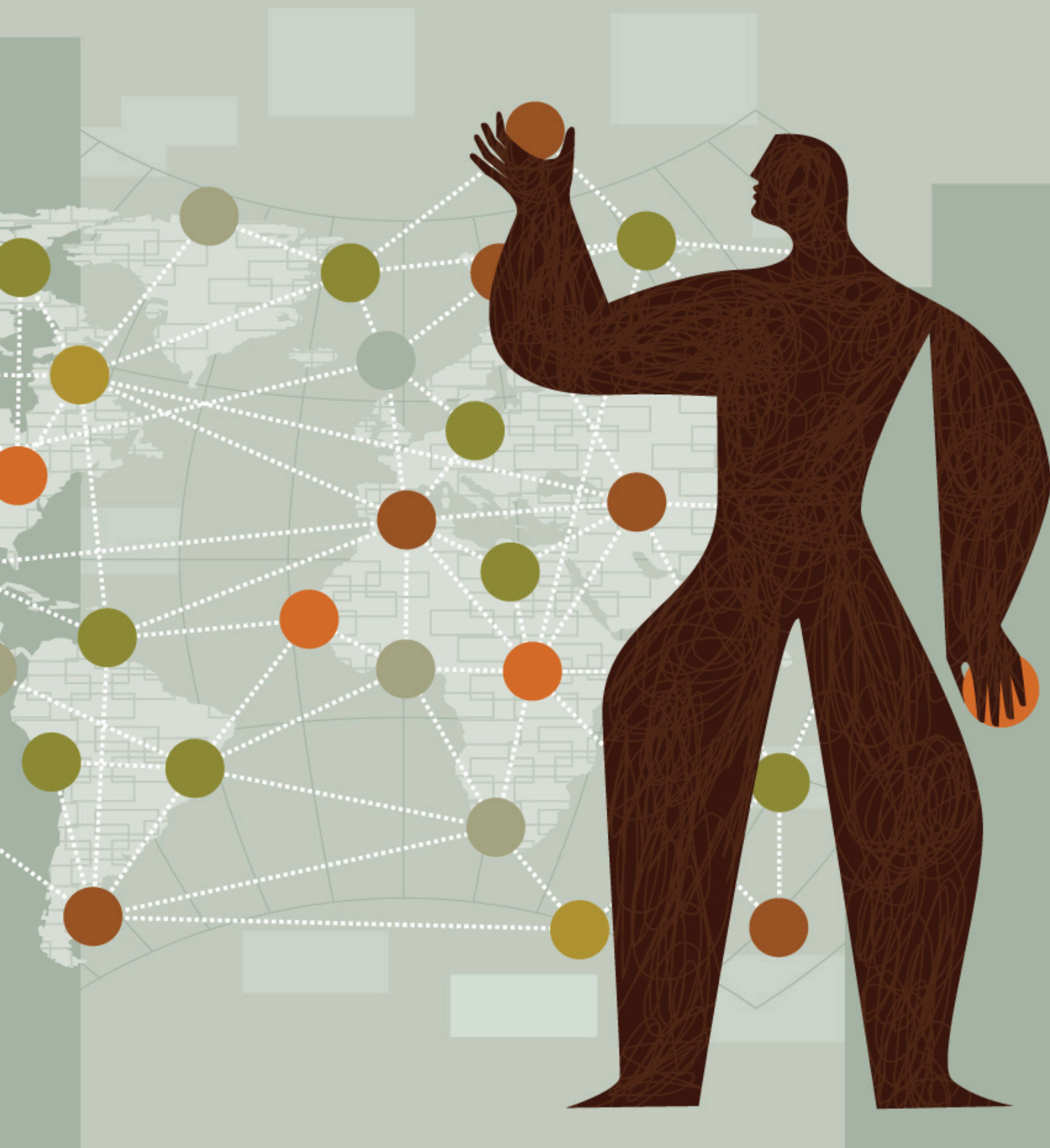


STOKE

SSX-3000 PACKET DATA INTERWORKING FUNCTION WIRELESS LAN INTERWORKING FOR CDMA2000 NETWORKS



INTRODUCTION

Widespread demand by wireless data consumers for audio, video, high resolution images, and other bandwidth intensive content on the Internet is creating a significant bottleneck in the mobile operator's Radio Access Network (RAN). In response to this, operators are tapping into the ubiquity and open nature of Wi-Fi access networks, and the growing set of Wi-Fi capable mobile devices. By taking this step, operators are able to support rising traffic demands at very low cost, extend the life of their RAN investments, and deliver the rich broadband experience customers are expecting.

