

Compact 1xEV-DO Mobile Application Platform

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OVERVIEW: Hitachi has developed a compact all-IP 1xEV-DO platform, which has 1xEV-DO network functionality and a base station. It is comparable to existing 1xEV-DO mobile infrastructure, and is able to handle 3G-grade services and applications with scalability and flexibility system deployments.

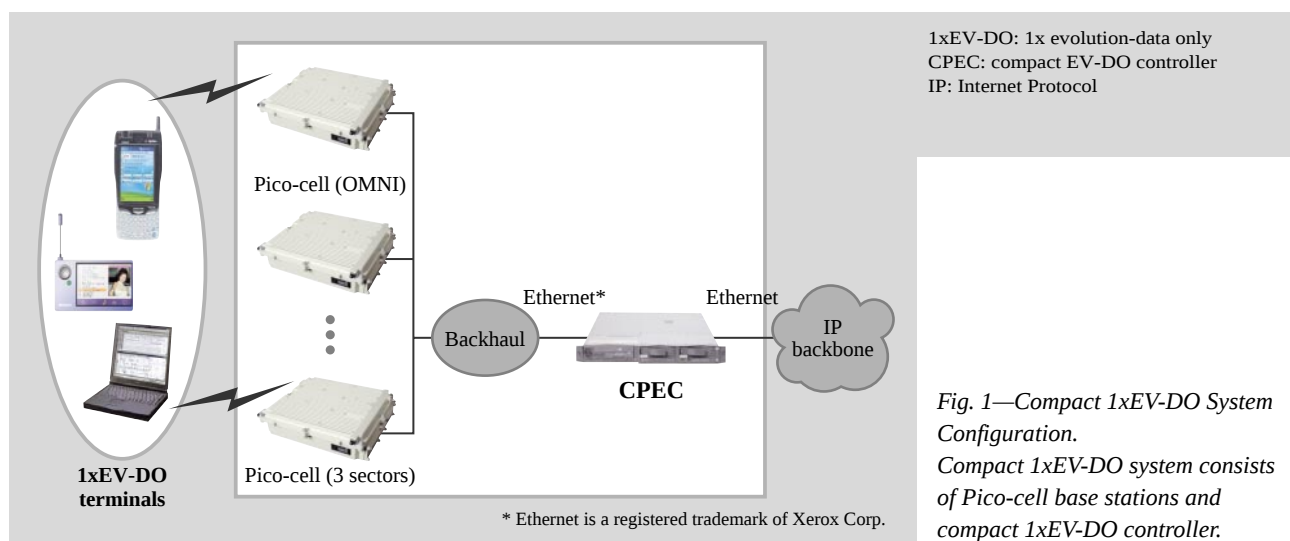
INTRODUCTION

HITACHI'S 1xEV-DO (1x evolution-data only), which is a 3G (third generation) mobile platform, offers wireless high data rate services. As 1xEV-DO services are becoming more widespread, we need to have a competitive edge, such as providing users with voice and data applications that can be used anytime and anywhere. To provide such capabilities, Hitachi has developed a compact 1xEV-DO mobile application platform.

COMPACT 1xEV-DO FOR MOBILE APPLICATIONS

The compact 1xEV-DO platform is a complete infrastructure for mobile networks and is designed in compliance with IMT-2000 (International Mobile Telecommunications-2000) and 3GPP2 (Third Generation Partnership Project 2) standards. It consists of a CPEC (compact EV-DO controller) and Pico-cells.

The CPEC controller is a component that supports all 1xEV-DO's center functionality, such as the BSC (base station controller), the PDSN (packet data serving node), and the HA (home agent) on a 19-inch 1U (44.45 mm) standard chassis that is stackable for scalable operation. A Pico-cell is a compact base station used to mainly extend coverage to areas that are currently inaccessible, such as buildings, airport terminals, shopping malls, and underground complexes. It also has an optional high-power transmission amplifier that can be added to the basic design to improve coverage in sparsely populated areas. The Pico-cell has an OMNI (omni-directional) lineup and three sectors. Data throughput for each sector is transferred at up to 3.1 Mb/s for forward links and 1.8 Mb/s for reverse links. The compact 1xEV-DO platform can be added to existing networks to provide mobile application users with pervasive coverage and high-performance wireless signals. The



design of this platform is based on all-IP (Internet Protocol) architecture, and thus reduces the effect of nonstandard factors. Therefore, using this platform significantly reduces the cost of deployment planning, installation, operation, maintenance, and training. In addition to data services, this platform can provide such VoIP (voice over IP) related applications as WOS (wireless office system), PoC (push to talk over cellular), VT (video telephony), and FMC (fixed mobile convergence).

Operators are able to utilize these features to enrich their mobile application menu and to extend these bandwidth rich 3G multimedia services to indoor and outdoor environments.

CONCLUSIONS

3G-grade mobile services need a high data rate and adequate coverage extension. The compact 1xEV-DO platform provides both pervasive coverage and high cost-effective service quality. Its all-IP architecture allows service providers to benefit from scalability, as well as facilitating deployment, operation, maintenance, and training.

REFERENCES

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