BY FRANCOIS-ERIC DE REPENTIGNY

You can now dial in to your local ISP from almost anywhere in the world–for the price of a local call.

# Internet Roaming

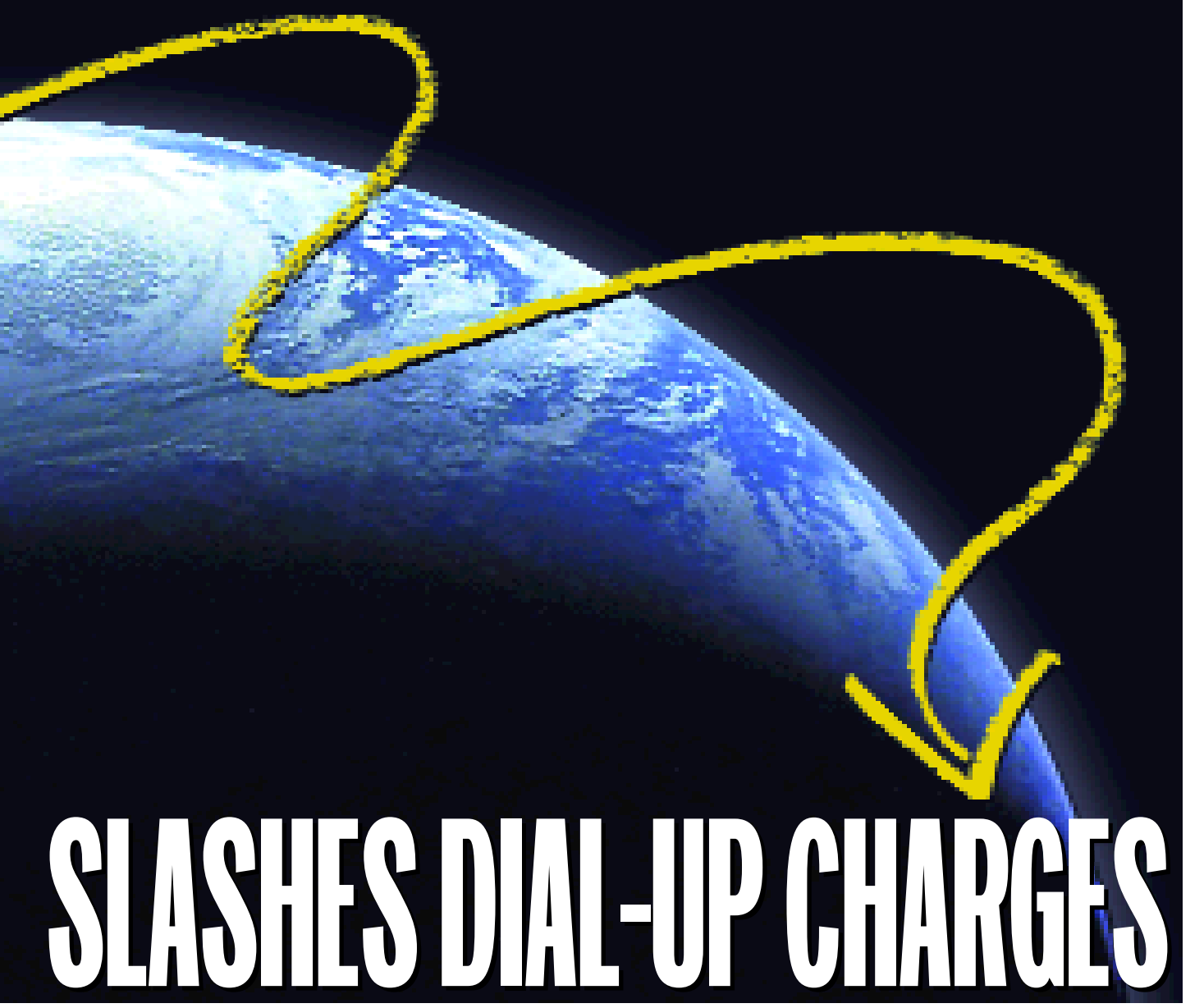
YOU'VE SEEN THE COMMERCIAL WHERE THE GUY LOGS in to his office from a laptop on a beach in the Caribbean. But have you ever wondered how much that call would cost? If you travel internationally and like to keep up electronically with business at home, you may have learned the hard way that a $100 charge for an hour of connect time isn't out of the realm of possibility. Fortunately, a lot of Internet service providers (ISPs) are beginning to offer a service that may help you out. It's called Internet roaming, and it takes the long-distance bite out of logging in from abroad.

