



OCTOBER 2013

The iPass Wi-Fi Cost Index

The High Cost of Data
Roaming and What
You Can Do About It



Corporate Headquarters
iPass Inc.
3800 Bridge Parkway
Redwood Shores, CA 94065

+1 650-232-4100
+1 650-232-4111 fx

www.ipass.com

Table of Contents

Contents	
Introduction	3
Two travel scenarios: cost impact based on an average data user	4
Mobility costs use case #1: Tom—a US-based traveler	5
Mobility costs use case #2: Joann—a Europe-based traveler	7
An alternative approach to mobility	9
Potential cost savings	10
Scenario #1: iPass cost savings for a US-based traveler	10
Scenario #2: iPass cost savings for a Europe-based traveler	11
Wi-Fi Cost Index: reference data	12
Two notable trends	14
Conclusion	15
About iPass Inc.	16



Introduction

This report aims to present a realistic view of the actual total cost to an organization for connectivity for business travelers. Understanding an organization's true mobility costs can be tricky. Mobile workers typically carry more than one device, and it's not unusual for them to carry a smartphone, tablet, and a laptop on a single business trip. Some of the connectivity for these devices may come from 3G/4G, but some also comes from paid data plans, Wi-Fi day passes, or opportunistic, hourly session passes for Wi-Fi access at airports or cafes. At the end of a typical four-day business trip, a traveler may have paid a number of different vendors or carriers for access, and spread out the costs over company-owned devices paid for by the company directly, and personal devices that employees expense back to the company. This makes the real costs of connectivity difficult to discern.

Adding to this complexity is the vast difference in cost for Wi-Fi connectivity, depending on which region the traveler originates from, and the traveler's destination. One of the most surprising findings from this index is how much costs vary depending on these factors.

Mobile workers now see Wi-Fi as an indispensable part of any business trip. Employers also see continual connectivity as a basic requirement, as a way of maximizing productivity for travelers. It's important for organizations and employees to understand what's really being spent for 24/7 connectivity. However, with so many devices, connection points, and payment methods, understanding these costs is difficult. This report provides some insights and sheds some light on a topic that has, because of extreme complexity, become somewhat obscured.

Two travel scenarios: cost impact based on an average data user

A great deal of an organization's mobility costs stem from business users who travel often, and who travel internationally. Sales representatives, executives, and managers with teams or customers located in different geographies across the globe travel frequently, tallying connectivity charges as they go.

Every company has its own policies about mobility, and each employee must adhere to those, but there is no such thing as a "typical user." Every business traveler has different behaviors and mobility habits that change the cost outcome. However, to provide more insight into the costs for an average business traveler, and to simplify the calculations, we've defined scenarios that organizations may face when attempting to predict the mobility cost for a typical four-day trip.

In previous *Wi-Fi Cost Index* reports, we have addressed this issue by presenting the information in the form of megabytes (MB) consumed over the course of a typical business trip. This time, to address the issue of multiple means of paying for Wi-Fi connectivity around the world, and acknowledging that a traveler will try to connect to Wi-Fi hotspots (as opposed to using more expensive, often slower 3G/4G data) whenever and wherever they can, we are presenting Wi-Fi costs in terms of time, and 3G/4G in terms of data consumed. This will allow readers to better grasp connectivity charges and what the user is getting for the money.

In this report, we've outlined two travel scenarios:

1. A US-based employee who's traveling internationally
2. A Europe-based traveler who's traveling both within the EU and internationally

Both users are traveling for four days, which, according to an iPass international data roaming survey conducted in March, 2013, is the average length of a business trip, globally. The assumption is that each traveler is an average data user, so a heavy user's cost impact would be significantly higher due to greater consumption. Figure 1 below illustrates the amount of data used for common daily tasks performed by a mobile employee on the road.

Activity	MBs per Day
Checking Email	3.0
Web Browsing (10 web pages)	10.0
Social media (5 posts)	2.0
Presentation Downloads (2 files)	8.0
Document Access (2 files)	0.4
Skype Call (5 minutes)	150.0
WebEx (1 hour)	2.5
Total:	175.9

Figure 1: Daily data consumption for an average business traveler

This model assumes data usage for both a smartphone and a tablet. Per-day data usage is calculated from the assumptions included in the reference data section at the end of this report.

