

# 2007 Fiscal Year Survey

## Price Differences for Telecommunication Services Japan and Overseas

Telecommunications Bureau  
Ministry of Internal Affairs and Communications

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# I Survey objectives and method

## 1. Services subject to survey

Internet, fixed-line telephones, mobile phones, international telephones, domestic service lines  
(References: FTTH, IP phones, Triple Play, etc.)

## 2. Cities subject to survey

7 cities: Tokyo, New York, London, Paris, Düsseldorf, Stockholm and Seoul

## 3. Telecommunications Carriers

In principle, the telecommunications carrier holding the highest share in each city was selected.

	Internet		Mobile phones
	DSL	CATV	
Tokyo	NTT East Japan Soft Bank BB	J:COM	NTT Docomo
New York	Verizon Communications	Time Warner	AT&T
London	British Telecom	Virgin Media	Vodafone
Paris	France Telecom	Numericable	Orange France
Düsseldorf	Deutsche Telekom	Tele Columbus	T-Mobile
Stockholm	TeliaSonera	Com Hem	TeliaSonera
Seoul	KT	Hanaro	SK Telecom

	Fixed-line telephones	International telephone use	Domestic service lines
Tokyo	NTT East Japan NTT Communications	NTT communications	NTT East Japan NTT Communications
New York	Verizon Communications AT&T	AT&T	Verizon Communications
London	British Telecom		
Paris	France Telecom		
Düsseldorf	Deutsche Telekom		
Stockholm	TeliaSonera		
Seoul	KT		

## 4. Survey method

### (1) Survey method

The service charges in this survey were provided by the telecommunications carrier surveyed in each subject city and collected from public information and information provided by these

telecommunications carriers. The individual charges and model charges<sup>1</sup> were then compared to show the differences between prices in Japan and overseas.

- (1) Internet: Comparison of individual charges
- (2) Fixed line telephones:  
Comparison of individual charges (basic rate, cost at time of subscription or relocation, local call rates)  
Comparison using OECD model
- (3) Mobile phones: Compared to Tokyo models
- (4) International telephone use: Comparison of individual charges
- (5) Domestic service lines: Comparison using OECD model

(2) Handling of indirect taxes (consumption tax and value-added tax)

Pretax prices are shown for comparison of individual charges. Prices including taxes are shown for comparison of model charges.

Consumption tax rate in each city

Tokyo	New York	London	Paris	Düsseldorf	Stockholm	Seoul
5%	11.625%	17.5%	19.6%	19%	25%	10%

(3) Survey timing

Basically, March 2008 charges were compared.

However, the newest charges are reflected for the items for which we were able to obtain the latest information about revision of charges after March 2008.

(4) Exchange rates

Comparison was done using exchange rates as of the end of March 2008.

(yen)

	USA (USD)	England (GBP)	France (EUR)	Germany (EUR)	Sweden (SKR)	Korea (KRW)
This survey (end of March 2008)	99.37	198.75	158.21		16.86	0.1008
(Reference) Purchasing power parity (2007)	121	184.5	133.0	138.3	13.15	0.162
(Reference) Previous survey (end of March 2007)	117.65	231.59	157.35		16.85	0.1252

(Data source) Exchange rates: Foreign exchange market situation, Financial Markets Department, Bank of Japan  
Purchasing Power Parities: OECD Purchasing Power Parities

Note) Results include errors caused by fractional calculation. Due to the influence from calculation of fractions, individual values and totals shown in the graph may not match.

<sup>1</sup> For the comparison of communication charges in each city, an imaginary form of usage (model) is set specifying how many times calls are made in each time zone and to each distance zone. In this survey, model charges are the charges applied when a communication service is used according to this model. The OECD model was used for comparison of charges. Tokyo models are set according to actual records of usage in Japan.

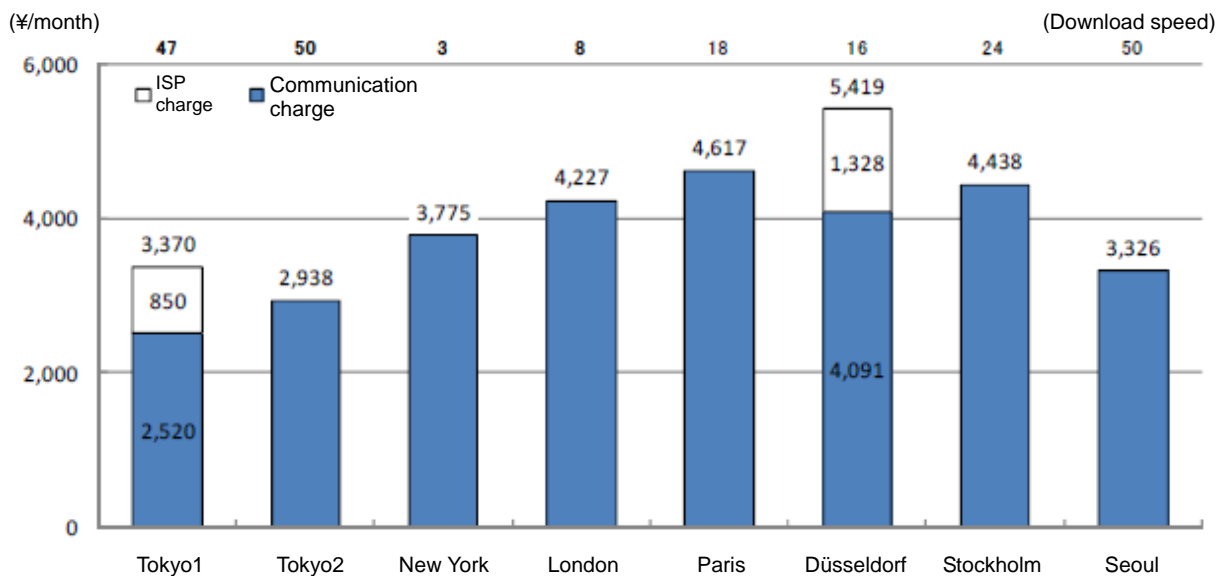
## II Survey results

### 1. Internet (Comparison of individual charges)

- DSL charges in Tokyo are still cheap.  
Maximum communication speed in Tokyo is 50Mbps. Maximum communication speeds in each city in Europe and America range from 3Mbps to 24Mbps, so charges in Tokyo are cheaper, even when the charges in each city are converted to charges per 1Mbps.
- The charge for CATV Internet in Tokyo is high, but communication speeds in Tokyo are the fastest, so the charge per communication speed is cheap.
- FTTH service has started in many cities, including Tokyo.

#### 1) DSL

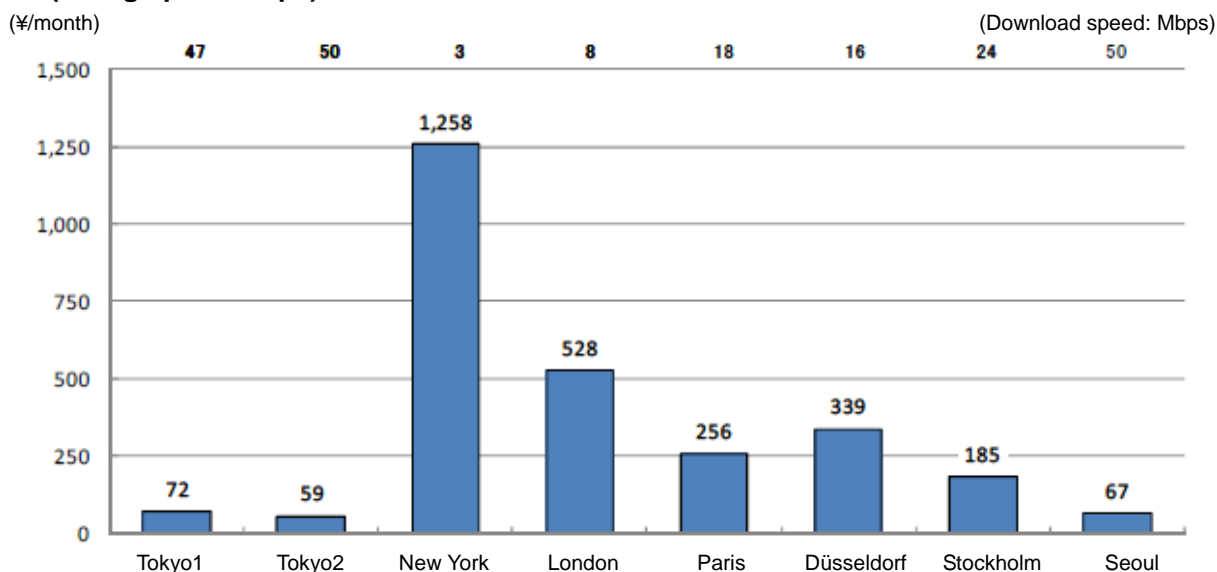
##### (1) DSL (Monthly charges)