Recognizing the advantages of Wireless LAN interworking services, mobile operator and equipment supplier members of the standards setting body for cdma networks, 3rd Generation Partnership Project 2 (3GPP2), developed technical specifications for deploying Wireless LAN Interworking solutions. However, with standards in place and trial deployments undertaken, service rollouts are stalled due to a dearth of operator confidence in current generation edge routers, session border controllers, and Packet Data Serving Nodes (PDSNs) to perform the role of packet data gateway and handle the rigors of broadband mobile services. They have found that a re-tooling of the network edge is needed to deliver the performance, scalability, security, control, and economies required for full deployment. Stoke delivers new machinery to meet these new demands.

3GPP2 WIRELESS LAN INTERWORKING OVERVIEW

In order to leverage the massive installed base of Wi-Fi networks in homes, offices, and other public spaces, the 3GPP2 standards organization developed X.S0028-200-0 cdma2000 Packet Data Services; Wireless Local Area Network (WLAN) Interworking; Access to Operator Service and Mobility, a technical specification that extends cellular system access to include Wireless LANs. This specification defines how subscribers access a WLAN and other attached IP networks (such as the operator's data services network, the Internet, or a private intranet) using procedures and facilities that are compatible with a cdma2000 infrastructure.

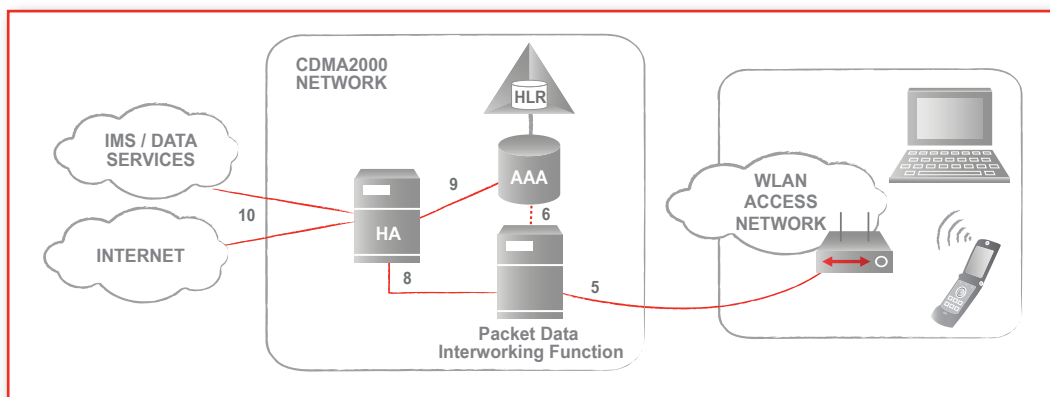


Figure 1: 3GPP2 Wireless LAN Interworking Reference Diagram.

X.S0028-200-0 defines the network elements, their capabilities, and the communications interfaces required to safely deploy services to subscribers connected over WLANs. A cdma2000 WLAN Interworking reference diagram is depicted in Figure 1. It illustrates the functions and interfaces defined in the standard for providing Mobile Station access to operators' data services and other networks via a WLAN. A new component in the standard is the Packet Data Interworking Function (PDIF). The PDIF is a security gateway, guarding against unauthorized access and inbound threats to the operator network. It is also tasked with mobility management between WLAN access nodes, and between WLAN access nodes and the cdma2000 network, and it must keep track of and report charging events.

