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Introduction

1.1 BACKGROUND TO CONVERGENCE

The telecommunications industry, and particularly the cellular industry, is currently going through a state of enormous transition. Many of the major cellular operators are now deploying a network to support packet switched data services and lead them to third generation (3G). This step to 3G involves a major change in the network infrastructure with the introduction of complex technologies such as asynchronous transfer mode (ATM), code division multiple access (CDMA) and the Internet protocol (IP). For forward-looking operators, this transition also requires a clear, strategic transformation of their business model to grasp and maximize on the benefits of the next generation's lucrative revenue streams. An operator requires both highly motivated staff with a substantial skill set as well as comprehensive, dynamic information systems. Also crucial is a clear understanding of the role the operator will play in this new model on the continuum from mere provision of a bit-pipe, to an organization offering full Internet service provider (ISP) capabilities and value-added services. This revised business model needs to incorporate integrated solutions for charging and billing, and provide a clear understanding of the new revenue streams available. Smooth convergence of network and telecommunications technologies and a proactive business strategy are pivotal to the success of the future mobile operator.

Many telecoms engineers have little experience in the new packet and IP technologies. To remain competitive it is essential that they learn the new packet switched skills quickly. The circuit switched skills will be required for a long time as circuit switching is not expected to disappear overnight and will probably be around for decades. However, new network components for telecoms networks will be based around packet switched technology.