

Connected OFCity challenge: addressing the digital divide in the developing world

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**Abstract**

Over the past 50 years, the development of information and communications technology has provided unprecedented support to the steady economic growth of developed countries. In recent years, some of the largest growth has been reported in emerging economies, which, however, often lack adequate telecommunications infrastructure to further sustain their development. Although a number of service providers and system vendors have started to address the issue, the challenges they encounter are substantially different from those in the developed world, including an unreliable electricity grid, poor fiber infrastructure, low revenue expectations, and often a harsh climate environment. This paper reports use cases and solutions pertinent to the development of the networking infrastructure in emerging economies, provided by organizations directly involved in such activities. After providing some background information on the current state of network infrastructure and the main challenges for Africa and rural China, the paper provides details on two proposed solutions. The first focuses on the provisioning of services and network infrastructure through the development of low-cost data centers, whereas the second proposes cost effective adaptation of both fiber and hybrid copper-fiber technology to rural areas. The article is concluded with a brief discussion on the complementarity of the two approaches.