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Companies that consolidate servers to free up data center space, for example, often end up saving on energy-related bills.  The Credit Union System of Brazil (Sicoob) experienced something very similar to this. Wanting to streamline its highly heterogeneous computing environment, it decided to migrate as many workloads as possible to the IBM mainframe using z/VM\*. This would result in a more manageable IT environment that would allow Sicoob to quickly keep up with increasingly dynamic market changes.  “If we hadn’t invested so heavily in virtualization, we couldn’t have been able to capture … additional benefit.”  –Marcos Feitosa, IT manager, Sicoob  That was indeed a noble goal—and was in fact achieved—but this move to a largely single-system computing environment resulted in some unexpected benefits. For example, the company is now providing cloud services to its users, partners, other companies and costumers, an advantage the organization hadn’t considered when it began its consolidation efforts in 2007.  Additionally, Sicoob has realized substantial cost savings when it comes to energy use, to the tune of some $1.5 million a year. And for its efforts, the Federation of Brazilian Banks recognized the organization for its socially responsible environmental contributions. “We knew that we would save a lot, but we weren’t expecting that much,” says Marcos Feitosa, Sicoob’s IT manager. Focusing on Business Unlike traditional banks, Brasilia, Brazil-based Sicoob is a cooperative system in nearly every sense of the word. It’s not a corporation. It’s not on a stock exchange. It’s not in the business of simply generating massive amounts of profits. Rather, its focus is on its member users, or “associates,” who are the actual owners of Sicoob.  The roughly 2.5 million associates are serviced by branches located throughout Brazil (the only country in which Sicoob operates) and the 26,000-some employees who work for the organization. The associates go to the branches for savings and checking accounts and credit and debit cards, as well as loans—“every kind of service all banks provide,” Paulo Nassar, cloud team leader, Sicoob, remarks. Profits from activities such as these are used to improve banking services and support the development of the regions in which branches are located.  Supporting these efforts are two IBM zEnterprise\* 196s (z196), one of which is devoted to business intelligence and is running IBM software such as SPSS\*, Cognos\* and InfoSphere\* DataStage\*. The second z196 is used for production, with the processing of the organization’s virtualized homegrown application distributed between that system and a newly installed IBM zEnterprise EC12 (zEC12). An IBM System z10\* acts as a disaster-recovery (DR) system, while also performing some parallel-processing functions.  Sicoob has realized substantial cost savings when it comes to energy use, to the tune of some **$1.5 million** a year  Currently, Sicoob’s core banking application is used as part of a Software-as-a-Service (SaaS) computing model, with each branch paying the larger cooperative to use the software. Payments are based on the proportionate size and volume of the branches, with smaller ones paying less and larger ones paying more. If, however, branches prefer to manage their own IT departments, they’re more than welcome to, whether they purchase their equipment from IBM or other sources.  But as Feitosa notes, “While they’re essentially independent entities, it’s probably more efficient for them if they don’t purchase their own IT assets. We offer everything they need, and many of them think their focus should be on business and not managing IT.”  That, and Sicoob’s mainframes are likely more flexible and powerful than any machines the branches might purchase for themselves. For example, there are 202 IFLs running on Sicoob’s mainframes, with those IFLs hosting around 500 z/VM virtualized servers running SUSE Linux\*.  This huge adoption of IFLs and z/VM servers has made Sicoob the largest virtualized environment in Latin America and the second largest in the world, according to Luis Franca, senior analyst, Sicoob. “We were the first in Brazil to process core banking with z/VM,” he notes. “This was a great option for us, because it has allowed us to scale to accommodate our continuing growth.”  This was in large part why Sicoob decided to move to the mainframe in the first place. Prior to this nearly wholesale move to the mainframe, it had been using entry-level systems in a highly heterogeneous environment. Sicoob experienced several problems relating to scalability and expansion, including low availability, large horizontal growth, poor processor performance, limitations related to hardware connectivity and convoluted platform support.  “We used to run everything on Intel\* servers, and we had many different vendors to coordinate with. This made that environment very difficult to manage,” Nassar recalls. “On top of that, we were also experiencing data center space constraints. We were simply running out of room and having trouble adding additional servers to enable us to grow.” Additional Benefits In what some might consider a risky move, Sicoob decided in 2007 to ditch much of its former IT infrastructure and move to the mainframe. Its first foray into this arena included an IBM System z9\* running z/VM. In addition to that, the organization also decided to improve its entire peripheral park by introducing an IBM SAN-based storage model that allowed for a high-end storage solution with redundant SAN channels.  A year later, the organization upgraded to an IBM System z10 with additional IFLs with the goal of improving processing power. In 2009, it then began the construction of an additional data center to meet the disaster-recovery requirements of Brazil’s central bank. When that was completed in 2010, Sicoob then invested in its first z196, which included 16 IFLs. That system took over the primary production role of the z10, which was then reassigned to act as a DR box.  Sicoob is looking at an overall reduction in expenses of more than **$12 million** simply by consolidating many of its other Intel technology-based assets  In 2012, the second z196, with 36 IFLs, was deployed to support the organization’s business-intelligence efforts. In addition, 20 IFLs were added to the original z196. At the same time, Sicoob launched a Green IT initiative that emphasized further consolidation to decrease power consumption.  “This was made possible by our earlier 2007 strategic decision to move to the mainframe,” Feitosa says. “If we hadn’t done that, and if we hadn’t invested so heavily in virtualization, we wouldn’t have been able to capture that additional benefit.”  Never a shrinking violet, Sicoob wasn’t close to being finished—and likely never will be. In 2013, it acquired an additional 24 IFLs for its business-intelligence box and another 11 for its production system. And then came the zEC12, which hosts 49 IFLs.  “Instead of buying a lot of small, entry-level machines, we’re buying huge machines to consolidate as much as we can,” Franca says. “Right now, we’re on a two-year cycle to get a new machine and, as we progress, we’re stretching ourselves even further to offer more services to both our branches and associates.”  As part of that, Sicoob is devising plans to offer cloud computing across much of the organization. It expects to use cloud-specific tools to leverage its mainframe-heavy IT environment to supply social media, secure storage, mail and other services to, as of now, its branches in a private cloud. In the future, it may create a hybrid private/public cloud that can be used by its associate and other organizations, including perhaps other banks.  **202 IFLs** run on Sicoob’s mainframes, with those IFLs hosting around **500 z/VM** virtualized servers running SUSE Linux  **310 physical servers** have since been paired down to 36 servers  Sicoob has a strategic guideline that stipulates its cloud will be designed for the financial sector to provide services to other banks, assurances, brokers and any other financial companies. “We have enough horsepower to do that,” Nassar says, “and it creates an additional revenue stream.” Supporting Nature Although Sicoob may not have seen advances such as cloud computing on the horizon when it brought in its first mainframe in 2007, that move has now proved serendipitous. In addition to consolidating its many one-off servers (the organization’s primary goal at the time), it’s now poised to move some of its critical services to the cloud.  And that initial consolidation effort is helping pay for this new mainframe infrastructure. In addition to the $1.5 million it’s saving every year in power consumption, it’s also looking at an overall reduction in expenses of more than $12 million simply by consolidating many of its other Intel technology-based assets (comparing a non-virtualized environment versus a consolidated environment).  In fact, around 90 percent of its servers have been virtualized (both in the mainframe and Intel environments) and 310 physical servers have since been paired down to 36 servers. The resulting CO2 reduction led to the award from the Federation of Brazilian Banks.  And in return, Sicoob is taking some of the money it saved via consolidation to give back to the environment. “We’ll be contracting a company that will plant some trees for us as well as selling carbon credits,” Feitosa says, “because we feel it’s very important for us to give back to nature.” |   IBM Systems Magazine is a trademark of International Business Machines Corporation. The editorial content of IBM Systems Magazine is placed on this website by MSP TechMedia under license from International Business Machines Corporation.  ©2016 MSP Communications, Inc. All rights reserved. |
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