

ANXIETY OF CLOUD COMPUTING JUST DOES NOT COMPUTE!

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Unfortunately, during the incubation period for this teacher initiative, there has been a lot of incomplete and inaccurate information regarding the details of the laptop initiative in Ethiopia. While some folks are examining benefits and possible opportunities, others who are perhaps ill informed and overly cynical, are rallying to find flaws in the project by injecting unpleasant emotions and vibes way before the project even gets off the ground. As I am sure you are aware of it, pessimists are always reluctant to support efforts that might further any social cause, unless of course they are the direct beneficiaries.

Having said that let me shed some light on the vision of the proposed project in Ethiopia hopefully to enthuse the optimists and ease the pessimists mind.

Vision of the proposed project:

The project is designed to establish a partnership between several stakeholders (teachers, ICT, Microsoft, Fullarmor, Cisco, Dep. of Education, software manufactures, hardware manufactures, and others) to provide computers to the primary and secondary school teachers of the regions at a subsidized cost to the teacher. The goal is to report accurate statistics on student populations, student performance relative to Ethiopia's millennium education goals and to ultimately provide the government the data to accurately define need and progress toward those goals. In return for providing this data, the teachers would become owners of computers, receive the necessary training in their use and have access to a service and support infrastructure that maintains those computers.

By exposing to thousands of educators at the K-12 level, we also anticipate community benefits that include access for teachers and students to previously unavailable content, such as better curriculum, books, and knowledge via the internet. These ancillary impacts have shown to have a positive effect on poverty, literacy, women's rights, and health. This access to information could open doors for students and teachers alike to professional careers and educational opportunities that may impact college enrollment, higher salaries, and overall economic development.

Major project components ☁

There have been some recent press announcements referencing this project, which makes it seem like cloud computing is the overriding technology enabling this project. While cloud computing is a component, this project relies on the success of each of the major project components. Some of these components that I will discuss are:

- Training
- Computer acquisition
- On-going technical support

Only in the third section, will cloud computing play a role. The facets of that role are outlined later in this article.

Training:

The training component will primarily be focused on teaching basic computer skills to the teachers. The approach that will be used will be combination of instructor led training and suggested computer based instruction. Coordinating thousands teachers to receive a laptop and to take instructor led class will be very challenging logistically. We plan on accomplishing this by using a Train-the-Trainer approach. We will conduct train-the-trainer sessions of approximately 14 students per class. These students have been identified as already IT savvy with the ability to learn quickly and teach. At the conclusion of the 10 sessions, we will have developed 140 or more instructors that will be used to train the teachers.

Computer acquisition:

A major part of the solution for this project is to facilitate computer ownership for as many of the teachers in the regions as possible. The approach we will take is to recommend a high quality customized laptop that is affordable to the teachers. It is critical to this project that the computers offered to the teachers are quality computers that will last for years. These laptops must be durable and capable of running some of the latest software. They also must be configured such that they are secure, protected, and usage is track able. You might be comforted to learn that we are knocking at many doors to assist the teachers (e.g. African Development Bank, USAID, World Bank, and over 100 foundations) as the project is proactively supported financially and in technology by the best experts in the field like SQLSoft, Microsoft, Cisco, and others. We actually had a meeting with African Development Bank in Tunis and we were received warmly and were supportive of the project. We are confident they will play a vital role in this project in supporting the teachers. At any rate everyone has a stake and measurable accountability has been established.

On-going technical support:

As you can imagine, it is inconceivable that in any program that you drop laptops in a third world country without supporting them, especially when technology is new. This program supports each of those laptops using various methods including cloud technologies and physical support in places where these teachers are. As we have already discovered during our many

trips to a number of sites, computer viruses are rampant throughout Ethiopia. Viruses are not static, they change constantly. And therefore, it is not enough to provide support at the outset of a project; the support needs to be provided through the entire project lifecycle, both at the software and hardware level.

The support architecture uses a three tiered model described below:

- The first tier is provided by local resources in country and will handle basic problem resolution. 80% of the problems should be resolved by this tier
- The second tier will be handled both locally and from the US. These resources will be more technical in nature and will only become involved when the first tier is unable to resolve the issue in a timely manner
- The third tier handles the most technical problems and will coordinate everything that cannot be resolved by the first and second tier. These resources will be located in the US and will have specific knowledge of the applications that reside on the teachers laptops.