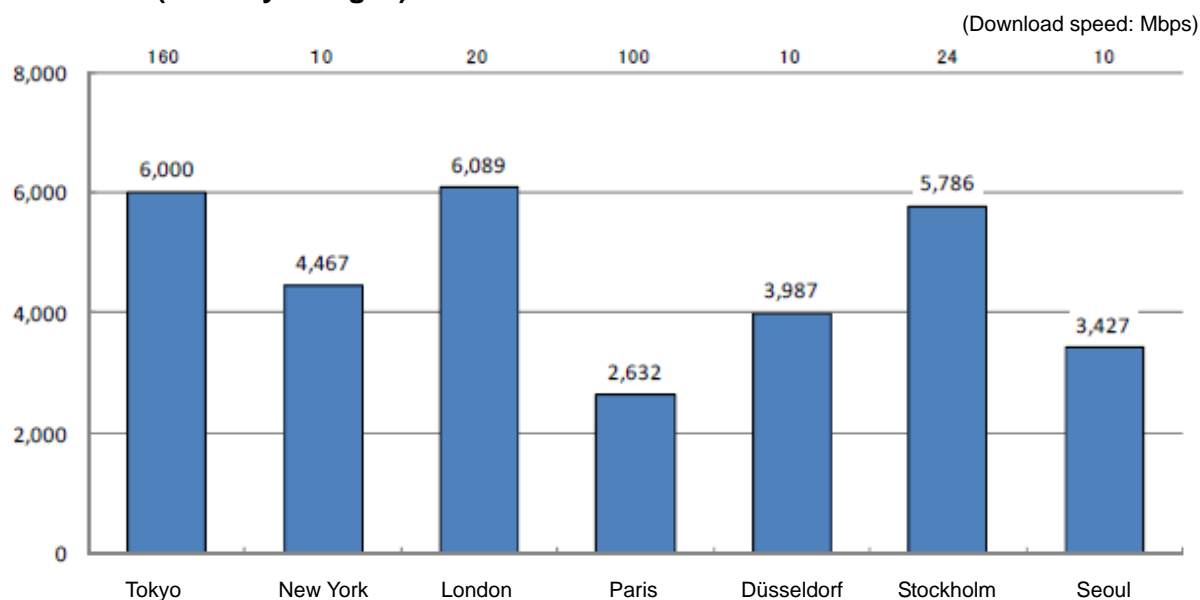
#### Notes

- 1) Charge when DSL is constantly connected for 1 month (excluding modem lease charge).
- 2) Comparison was done using the fastest items on the residential-use service menu for each city for maximum communication speed for downloads.
- 3) Tokyo 1 shows NTT East Japan's FLET'S ADSL More (communication charge when My Line registration has been done: ¥2,520) + NTT Plala's FLET'S •ADSL set (ISP connection charge: ¥850). Tokyo 2 is Soft Bank BB's Yahoo!BB ADSL 50M (communication charge + ISP connection charge: ¥2,938).
- 4) New York shows the charge for Verizon Communications' Verizon Online DSL Power Plan (communication charge + ISP connection charge: US\$37.99).
- 5) London shows the BT Broadband Option 3 charge (18-month contract, communication charge + ISP connection charge: £21.27).
- 6) Paris shows the charge for FT's Formule 18 mégamax (one-year contract, communication charge + ISP connection charge: 29.18 Euros).
- 7) Düsseldorf shows the charge for T-Home's DSL 16000 (communication charge: 25.86 Euros) + Surf DSL flat (ISP connection charge: 8.39 Euros).
- 8) Stockholm shows the charge for TeliaSonera's ADSL 24Mbps (communication charge + ISP connection charge: 263.2 Skr, charge for TeliaSonera fixed-line subscribers).
- 9) Seoul shows the charge for KT's Megapass Premium (communication charge + ISP connection charge: 33,000 won).

## (2) DSL (Charge per 1 Mbps)



## 2) CATV Internet (Monthly charges)



### Notes

- 1) Charge when CATV Internet is constantly connected for 1 month (including cable modem lease charge).
- 2) Comparison was done using the item with fastest maximum communication speed for download from the residential-use services menu for each city.
- 3) The Tokyo charge shown is for J:COM Tokyo's J:COM NET Ultra 160M Course (160Mbps, ¥6,000).
- 4) The New York charge shown is for Time Warner's Road Runner Standard (10Mbps, US\$44.95).
- 5) The London charge shown is for Virgin Media Size: XL (12-month contract, 20Mbps, £30.6).
- 6) The Paris charge shown is for Numéricable's Internet Ultra Haut Débit (12-month contract, 100Mbps, 16.4 Euros).
- 7) The Düsseldorf charge shown is for Tele Columbus TC Net Flat 10000 (10Mbps, 22.61 Euros).
- 8) The Stockholm charge shown is for Com Hem Bredband Large 24 Mbit/s (24Mbps, 343.2 Skr).
- 9) The Seoul charge shown is for HANARO hanafos Pro (Cable) (10Mbps, 34,000 won + modem 8.000 won).

**[Reference: FTTH]**

Examples of FTTH charges

	Operators & services	Examples of charges
Tokyo	NTT East Japan B FLET'S	<ul style="list-style-type: none"> <li>• Hyper family type ¥6,510 (maximum 100Mbps, communication charge ¥5,460 + ISP connection charge ¥1,050)</li> <li>• Apartment type ¥3,255 (maximum 100Mbps, communication charge ¥2,625 +ISP connection charge ¥630, for Plan 2 LAN wiring system)</li> </ul> For Plala Hikari pack, all charges include tax.
New York	Verizon FiOS Internet Service	<ul style="list-style-type: none"> <li>• US\$47.99 (maximum 10Mbps)</li> <li>• US\$57.99 (maximum 20Mbps)</li> <li>• US\$144.95 (maximum 50Mbps)</li> </ul> (Tax not included. Communication charge + ISP connection charge for 1-year contract)
Paris	FT La fibre	44.90 Euros (includes tax) (maximum 100Mbps, package charge for communication charge + IO connection charge + IP phone + IPTV in 1-year contract)
Düsseldorf	DT Entertain Comfort VDSL50	64.95 Euros (includes tax) (package charge for maximum 50Mbps, communication charge + ISP connection charge + telephone + IPTV, including telephone basic charge, in 2-year contract)
Stockholm	Bredbandsbolaget Bredband 100	320 Skr (includes tax) (package charge including maximum 50Mbps, communication charge + ISP connection charge +IP phone in 1-year contract)
Seoul	KT Megapass Ntopia	36,000 won (tax not included) (maximum 100Mbps, communication charge + ISP connection charge, for apartment buildings)

Note) Each of these shows charges when FTTH is constantly connected for 1 month. The communication speed is the maximum download communication speed indicated by each communication carrier. There are various other charge plans, and FTTH can sometimes be used at cheaper rates than those that are shown above.

**[Reference: IP phone]**

Examples of IP phone charges

	Operators & services	Examples of charges
Tokyo	NTT East Japan "Hikari" phone	<ul style="list-style-type: none"> <li>• Monthly charge: ¥525 (includes tax). Separate universal service fee is required. For B FLET'S Apartment type, special router use fee of ¥472.5/month (includes tax) is required.</li> <li>• Calls to domestic fixed-line phones are ¥8.4/3 minutes (includes tax).</li> </ul>
	Soft Bank BB Yahoo BB Phone	<ul style="list-style-type: none"> <li>• Monthly charge: is zero.</li> <li>Separate universal service fee is required.</li> <li>• Calls to BB Phone subscribers are free; calls to domestic fixed-line phones are ¥8.3895/3 minutes (includes tax).</li> </ul>
New York	Bonage Basic 500	<ul style="list-style-type: none"> <li>• Monthly charge: US\$14.99 (+ tax). Separate additional charge for universal service fund is required.</li> <li>• Calls to domestic phones are free up to 500 minutes.</li> </ul>
London	BT Broadband Talk Anytime Plan	<ul style="list-style-type: none"> <li>• Monthly charge: £4.95 (includes tax)</li> <li>• Calls to domestic fixed-line phones are free (up to one hour per call).</li> </ul>
Paris	FT Téléphonie illimité	(Service is provided by package charge with ADSL.) Calls to domestic fixed-line phones are free (up to 2 hours per call).
Düsseldorf	DT T-Online DSL-Telefonie Flat	<ul style="list-style-type: none"> <li>• Monthly charge: 9.95 Euros (includes tax)</li> <li>• Calls to domestic fixed line phones and calls to T-online IP phone users are free.</li> </ul>
Stockholm	TeliaSonera Telia Broadband Telephony	<ul style="list-style-type: none"> <li>• Monthly charge: 99 Skr (includes tax)</li> <li>• Calls to Telia Broadband Telephony phones are free.</li> </ul>
Seoul	KT All-up Prime	Monthly charge: 4,000 won (+ tax) <ul style="list-style-type: none"> <li>• Calls to domestic fixed-line phones are 43 won/3 minutes.</li> </ul>

Note) All cities charge for use of broadband service.

Call quality is different for each communication carrier. There are also various charge plans, and IP phones can sometimes be used at cheaper rates than those shown above.



**[Reference: Triple Play, etc.]**

Examples of charges for TV, fixed-line telephone, internet service, etc.

	Names of operators & services	Examples of charges
Tokyo	NTT East Japan • B FLET'S • Hikari telephone	<ul style="list-style-type: none"> <li>• B FLET'S               <ul style="list-style-type: none"> <li>• Hyper family type monthly charge ¥6,510 (maximum 100Mbps, communication charge ¥5,460 + ISP connection charge ¥1,050)</li> <li>• Apartment type monthly charge ¥3,255 (maximum 100Mbps, communication charge ¥2,625 + ISP connection charge ¥630, using Plan 2 LAN wiring system) (All Plala Hikari pack charges include tax.)</li> </ul> </li> <li>• Hikari telephone               <ul style="list-style-type: none"> <li>• Monthly charge: ¥525 (includes tax). Separate universal service fee is required. In the case of B FLET'S apartment type, a separate router use fee of ¥472.5/month (includes tax) is required.</li> <li>• Calls to domestic fixed line telephones are ¥8.4/3 minutes (includes tax).</li> </ul> </li> </ul>
	NTT Plala, I-Cast, HikariTV	<ul style="list-style-type: none"> <li>• Hikari TV Worth plan: Monthly charge: ¥3,675 (includes tax, 40 exclusive IPTV channels, Terrestrial Digital Broadcasting, Video on Demand)</li> </ul>
New York	Verizon • Verizon FiOS Triple Freedom Bundle	Verizon FiOS Freedom Bundle: Monthly charge: US\$114.98 (24-month contract, tax not included) <ul style="list-style-type: none"> <li>• [Fixed-line telephone] Verizon Freedom Essentials: Monthly charge: US\$44.99 (tax not included, fixed-line telephone basic fee + unlimited domestic calls, additional services)</li> <li>• [Internet connection] FiOS Internet 20Mbps/5Mbps Plan: Monthly charge: US\$52.99 (tax not included, maximum 20Mbps, communication charge + ISP connection fee charge for Verizon fixed line telephone subscribers)</li> <li>• [Mobile phone] Nationwide Basic – 450: Monthly charge: US\$39.99 (tax not included, 450 minutes free calling)</li> <li>• [Discount] US\$27.98</li> </ul>
London	BT •BT Total Broadband •BT Vision •BT Broadband Talk Evening&Weekend Plan	<ul style="list-style-type: none"> <li>• BT Total Broadband: Monthly charge: £24.99 (18-month contract, includes tax, maximum 8Mbps, communication charge + ISP connection charge)</li> <li>• BT Vision: Monthly charge: zero for BT Total Broadband users (40ch).</li> <li>• BT Broadband Talk Evening &amp; Weekend Plan: Monthly charge: zero for BT Total Broadband users. (Calls to domestic fixed-line telephones, limited to nighttime and holidays are free (up to one hour per call).</li> </ul>

