

Radiográfica Costaricense S.A. (RACSA) provisions cloud computing applications with Arista Switches.

RACSA is the leading commercial and residential Internet Services Provider (ISP) in Costa Rica. As a public service of the Costa Rican government, RACSA is also tasked with developing and offering new technologies to the public, including telephony, wireless services and distributed applications. Among its latest initiatives is cloud based application services for corporate and residential customers. For a monthly subscription, customers use virtual servers and desktops, configured with applications and storage for their personal or business use.

Customer Goal:

<p>Project Background</p> <p>Quote</p>	<p>Green, Best of Breed cloud computing architecture</p> <p>From the beginning, systems designers knew that data center computing performance, storage, reliability and high bandwidth access needed to be at its best to offset the lower performance client PCs that RACSA’s subscribers would use to access the service. However at the same time, government energy mandates required the design to be as energy efficient as possible; a tricky challenge given the cooling demands in the tropical climate of this Central American nation. To minimize the data center’s carbon footprint, RACSA took advantage of containerized data centers, which are compact, energy efficient and seismically resistant. However this strategic choice introduced another requirement: high performance in a small package.</p> <p>Some of RACSA’s options were limited by technology. Storage systems for example, are already highly compact and don’t offer many options for higher density or performance. However, in other areas, RACSA was committed to implementing the best performing and most efficient technologies in their cloud applications solution. In the data center network, RACSA had already committed to 10Gb switched networking to ensure high speed access among virtualized processing platforms, storage arrays, load balancers and routing platforms connecting the cloud to its subscriber base. Arista’s wire speed, high density 1RU data center switches fulfilled every key requirement for RACSA, in an energy efficient and economical package.</p> <p>As of today, RACSA’s second generation DataCenter has a PUE (Power Usage Effectiveness) less than 1.6 (an ideal PUE is 1.0), one of the lowest in Costa Rica.</p>
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Green Containers in Telepuerto Racsa Zurquí, San José – Costa Rica



“Being the first cloud in Costa Rica was a great challenge for us, on one hand we had the costumers’ requirements (high end switching, wire speed and support) and on the other the commitment to a green facility and thanks to the Arista solutions we accomplished both.”

Gonzalo Berrocal Brenes, IT Director, Racsa.

