

HP

Mobile E-Services

Billing Solutions

Mobile service providers seeking to implement WAP and GPRS e-commerce billing services now have an ideal solution. By combining the mediation flexibility of the HP Smart Internet Usage platform with the powerful rating capabilities of sepro e-rate™, operators can profit from the mobile e-commerce market, a market, expected to grow dramatically in the next few years.

Mobile operators can charge e-commerce providers for the same billing service that credit card companies currently offer within the e-commerce value chain

Introduction

New Revenue for Mobile Telecom Market

In recent years, fierce competition has forced GSM operators to cut the prices of traditional voice services and to look elsewhere for sources of revenue. Fortunately, mobile operators have an excellent opportunity to make immense profits from the exploding growth of Internet e-commerce—if they act fast and adopt the right strategy to take advantage of their unique position in the marketplace.

What is the “Right” Strategy?

The wireless industry is key to the future of e-commerce because people will be far more inclined to buy goods and services over the Internet if they can access them anywhere, without having to sit at a PC or a television. Recently, technologies such as Wireless Application Protocol (WAP) and General Packet Radio Service (GPRS) have emerged that will enable customers to use mobile digital devices to quickly and easily utilize mobility-based services or shop on the Web. GSM operators, of course, will profit from an increased use of bandwidth. With the HP mobile e-services billing solution, however, operators can do far more than supply bandwidth—they can also provide customers with a very convenient means of payment for e-commerce purchases and supply e-commerce providers with an equally convenient method for billing. From a strategic standpoint, this capability is extremely significant.

The optimum solution enables operators to collect records of customer e-commerce transactions from IP services, rate and process these records, and integrate the results into their companies’ existing billing systems. Operators can then include charges for Internet purchases on the very same bills that customers receive for traditional voice services. Hence, customers will be able to pay for e-commerce transactions at the end of the month in the same way and at the same time that they pay for mobile telephone bills—e.g.,

by check, direct debit, or even cash. The HP billing solution will also enable operators to rate Internet content, service and e-commerce transactions for the amounts payable to e-commerce providers and to generate reports that can be used as a basis for financial reconciliation with the content partner.

The Strategic Payoff?

GSM operators can charge e-commerce providers an agreed percentage for handling billing. In other words, mobile operators can offer providers the same billing service that credit card companies currently offer within the e-commerce value chain. Therefore, GSM operators can profit from that billing service on each and every mobile e-commerce transaction. The potential revenues are immense.

Solutions Overview

An Integrated Solution for a Two-fold Problem

The HP mobile e-services billing solution integrates two primary components: the HP Smart Internet Usage (SIU) mediation platform; and the sepro e-rate™ e-commerce content-rating device. Each component is designed to solve a complex problem associated with mobile e-commerce and can be easily and seamlessly integrated into an operator’s existing retail billing system by HP Consulting.

SIU allows operators to efficiently collect data from a complex WAP and GPRS environment. Over the next few years, GSM operators will be implementing GPRS because it enables high-speed IP-network connectivity for mobile e-commerce. Unlike standard circuit networks, which deliver structured CDRs that are easy to collect, IP usage data is distributed in the network and must be aggregated and correlated to produce Internet Data Records (IDRs). These IDRs allow identification of the who, what, where, and when of e-commerce transactions.

Sepero’s e-rate performs the rating functions on the IDRs received from SIU. The reason

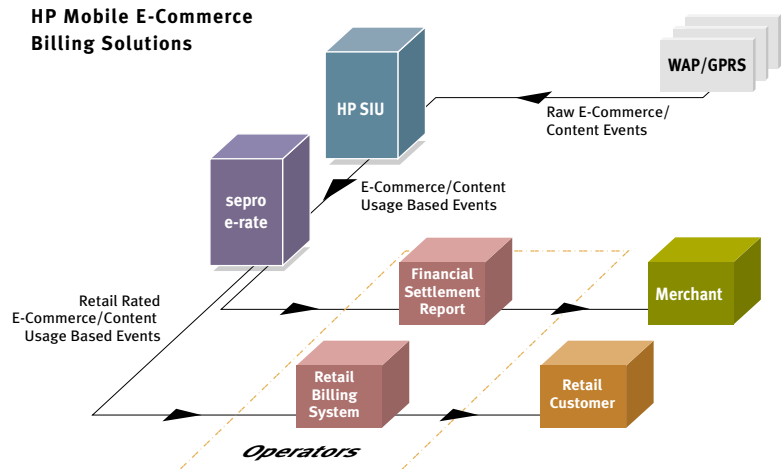
operators need e-rate is because the complexity and wide variety of mobile e-commerce transactions simply overwhelms existing rating solutions designed for standard voice services. Whereas the latter systems rate mobile phone calls according to a very limited number of standard parameters—e.g. start time, end time, where a call originates and where it goes—any given e-commerce transaction may involve a variety of pricing attributes that vary in an indefinite number of ways depending on the precise business circumstances.