Mobility costs use case #1: Tom—a US-based traveler

Meet Tom. Tom is a mobile worker based in the United States. Working as a manager for a Fortune 500 company, Tom travels both domestically and internationally, carrying a smartphone, tablet, and laptop. Tom's mobile plan includes a combination of domestic 3G/4G data, and an international data plan for his smartphone/tablet. He uses Wi-Fi day passes, not included in his plan, primarily on his laptop at the hotel, and hourly Wi-Fi session passes for the smartphone and tablet when he needs them. This model assumes that Tom's data plan has a monthly 3 GB cap on domestic data, and a 1 GB cap on international data.

Here are four ways that Tom will be connecting to the Internet using his smartphone, tablet, and laptop while he's traveling:

1. **Domestic data:** Tom is using domestic data within his home country while traveling for this business trip. He will primarily access domestic data while in transit, most likely at an airport leaving from his home country. For this model, he stays within a data plan limit of 3 GB per month.
2. **International data:** While Tom is traveling outside of the US, this model assumes he stays within the 1 GB data plan cap.
3. **Wi-Fi day pass:** Typically purchased at a hotel when checking in, a Wi-Fi day pass is good for 24 hours of unlimited Wi-Fi access within the venue. It is possible to purchase passes for every day that Tom stays at each hotel so that the coverage never lapses, but he does have to sign in with a password every 24 hours.
4. **Wi-Fi session pass:** Tom takes advantage of lower-cost Wi-Fi and pays by the hour for the service.

Tom needs to be connected in order to stay productive; how much does this cost? Average data costs for a US-based traveler are below.

Smartphone/tablet data roaming costs for a US-based traveler ¹	Per MB cost
Cost for domestic data usage	\$ 0.05
Cost for international data usage for US carriers	\$ 2.13

Figure 2: Smartphone/tablet data roaming cost for a US-based traveler

For his laptop, Tom will usually access Wi-Fi using a flat-rate day pass. Day passes are not only for laptops—some hotels offer multiple-device access, and some charge extra for additional devices. But for the purposes of this study, Tom uses the day pass strictly for his laptop. How much do retail Wi-Fi plans typically cost?

Retail Wi-Fi plans ²	Per day cost	Per hour cost
US	\$ 11.59	\$ 6.97
Asia	\$ 15.30	\$ 14.93
Europe	\$ 18.16	\$ 7.76

Figure 3: Retail Wi-Fi plans

According to our research, the average business traveler will use Wi-Fi when it is available, and will always look for Wi-Fi first before connecting to 3G/4G, especially when traveling outside of the home country. However, to keep productivity high, average users will also take advantage of an existing 3G/4G plan, but will use it more judiciously.

Usage distribution between 3G/4G and Wi-Fi (MB)	Data roaming usage while traveling from the home country (MB)	Data roaming usage at destination (MB)	Data roaming usage while traveling to the home country (MB)
3G/4G	32.4	27.8	8.1
Wi-Fi	0	83.3	24.3
Total	32.4	111.1	32.4

Figure 4: Usage distribution between 3G/4G and Wi-Fi for an average business traveler (MB)

This model assumes:

- ▶ Tom will use his 3G/4G roaming plan 100 percent of the time while in his home country.
- ▶ He will change his behavior overseas, using 3G/4G only 25 percent of the time, and using Wi-Fi 75 percent of the time outside his home country. (see Fig. 4).
- ▶ Wi-Fi and 3G/4G complement each other, and are not mutually exclusive; Tom will use both Wi-Fi and 3G/4G, whichever is more accessible.
- ▶ Data roaming usage while traveling from and to home refers primarily to airport usage.

Adding the costs together shows the total impact of mobility costs for this scenario.