	Names of operators & services	Examples of charges
Paris	FT •18 mégamax TV, Téléphonie illimité	Monthly charge: 34.9 Euros (12-month contract, includes tax, maximum 18Mbps, package charge for communication charge + ISP connection charge + IP telephone + IPTV(50ch) • Calls to domestic fixed-line telephones are free (up to 2 hours per call).
Düsseldorf	DT Telekom-Vorteil (DSL + fixed-line telephone & mobile phone)	Monthly charge: 75.74 Euros (24-month contract, includes tax) • Entertain Comfort: Monthly charge: 49.95 Euros (24-month contract, includes tax, maximum 16Mbps, package charge for communication charge + ISP connection charge + fixed-line telephone + IPTV (about 70ch), including telephone basic fee) • Calls to domestic fixed line telephones are free. • [Mobile phone] Relax 200: Monthly charge: 29.95 Euros (24-month contract, includes tax, 200 minutes of free calling) • [Discount] 4.16 Euros/month
Stockholm	TeliaSonera Bredband, telefoni och tv-kombinationserbudande	Monthly charge: 419 Skr (18-month contract, includes tax, maximum 24Mbps, package charge for communication charge + ISP connection charge + IP telephone + 8 IPTV channels)
Seoul	KT	Monthly charge: 62,730 won • [internet connection] Megapass Lite: Monthly charge: 22,950 won (maximum 10Mbps) • [Fixed-line telephone] Monthly basic fee of 4,680 won • [Mobile phone] SHOW free carries over 200. 27,900 won (200 minutes free calling) • [TV] Mega TV: Monthly charge: 7,200 won (video on demand) (Individual charges do not include tax.)

Note) In addition to the above, there are various other charge plans. Broadband connection speeds are the maximum communication speeds for downloads, as indicated by each communication carrier. Charges vary according to the scope of zero-charge use of IP telephones. Additional fees such as universal service fees are required in some cases. Services can sometimes be used at prices other than those shown above.

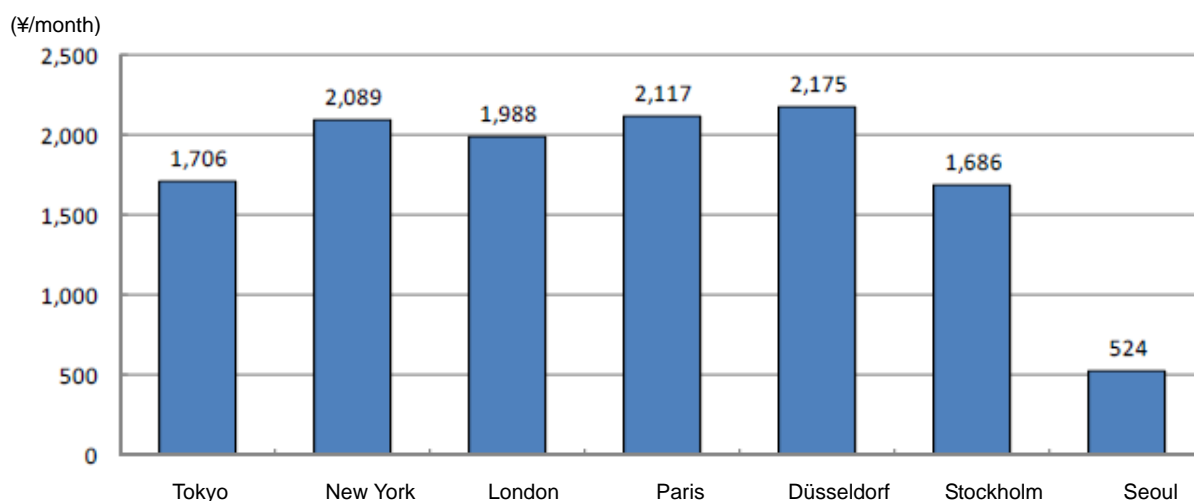
## 2. Fixed-line telephones

### 1) Comparison of individual charges

- The basic charges for both residential service and business service in Tokyo are almost at the average level.
- Lump-sum payment at the time of subscription is highest in Tokyo, but expenses at the time of relocation are low, like those in Seoul.
- Only Seoul has daytime local call charges that are cheaper than in Tokyo, and only Seoul and Düsseldorf have nighttime local call charges cheaper than Tokyo's. These are all low-priced.
- However, because there are various charge systems such as plans for monthly basic charges including fixed call charges and plans in which the call charges are not based on call time and call distance, it is very difficult to do a simple comparison of individual charges.

#### (1) Basic charges

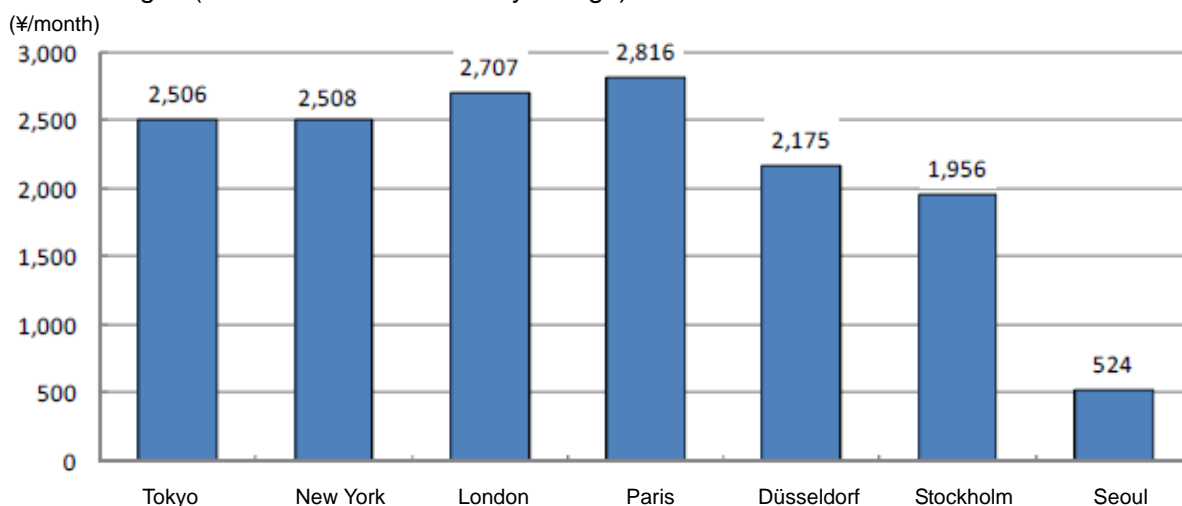
(1) Basic charges (Residential service: monthly charges)



#### Notes

- 1) This comparison uses NTT East Japan's basic charge for residential service for a Class 3 (over 400,000 subscribers) station. In Tokyo, this includes a universal service fee of ¥6/month. The basic charge for a Class 2 station (50,000 to 400,000 subscribers) is ¥1,556; for a Class 1 station (fewer than 50,000 subscribers) it is ¥1,456 (each of these is a dial circuit). In addition, when the issuing of bill statements is done on-line only, the above charges are discounted by ¥110.
- 2) The basic charge in New York is US\$13.85 + access charge of US\$6.44 + additional charge of US\$0.73 for the interstate universal fund.  
The basic charge for London, using the Unlimited Weekend Plan, is £10.00. (An additional £1.28 is required if payments are made by other than automatic withdrawal.)  
The basic charge in Paris is €13.38.  
The basic charge for Call Plus in Düsseldorf is €13.75.  
The basic charge in Stockholm is 100 Skr.  
The basic charge in Seoul is 5,200 won.
- 3) Because the variety of charge plans, such as the communication charge fixed amount system in each city in Europe and America, make it difficult to compare charges in the different cities, comparison has been done using the basic charges for plans that do not include call charges in their monthly basic charges.

(2) Basic charges (Business service: Monthly charge)



Notes

1) Compared to NTT East Japan's basic charge for business service in Class 3 stations. The basic charge in Tokyo includes a universal service fee of ¥6/month. The basic charge for a Class 2 station (50,000 to 400,000 subscribers) is ¥2,356; for a Class 1 station (fewer than 50,000 subscribers) it is ¥2,306. Also, when the issuing of charge statements is done on line only, there is a ¥110 discount from the above charges.

2) The basic charge in New York is US\$17.59 + an access charge of US\$6.44 + an additional charge of US\$1.21 for the interstate universal fund (for a 24-month contract. If the contract is cancelled within the contract period, a penalty payment may be required. The penalty when there is no contract period is US\$19.95.)

In London, the penalty for cancellation during a 24-month contract is £13.62, which is one month's payment of the basic charge of £40.86 for 3 months. In the case of a 12-month contract, a penalty payment may be required if a subscriber cancels the contract within the contract period. For a 12-month contract, the penalty is £14.37, one month's payment of the 3-month charge of £43.11.

The basic charge in Paris for Contact Profes Presence is €17.8.

