Trip Report

Joe and Billy's Excellent Brazilian Adventure

Introduction

In June, 2007, at an information technology (IT) event in New York City, I met Tarquinio Teles — CEO of Hoplon Infotainment. Hoplon is a virtual (i.e. online) game company — but one with a twist: Hoplon's entire virtual world environment runs on IBM System z mainframe back-end servers with IBM Cell processor-based blades handling virtual world simulation calculations. Competing designs use clustered, distributed systems – and do not exploit bladed Cell processors. This is a very unusual design — especially because everybody knows that mainframes are "old technology" -- right?

Mr. Teles explained that Hoplon chose this design to give the company a distinct competitive advantage. The mainframe's strong transactional capabilities allow Hoplon players to interact with each other and across various environments extremely quickly (interactions in virtual worlds mimic transactions in the business world). And by using Cell based servers, Hoplon can rapidly update the state of a player's movements through virtual space by performing mathematically-intensive calculations rapidly. If Cell processors weren't used, gaps and skips in player movements through virtual space would skip and jump — making play disjointed and disconcerting.

I told Mr. Teles about a book I'd written on virtual worlds — and mentioned that I would love to see his environment someday. And he graciously responded "Well, if you're ever in the neighborhood, drop-in". As it turns out, Hoplon is located on an island about 450 miles southeast of Rio de Janeiro — not exactly on the beaten path…

Then I got to thinking. I was sitting on almost a quarter-of-a-million frequent flyer miles that were about ready to expire. And my son, Billy, loves virtual worlds (he's a gamer). So — why not take a trip to Florianopolis and check-out Hoplon's virtual game environment? And while in Brazil, why not also go visit some other mainframe customers in Sao Paolo or Rio de Janeiro to see if mainframes are being used in other innovative ways …

The Hoplon Visit

One of the first things we noticed about Brazil was that it got dark awfully early. That's because while we left Maine (where Billy and I live) in the summer – it is winter in Brazil. After an evening out on the town with Tarquinio, where we ate baked fish eggs

in a sack that were then deep-fried (yum...), we spent the day after our arrival on-site at Hoplon. Here's what we learned and saw:

- Hoplon's gaming environment (which should go live in April, 2008) is a graphically-rich, smooth virtual world that encompasses space travel. Its graphics and artwork are stunning and its performance rivals what can be had on a stand-alone PlayStation 3 or xBox 360. (Billy loved it!)

- The primary advantage that IBM mainframe architecture delivers to Hoplon is cross-platform common memory management. By pooling memory across multiple mainframes the company can better support the large and transient user populations that move in and out of various worlds and through various communities. No other server environment handles memory sharing the way a mainframe does — and Hoplon sees this as a huge competitive advantage over competitors that run into problems supporting large populations that move off of one server environment and onto another. Hoplon plans to market this truly unique design and approach to other companies over time.

- Hoplon had no mainframe on site. Instead, the company purchases mainframe computing power from on an as-needed basis (true utility, on-demand computing) from an IBM hosting center. In this manner, Hoplon sticks to its particular skill set (developing games), while leaving equipment configuration and management to IBM professional services.

- Hoplon makes extremely heavy use of virtualization on IBM mainframes. Hoplon's user count is expected to vary widely as its community grows, and gamers will come and go as they please — sometimes staying for minutes, sometimes for hours. Accordingly, Hoplon needs to be able to build-up and tear-down computing environments rapidly in order to cope with fluctuating user demand. There is no better virtualization platform in the world than an IBM mainframe — another reason why Hoplon believes that mainframe architecture is leading-edge and ideal for their business requirements.

- Hoplon's software environment is designed around service-oriented architecture (SOA) which makes plugging in new applications a snap, and IBM mainframes have been optimized to support SOA. For future game developers this is a big deal because Hoplon can sell them turnkey access to an optimized, virtualized environment — and plugging in applications to that environment is extremely easy using SOA and Web services standards.

Overall, Hoplon is using IBM mainframes in a very innovative fashion that proves that mainframes are anything but "old technology."

Sao Paolo and Rio de Janeiro

In Sao Paolo, Billy and I visited the IT headquarters of one of Brazil's largest banks (they wish to remain anonymous). This bank is actively involved in deploying Linux

workloads on mainframes — a move they hope will help reduce system acquisition and distributed server management costs.

In Rio, Billy and I visited an IBM customer (a power company know as "ElectroNuclear"); as well as an IBM partner (a transportation clearinghouse known as "Montreal Informatica"). Both companies were using mainframes to innovate. ElectroNuclear was in the process of moving Linux workloads to its mainframes while Montreal Informatica used its mainframes in combination with intelligent smartcards to provide secure transaction services for 85,000 customers who serve three million commuters.

One of the things that stood out most about these companies was the number of staff each used to manage their mainframe environments. ElectroNuclear runs its mainframe with two people. Yes — that's two people to run ElectroNuclear's SAP run-the-business environment! Meanwhile,Montreal Informatica serves three million commuters with a staff of five mainframers. Incredible…

Parting Comments

Space and time prevent me from delving deeply into ElectroNuclear's and Montreal Informatica's mainframe environments. I did, however, bring along a high-definition video camera and professional cameraman (i.e. Billy). So, we (Billy and I) created short, five-minute-long video summaries of our visits to each of these customers. For readers interested in learning more about the abovementioned customers, just drop me an e-mail at: JClabby1@aol.com and I'll send along the video links that you request.

And my final observation is that anyone who accompanied me to Hoplon as well as to the other sites — and who saw mainframes in action at each of these sites — would recognize that Brazilian companies are using IBM mainframes in new, unique ways that seriously stretch the traditional boundaries of mainframe computing. And they are doing this *because mainframes can fill roles that no other competing computing environment can serve as effectively*.