

A Revolution in Lighting: Luminanz Technology

The world of light is changing rapidly and LEDs will soon provide the ambient light of the future for the domestic, commercial and industrial world. Luminanz LED technology will be at the forefront of this change. Extremely efficient, LEDs use only a fraction of the energy consumed by an ordinary incandescent light bulb. Importantly they radiate no heat, and what heat they do produce can be managed effectively, therefore not adding to the heat gain of a building in the same way that incandescent lamps and fluorescents do.

Despite the many advantages LEDs have over conventional lighting, including energy efficiency, safety, environmental friendliness, long life, flexibility (dimming/control etc), low maintenance, there is a potential downside. Powerful LEDs can be hostile and uncomfortable to the human eye. The big question is how to harness these LEDs and utilise the light so that it is safe but still highly effective.

The Luminanz technology offers a number of solutions. Their patented range of technologies allow light from LEDs to be controlled & emitted in a user-friendly way without loss of brightness. The company, through their UK licensee, MHA Lighting, has been able to develop a range of ambient lighting that will challenge any current lighting system in terms of light output, energy use and convenience to users. The light emitted can be as bright or soft as required, and can be dimmed by the user.

In addition, Luminanz technology allows LEDs to be the source of effective light for other applications, including floodlighting/ stadium lighting, street lighting, signage, display, street furniture, highways and traffic use, architectural highlighting, safety lighting and off-grid use. Come and see the technology, one look is enough!

Green IT: Just the Medicine

A Northern pharmaceutical company with multiple sites realised that their IT systems were vulnerable: all IT was based in a single location so was at risk because of flammable substances on site and, in the event of a disaster, their IT systems would all be lost.

24/7 Uptime supplies green IT solutions and specialises in business continuity, server virtualisation and high availability solutions. The solution 24/7 Uptime suggested was that they could geographically disperse the client's IT between head office and another site, so reducing reliance on a single location. The hardware could be reduced by virtualising servers and supplying high availability software to ensure business critical applications kept up and running 99.999% of the time – again reducing risk of losing operations but also reducing energy costs and CO₂ emissions.

24/7 Uptime's feasibility study of the locations identified good fibre-link connectivity between the sites so communications and data transfer was not a problem. The study also recommended reducing their current 9 mid range servers down to 3 servers.

The solution used the XenServer virtualisation hypervisor from Citrix. The entry level version of XenServer is now free of charge but is feature rich enough for many server environments, depending on the criticality of applications. More critical environments would be candidates for the non FOC version but it is still extremely cost effective when compared to other virtualisation technologies.

24/7 Uptime then added onto the XenServer environment everRun VM from Marathon Technologies. everRun VM is the world's first fault tolerant availability solution for virtual environments – which means faults at component level (disk failure, network connection failure, etc) are tolerated with zero downtime. At the ultimate level of protection, everRun provides zero downtime for full server failure. This is achieved without the requirement of mass shared storage such as SAN – however it does work perfectly well if a SAN is already in the architecture.

As opposed to other virtualisation technologies, the result is that suitable levels of availability can be applied to applications depending on recovery time objectives in the event of hardware failure – but uniquely all from the same solution. The solution is also application agnostic – with high availability equal to the level achievable by any rival technology applied to non Windows environments and up to 99.999% system availability for Windows server O/S environments (ie less than 5 minutes

unscheduled downtime per year). This level of availability is unparalleled in a virtual environment. There is no module for SQL, Exchange, etc because the virtualisation and high availability technology sits at bare metal level, below the virtual server operating system. The combination of Citrix XenServer and everRun also means applications can be migrated 'on the fly' between physical hosts – so planned maintenance, patches, upgrades, etc also need not incur any system downtime.

This solution provides levels of availability only previously offered from proprietary hardware implementations costing well in excess of £100K per 4 x server pool. The availability software used in all the above costs less than £2K per licence and is per physical host – not per virtual environment. This also means that introducing new environments into the server farm need not incur any additional hardware costs – and are automatically protected by the availability solution (as it sits at physical host level). Test environments, R&D, etc, can be brought in, automatically protected, and simply deleted when testing, development, etc phases are complete.

In February 2009 the Citrix / Marathon Technologies combination was endorsed as the availability solution of choice by Microsoft for their own environments, over and above their own products. This is the first time Microsoft have endorsed a third party product in this way.

The outcome for their client meant their IT is no longer vulnerable; they enjoy significantly higher application availability than before; they will also reduce their IT energy costs (power consumption and air conditioning) and CO₂ emissions by 66% year on year. With CRC legislation coming into effect in April 2010 and penalties potentially looming for public and private sectors alike when CRC league tables become a reality in 2011, in the IT department, at least, this pharmaceutical client is ensuring he is ahead of the game.

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