US to EU	Data roaming costs while traveling from the home country	Data roaming costs at destination	Data roaming costs while traveling to the home country	Per trip total
3G/4G	\$ 1.62	\$ 118.32	\$ 17.25	\$ 137.19
Wi-Fi	\$ 0	\$ 36.32	\$ 7.76	\$ 44.08
Total	\$ 1.62	\$154.64	\$ 25.01	\$ 181.27

Figure 5: Total per-trip cost for a US-based mobile worker traveling to Europe

US to EU	Data roaming costs while traveling from the home country	Data roaming costs at destination	Data roaming costs while traveling to the home country	Per trip total
3G/4G	\$ 1.62	\$ 118.32	\$ 17.25	\$ 137.19
Wi-Fi	\$ 0	\$ 30.60	\$ 14.93	\$ 45.53
Total	\$ 1.62	\$148.92	\$ 32.18	\$182.72

Figure 6: Total per-trip cost for a US-based mobile worker traveling to Asia

The mobility costs for Tom's four-day trip, when combining Wi-Fi and 3G/4G data, costs approximately \$180 whether he's traveling to Europe or Asia. This assumes that Tom is being fairly judicious with his data usage, and doesn't exceed any caps. Based on the amount of data consumed for basic tasks (see Fig. 20 in the reference data section of this report) it is easy to exceed caps very quickly. Additionally, if Tom's trip occurs at the beginning or

the middle of a billing cycle, and he's used up his data caps while on the road, the rest of the month's data will be outside the cap. When data caps are exceeded, costs can escalate exponentially. Rates depicted in this report are prorated based on a monthly data plan, so actual 3G/4G costs can be much higher.

Mobility costs use case #2: Joann—a Europe-based traveler

In this scenario, we examine the connectivity needs of Joann, a Europe-based manager who travels both within and outside the European Union. Like Tom, Joann is traveling with a smartphone, tablet, and laptop. She has a domestic data plan that covers usage for her home country, and it also provides coverage for other countries within the EU at a higher rate. Outside the EU, she is using an international data plan. This model assumes that Joann's data plan has a monthly 3 GB cap on domestic data, and a 1 GB cap on international data.

Here are four ways that Joann will be connecting to the Internet using her smartphone, tablet, and laptop while she's traveling.

1. **Domestic data:** Joann is using domestic data within her home country while traveling within the EU. She will access domestic data primarily while in transit, most likely at an airport leaving her home country. For this model, she stays within her data plan limit of 3 GB per month.
2. **International data:** While Joann is traveling outside of the EU, this model assumes she stays within the 1 GB international data plan cap.
3. **Wi-Fi day pass:** Typically purchased at a hotel when checking in, a Wi-Fi day pass is good for 24 hours of unlimited Wi-Fi access within the venue. It is possible to purchase passes for every day that Joann stays at each hotel so that the coverage never lapses, but she does have to sign in with a password every 24 hours.
4. **Wi-Fi session pass:** Joann takes advantage of lower-cost Wi-Fi and pays by the hour for the service.

Joann needs to be connected in order to stay productive; how much does this cost? Average data costs for a Europe-based traveler are below.

Smartphone/tablet data roaming costs for a Europe-based traveler ³	Per MB cost
Cost for domestic data usage (inside home country, but excluding other countries within the EU)	\$0.04
Cost for domestic data usage (within other non-home EU countries) ⁴	\$0.61
Cost for international data usage for EU carriers	\$2.33

Figure 7: Smartphone/tablet data roaming costs for a Europe-based traveler

For Joann's laptop, she will usually access Wi-Fi using a flat-rate day pass. Though day passes are not only for laptops, some hotels offer multiple-device access. For the purposes of this study, Joann uses the day pass strictly for her laptop.

Retail Wi-Fi plans ²	Per day cost	Per hour cost
US	\$ 18.16	\$ 7.76
Asia	\$ 11.59	\$ 6.97
Europe	\$ 15.30	\$ 14.93

Figure 8: Retail Wi-Fi plans

The average business traveler will use Wi-Fi when it is available, and will generally look for Wi-Fi first, before connecting to 3G/4G, especially when traveling outside of the home country. However, to keep productivity high, average users will also take advantage of a 3G/4G plan, but use it more judiciously. The model assumes that:

- ▶ Joann will use her 3G/4G roaming plan 100 percent of the time while in her home country.
- ▶ Within the EU, Joann will use 3G/4G 40 percent of the time, and 60 percent of the time she's traveling, she'll use Wi-Fi roaming within the EU (see Fig. 9).
- ▶ Outside of the EU, she will use 3G/4G 30 percent of the time, and 70 percent of the time, she'll use Wi-Fi roaming within the EU (see Fig. 10).
- ▶ Data roaming usage while traveling from and to home refers primarily to airport usage.
- ▶ In this scenario, Wi-Fi and 3G/4G complement each other and are not mutually exclusive. In this case Joann will use both Wi-Fi and 3G/4G, whichever is more accessible.

