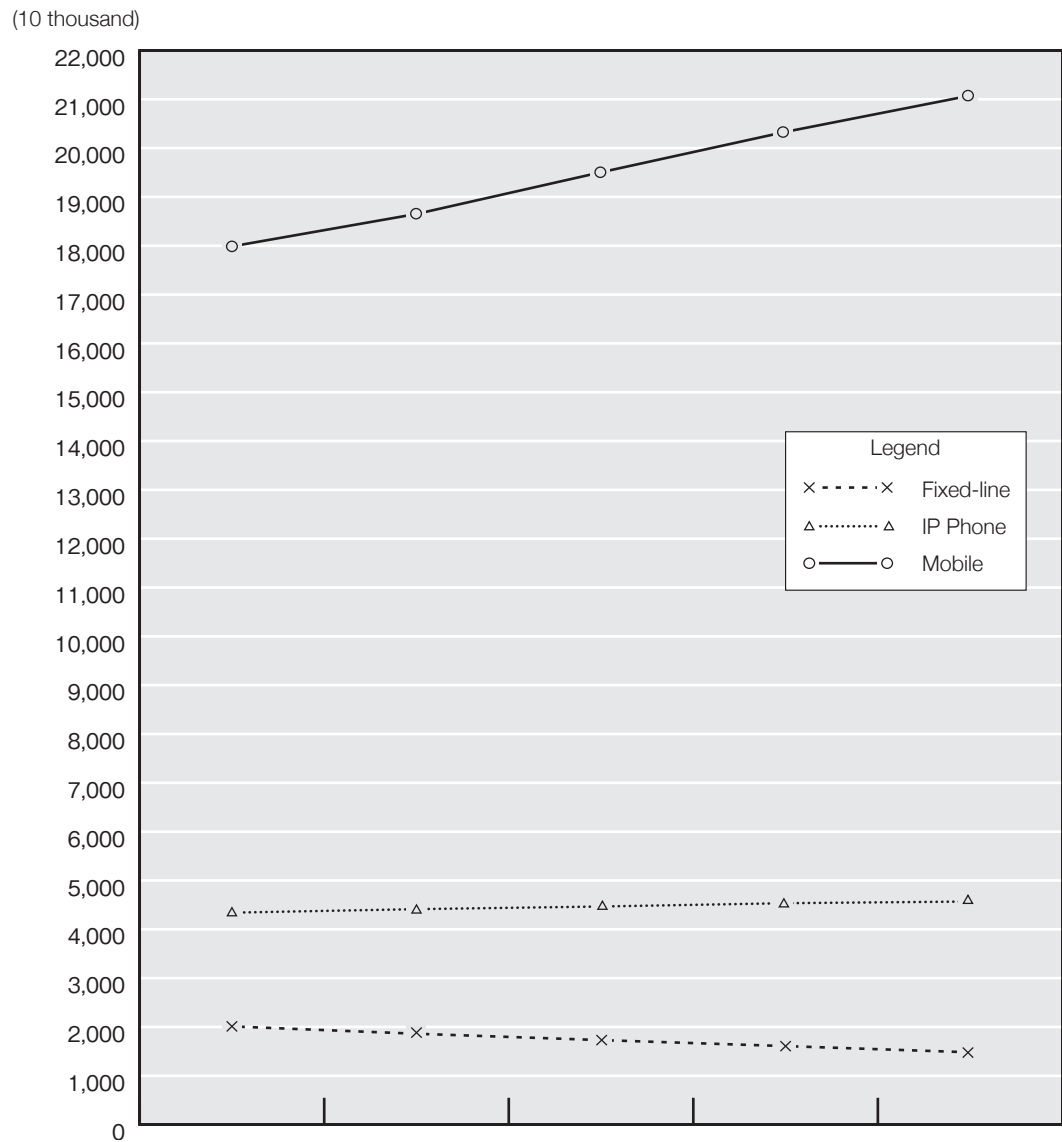


Chapter 2

Situation of Info-communications Service Usage

2-1 Situation of Number of Contracts for Various Services

2-1-1 Trends in Number of Telecommunications Services Subscriptions, etc.