When a mobile e-commerce customer orders movie tickets, for example, the rating system must recognize that on a specific day the customer is entitled to a discount by virtue of the amount of entertainment purchases made that month. Moreover, a proficient rating system must be flexible enough to tariff a large number of transaction types. Customers use the Internet to buy airline tickets, rent cars, make hotel reservations, play games, order streaming video—that is, engage in literally thousands of disparate e-commerce transactions, each with its own idiosyncratic pricing attributes. Sepro's e-rate is designed to efficiently rate the vast variety of e-commerce transactions by using a fine-tuned system of tariff decision trees that guide records to the appropriate tariff tables.

E-rate then creates and delivers priced usage records to the operator's existing retail billing system, which will include e-commerce charges as line items on a customer's telephone bill. E-rate will also calculate the appropriate wholesale information for financial reconciliation with the e-commerce vendor.

HP Delivers HP Smart Internet Usage

SIU collects usage data from a full range of routers, switches, probes, gateways, and applications. It then aggregates and correlates the usage data and produces the essential, business relevant data in user defined



formats. The platform is 100 percent Java for maximum platform portability and easy extensibility. It includes the following functional elements:

- A fully distributed datastore that provides virtually unlimited scalability and high availability.
- Industry-standard CORBA technology to ensure robust communications between remote components.
- A fully configurable Internet Data Record (IDR) to conveniently output results as HTML, XML, fixed or delimited ASCII, binary, or an SQL database schema.
- Configurable aggregation and correlation rules that not only make SIU extremely flexible to meet specific business needs, but that can also be combined to feed multiple, simultaneous usage applications.
- An open API that enables system integrators and developers to extend the capabilities of SIU into different applications. The SIU software developer kit supports encapsulator development for new network equipment or other data sources, output data exports, as well as aggregation and correlation rules.

SIU allows operators to efficiently collect data from a complex WAP and GPRS environment which ultimately enables the identification of the who, what, where, and when of e-commerce transactions.

Sepro e-rate has the power and flexibility required to provide successful marketing and billing support for a wide and diverse range of mobile e-commerce transactions.

Sepro Delivers

Sepro e-rate

Sepro e-rate has the power and flexibility required to provide successful marketing and billing support for a wide and diverse range of mobile e-commerce transactions. E-rate functionality includes:

- Billing Event Design—E-rate allows operators to customize data formats for the collection of any type of mobile e-commerce event.
- Event Collection—The system collects the billing events from HP SIU and maps them to the pre-configured formats as specified by the billing event designer.
- Transaction Analysis—E-rate's transaction-analysis module guides the enormous number of formatted e-commerce transactions to the relevant retail and wholesale tariff tables and calculates both the rates chargeable to the customer and payable to the e-commerce provider. E-rate then delivers the retail rate information to billing system formatting, and generates a report containing wholesale rates and the percentage deducted as a price for the GSM operator's billing service.
- Billing System Formatting—E-rate maps the formats of the rated mobile e-commerce events onto the appropriate formats in the GSM operator's existing retail billing system, ensuring that all of the correct charges for e-commerce transactions appear on the customer's bill. This capability is made possible by HP Consulting's custom integration of the HP mobile e-services solution with the operator's specific billing infrastructure.

Sepro e-rate also offers several application toolkits that allow users to quickly and easily define billing events and build e-commerce and content tariff tables. These tables can include marketing offers such as threshold pricing, special offer dates (e.g. 10 percent off of the standard purchase price between specified dates) and partners.

Solution Highlights

HP's mobile e-services billing solution

- Collects e-commerce data in WAP and GPRS
- Rates a multiplicity of e-commerce transactions
- Leverages GSM operators' existing billing systems
- Enables convergent billing for mobile e-commerce and voice-service charges
- Determines the compensation rate for e-commerce vendors
- Allows operators to collect a percentage of every dollar spent on mobile e-commerce transactions

Availability

This mobile e-services billing solution based on the HP SIU platform and sepro e-rate is now available from HP.

For More Information Hewlett-Packard

About HP SIU:

www.hp.com/smartinternet

About HP's products and solutions in the communications industry:

www.hp.com/communications

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