GreenIT Innovations: Micro-Modular Data Centers

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An Interview with Simon Rohrich, Co-founder of Elliptical Mobile Solutions

What do you get when you cross a server rack with a Cadillac? How about with a tank?

I found out when I had the opportunity to talk to Simon Rohrich, Co-founder of Elliptical Mobile Solutions (EMS), about their unique approach to next generation data center technology.

EMS has taken a “ground level” approach to reinventing the data center using energy efficiency, cost-effectiveness, and availability as its guiding principles, and are now producing self-contained, environmentally controlled, self-powered and self-propelled server storage units.

EMS launched its Micro-Modular Data Centers in April 2009 at the UPTIME Institute’s Green IT Conference in New York City. Industry leaders praised and endorsed the products as being one of the Greenest IT solutions on the market.

In April, the company’s R.A.S.E.R. was named a finalist for Best of Interop Infrastructure. The Awards recognize the world’s most innovative technologies across nine major categories. The judges select products they believe have the greatest potential to impact and advance business technology efficiencies, helping move the data center industry forward.

At EMS, Rohrich serves in many senior level capacities primarily in engineering, finance, project management, and marketing. His background in various technical fields – including telecom, IT, and wireless communications -- has been central in the development and implementation of EMS’ product line.

Q: What do you feel is the single greatest obstacle to the proliferation of information technology in emerging markets worldwide?

I believe infrastructure requirements present the biggest challenge for emerging markets. The need for computing resources in developing regions of the world is rapidly expanding and these markets have limited infrastructure to support IT demand.

Our enclosures are the infrastructure providing a facility with enough cooling, security, power reliability, and environmental protection to operate efficiently.

Additionally, most companies can't afford $500,000+ for a containerized data center or $2 Million+ for a traditional data center. The price point of our Micro-Modular Data Centers (MMDCs) brings IT accessibility to new markets throughout the world.

In most emerging markets, if a company wants to access IT resources, it has to contract with another facility (cloud data center) and pay for the bandwidth between their site and the rental at a massive cost. This often requires a minimum one-year contract.

Our technology also offers increased processing power. Instead of having 2 GB of bandwidth with a rental, you can run a 40GB fiber optic cable across the floor increasing speed 20 fold.

Easy mobility is another important advantage of our technology in emerging markets, many of which don't have the roads, infrastructure or large equipment to move a 30 ton containerized data center. Our Micro-Modular Data Centers provide a streamlined design and size that is easy to deploy, move or relocate.

Q: What is a Micro-Modular Data Center, and how does this solution impact information technology access and development?

Micro-Modular Data Centers are self-contained, high-density, cost-effective and energy efficient data centers. They are built at the rack level with onboard cooling, security and fire suppression. These data centers fully replicate functions of a traditional data center on a much more granular scale. There are no needs for the costly infrastructure, big iron, raised floor and massive air conditioning units. All of these have been efficiently engineered into the 42U, 24U and 22U enclosures.

Micro-Modular Data Centers are the infrastructure allowing people to use existing facilities that would need to be demolished, rebuilt of retrofitted. This allows a company to do a complete remodel, facilities upgrade and technology refresh in one simple process.

Q: How does the cost of deployment of the EMS product compare to traditional data centers?

By eliminating the need for a full-blown data center we solve the problems of costly build-outs, lack of flexible infrastructure, expensive retrofits, increasing operational costs and rising carbon emissions.

A company can save from 50 to 80 percent in Capital Costs using our technology and have a rack level solution within weeks, vs. months or year. Our MMDCs provide a data center that can operate day one (of delivery) with one rack of equipment. In other words, a customer can have a chunk of an enterprise class data center that can be built out 16 square feet at a time and scaled as needed. This allows "pay as you go facilities and IT" as you need it and when you need it.

Q: Green IT concepts are quickly becoming part of the industry's consciousness, how does the Micro-Modular Data Center contribute to the movement?

Traditional Data Centers can waste 60 percent of the energy they consume according to an EPA report on data centers. Our MMDCs waste only 5 percent. Additionally, we reduce environmental impact by speeding up construction time and reducing the footprint of the facility.

Our ultimate goal is to move the data center industry away from being huge consumers of electricity to small consumers of clean energy.

Q: What kind of design innovations do the units employ that enhance the GreenIT stature?

Our patented closed loop cooling system confines the hot and cold aisle within the enclosure so that cooling is applied directly to the equipment. This allows for optimal temperature control. By cooling the equipment within the enclosure, rather than the entire facility, a company can save half the cost to cool an enterprise IT operation.

EMS products also reduce the footprint required to store equipment by 75% compared to a traditional data center offering additional energy, capital and operational cost savings

Additionally, the fire suppression system in our units uses a completely nontoxic clean agent material.

Lastly, our MMDCs are made in the USA of 90 percent recycled material.

Q: The Modular Data Centers are being utilized across multiple sectors including the military, private industry, first responders, media, healthcare and utilities – is this a "one size fits all" solution?

The fact that our MMDCs are scalable – from one to hundreds of units -- allows EMS to address a wide array of market segments such as the ones you've listed and meet the IT needs of each. Additionally, our enclosures are vendor neutral, allowing a company to choose the equipment that best meets the needs of their business.

Q: What kind of mobility options do the units provide?

The power assisted mobility of the C3-S.P.E.A.R. and S.P.E.A.R. allows one individual, for the first time, to move up to ½ ton of rack mounted equipment at the push of a button up a 6 percent grade. The R.A.S.E.R. can be moved with a pallet jack. Our MMDCs fit through standard sized doors and meet all ADA specifications.

Portability allows companies to take the MMDC with them as a durable good rather than the typical demolition and construction cycle that results from a needed expansion or relocation.

Q: Was the design thoroughly tested to withstand a wide range of environmental and incidental wear and tear?

Our equipment went through rigorous commercial standards for environmental protection and shock and vibration sustainability in both indoor and outdoor environments.

Q: What does EMS have in mind for the future of the product line?

EMS is committed to advancing the data center industry by providing versatile, flexible, cost-effective and energy efficient MMDCs.

We are currently developing and 80 KW Tier IV redundant dual R.A.S.E.R. and a 160 KW Tier 1 non-redundant dual R.A.S.E.R. cloud computing data center.

We have designed a data center that addresses some of the most powerful computing systems in the world by offering a 40KW data center that uses half the power and leaves a 0 carbon footprint using a fuel cell system.

Q: Anything else you would like to add?

Thanks for allowing me to share our one-of-a-kind technology with you and your readers!

https://www.infosecisland.com/blogview/6848-GreenIT-Innovations-Micro-Modular-Data-Centers.html