(Units: 10,000 contracts (subscriber telephones, ISDN, mobile phones, and PHS);
10,000 units (public phones); and 10,000 telephone numbers (IP phones))

Service	FY2018	FY2019	FY2020	FY2021	FY2022
Fixed-line Service Total	2,011	1,861	1,731	1,608	1,481
Subscriber Telephone	1,724	1,595	1,486	1,383	1,277
ISDN	272	251	231	212	192
Public Phone	16	15	15	14	12
IP Phone	4,341	4,413	4,467	4,535	4,569
(0ABJ-IP phone)	3,446	3,521	3,568	3,594	3,612
(050-IP phone)	895	892	899	941	957
Mobile Service Total	17,987	18,651	19,505	20,333	21,075
Mobile Phone	17,782	18,490	19,440	20,300	21,069
PHS	206	162	66	34	6

Note: Figures for "Public Phone" represent the numbers of installed units.

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-1-2 Trends in Number of Subscriber Telephone Contracts by Prefecture

(Contracts)

Pref.	FY2019	FY2020	FY2021	FY2022	
	Total	Total	Total	Total	NTT(Re-entry)
Hokkaido	851,620	796,415	743,717	681,705	658,124
Aomori	232,337	220,235	207,836	195,119	189,229
Iwate	216,909	206,255	195,555	183,139	177,209
Miyagi	296,178	279,251	262,285	246,492	234,107
Akita	176,344	167,366	157,805	147,030	142,171
Yamagata	149,321	140,238	132,005	123,621	119,355
Fukushima	285,623	269,270	253,791	238,055	231,424
Ibaraki	370,700	348,577	327,492	306,321	294,955
Tochigi	247,955	232,351	217,990	204,183	196,013
Gunma	258,205	242,358	227,896	213,077	205,218
Saitama	757,130	708,569	662,367	617,676	585,802
Chiba	663,591	621,850	582,594	543,893	515,679
Tokyo	1,746,802	1,632,327	1,520,096	1,413,803	1,292,969
Kanagawa	962,496	895,725	834,460	776,718	726,440
Niigata	311,268	291,960	274,152	256,608	246,583
Toyama	127,722	117,353	107,889	98,496	94,294
Ishikawa	149,183	140,245	130,953	117,893	112,707
Fukui	81,638	75,826	70,586	65,440	62,915
Yamanashi	123,877	115,143	107,101	99,811	96,867
Nagano	297,636	275,624	256,273	238,674	229,557
Gifu	245,433	227,804	210,970	193,662	185,542
Shizuoka	454,097	416,951	385,348	351,138	331,350
Aichi	745,776	690,630	637,741	587,768	549,410
Mie	223,625	205,111	187,747	170,278	163,945
Shiga	128,055	119,017	111,205	103,161	98,132
Kyoto	319,745	297,333	276,557	254,094	239,228
Osaka	1,007,276	933,172	865,163	792,688	725,238
Hyogo	518,001	481,673	447,877	412,846	388,875
Nara	152,252	140,712	130,292	120,690	113,833
Wakayama	137,894	128,224	120,004	110,984	107,472
Tottori	76,073	71,072	66,590	61,890	59,984
Shimane	125,435	115,811	108,523	101,363	99,328
Okayama	266,902	248,164	230,916	211,483	202,604
Hiroshima	416,457	389,825	364,071	330,106	315,865
Yamaguchi	254,499	237,910	222,252	203,775	199,005
Tokushima	104,816	96,540	89,760	82,711	80,049
Kagawa	128,440	118,793	109,843	100,755	95,134
Ehime	217,179	201,157	185,154	167,538	162,981
Kochi	130,410	121,011	112,224	102,672	100,174
Fukuoka	608,481	561,601	516,562	469,867	440,562
Saga	100,260	92,939	85,521	78,747	75,843
Nagasaki	237,908	220,404	203,293	184,912	179,244
Kumamoto	260,663	240,309	222,847	205,488	199,552
Oita	188,985	175,422	162,783	150,356	145,542
Miyazaki	160,800	148,004	135,501	122,115	118,529
Kagoshima	290,522	264,769	241,866	216,614	210,928
Okinawa	147,354	134,449	123,643	111,883	107,715
Total	15,953,873	14,855,745	13,827,096	12,767,338	12,107,682

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications and other organizations

2-1-3 Trends in Number of ISDN Contracts by Prefecture

(Contracts)