The basic charge in Düsseldorf for Call Plus is €13.75

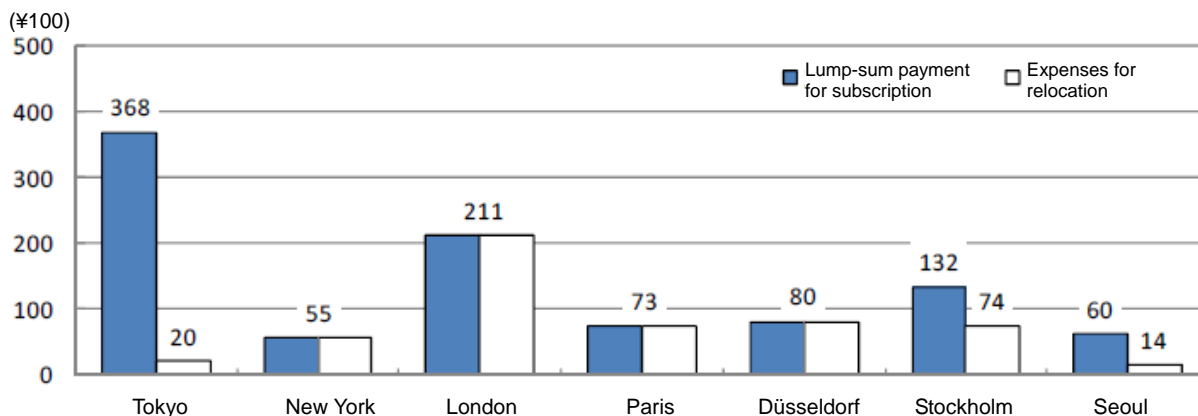
The basic charge in Stockholm is 116 Skr.

The basic charge in Seoul is 5,200 won.

3) Each city in Europe and America has various charge plans, such as the communication charge fixed amount system. To compare charges with those in other cities, comparison was done using the basic charges for plans that do not include call charges in their monthly basic charge.

**(2) Expenses for subscription and relocation**

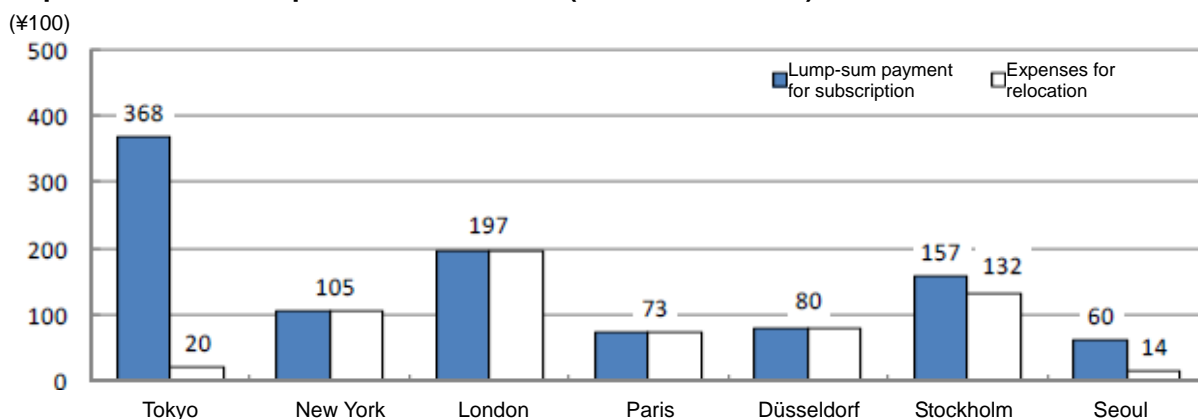
**(1) Expenses for subscription and relocation (residential service)**



Note) White bars show expenses for relocation.

The amounts for lump-sum payment for subscription and the expenses for relocation are the same for each city other than Tokyo, Stockholm and Seoul.

**(2) Expenses for subscription and relocation (Business service)**



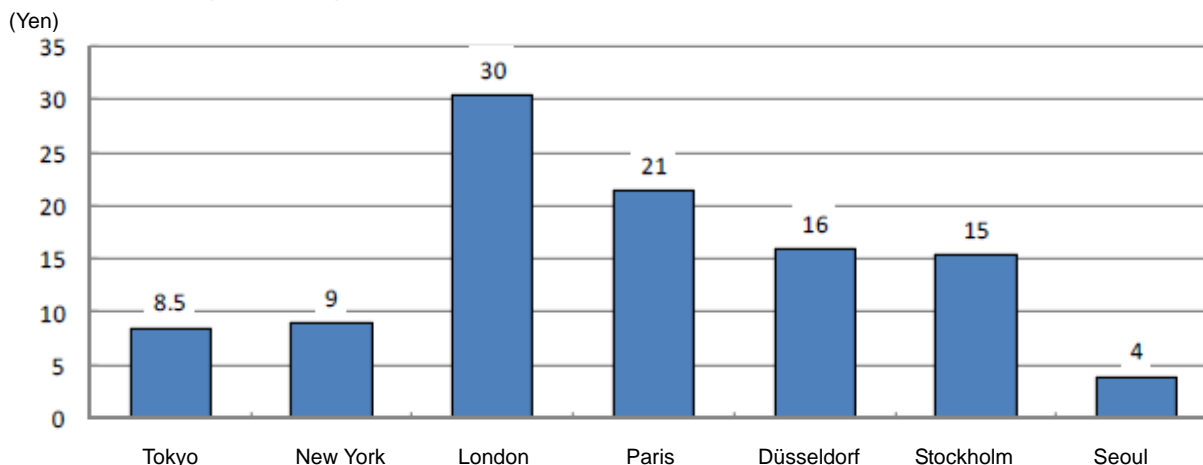
Note) White bars show expenses for relocation.

The amounts of lump-sum payments for subscription and expenses for relocation are the same in each city other than Tokyo, Stockholm and Seoul. In London this is £99.00 (charge for a 24-month contract).

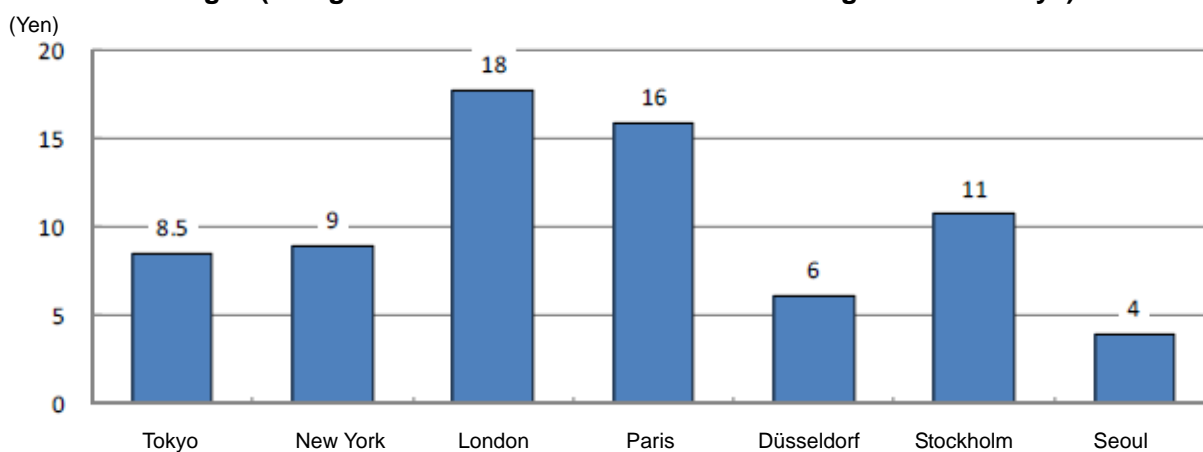
A penalty payment is sometimes required to cancel a contract within the contracted period (£106.37 for a 12-month contract).

### (3) Local call charges

#### (1) Local call charges (charges for 3-minute calls at 12 o'clock noon on weekdays)



#### (2) Local call charges (charges for 3-minute calls at 8 o'clock at night on weekdays)



#### Notes

- 1) Compared to local call charges for NTT East Japan.
- 2) The charge at 12 o'clock noon on a weekday in New York is US\$0.09/call; in London it is £0.153/3 minutes using the Unlimited Weekend Plan, in Paris it is €0.1354/3 minutes, in Düsseldorf it is €0.1008/3 minutes using Call Plus, in Stockholm it is 0.912 Skr/3 minutes, and in Seoul it is 39 won/3 minutes.
- 3) The charge at 20:00 on a weekday in New York is the same as the charge at 12 o'clock noon on a weekday, in London it is £0.089/3 minutes using the Unlimited Weekend Plan, in Paris it is €0.101/3 minutes, in Düsseldorf it is €0.0387/3 minutes using Call Plus, in Stockholm it is 0.636 Skr/3 minutes, and in Seoul it is the same as the charge at 12 o'clock noon on a weekday.
- 4) The size of the area for local calls is different for each city.
- 5) In the cities in Europe and America, there are various charge plans including the communication charges packet system. To compare the local call charges of the different cities, comparison was done using the communication charges for the plans selected for the comparison of basic charges (plans in which monthly basic charges do not include communication charges).

**[Reference    Examples of various discount services]**

Examples of charge plans not based on communication distance, communication time, or address called

City	Examples of charges (communication carrier)
Tokyo	Platinum Line (NTT Communications) <ul style="list-style-type: none"> <li>• Monthly charge: is zero.</li> <li>• Local calls &amp; calls to other cities in the same prefecture are uniformly ¥8/3 minutes; calls to other prefectures are uniformly ¥15/3 minutes.</li> </ul>
New York	Verizon Freedom Value (Verizon Communications) <ul style="list-style-type: none"> <li>• Monthly charge: US\$44.99 (includes fixed-line telephone basic charge. An additional separate Universal Service Fund fee is required.)</li> <li>• Calls to domestic telephones are free.</li> </ul>
London	Unlimited Anytime Plan (BT) <ul style="list-style-type: none"> <li>• Monthly charge: £15.06 (including fixed line telephone basic charge)</li> <li>• Calls to domestic fixed-line telephones are free (up to one hour per call).</li> </ul>
Paris	Optimale illimite + 120 (FT) <ul style="list-style-type: none"> <li>• Monthly charge: €49.33 (includes fixed line telephone basic charge)</li> <li>• Calls to domestic fixed-line telephones and international calls to Europe and North America are free.</li> <li>• Includes communication charges for domestic mobile phones, and some overseas fixed-line telephones and mobile phones, up to 120 minutes/month.</li> </ul>
Düsseldorf	Call Comfort (DT) <ul style="list-style-type: none"> <li>• Monthly charge: €25.16 (includes fixed-line telephone basic charge)</li> <li>• Calls to domestic fixed-line telephones are free.</li> </ul>
Stockholm	Dygnet runt med tillval Till mobiler (TeliaSonera) <ul style="list-style-type: none"> <li>• Monthly charge: 75.2 Skr (Separate fixed-line telephone charge is required.)</li> <li>• Calls (all day) to domestic fixed-line telephones and calls to Telia's mobile phones (nighttime) can be made for 0.552 Skr/call regardless of call duration.</li> </ul>