Now back to Cloud computing:

What in the world is Cloud Computing? Cloud computing is just a broad term used for anything that engages and delivers scalable and virtualized services over the Internet. The concept generally incorporates combinations of Infrastructure-as-a-Service ([IaaS](#)), Platform-as-a-Service ([PaaS](#)) and Software-as-a-Service ([SaaS](#)). The term [cloud](#) is used like an idiomatic expression for the internet but the concept is definitely not new. For over a decade, individuals like yourself and organizations have been utilizing Cloud technology to access, send, receive and manage their e-mails through a web browser without distressing about viruses, patches, reconfiguration, or software updates. Where do you think the information of the millions Web e-mail users accounts like Yahoo, Gmail, Hotmail, Facebook, Twitter, etc reside. Not in your private server. Unlike the traditional servers and networking, the cloud allows users to access without being strapped to a single computer, from anywhere, and at anytime as long as they have an internet connection.

The cloud certainly has several advantages and of course as one of your article contributor ([Adi Abererom\(1\) \(2\) \(3\)](#)) alluded to, it has its vulnerabilities as well. Let me share some of its advantages and disadvantages echoed by many experts, including ours:

Advantages:

- Availability: The data is available at all times from anywhere without being limited to a specific computer.
- Affordability: (This includes but not limited to the costs related software, acquiring servers, maintenance , infrastructure, etc)
- Storage: You would have unlimited but easily scalable storage capacity.

- Team collaboration: This will certainly enhance the teachers' effectiveness and development to strength their teaching practice.
- Updates: Latest productivity and antivirus software updates. (According to survey conducts by Kingsoft in 2007, over 1.4 million of computers were affected by Trojan virus)

Disadvantages:

- Internet connectivity: If you don't have an internet access, you cannot visit the cloud. There is just no way around it. Currently there is only one ISP (Internet Service Provider) in Ethiopia but the institution is striving to meet customers' demands. Compared to just few years ago, you can now find numerous internet cafes in Ethiopia both in the city center and throughout the regions. [CDMA](#) cards are also available for purchase. Some cafes and restaurants even offer free Wifi for their patrons. Do you also know that the number of [internet users in Ethiopia](#) soared from only 10,000 users in 2000 to over 291,000. That is a progress in the right direction.
- Slow Speed connection: Even though, there are several factors that can impede the speed of an internet connection (e.g. computer type, speed of the computer, virus, packet loss, server overload, etc), still Ethiopia is not on the list of world's fastest internet connection. Even the United States of America ranked number [28](#).
- Security/Confidentiality. As (aka. Adi-abrero) indicated in his article, security indeed should be high on the list of concerns for cloud computing. It is believed to be safe and secured but again it is a new concept. Is it [Secure](#) as your traditional company server and/or your web-mail account that is used by millions of people, including policy makers, teachers, health professionals, and law makers, etc. At this point, we don't know.

Well, having said that, is the project proposed in Ethiopia dependent on cloud computing? Absolutely not! Our use of technology in this project is strictly focused on what will work. Also keep in mind that this program is designed to work in an off line mode. Granted, internet access would be preferable but the program does not rely on it. This program does not depend or run on cloud technologies. Lately, there have been numerous premature, unauthorized, and some inaccurate press releases regarding the project in Ethiopia and Cloud computing. Don't believe everything you read in the media. There are very specific functions that the cloud technologies will perform but they are a small but important part of this program.

In my opinion the future of this gigantic innovation of computing is promising but not immune to challenges. Regardless, I want to assure you that the proposed teachers project is not depending upon the implementation of the cloud computing. In the meantime, I would like to leave you with a story about a doctor who differed from his colleagues in a diagnosis. "But Doctor," they argued, "There's only a one in ten chance that your diagnosis would be correct. Why persist against such odds?" "Because," the doctor replied. "If your diagnosis is correct, the

patient will die. But if I am right, we can cure him." You get my drift. Why insist on being a follower and de-motivate those who try. One way to escape the vicious circle of dependency and tackle poverty is to embrace modern technology, at least be receptive to it.

For your reference, please refer to the following sites to balance the link of the pessimistic view provided: Happy reading. For objective, constructive dialogues, and inputs, feel free to e-mail me at following address. Abel.ghirmai@sqlsoft.com

Cheers,

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www.SqlSoft.com

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