Usage distribution between 3G/4G and Wi-Fi (EU to EU)	Data roaming usage while traveling from the home country (MB)	Data roaming costs at destination (MB)	Data roaming costs while traveling to the home country (MB)
3G/4G	32.4	66.7	32.4
Wi-Fi	0	44.4	0
Total	32.4	111.1	32.4

Figure 9: Usage distribution between 3G/4G and Wi-Fi for a Europe-based mobile worker traveling within the EU

Usage distribution between 3G/4G and Wi-Fi (EU to US, EU to Asia)	Data roaming usage while traveling from the home country (MB)	Data roaming costs at destination (MB)	Data roaming costs while traveling to the home country (MB)
3G/4G	32.4	33.3	9.7
Wi-Fi	0	77.8	22.7
Total	32.4	111.1	32.4

Figure 10: Usage distribution between 3G/4G and Wi-Fi for a Europe-based mobile worker traveling outside of the EU

Adding the costs together gives organizations a better idea of the total impact of mobility costs for traveling workers.

Total smartphone/tablet/laptop costs

EU to EU	Data roaming costs while traveling <u>from</u> the home country	Data roaming costs at destination	Data roaming costs while traveling <u>to</u> the home country	Per trip total
3G/4G	\$ 1.30	\$ 81.33	\$ 1.30	\$ 83.93
Wi-Fi	\$ 0	\$ 36.32	\$ 0	\$ 36.32
Total	\$ 1.30	\$ 117.65	\$ 1.30	\$120.25

Figure 11: Total per-trip cost for a Europe-based mobile worker, traveling within the EU

EU to US	Data roaming costs while traveling <u>from</u> the home country	Data roaming costs at destination	Data roaming costs while traveling <u>to</u> the home country	Per trip total
3G/4G	\$ 1.30	\$ 155.32	\$ 22.65	\$ 179.27
Wi-Fi	\$ 0	\$ 23.18	\$ 6.97	\$ 30.15
Total	\$ 1.30	\$178.50	\$ 29.62	\$209.42

Figure 12: Total per-trip cost for a Europe-based mobile worker traveling to the US

EU to Asia	Data roaming costs while traveling <u>from</u> the home country	Data roaming costs at destination	Data roaming costs while traveling <u>to</u> the home country	Per trip total
3G/4G	\$ 1.30	\$ 155.32	\$ 22.65	\$ 179.27
Wi-Fi	\$ 0	\$ 30.60	\$ 14.93	\$ 45.53
Total	\$ 1.30	\$185.92	\$37.58	\$224.80

Figure 13: Total per-trip cost for a Europe-based mobile worker traveling to Asia

The mobility costs for Joann's four-day trip, when combining Wi-Fi and 3G/4G data, is over \$200 whether she's traveling to the US or Asia. This assumes that Joann is being fairly judicious with her data usage, and doesn't exceed any caps. Based on the amount of data consumed for basic tasks (see Fig. 20 in the reference data section of this report), it is easy to exceed those caps very quickly. Additionally, if Joann's trip occurs at the beginning or the middle of a billing cycle, and she's used up her data caps while on the road, the rest of the month's data will be outside the cap. When data caps are exceeded, costs can escalate exponentially. Rates depicted in this report are prorated based on a monthly data plan, so actual 3G/4G costs can be much higher.

An alternative approach to mobility

How can enterprises control these costs and still maintain the levels of productivity expected from traveling employees? To achieve both simplification and cost control, organizations need solutions that can:

- ▶ Reduce costs and make them more predictable

- ▶ Enable connectivity around the world
- ▶ Simplify the user experience
- ▶ Support a wide range of devices and platforms

This is where iPass provides value to organizations with traveling workers. Since mobile workers are now carrying multiple devices and using a multitude of connection points and methods, iPass gives enterprises the ability to consolidate data roaming costs into a single monthly charge, and help reduce dependence on 3G/4G for data. By providing the world's largest commercial Wi-Fi network and trusted connectivity platform, iPass allows mobile workers to connect to millions of hotspots all over the world using a single sign-on. iPass partners with hundreds of Wi-Fi providers around the world to provide customers with access to far more airplanes, hotels, airports, restaurants, and business venues than any other network.