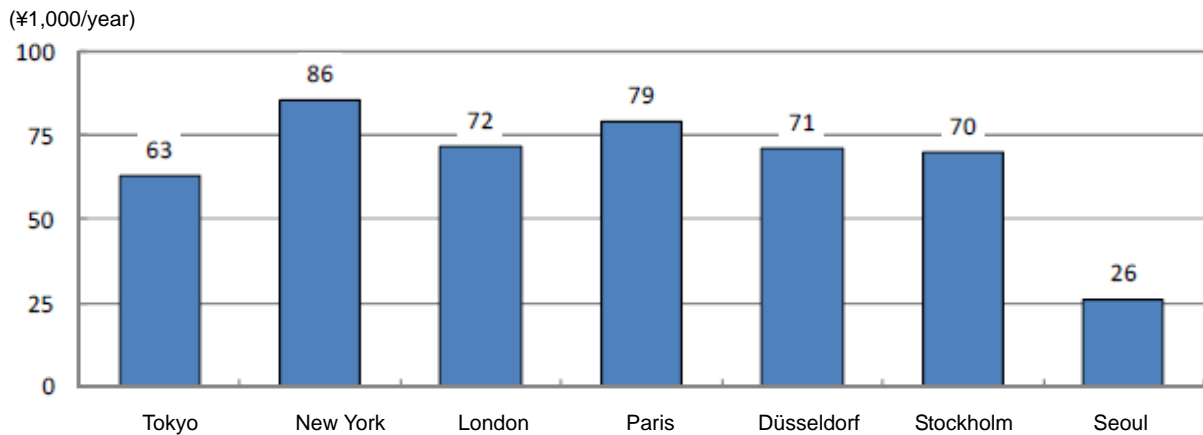
Note) Tax not included. There are various charge plans in addition to the above, and conditions for service use sometimes differ.

## 2) Comparison using OECD model

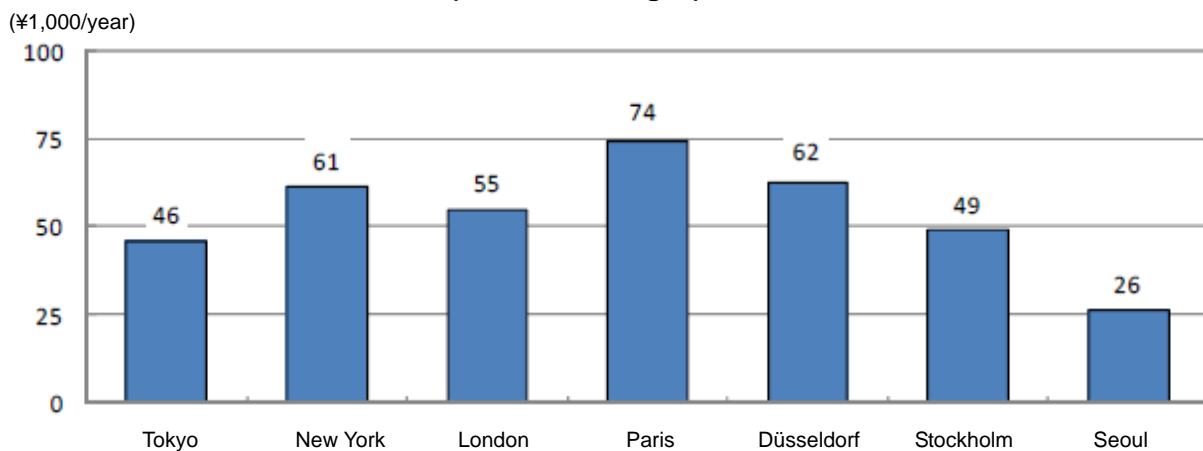
- Only the ordinary charge and discount charge for residential service in Seoul are cheaper than those in Tokyo. The ordinary charge in Tokyo is at the average level, and the discount charge in Tokyo is at a medium level.
- Only Seoul and New York have business service charges, both ordinary charges and discount charge, cheaper than those in Tokyo, which are at a medium level.

### (1) Residential service

#### (Ordinary charges)



#### (Discount charges)



#### Notes

- 1) Comparison of telephone charges in each country by the OECD model was done using the charges for domestic calls according to an imaginary form of use (model) in which the call frequency and call time are set for calls to fixed-line networks and mobile phone networks for each distance and time zone.  
The conditions set for calls in the OECD residential service model are 1-day average for local calls: about 2 times, total 8 minutes; toll calls: about 0.5 times, total 3 minutes; calls to mobile phones about 0.8 times, total 1.5 minutes.
- 2) The same plan as that for individual charges has been applied for ordinary charges.
- 3) Platinum Line charges have been used for the discount charges in Tokyo. (My Line Plus registration is required for all distance sections. Monthly fixed charge is zero, calls within the same prefecture are ¥8/3 minutes, and inter-prefecture calls are ¥15/3 minutes.)

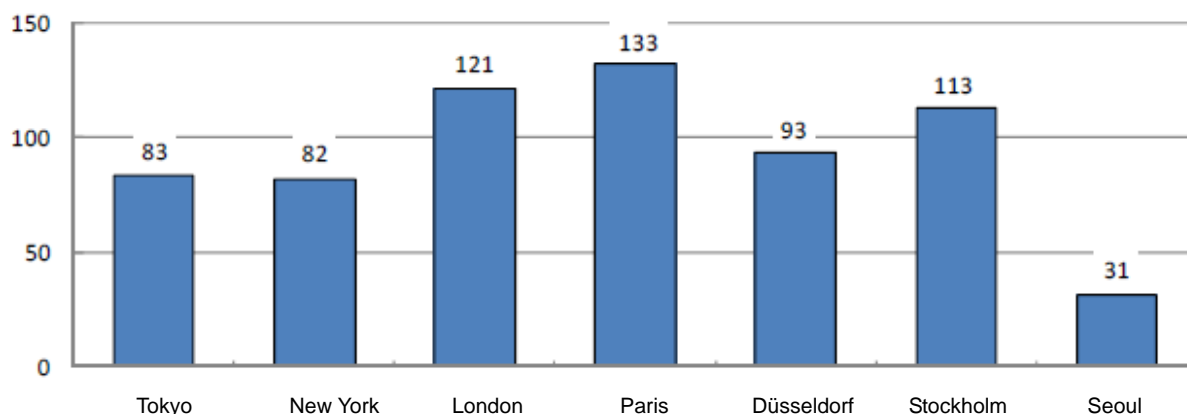


- 4) The Sensible Minute (monthly charge US\$1.19, intrastate toll call US\$0.21/3 minutes, and Talk Time 30 (monthly charge US\$6.50, including intrastate calls and interstate calls) plan rates have been applied as the discount charges for New York.
- 5) Unlimited Anytime Plan rates are applied as the discount charges in London. (monthly charge £15.06, including basic charge, calls to domestic fixed-line telephones are free, calls to mobile phones are discounted by a maximum of 33%.)
- 6) Optimale 2h (monthly charge €20.9, including basic charge and up to 120 minutes/month of calls to domestic fixed-line and mobile phones) rates are applied for discount charges in Paris.
- 7) Call Basic (monthly charge €16.76, including basic charge and calls up to 120 minutes/month to domestic fixed-line phones) and Festnetz zu Mobil (discount on charges for calls to mobile phones when these total €3.45/month or more) rates are applied for discount charges in Düsseldorf.
- 8) Dygnet runt med tillval Till mobiler rates are applied for discount charges in Stockholm (monthly charge 75.2 Skr, charges for calls (all day) to domestic fixed-line telephones and calls (nighttime) to TeliaSonera mobiles are 0.552 Skr per call).
- 9) In Seoul, there is no plan cheaper than the ordinary charges in the OECD model. (For toll calls that cost more than in the OECD model, there is a plan for charges that are cheaper than ordinary charges).

## (2) Business service

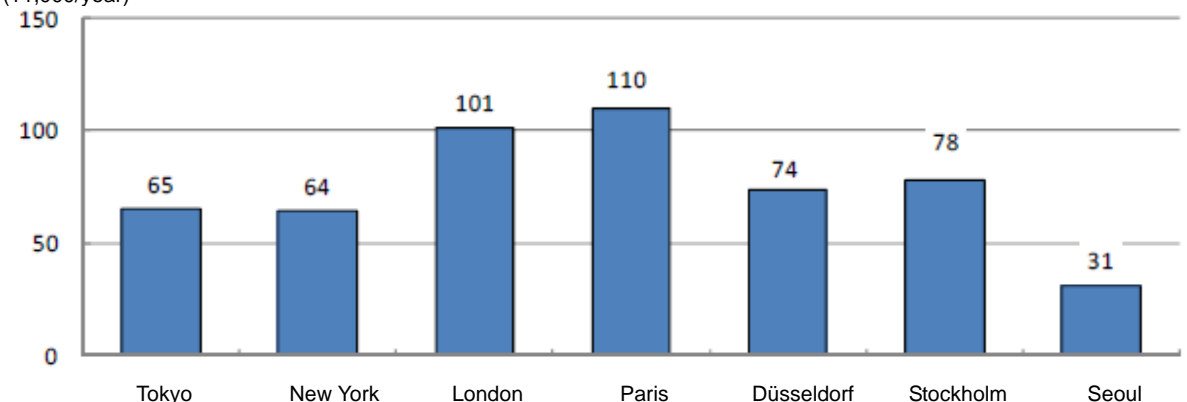
### (Ordinary charges)

(¥1,000/year)



### (Discount charges)

(¥1,000/year)



