

BUYER CASE STUDY

Increase of availability in Vivo's service environment for prepaid mobile phones with Fujitsu solution

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IDC OPINION

Vivo holds one of the largest Data Centers in Brazil and has been making high investments in IT. One of the most critical systems of Vivo's IT environment is NGIN (*Next Generation Intelligent Network*), which supports prepaid mobile phones services (that currently represents almost 80% of customer base)

Even in companies with highly available infrastructures, unexpected events might happen. In case of Vivo, if NGIN system is somehow unavailable, this might bring some tangible (such as revenue) and intangible (such as brand) losses to the company, as it would be impossible for the customers to buy new credits, or for the company to perform new sales or to service its client base. Currently, even for those risks that are very unlikely to happen, Vivo performs very strong investments in order to minimize them, as well as aims to have the best use of technologies and processes that offers resilience, flexibility and high availability characteristics.

IN THIS BUYER CASE STUDY

This case study analyses Vivo's experience with Fujitsu. Vivo has adopted a PRIMEQUEST server solution aiming to increase availability and flexibility of its NGIN system.

SITUATION OVERVIEW

Organizations Overview

About Vivo

Vivo was created in 2002, from a joint venture between Telefonica Group and Portugal Telecom and the merge of seven other companies of mobile services of A and B bands. Currently, Vivo counts on approximately 6,000 employees, 40,000 representatives, and a brand value of almost US\$ 800 million. Its direct coverage comprises 19 states (about 86% of Brazil territory), and in regions not covered by Vivo, its clients have the roaming service, Vivo's communications service available in those areas.

In Brazil there are about 110 million mobile phones, and 80% of them are prepaid subscriptions. In this vast market, Vivo is the operator with largest share, with more than 30 million clients all over the country. The company offers mobile communication services for pre and post paid clients, in CDMA (Code Division Multiple Access), TDMA (Time Division Multiple Access) and GSM (Global System for Mobile Communications) technologies, being the GSM one the most popular technology for mobile phones in the world. Besides, Vivo also offers 3G services, in CDMA EV-DO standard. With all those technologies, Vivo goal is to offer its clients an extensive portfolio of phone devices and services to service every different kind of client.

About Fujitsu Brasil

Fujitsu is a worldwide known IT solution provider and telecom technologies solution provider. Advanced technologies, trustable products and global presence of highly qualified teams allow Fujitsu to deliver complex solutions that enables a number of possibilities for its clients' success.

Fujitsu started its operations in Japan, in 1935, focused on telecommunications, manufacturing telephone receivers, switching systems and other devices. Since then, the continuous improvement of its technologies has lead Fujitsu to develop and produce new products and solutions. In 1954, from the improvement of its switching technology, the company developed its first commercial computer. Currently, Fujitsu line of computers and servers is responsible for a relevant share of total sales of the company.

In Brazil, Fujitsu operates since 1972, and currently provides to national market its PRIMEQUEST (based in Itanium processors), PRIMEPOWER (based in SPARC processors) and PRIMERGY (based in X86 technology) server lines, as well as its data storage portfolio, called ETERNUS, software, biometric equipments, scanners and IT professional services.

Challenges and Solution

Vivo holds one of the largest Data Centers in Brazil and has been making high investments in IT. In this environment, that comprises 7 data centers, there are more than 2,500 servers, 1.7 storage Petabytes, more than 1,000 database and 19,000 desktops. Such structure supports around 7,500 Call Center positions, 40,000 users and 0.7 billion calls (CDRs) a day. Moreover, the system is prepared to assimilate demand peaks for processing that normally occurs in special dates, such as Mother's Day and Christmas, when the number of calls increases as well as the volume of sales for new telephones and services.

One of the most critical of Vivo's IT systems is NGIN (*Next Generation Intelligent Network*), which supports prepaid mobile phones services (that currently represents almost 80% of client base). NGIN is basically divided in two cells called "NGIN Core", directly linked to communication and telephony system itself, and "NGIN Care", which is responsible for managing and authorizing calls based on available credits, for credit loading and for the interface with the stores' systems, call centers, resellers and client attendance. That said, it is easy to figure that an eventual unavailability of this system would bring some tangible (such as revenue) and intangible (such as brand) losses to the company, as it would be impossible for the customers to buy new credits, or for the company to perform new sales or to service its client base. Currently, even for those risks that are very unlikely to happen, Vivo performs very strong investments in order to minimize them, as well as aims to have the best use of technologies and processes that offers resilience, flexibility and high availability characteristics.

NGIN system was supported by 16 Itanium servers, with Linux RedHat 3.0 operational system and Oracle 10g database. As it was a fragmented environment, its management was complex, and Vivo's flexibility and availability requirements were below Vivo's expectations. The need to expand its processing capacity has motivated the company to search for a new server solution in the market, which could bring more flexibility and availability to its environment and, at the same time, would be compatible to the several products and providers already in the infrastructure, in order to minimize any possible disruption.

After an extensive research and the establishment of some premises for the project, such as optimization, availability, capacity, market, portability, scalability and flexibility, Vivo decided to adopt Fujitsu's PRIMEQUEST platform. The new solution that was implemented by phases during 2007 used just two machines to consolidate the 16 Itanium servers, which were placed in physical partitions in the new servers. Both Fujitsu PRIMEQUEST servers acquired by Vivo consist of 27 Itanium 2 processors each (a total of 108 processing nucleus), Linux Red Hat 4.0 operational system and Oracle 10g database. Besides high performance and availability, PRIMEQUEST servers count on a Fujitsu's huge professional services and technologies mainframe know-how, now adapted to Itanium platform.

However, it is worth to notice that just the equipments themselves are not enough to guarantee high levels of availability in the systems. Having this in mind, Vivo IT team has been working hard on the development and adoption of IT management, control and monitoring processes, compatible with the new requirements of availability and flexibility of the environment. Vivo counts on Fujitsu's direct support, not only for Fujitsu's servers, but also supports Linux RedHat 4.0 operating system, offering a complete and centralized services portfolio.

Results

According to Vivo's own data, an end-to-end system monitoring in the system (that is, including all components between users and infrastructure, communication links, network elements, applications, etc.) has shown that the availability rate of NGIN Care has risen from 99.57% in January 2007 to 99.74% in August 2007, after the implementation of the new servers. Vivo also states that database environment, manageability, flexibility and expansion capacity have increased on both servers and database environment.

Vivo has found in Fujitsu a partner highly committed to attendance, enabling Vivo to establish one point of contact to both server and operational system environment and operational system. Other strengths Vivo mentioned were technical knowledge of the solution and environment, quality and robustness of product, as well as flexibility and the innovation in the solution.

Next step for Vivo now is to keep on investing in totally redundant solutions with scalability, aiming maximum availability and performance. Servers consolidation, cost reduction, "Disaster Recovery" and "Contingency" solutions are also on Vivo future plans.

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