With Internet roaming, you can access your home account from locations around the world without paying for the long-distance call to your home ISP. Instead, you get online with a local call to a participating ISP in your current area. Here in the U.S., Internet roaming doesn't necessarily save on comparable services offered by major phone companies. But while phone companies support only limited access, often giving a busy signal when you most need to get online, Internet roaming providers typically have several access points per location, ensuring a successful connection even during peak hours.

## How Does Internet Roaming Work?

Although the Internet is a global network that can take you anywhere, you have to log on through your home ISP. If you're away from home, this means a long-distance call—unless your provider offers Internet roaming. In that case, you can access the Web, your e-mail, and even personal files by dialing in to a local ISP that you don't have an account with. Later, you're billed for that local call by your home provider.

The way it works is that a consortium of participating ISPs all subscribe to an independent clearinghouse. If your company is directly linked to the Internet through a T1 line, it can subscribe to the clearinghouse directly. The clearinghouse acts as a go-between for ISPs who temporarily host your remote access, and for your home provider or company. The remote ISP bills the clearinghouse for your time online. The clearinghouse bills your home provider, who in turn bills you. It's the same type of arrangement banks have with central networks such as Star and Cirrus to let you withdraw money from ATMs around the world. My San Francisco-based cellular tele-



# SLASHES DIAL-UP CHARGES

phone carrier also offers roaming through a third-party service that bills me locally for calls I make in other cities.

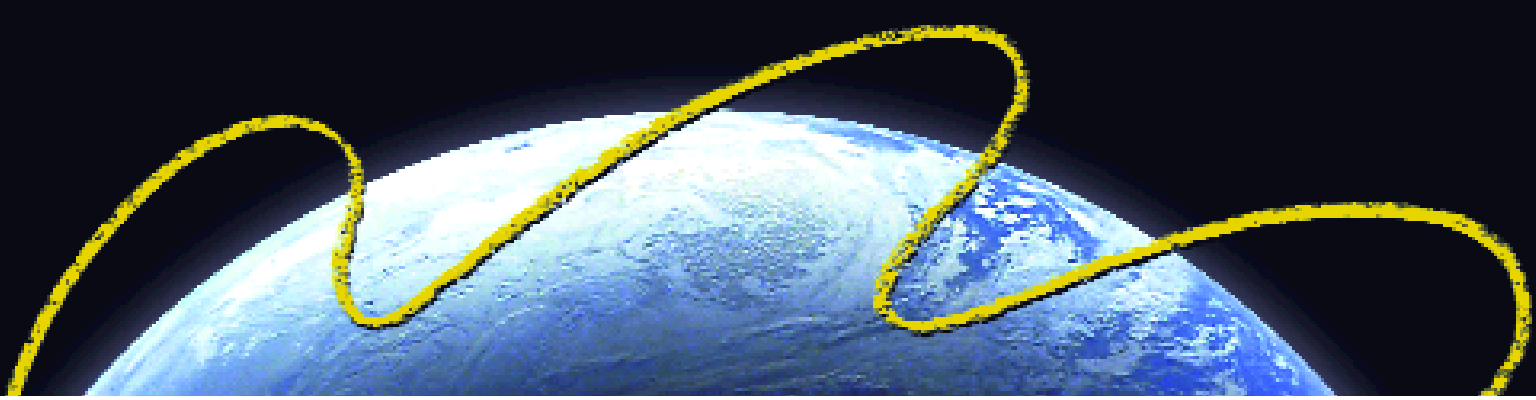
The catch, of course, is that for Internet roaming to work, there has to be a participating ISP nearby. Fortunately, most places you'd ever do business in are probably covered. AimQuest and iPass, two Silicon Valley companies that act as clearinghouses, each boast networks of ISPs scattered across hundreds of cities and countries worldwide (see sidebar on next page).