Potential cost savings

iPass offers several pricing options to allow enterprises to save costs and help traveling employees simplify connectivity and be more productive. These options include a per-minute, usage-based cost model, and a flat-rate plan that includes inflight Wi-Fi. The tables below show that organizations can save between 50 and 73 percent on mobility costs per trip, depending on the region of origin and location traveled. These prices reflect the average cost of Wi-Fi day passes, session passes, and the costs associated with a 3 GB domestic data usage plan and a 1 GB international data plan, compared to the average cost of iPass.

Your savings may vary, depending on region and the variable costs of Wi-Fi. Please see the Reference Data section at the end of this report for more detailed information.

Scenario #1: iPass cost savings for a US-based traveler

US to EU	Data roaming costs while traveling from the home country	Data roaming costs at destination	Data roaming costs while traveling to the home country	Per trip total	Unlimited usage on all devices ⁵	Savings with iPass
3G/4G	\$ 1.62	\$ 118.32	\$ 17.25	\$ 137.19	\$60	67%
Wi-Fi	\$ 0	\$ 36.32	\$ 7.76	\$ 44.08		
Total	\$ 1.62	\$154.64	\$25.01	\$181.27		

Figure 14: iPass cost savings for a US-based mobile worker traveling to Europe

US to Asia	Data roaming costs while traveling from the home country	Data roaming costs at destination	Data roaming costs while traveling to the home country	Per trip total	Unlimited usage on all devices ⁵	Savings with iPass
3G/4G	\$ 1.62	\$ 118.32	\$ 17.25	\$ 137.19	\$60	67%
Wi-Fi	\$ 0	\$ 30.60	\$ 14.93	\$ 45.53		
Total	\$ 1.62	\$148.92	\$32.18	\$182.72		

Figure 15: iPass cost savings for a US-based mobile worker traveling to Asia

Scenario #2: : iPass cost savings for a Europe-based traveler

EU to EU	Data roaming costs while traveling from the home country	Data roaming costs at destination	Data roaming costs while traveling to the home country	Per trip total	Unlimited usage on all devices ⁵	Savings with iPass
3G/4G	\$ 1.30	\$ 81.33	\$ 1.30	\$ 83.92	\$60	50%
Wi-Fi	\$ 0	\$ 36.32	\$ 0	\$ 36.32		
Total	\$ 1.30	\$ 117.65	\$1.30	\$120.24		

Figure 16: iPass cost savings for a Europe-based mobile worker traveling within the EU

EU to US	Data roaming costs while traveling from the home country	Data roaming costs at destination	Data roaming costs while traveling to the home country	Per trip total	Unlimited usage on all devices ⁵	Savings with iPass
3G/4G	\$ 1.30	\$ 155.32	\$ 22.65	\$ 179.26	\$60	71%
Wi-Fi	\$ 0	\$ 23.18	\$ 6.97	\$ 30.15		
Total	\$ 1.30	\$178.50	\$29.62	\$209.41		

Figure 17: iPass cost savings for a Europe-based mobile worker traveling to the US

EU to Asia	Data roaming costs while traveling from the home country	Data roaming costs at destination	Data roaming costs while traveling to the home country	Per trip total	Unlimited usage on all devices ⁵	Savings with iPass
3G/4G	\$ 1.30	\$ 155.32	\$ 22.65	\$ 179.26	\$60	73%
Wi-Fi	\$ 0	\$ 30.60	\$ 14.93	\$ 45.53		
Total	\$ 1.30	\$185.92	\$37.58	\$224.79		

Figure 18: iPass cost savings for a Europe-based mobile worker traveling to Asia

The actual cost savings an organization would realize depends on a number of factors, including the consumption behavior of each business traveler, individual company mobility policies, and the vast difference in costs between regions (see the reference data section on page 12). The number of devices a traveler carries also impacts costs, because, as noted above, some costs are calculated on a per-device basis, while others are calculated in terms of amount of time used, and still others on the amount of data consumed.

Regardless of these factors, using iPass will save significantly on the mobility costs that organizations face by supporting traveling workers. Not only will costs decrease, but users' productivity increases when they can focus on their work and not on costs.

Wi-Fi Cost Index: reference data

In developing the *Wi-Fi Cost Index*, iPass researched the cost of Wi-Fi day passes by region. We contacted 188 retail venues—predominantly hotels and airports that serve business clientele across 11 countries and 15 major metropolitan cities. Our findings captured hourly and/or daily Wi-Fi rates during research conducted by iPass in May, 2013.