### Notes

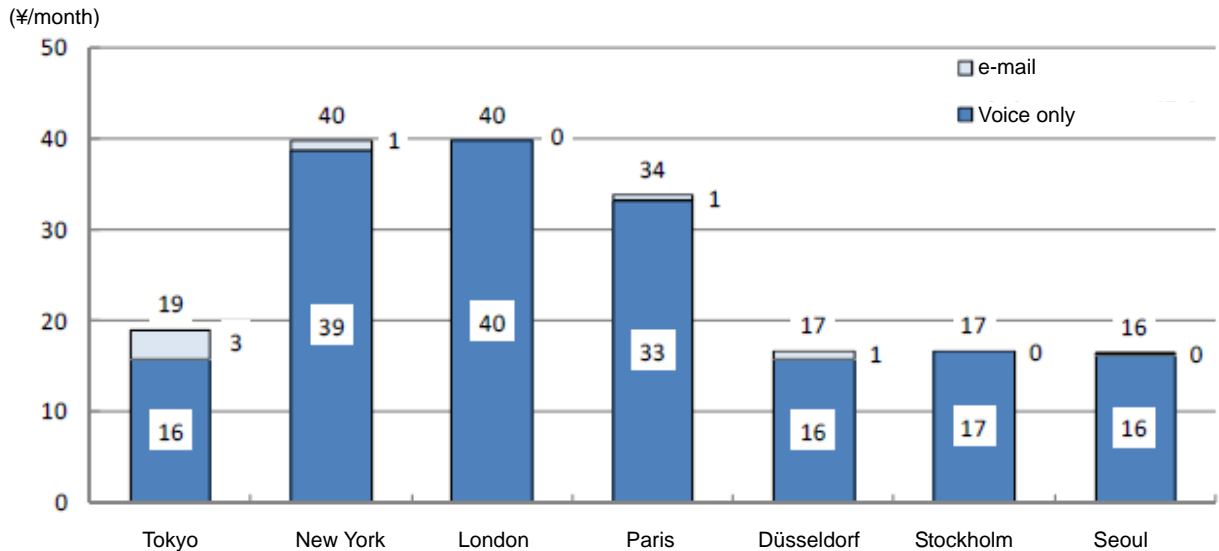
- 1) The conditions set for the business service OECD model are the daily average for local calls: about 5 times, total 9 minutes; average daily toll calls: about once, total 3 minutes; average daily calls to mobile phones: about 2 times, total 3 minutes.
- 2) The same plan as for individual charges is applied to ordinary charges.
- 3) Platinum Line has been applied for the discount charges in Tokyo.
- 4) FirmRate advantage Plus (one-year contract, call charges discounted when long distance calls total US\$5/month or more) has been applied for the discount charges in New York.
- 5) BT Business Plan (Tailored Option) (charges for local calls, toll calls and calls to mobile phones are discounted when calls total £250/year or more) has been applied for the discount charges in London.
- 6) Optimal pro illimité 1h (monthly charge €44, including basic charge, calls to domestic fixed-line telephones are free, includes up to 60 minutes/month of calls to mobile phones, and some international calls) has been applied for the discount charges in Paris.
- 7) Call Basic (monthly charge €16.7, including basic charge and up to 120 minutes/month of calls to domestic fixed-line telephones) and Festnetz zu Mobil (discount on charges for calls to mobile phones when these total €3.45/month or more) have been applied for the discount charge in Düsseldorf.

- 8) Dygnet runt med tillval Till mobiler (monthly charge 75.2 Skr, calls (daytime) to domestic fixed-line telephones and calls (nighttime) to TeliaSonera mobile phones, are 0.552 Skr/call) has been applied for discount charges in Stockholm.
- 9) In Seoul, there is no plan cheaper than the ordinary charges in the OECD model. (For toll calls that cost more than in the OECD model, there is a plan for charges that are cheaper than ordinary charges).

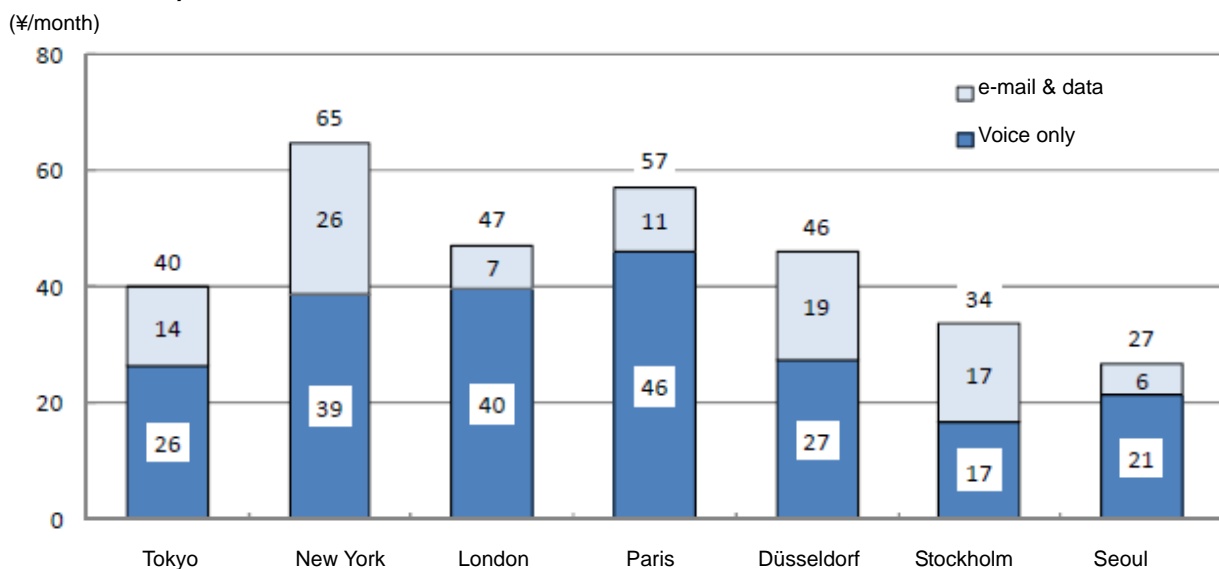
### 3. Mobile phones (compared to Tokyo model)

- Mobile phone charges for low-volume users in New York and London are high; in Tokyo these are cheap.
- The mobile phone charge for medium-volume users in New York is high; in Tokyo this is at the medium level.
- The mobile phone charge for high-volume users in Paris is high; in Tokyo this is at the average level.

#### 1) Low-volume users (voice, 44 minutes/month; e-mail, 6 accesses/month; no use of data)

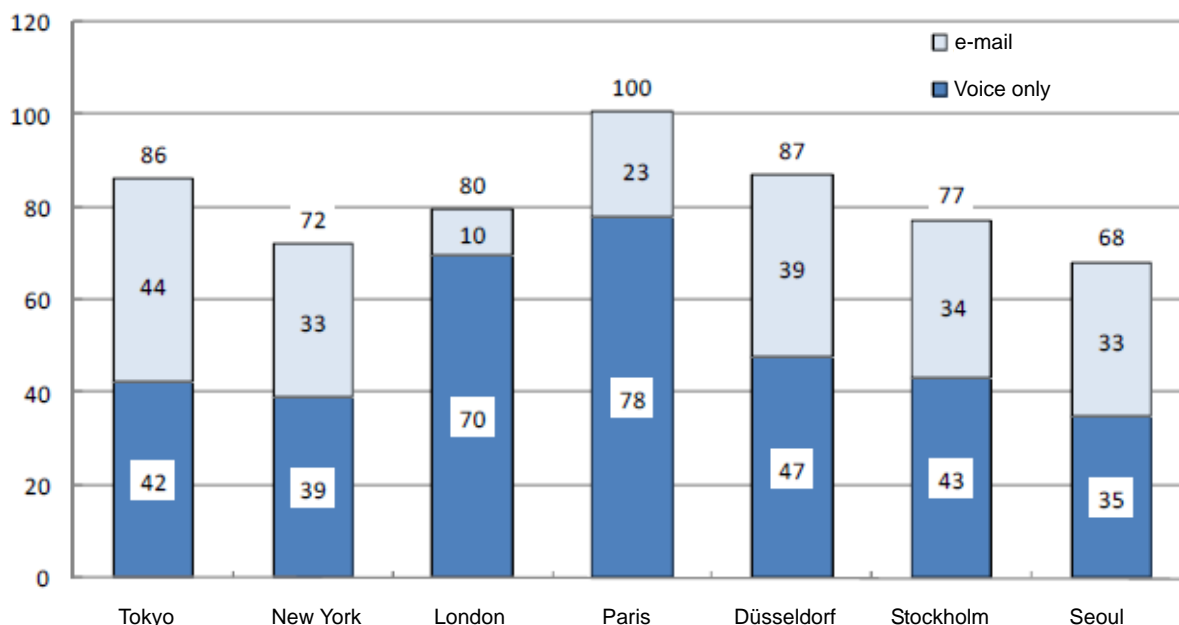


#### 2) Medium-volume users (voice, 96 minutes/month; e-mail, 100 accesses/month; data 16,000 packets/month)



### 3) High-volume users (voice, 246 minutes/month; e-mail, 300 accesses/month; data, 670,000 packets/month)

(¥100/month)



#### Notes

- 1) We set up the mobile phone charge comparison models according to the OECD model to compare charges when voice, e-mail, and internet connection are used. To more appropriately reflect the actual situation of use in Japan, we adopted the Tokyo model set on the basis of the actual situation of use of mobile phones in Japan.
- 2) Each shows the charges for consumers in general. Excluding plans for pre-paid type mobile phones, we compared call plans that do not have any particular user limits, such as to use area, other parties called, and age. Discounts for on-line application and billing, etc., have been excluded. (In Stockholm, an additional 15 Skr is charged to send a paper version of each bill.)
- 3) Concerning voice telephone service charges, comparison was done using the cheapest charges when mobile phones were used according to a form of use based on the actual records of average use for each distance, time zone and other party called, for mobile phones in Japan in the 2006 fiscal year.
- 4) Concerning e-mail access from mobile phone terminals, the cheapest charges were compared by matching the ordinary methods assumed to be used for e-mail in each city, such as i-mode e-mail (text only, excluding e-mails containing photographs and animation) in Tokyo, and Short Message Service (SMS) use in other cities.
- 5) The number of e-mails used was set based on the Ministry of Internal Affairs and Communications' "Results of First Questionnaire Survey for FY2007 Telecommunications Service Monitors" (survey of adults), and according to the average number of e-mail accesses per day by medium-volume users, the average for low-volume users (20% of all users) who access e-mail less than once a day, and the average for high-volume users (20% of all users) who access e-mail over 5 times a day.
- 6) Receiving e-mail is free in all cities other than Tokyo and New York.
- 7) The numbers of data use packets were set based on the Ministry of Internal Affairs and Communications' web questionnaire survey, at 16,000 packets per month for medium-volume users (average users excluding some users who use extremely large amounts of data), zero packets per month for low-volume users (assumed to be users who do not use packet services except for e-mail), and 670,000 packets per month for high-volume users (average for packet users equivalent to packet flat rate system service). (The numbers of packets set for medium-volume users and high-volume users include the numbers of packets used for e-mail.)

