

SYSTIMAX® Solutions

Don't Make a Mistake with Your Infrastructure: How to Lay the Physical Foundation for Cloud Computing

Powering distributed computing environments with 24/7 connectivity requires high-performance, reliable, intelligent components

Driven by growing demand for increased performance as well as cost, capacity and energy reduction within the enterprise, cloud computing has emerged as a platform for efficiently and effectively sharing resources, applications, software and information. To fully realize the benefits of a distributed computing model that can be based on a wired or wireless infrastructure, both the subscribing enterprise and the cloud service provider need a reliable, high-performing physical network layer equipped with intelligence to enable manageability and rapid scalability in an on-demand environment. Laying the physical foundation for reliable cloud services requires a comprehensive infrastructure solution that incorporates high-performance, intelligent copper and fiber structured cabling components as well as smart in building wireless solutions.

Whether it be a private, public or hybrid cloud network, the level of decentralization in a distributed computing model requires high-level network performance at all times to support significant data volume and network access. As content becomes more bandwidth-intensive, new applications emerge and the number of enterprise users increases, the elimination of performance degradation becomes critical. To ensure that the physical layer complies with the magnified bandwidth demands, network designers need to select infrastructure components with a critical eye. By choosing solutions designed to deliver the fastest data speeds as the physical foundation of a cloud network, network managers make certain that enterprise users experience optimum connectivity with diminished downtimes and fewer dropped sessions.

As a service and delivery model for computational capabilities, cloud computing has the potential to finally satisfy the demand for always-on, fast and reliable networks that have been exciting the enterprise community. In accordance with Moore's Law, advancements in integrated circuit (IC) technologies have exponentially driven down the cost of computational power, thereby initiating more demanding applications and simultaneously increasing user consumption. While cloud computing enables hardware to be used more efficiently and flexibly, reliable 24/7 uptime in a high-use network can only be assured when the physical network is intelligent, manageable and rapidly scalable.

Cloud computing platforms bring flexibility to the enterprise, but with increased flexibility and adaptability comes network management and security challenges. In order to benefit from decreased power consumption and increased performance and capacity while maintaining the integrity of the logical network, IT managers need real-time visibility into the relationship between the shared cloud network and the physical network. It's imperative that IT managers have a 20/20, immediate line of vision into their network in order to help leverage efficiencies, maximize productivity and ensure network security. Additionally, intelligence gives cloud providers control over their networks to ensure they are delivering the type of reliable, quality service that their enterprise users expect.

Public and private cloud providers utilizing both wired and wireless infrastructures are in a unique position to share resources, software and information via the internet through a shared network – changing the day-to-day enterprise environment and enabling productivity improvements. None of these benefits are useful or even possible if the enterprise or service provider's network experiences downtime or performance issues. The success of the cloud computing model is dependent on a robust and reliable physical layer. The physical infrastructure is the true link from the desktop to the cloud, and installing wired and wireless intelligent infrastructure is the connection.

Luc Adriaenssens is senior vice president of Technology in the CTO Office of CommScope. During his 19 years in the business, he has held positions in product management and positions of increasing responsibility in R&D, including heading up CommScope Enterprise Labs which has the responsibility for driving the research and development behind the award winning copper, fiber and associated software solutions such as GigaSPEED®, LazrSPEED®, TeraSPEED™ and iPatch®. Luc joined Bell Labs in 1986 as a cable designer. He has been involved with high performance cable design, LAN and cabling standards, cabling system applications, EMC testing, and product management. He is an expert on cabling performance issues. Luc is the author of the performance specifications that became the initial Category 5 cable requirements and was instrumental in shaping the category 6 and Category 6A cabling requirements. He is the lead inventor of the multi-stage connector compensation method delivering unrivalled channel performance in the industry. He remains personally involved in emerging high performance standards activities, such as 10GBASE-T. Adriaenssens received a BSEE with high honors from Georgia Tech, an MSEE with highest honors from U.C. Berkeley and an MBA with honors from Purdue. He holds 27 US and foreign issued patents plus 5 patents pending in the fields of cable design, connector design and EMC.



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