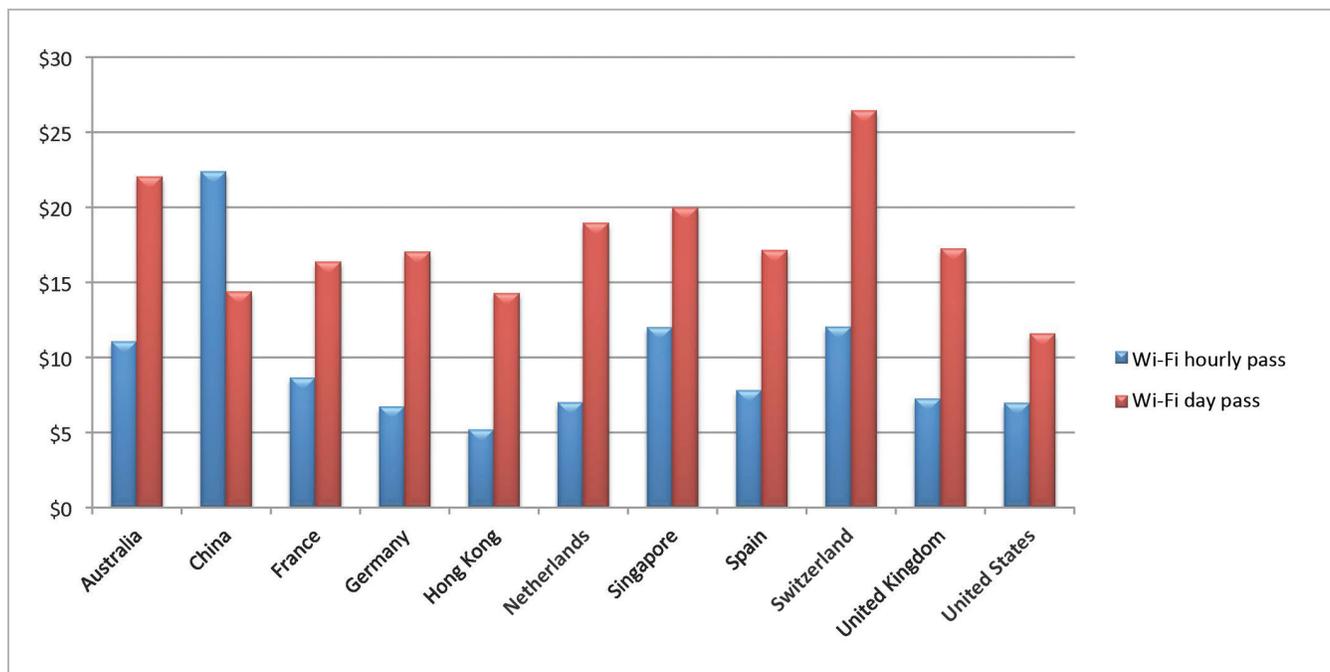


Figure 19: Average cost for a retail Wi-Fi plan per country

iPass also worked with an industry analytics firm to capture average data usage for common tasks performed on a smartphone and/or tablet to establish the scenarios for daily megabyte (MB) use.

Activity	Size
Presentation download (per file)	3-5 MB
Word docs/PDFs (per file)	0.1-0.3 MB
Email: smartphone (per day)	1-3 MB
Email: laptop (per day)	8-12 MB
Social media post (3 posts with photos)	1 MB
WebEx (per hour)	2-3 MB
Skype call (per minute)	30 MB
Movie (120 minutes)	800-1,200 MB
Video streaming (per hour)	300-400 MB
Audio streaming (per hour)	60-80 MB
Web browsing (on the laptop, per hour)	15-20 MB
Downloading movies or music	1,500-4,000 MB

Figure 20: Daily MB usage by a mobile worker while on a typical business trip

In calculating the data for this report, we noted that the cost of Wi-Fi day passes varies a great deal around the world. As the chart below indicates, the price of a day pass in Asia is about the same as the cost of an hourly pass, but in the United States, a day pass is almost twice as expensive as an hourly pass. Therefore, it's easy to see where mobility costs are most heavily impacted, even when taking Wi-Fi into consideration.