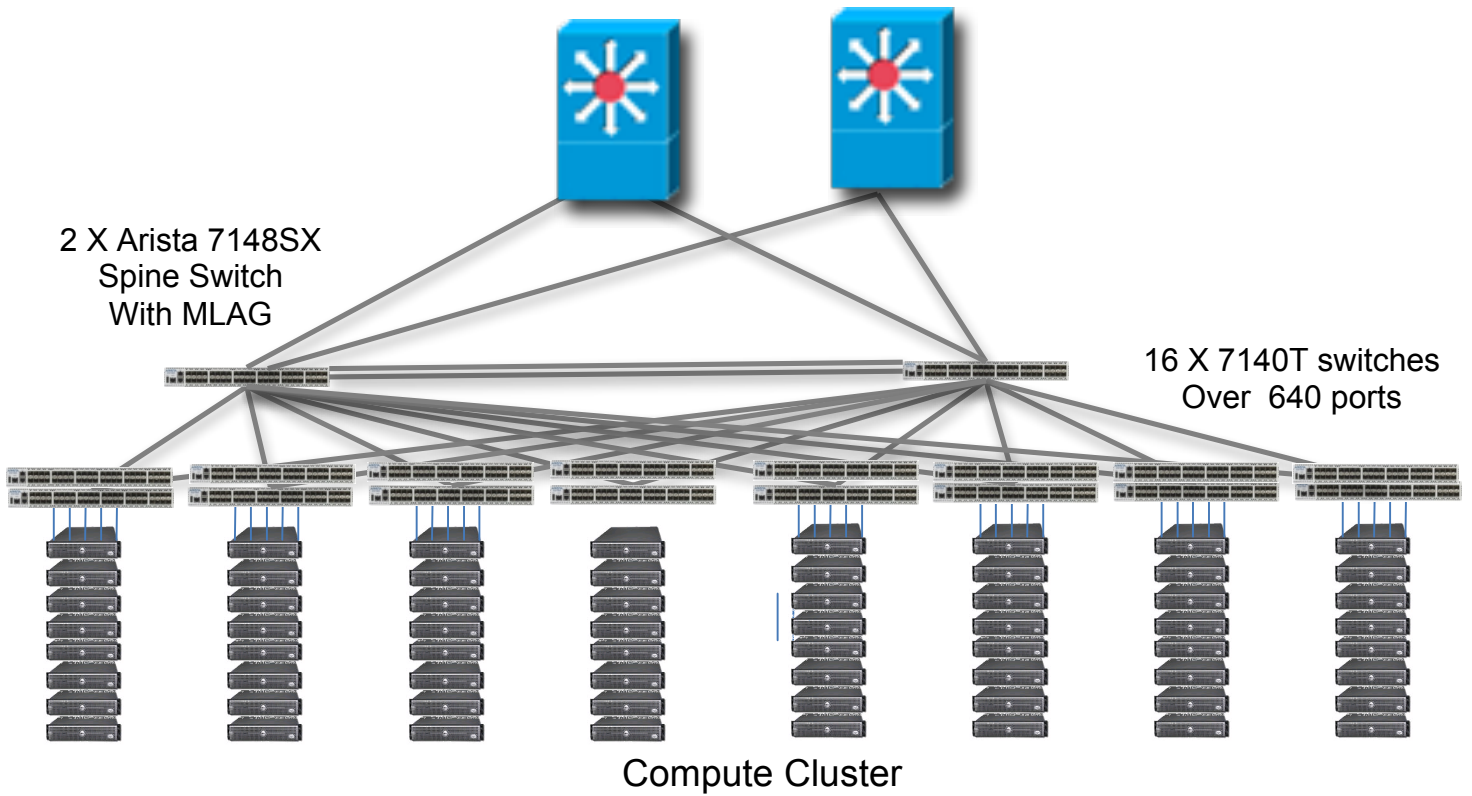
The Arista Solution

“Having evaluated a number of oversubscribed 10GbE switches, what most impressed us about the 7100 series was that it was totally non-blocking, delivering 10GbE wire speed on all ports. In addition, the ability to carry both 1GbE and 10GbE gave us the flexibility to fully leverage our existing infrastructure. Happily, the Arista Solution was also the most high performance and cost effective option we considered”.

Arista Key Benefits,

[RACSA’s cloud computing](#) subscriber service successfully launched in April of 2009 to corporate and residential subscribers. Customer adoption rate as they experienced the unexpected high performance of the service portfolio.

<p>Metrics and Differentiators</p>	<p>Additionally, the service has been interrupt free since its launch. Arista's wire speed, non- blocking switches provided the bandwidth to ensure the needed scalability and performance in the data center. Its unique Top of Rack 1000Base-T/10GBase-T switches also simplify server migration from one to ten gigabit Ethernet networks. Finally, the added benefit of uncompromising layer 2 and layer 3 performance in a power efficient 1RU form factor ensured scalability and low operating costs. Plans are already under way for a new data center to accommodate future growth in RACSA's subscriber base.</p>
<p>High density, economical, 10Gb data center switching</p>	<p>Arista's platforms provide the flexibility, reliability, performance and efficiency needed for the data center container. The system's compact size and high density are a welcome bonus in the tight spaces in the containerized data center. RACSA's design uses paired, load sharing 1000Base-T/10GBase-T auto sensing switches for server connectivity in the racks of the data center. In turn they are connected to paired, load sharing 7148SX non blocking switches which interconnect the racks to the load balancers, firewalls and routers that connect to the internet transit.</p> <div data-bbox="630 1060 1230 1514" data-label="Image">A photograph showing the interior of a server container. The view is from a narrow aisle between two rows of black server racks. The racks are densely packed with equipment. The lighting is somewhat dim, with a brighter area at the end of the aisle. The floor appears to be a metal grating.</div> <p><i>Internal View of one of the Green Containers</i></p>



RACSA leverages Arista's open extensible Operating System (EOS) to manage the switched network alongside the other platforms in the data center. F5 is being used for load balancing, Checkpoint for firewalls and Juniper for transit routing. Combined with Sun servers, the virtual applications data center is designed to serve thousands of corporate and residential subscribers.