- 8) We set the use of data as that done only by mobile terminals, and excluded the use of data by PDA and connection to personal computers. In principle, we calculated the charges by assuming the use of mobile phones to read data and download data. (In some cities there are separate charges for use of VOD and MMS, etc., according to the number of accesses. In such cases, charges will differ from those shown above.) There are also cases in which a communication charge including a content charge is applied, and flat rate charges are applied for some sites: in these cases, the charges will differ from those mentioned above.
- 9) In Seoul, measured rates vary according to the type of data (VOD, etc.) to be downloaded, although flat rate charge plans are used for medium- and high-volume users.
- 10) Itemization of the charges for e-mail data in the graph shows the differences between total amount and the charges when only voice is used.

The charge plan for London includes the portion of free SMS use in addition to the charge for voice use, and the charge plan for high-volume users in Paris includes the portion of free data use in addition to the charge for voice use.

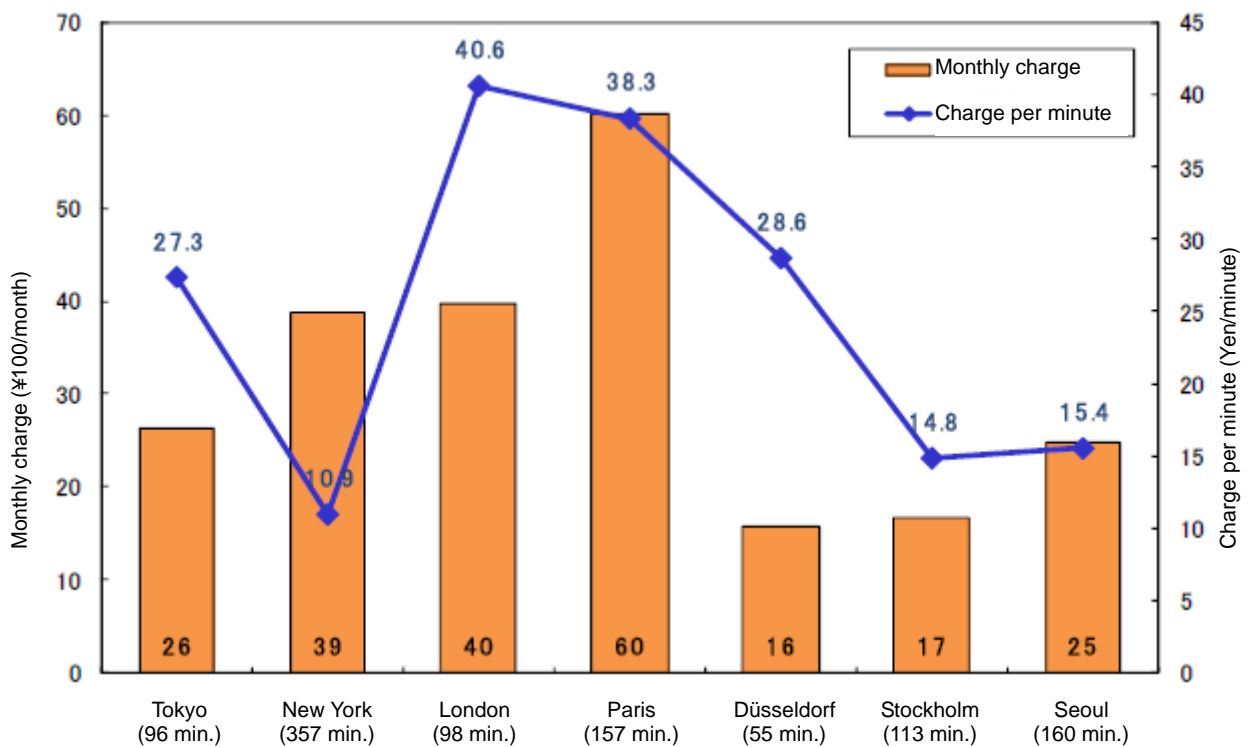
- 11) The charge plan for each city is shown below.

City (carrier)	Model	Charge plan
Tokyo (NTT Docomo)	Low-volume users	Type S Value, i-mode basic charge ¥315 * Including universal service charge. Fami-wari (family discount) MAX 50 is applied. (same for both medium-volume and high-volume users)
	Medium-volume users	Type M Value, Packet Pack 10, i-mode basic charge
	High-volume users	Type L Value, packet-hodai, i-mode basic charge
New York (AT&T)	Low-volume users	Family Talk 700 minutes (Nation) for 1 person
	Medium-volume users	Family Talk 700 minutes (Nation) for 1 person, messaging 200
	High-volume users	Family Talk 700 minutes (Nation) for 1 person, messaging 1500, MEDIA Net Unlimited
London (Vodafone)	Low-volume users	Anytime (plan for 100 calling minutes, SMS 50 accesses)
	Medium-volume users	Anytime (plan for 100 calling minutes, SMS 50 accesses)
	High-volume users	Anytime, mobile internet and email pack (long-term contract)
Paris (Orange France)	Low-volume users	Les forfaits partagés 2h for 1 person
	Medium-volume users	Les forfaits partagés 4h for 1 person, Option SMS.MMS 3€
	High-volume users	Origami first 3h, option SMS/MMS 12€
Düsseldorf (T-Mobile)	Low-volume users	Relax 50
	Medium-volume users	Relax 50, Relax SMS 40, Data 5
	High-volume users	Relax 200, Relax SMS 150, Web'n' walk Handy Flat
Stockholm (TeliaSonera)	Low-volume users	Telia Mobil 99
	Medium-volume users	Telia Mobil 199 When using only voice, Mobil Bingo
	High-volume users	Till vännar, surfport
Seoul (SK Telecom)	Low-volume users	Standard
	Medium-volume users	Family, Data 35
	High-volume users	Family, Data Safe

Note: Charges applied after calls have exceeded the free amounts have been included.

**[Reference: Comparison of charges by average number of minutes used in each country]**

- Because the actual situation of mobile phone use differs greatly in each city, we have compared the charges based on the average minutes of mobile phone use in each country. An additional comparison was done using a model of fixed minutes per call.
- The charges in Düsseldorf, where the average minutes of mobile phone use is the lowest, are cheapest, followed by Stockholm. Charges in Tokyo are cheap.
- However, the charges are cheap in New York, Stockholm and Seoul when they are converted to per-minute charges, while they are at the average level in Tokyo.



**Notes**

- 1) When comparing mobile phone charges using a fixed model, the charges for the same number of minutes of mobile phone use can be compared, but because the number of minutes of mobile phone use in each country is very different, charges calculated using the model sometimes do not match the average charge amounts paid by users. Therefore, in order to compare the charge levels for standard users in each country, we have compared the cheapest charges when users with contracts in each country use mobile phones for an average number of minutes per month.
- 2) The comparison shows charges when only voice is used.
- 3) The average minutes per month per contract in each country is the number of minutes of mobile phone use for making calls in each city. For New York, this is 1/2 of total minutes used for sending and receiving calls on mobile phones.
- 4) The following shows the charge plan in each city and the sources of monthly average minutes of mobile phone use per contract for each country.

City (carrier)	Charge plan	Sources for minutes used
Tokyo (NTT Docomo)	Type M value (Family discount MAX 50 is applied)	State of Japan's Communications in Terms of Traffic (State of telecommunications services usage in FY2006), Ministry of Internal Affairs and Communications
New York (AT&T)	Family Talk 700 minutes(Nation)	FCC, 12th Annual CMRS Competition Report, February 4, 2008
London (Vodafone)	Anytime (Call 100 minutes, SMS 50 access plan)	Ofcom, The Communications Market 2007
Paris (Orange France)	Offre Star 2h	ARCEP, Annual Report 2006
Düsseldorf (T-Mobile)	Relax 50	Bundesnetzagentur, Annual Report 2006
Stockholm (TeliaSonera)	Mobil Bingo	SIKA, Televerksamhet 2006
Seoul (SK Telecom)	Family	Broadcast & Communication Committee homepage

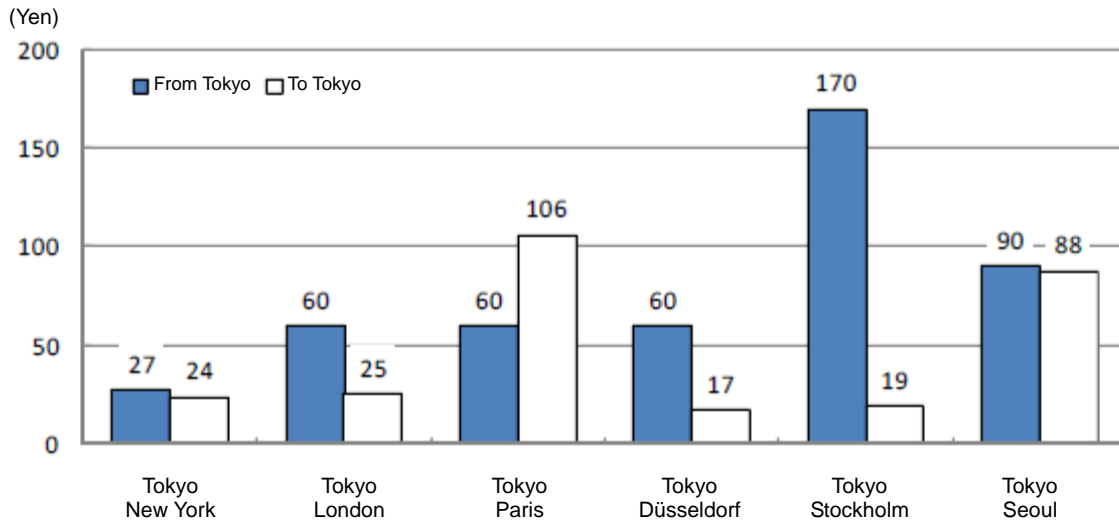
Note: Charges applied when the calls have exceeded the free amounts have been included.