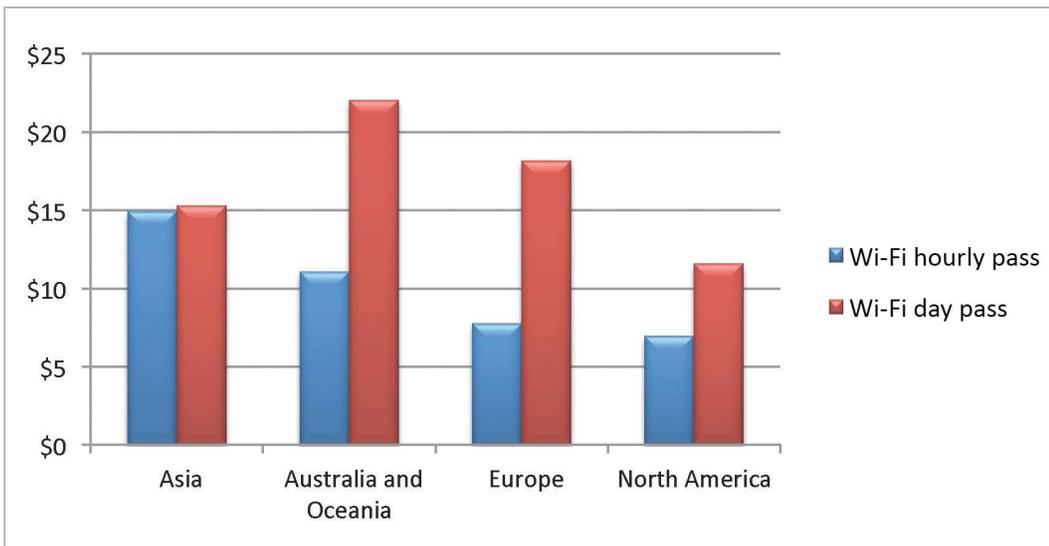


Figure 21: Wi-Fi hourly and daily pass costs per region

Along with tracking Wi-Fi costs by region, iPass also analyzed mobile broadband 3G/4G data costs by looking at the various pricing plans offered by 45 mobile network operators (MNOs) globally, and averaging the costs within each region.

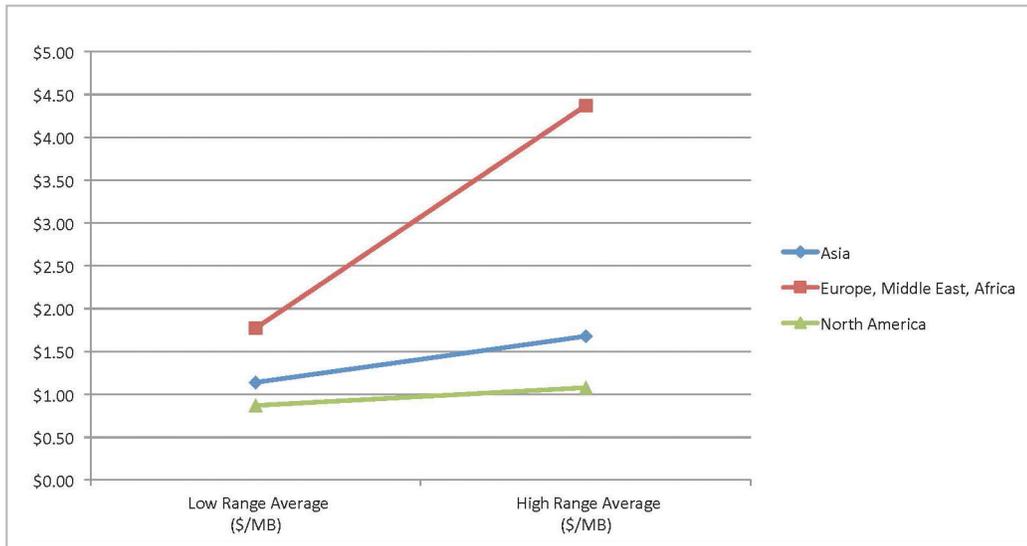


Figure 22: MB cost per region for 3G/4G data roaming

Two notable trends

The end of unlimited cellular data. In our research, some interesting trends emerged. Chief among these is that it is clear that the days of unlimited cellular data plans are all but over. While a shrinking number of users have legacy plans that include unlimited data, when those customers upgrade, or change plans or carriers, a data cap will go into effect.

