and have long-term visibility to those costs for up to 20 years.