### A Real-Life Scenario

Let's say you're on a business trip in Southeast Asia. From your hotel room in Jakarta, you want to check your e-mail and make a few updates to your corporate Web site. First you run a dialer application on your laptop and type the name of the city you're in—Jakarta, for example. The application finds the number of a participating Jakarta ISP, such as BagusNet, and dials it automatically. Next you enter your name and password, adding your ISP or company Internet address as a suffix; for example, francois@companyname.net.

Because you're not a subscriber with BagusNet, your login ID and password are automatically encrypted to protect them from prying eyes as they travel the Net. They're then sent to the central clearinghouse. The clearinghouse server queries an authentication server (gatekeeping software that polices access using login IDs and passwords) at your home ISP or company, which returns a "yes" or "no" to BagusNet. If given a positive answer, BagusNet lets you connect. The entire login process takes 5 to 10 seconds longer than if you were at work. You're connected to your account, and you can use your regular applications and work on any files you normally have access to.

When you're done, BagusNet notifies the clearinghouse of the time you spent online. The clearinghouse pays BagusNet for its services and later bills your ISP or company. At the end of the month, roaming charges appear as line items on your regular bill. Savings in this example are remarkable. If you were to dial up your company intranet from Jakarta using a regular phone service, you'd pay long-distance charges of up to $400 per hour. Using an Internet roaming service, you'd pay only for your local access in Jakarta—a relatively paltry sum of $4 to $15 per hour.



### No More Busy Signals

If your business travel is mainly in the United States, Internet roaming will save you time rather than money. Here at home, logging in across area codes costs about the same whether you use Internet roaming with a clearinghouse or use similar roaming services offered by phone companies like AT&T or Sprint—from $2.50 to $4 per hour. The difference is that, especially during peak hours, you have a much better chance of getting online, and staying online, with a clearinghouse. That's because clearinghouses typically have one or more ISP access points per city; iPass has five in San Francisco alone. By contrast, a phone company might provide only a single 800 number that services the entire country. That's one or more large modem pools per city for clearinghouse users, as opposed to one access point nationwide for everyone else.

### What It Takes to Provide Internet Roaming

Any ISP or company that's connected to the Internet can subscribe to a clearinghouse and provide its users with Internet roaming, as long as the ISP or company operates an authentication server. The server runs special software that controls access, metering usage, encrypting login information, and reporting back to the clearinghouse. iPass charges $5,000 for this software while AimQuest provides it for free.

In addition to the server software, each user's machine requires a client dialer application containing access numbers of all participating ISPs; this software is free from the clearinghouse. The bulk of the clearinghouse's revenues come from the arbitrage function they perform between remote and home ISPs. They charge member ISPs a per-hour usage fee, then mark up this price to resell the roaming service to users like you and me.

### Security Not a Problem

Besides the high cost, many companies don't provide remote access to their employees for security reasons. The Indonesian session I describe above, which uses the Internet for remote access instead of a dedicated private connection, could easily be intercepted from the hotel's telephone switchboard. The intruder would not only see what you're doing, but would discover your login ID and password and be able to use them later to access your files at work.

To help prevent this, clearinghouses make sure that their Internet roaming service encrypts information over a virtual "tunnel" between the remote user and the company's network, simulating a secure, dedicated line between the two locations.

### Long-Distance Commuting for the Rest of Us

Internet roaming is expanding the parameters of group computing, taking up where e-mail, telecommuting, and Web-browsing have left off. If your company already foots the bill for long-distance remote access, it can now cut those costs dramatically. For the rest of us, long-distance commuting at $2.50 to $15 per hour is for the first time affordable—a good thing to know the next time you find yourself itching to dial in from a foreign locale and catch up on the day's business back home.

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## Internet Roaming Clearinghouses

AIMQUEST AND IPASS ARE TWO CLEARINGHOUSES based in California's Silicon Valley that have a worldwide alliance of ISPs offering Internet roaming. AimQuest has 1,300 ISP access points in 152 countries, while the iPass alliance has 1,100 access points in 150 countries.

Both companies use a similar business model. They've each developed a client dialer application they provide to users, as well as software for authentication servers, which they provide to participating ISPs and companies.

If you're interested in getting Internet roaming services, check with your ISP, or join one that's already a member of an alliance. You can find information about such ISPs at www.aimquest.com or www.ipass.com.