Pref.	Basic Interface					Primary Rate Interface				
	FY2019	FY2020	FY2021	FY2022		FY2019	FY2020	FY2021	FY2022	
	Total	Total	Total	Total	NTT East • West (Re-entry)	Total	Total	Total	Total	NTT East • West (Re-entry)
Hokkaido	106,018	96,904	88,688	78,861	60,860	744	648	601	540	288
Aomori	20,891	19,441	17,671	15,835	11,892	112	112	100	90	61
Iwate	22,302	20,915	19,342	17,721	13,274	88	83	71	65	43
Miyagi	45,352	41,782	38,650	35,823	24,606	431	420	299	271	132
Akita	16,895	15,922	14,615	13,166	10,141	93	90	82	79	60
Yamagata	18,122	16,569	15,009	13,593	10,345	93	90	76	69	40
Fukushima	31,015	28,605	26,197	23,611	17,965	118	105	97	90	53
Ibaraki	42,538	39,402	36,132	32,365	23,332	219	214	208	202	132
Tochigi	31,698	29,360	26,501	23,778	16,822	252	242	228	200	135
Gunma	31,425	29,164	26,509	23,946	16,925	229	221	213	187	112
Saitama	108,487	101,027	91,635	84,057	52,258	918	862	841	783	307
Chiba	92,803	85,720	77,725	71,022	47,217	945	865	759	741	399
Tokyo	440,386	400,743	363,433	328,506	204,740	15,248	14,562	13,488	11,916	4,905
Kanagawa	156,573	144,260	131,599	120,309	78,140	2,549	2,436	2,036	1,890	896
Niigata	38,380	35,639	32,556	29,960	21,759	148	141	132	132	74
Toyama	20,319	18,538	17,111	15,541	11,983	149	135	129	113	63
Ishikawa	22,508	20,698	19,243	17,265	13,195	180	175	160	153	73
Fukui	14,269	13,162	12,107	11,085	8,908	71	66	62	61	51
Yamanashi	14,316	13,181	11,999	10,731	8,479	75	70	61	58	44
Nagano	38,466	35,286	31,594	28,580	21,784	189	170	148	138	59
Gifu	36,506	33,747	31,176	28,288	21,971	166	162	138	108	55
Shizuoka	67,137	61,060	55,986	49,472	34,124	377	343	321	282	161
Aichi	140,621	129,553	118,963	108,220	73,510	1,342	1,226	1,120	995	536
Mie	33,548	31,212	28,681	25,570	20,525	155	143	115	96	60
Shiga	23,739	21,818	20,267	18,432	14,002	137	121	108	100	44
Kyoto	49,791	45,485	42,334	38,430	26,121	336	324	294	256	123
Osaka	214,062	197,113	182,486	166,342	99,296	3,847	3,765	3,412	3,113	1,403
Hyogo	82,250	76,196	71,007	65,053	46,584	760	743	685	645	325
Nara	19,194	17,713	16,594	15,171	10,746	90	89	81	67	40
Wakayama	15,010	13,803	12,801	11,538	9,152	69	64	65	55	37
Tottori	11,182	10,344	9,682	9,035	7,822	52	46	41	39	28
Shimane	14,423	13,431	12,438	11,696	10,289	122	117	103	101	47
Okayama	37,761	35,287	33,179	30,566	23,992	210	191	178	175	125
Hiroshima	58,886	54,292	50,887	46,253	35,108	340	320	303	286	170
Yamaguchi	26,520	24,268	22,780	20,811	16,837	131	103	98	79	48
Tokushima	13,383	12,251	11,452	10,579	8,707	59	57	51	45	30
Kagawa	19,519	18,086	16,691	15,206	11,334	143	130	124	111	57
Ehime	23,655	21,325	19,702	17,760	14,489	142	123	123	112	62
Kochi	13,962	12,947	12,171	10,940	9,333	73	68	64	48	39
Fukuoka	102,674	94,743	87,619	79,795	51,050	1,008	921	692	636	287
Saga	12,970	11,951	11,045	10,159	7,952	56	54	45	43	36
Nagasaki	23,388	21,362	19,561	17,408	13,721	151	141	142	133	49
Kumamoto	30,041	27,381	25,302	23,194	18,151	162	143	131	124	64
Oita	23,144	21,683	20,426	18,724	14,795	89	81	79	62	29
Miyazaki	18,461	16,878	15,623	14,350	11,285	105	108	97	93	54
Kagoshima	28,422	25,802	23,369	20,527	16,343	121	118	114	104	59
Okinawa	20,665	19,043	17,691	16,391	12,516	232	223	204	187	97
Nationwide	2,473,677	2,275,092	2,088,229	1,895,665	673,841	33,326	31,631	28,719	25,873	11,992

