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Profile of myself – I specialised in RF and have been involved in wireless communication solutions for 20 years. MD of UC-Wireless (Pty) Specialist Distributors and Consultants in the Wireless communication industry for 10 years, from Microwave to Wi-Fi, VoIP and specialised RF communication solutions.

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e-Learning: Wi-Fi, tablets, portals, clouds, e-text books – Where to begin

The face of education as we know it is changing, and the pace is getting faster.

E-learning is not new – some international solutions have been in existence for approximately 10 years, however technology to support these solutions has evolved rapidly. This has made it more accessible for educational institutions, regardless of quintile. Cellular communication evolved from Edge to 3G and now LTE with fast data speeds!

Education is benefitting from technology, but buzz words like “Wi-Fi”, “tablets”, “portals”, “e-books” and “e-anything” are enough to scare or confuse educators . Education Southern Africa featured the story of Sunward Park High School going “e-learning” in 2013. Since then, more challenges around deployment of reliable Wi-Fi were overcome, eventually by a provider that offered a stable, reliable, affordable solution.

Other Schools have met with challenges, though many who installed basic Wi-Fi , never envisaged it for e-learning. Who would have thought a few years ago that every learner would use a tablet, but the schools that embarked on this in 2013, such as Springs Boys High and Brackenhurst Primary, met with unprecedented favour and unanimous votes to go the “e-learning route”. Some however, have adopted a “wait-and-see “ approach. The question most are asking is: “Where to start?”

The beginning is a good place, and in e-learning that means getting the foundation right. Wireless communication has surged globally because being connected wherever one happens to be is a powerful convenience, demonstrated by cellular phones. In essence it’s a simple equation:

“Mobility + Communication = Wireless”.

It follows that Wi-Fi, is a key foundational building block, if not the cornerstone. Wireless networks do rely on cabled and/or fibre-optic connectivity (back-bone) communication between servers and clients of the network. Internet connectivity is arguably of key importance too, however a lot can be done if internet is not available or too costly, which is sometimes the case with rural schools.

Portable setups emerged that can be shared, which are viable for rural/ small sites of 200 learners, where access to the system could be from 30% to 50%. Larger sites should consider the ROI on capital investment & the amount of time and benefit each student derives, not to mention that the solution is not benefitting anyone while locked in a safe.

One would be well advised that the first step is to put an “enterprise grade” wireless network in place, since the pace of e-learning roll-out does not warrant 3 or 4 years to embark on this process. Phases could be used so that whole areas of a site may be covered. This way learners and staff have access to the network all the time in whichever areas it is deployed.

The next question would be “What is an enterprise grade wireless network suitable for an education establishment from a small primary school to a college or a large university?”

Here are some key pointers.

- Education environments are “High Density” Wi-Fi networks, because hundreds if not thousands of clients (tablets & devices) are connected to the wireless network in close proximity to one another.
- The wireless network, MUST handle high density, and this is often neglected. (Many ignore this and if you depend on unsuitable solutions, they are like foundations built on soft sand - You may get a sinking feeling when it does not work as promised.) Fortunately there are solutions out there and in particular one manufacturer has pioneered in this space and is arguably the leader through highly innovative patents allowing high density, without degrading the performance for each device.
- High Density is synonymous with some of the largest traffic jams which occur in cities like Los Angeles and Beijing. Because you can’t see the wireless signal, it is ignored with great peril. Picture the wireless realm carrying everyone’s data to and from tablets. It’s like rush hour in the world’s biggest spaghetti junction, except nobody is going anywhere fast! In fact nobody is moving, unless you have a proper solution.

- Per user Security is a critical aspect, which must be cost effective. E-learning has intellectual property and commercial value for each user which needs to be protected for all.
- Simplicity of deployment, use remote management and support.
- Track record and reference sites locally and globally are vital.
- Independent tests and case studies are excellent benchmarks for decision makers. Often they have been performed by very large educational institutions abroad who invested a lot of time and effort. They will be one of your greatest assets & provide the confidence that others have been this way before and met with much success.

In essence – to position your educational institution for success, the first step is the right network – wireless if you can.