#### 4. International calls (comparison of individual charges)

- Except between Tokyo and Paris, the international telephone charges for calling from Tokyo to each city shown are higher than the charge for calling from each of these cities to Tokyo.

##### 1) Call charges (converted to charges for 3 minutes)



##### Notes

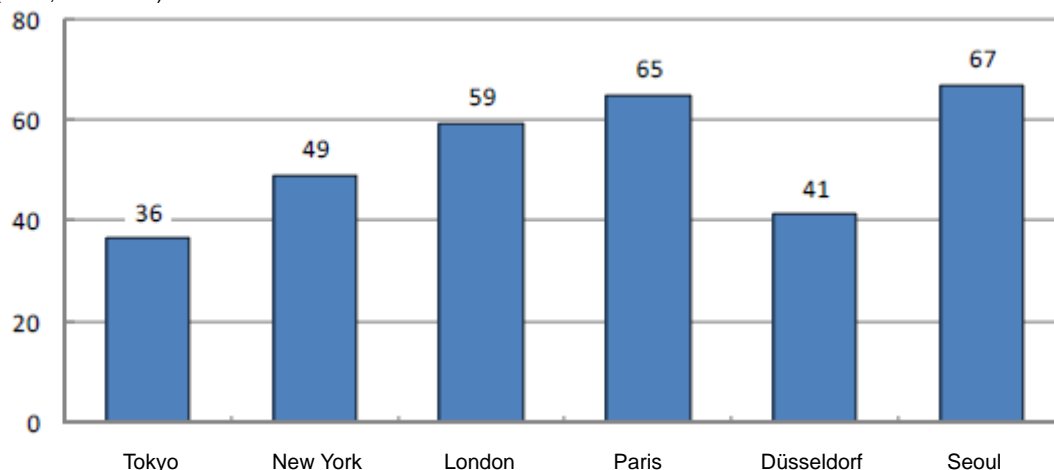
- 1) Various plans other than ordinary charges are generally used for international telephone calls. The cheapest discount charge in each city was therefore used in the comparison of international telephone charges.
- 2) Unless specially mentioned, there are no charges for time zone differences in each city.
- 3) The international telephone call from Tokyo to Stockholm here uses "International SEREKUTOKU" (nighttime charges are 50% of those on weekdays). Other international calls from Tokyo use SEKAIWARI) with NTT Communications Platinum Line.
- 4) International call charges from New York use Any Hour International Advantage (monthly flat rate US\$2.95, US\$0.08/minute).  
 International calls from London use International Saver (monthly flat rate £1.70, 2.55p/min., plus a setup charge of 5.1p/call).  
 International calls from Paris use Option Plus / Les Heures (monthly flat rate zero, €0.67/min.).  
 International calls from Düsseldorf use Country Select (monthly flat rate €0.84, €0.0361/min.).  
 International calls from Stockholm use Utland (monthly flat rate 12 Skr, 0.20 Skr/min. plus a setup charge of 0.55 Skr/call).  
 International calls from Korea use 001 special DC plus (monthly flat rate zero, 290won/min.)

## 5. Domestic leased lines (Comparison using OECD model)

- Like that in Düsseldorf, the charge for a digital 64kbps domestic leased line in Tokyo is cheap.
- The highest charge is for a digital 1.5Mbps domestic leased line in Tokyo.
- The charge for a digital 45Mbps domestic leased line in Tokyo is at the average level.

### 1) Digital 64kbps

(¥100,000/month)



#### Note

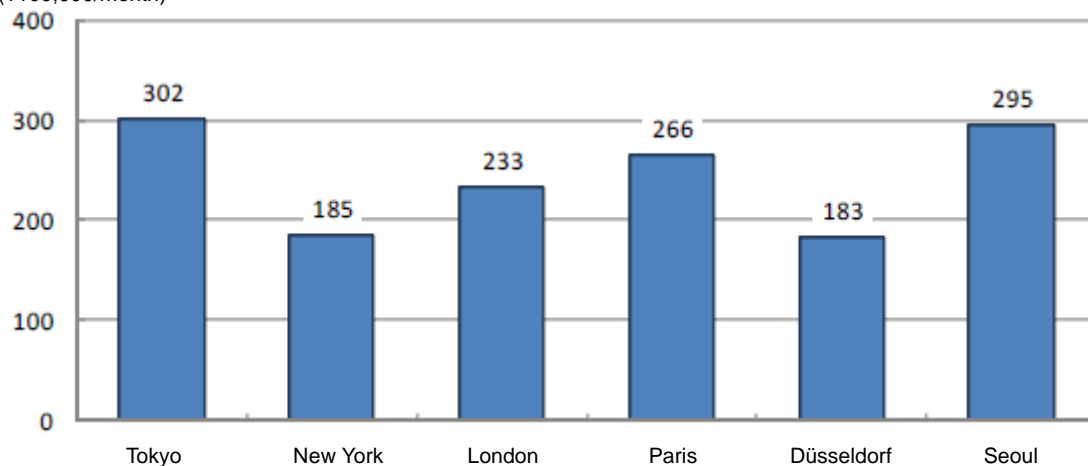
- 1) The model adopted for the number of circuits set for each distance uses the circuit capacity specified by OECD. (Initial introduction cost and optional charges are not considered.)

Number of circuits for each distance	Distance	3km	20km	50km	100km	200km	Total
	Number of circuits		40	15	15	20	10

- 2) Tokyo examples use NTT East Japan's Digital Access 64 for distances of 3km–50km and NTT Communications' Digital Reach 64 for distances of 100km and 200km.
- 3) Service quality levels for areas such as backup and trouble restoration measures are different in each city.
- 4) Comparison of discounts on charges for long-term contracts in each city:
  - The discount in Tokyo applies to a 6-year contract (11% discount).
  - The discount in New York applies to a 10-year contract (33% discount).
  - The discount in London applies to a 5-year contract (15% discount).
  - The discount in Paris applies to a 5-year contract (15% discount).
  - The discount in Düsseldorf applies to a 5-year contract (20% discount).
  - Seoul has no discount for long-term contracts.
  - Stockholm does not publicize its domestic leased line charges.

## 2) Digital 1.5Mbps

(¥100,000/month)



### Notes

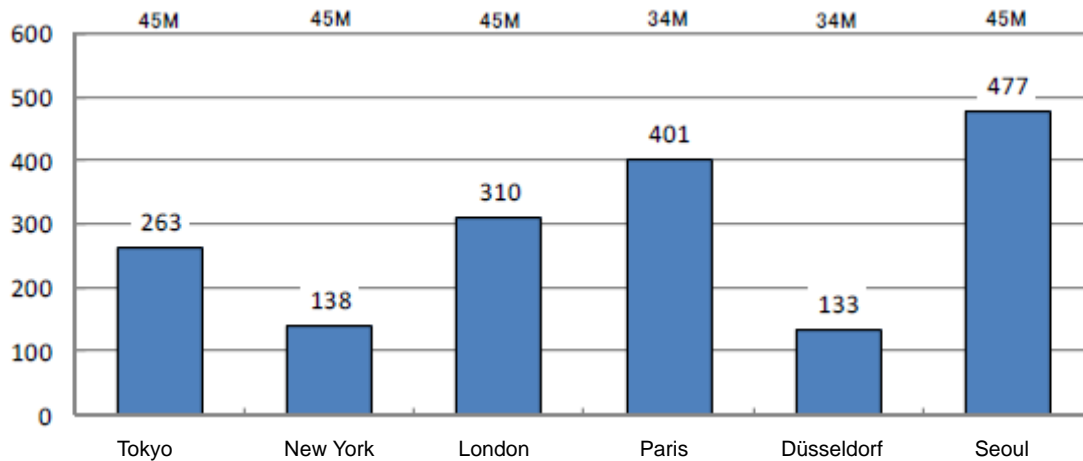
1) Comparison for 1.5Mbps was done using the following models (total 100 circuits).

Number of circuits for each distance	Distance	3km	20km	50km	100km	200km	Total
	Number of circuits		40	15	15	20	10

- 2) Tokyo examples use NTT East Japan's Digital Access 1500 for distances of 3km–50km and NTT Communications' Digital Reach 1500 for distances of 100km and 200km.
- 3) Service quality levels for areas such as backup and trouble restoration measures are different in each city.
- 4) Comparison of discounts on charges for long-term contracts in each city:
  - The discount in Tokyo applies to a 6-year contract (11% discount).
  - The discount in New York applies to a 10-year contract (35% discount).
  - The discount in London applies to a 5-year contract (15% discount).
  - The discount in Paris applies to a 5-year contract (15% discount).
  - The discount in Düsseldorf applies to a 5-year contract (20% discount).
  - Seoul has no discount for long-term contracts.
  - Stockholm does not publicize its domestic leased line charges.

### 3) Digital 45Mbps

(¥100,000/month)



#### Notes

1) The Digital 45Mbps comparison was done using the following model (total 17 circuits).

Number of circuits for each distance	Distance	2km	20km	50km	100km	200km	500km	Total
	Number of circuits		6	3	3	3	1	1

- 2) In Tokyo, NTT East Japan's ATM Mega Link Service was used for distances of 2km–50km, and NTT Communications' ATM Mega Link Service was used for distances of 100km–500km.
- 3) Service quality levels for areas such as backup and trouble restoration measures are different in each city.
- 4) Comparison of discounts on charges for long-term contracts in each city:
  - The discount in Tokyo applies to a 6-year contract (11% discount).
  - The discount in New York applies to a 5-year contract (35% discount).
  - The discount in London applies to a 5-year contract (35% discount).
  - The discount in Paris applies to a 5-year contract (15% discount).
  - The discount in Düsseldorf applies to a 5-year contract (20% discount).
  - Seoul has no discount for long-term contracts.
  - Stockholm does not publicize its domestic leased line charges.