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications and other organizations

2-1-4 Trends in Number of Mobile Phone and PHS Contracts by Prefecture

(Contracts)

Pref.	FY2019	FY2020	FY2021	FY2022
Hokkaido	5,819,753	5,975,105	6,011,788	6,002,085
Aomori	1,176,981	1,193,270	1,206,927	1,197,301
Iwate	1,150,198	1,171,489	1,186,412	1,177,319
Miyagi	2,795,336	2,957,708	2,561,810	2,542,653
Akita	899,429	908,889	913,914	905,759
Yamagata	1,024,110	1,041,223	1,052,717	1,047,099
Fukushima	1,838,020	1,859,929	1,869,178	1,856,091
Ibaraki	2,856,172	2,899,444	2,942,238	2,936,833
Tochigi	1,944,132	1,985,280	2,001,112	2,003,859
Gunma	1,981,904	2,028,492	2,059,479	2,055,072
Saitama	7,686,590	7,901,584	8,060,656	8,025,562
Chiba	6,544,681	6,761,478	6,902,491	6,936,002
Tokyo	60,034,916	62,247,537	66,686,306	71,592,381
Kanagawa	10,149,863	10,864,406	11,288,054	11,970,885
Niigata	2,133,268	2,164,965	2,187,020	2,182,762
Toyama	1,082,649	1,131,203	1,175,890	1,198,696
Ishikawa	1,179,718	1,208,789	1,271,549	1,268,219
Fukui	770,213	787,995	797,662	796,686
Yamanashi	830,699	841,432	853,072	846,606
Nagano	2,509,160	3,284,352	4,376,423	5,469,723
Gifu	1,990,436	2,092,344	2,139,534	2,132,576
Shizuoka	3,814,373	3,946,736	4,077,015	4,083,761
Aichi	9,871,726	10,383,697	10,671,784	10,969,487
Mie	1,781,566	1,832,072	1,860,003	1,847,901
Shiga	1,365,235	1,406,632	1,436,902	1,429,296
Kyoto	2,801,816	2,891,224	2,962,949	2,973,136
Osaka	11,585,950	12,229,891	12,617,342	12,654,361
Hyogo	5,531,958	5,726,188	5,811,531	5,756,897
Nara	1,321,433	1,367,343	1,403,451	1,400,488
Wakayama	920,099	929,237	933,927	922,017
Tottori	533,619	541,380	545,606	539,723
Shimane	657,315	668,920	675,109	670,606
Okayama	1,929,221	1,970,231	1,999,420	1,987,743
Hiroshima	3,373,136	3,550,125	3,706,437	3,758,842
Yamaguchi	1,383,085	1,416,291	1,433,223	1,441,904
Tokushima	717,519	730,836	745,077	741,748
Kagawa	1,020,433	1,034,491	1,042,825	1,033,783
Ehime	1,376,297	1,414,327	1,436,236	1,421,837
Kochi	685,580	695,020	697,685	687,451
Fukuoka	10,316,489	11,669,800	12,299,166	12,931,377
Saga	787,075	809,684	819,223	813,963
Nagasaki	1,301,392	1,333,284	1,342,954	1,322,466
Kumamoto	1,755,511	1,837,404	1,861,362	1,844,288
Oita	1,135,313	1,151,247	1,159,468	1,151,029
Miyazaki	1,042,396	1,062,780	1,073,284	1,064,755
Kagoshima	1,545,044	1,568,619	1,587,702	1,579,208
Okinawa	1,562,300	1,580,520	1,591,049	1,577,360
Total	186,514,109	195,054,893	203,334,962	210,749,596

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-1-5 Trends in Number of Domestic Leased Circuits

(Thousand circuits)

	FY2018	FY2019	FY2020	FY2021	FY2022
General Leased Circuits (Frequency Band Use)	197	192	191	183	177
General Leased Circuits (Code Transmission)	19	18	17	17	16
High-Speed Digital Transmission Services	78	43	42	37	31

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-1-6 Trends in Number of Broadband Service Contracts, etc.