There are no MNOs that offer unlimited cellular data plans in North America, where seven major carriers dominate the market; in Europe, where the market is more diversified and 25 MNOs cover most of the territory, only two still offer an unlimited data plan. Asia is the most generous, with eight out of 13 providers offering unlimited data. Asia, incidentally, while offering a greater percentage of unlimited data plans than any other region, also has the highest intra-regional cost per MB.

The impact of “free.” Many establishments around the world offer free Wi-Fi. Connecting for free is becoming an expectation in the United States. However, business users who rely on free connections are often frustrated; according to the *iPass Q3 2013 Mobile Workforce Report*, 82 percent of mobile workers surveyed found free Wi-Fi to be limited, slow, and unreliable. Some public hotspots may also block access to necessary websites. In other cases, the user must log in using a Twitter or Facebook address, thus sacrificing privacy; or watch an advertising video before gaining access. Business travelers, when faced with such difficulty, often resort to using cellular data roaming, so the session isn’t free at all.

Conclusion

A plethora of factors now impact the true cost of mobility. This Index explains where and how the mobile habits of business travelers can impact connectivity costs. These workers are spreading connectivity costs across devices, and in some cases are having to purchase separate Wi-Fi plans for individual devices.

Organizations that use iPass benefit from the simplicity and freedom of unlimited Wi-Fi data for all devices at millions of locations worldwide, which significantly saves on mobility costs—and on the frustration of business travelers. By eliminating varying data limits and multiple, complex pricing plans, iPass enables business traveler productivity, gives visibility into mobility costs, and provides a simple and accurate way to predict these costs no matter where employees travel.

Footnotes:

¹ Average costs for US-based service providers are based on the assumption that the user has a 3 GB domestic data plan and 1 GB international data plan. Per-MB cost is calculated by dividing the total plan limit for the month by the average monthly cost. The rate of \$0.05 per-MB is prorated according to a US-based service provider's monthly data plan. See the reference data section of this report.

² Retail Wi-Fi plans are based on an iPass retail Wi-Fi analysis, which was conducted in May of 2013. The research surveyed 187 retail vendors (hotels and airports) across 11 countries and 15 metropolitan cities. The per day and per hour costs are calculated by averaging the regional Wi-Fi costs. See the reference data section of this report.

³ Average costs for EU-based service providers are based on the assumption the user has a 3 GB domestic data plan and 1 GB international data plan. Per-MB cost is calculated by dividing the total plan limit for the month by the average monthly cost. The rate of \$0.04 per-MB is prorated according to an EU-based service provider's monthly data plan. See the reference data section of this report.

⁴ EU legislation mandates that European service providers can only charge a maximum of €0.45 (\$0.61) per-MB for roaming within the EU as of July 2013. For the purpose of this analysis, it is assumed that the service provider charges Joann the full \$0.61 while she is traveling outside of her home country, but still remaining within the EU.

⁵ The iPass enterprise flat rate plan provides unlimited data access per month for smartphones, tablets, and laptops. The price plan used here is for a minimum of 25 users. As the number of iPass users increases, the monthly cost for Wi-Fi with iPass decreases due to volume pricing.

About iPass

With the world's largest commercial **Wi-Fi network**, and trusted connectivity platform, iPass provides seamless connectivity virtually anywhere. With more hotels, airports, and business venues than any other network, iPass helps enterprises and service providers ensure always-on, frictionless connectivity for employees and customers anywhere in the world—easily, quickly, securely, and cost-effectively. Learn more at ipass.com/try-it/, or on the **Smarter Connections** blog, or contact iPass: ipass.com/contact-ipass/



Corporate Headquarters +1 650-232-4100
iPass Inc. +1 650-232-4111 fx
3800 Bridge Parkway
Redwood Shores, CA 94065 www.ipass.com



The iPassWi-Fi Cost Index © Copyright 2013 iPass Inc. All rights reserved. iPass and the iPass logo are registered trademarks of iPass Inc. All other company and product names may be trademarks of their respective companies. While every effort is made to ensure the information given is accurate, iPass does not accept liability for any errors or mistakes which may arise. Specifications and other information in this document may be subject to change without notice.