(Contracts)

		FY2020	FY2021	FY2022	FY2023
Internet connection service (for fixed communication)	(total of 53 providers)	42,983,543	43,420,161	42,211,255	41,589,042
Internet connection service (for mobile communication)	(total of 28 providers)	191,334,287	196,804,123	198,334,177	202,538,649
FTTH access service	(total of 316 providers)	35,884,668	37,698,145	39,522,438	40,346,505
DSL access service	(total of 9 providers)	1,073,135	689,816	356,891	228,001
CATV access service	(total of 191 providers)	6,532,280	6,401,091	6,271,301	6,126,643
FWA access service	(total of 15 providers)	3,549	3,111	1,456	1,243
BWA access service	(total of 108 providers)	75,708,966	79,731,989	84,276,055	87,911,796
3.9-4G mobile phone terminals packet communications service	(total of 5 providers)	154,366,473	139,054,534	127,379,501	118,760,727
5G mobile phone terminals packet communications service	(total of 5 providers)	14,185,509	45,018,488	69,808,822	92,365,974
Local 5G service	(total of 15 providers)	0	49	136	2,449
Mobile Phone and PHS terminal Internet connection service	(total of 5 providers)	194,935,826	203,269,615	210,702,213	221,893,209
Public radio LAN access service	(total of 19 providers)	125,051,323	101,005,848	99,720,918	103,597,350
IP-VPN service	(total of 50 providers)	660,041	660,218	655,856	642,114
Wide-area Ethernet service	(total of 83 providers)	662,529	678,420	697,439	704,435

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2 Situation of Traffic

2-2-1 Situation of Total Traffic

2-2-1-1 Trends in Total Number of Calls

(100 Million calls)

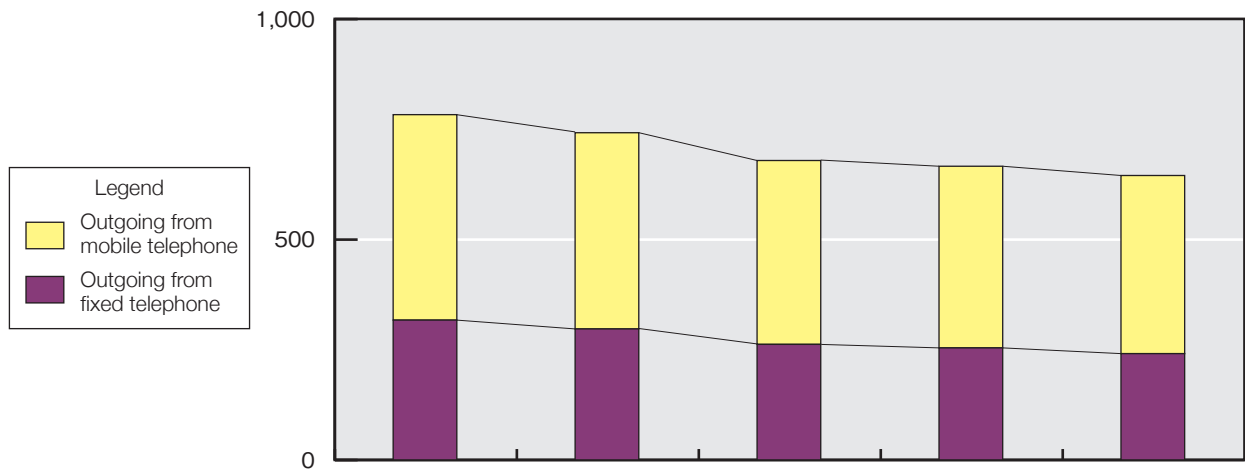
Incoming \ Outgoing	Subscriber Telephone/ISDN					IP Phone				
	FY2018	FY2019	FY2020	FY2021	FY2022	FY2018	FY2019	FY2020	FY2021	FY2022
Subscriber Telephone	65.8	53.8	42.3	37.3	32.9	1.3	1.2	1.2	1.2	1.3
Public Telephone	0.6	0.5	0.4	0.3	0.3					
ISDN	63.8	57.3	47.3	42.1	36.6					
IP Phone	121.5	121.1	110.2	108.7	106.1	12.1	12.0	11.3	13.5	14.0
Mobile Phone/PHS	50.5	45.6	39.6	37.9	35.9	72.0	72.3	69.9	71.7	72.9
Total	302.2	278.2	239.7	226.3	211.9	85.4	85.5	82.4	86.4	88.2

Incoming \ Outgoing	Mobile Phone/PHS					Total				
	FY2018	FY2019	FY2020	FY2021	FY2022	FY2018	FY2019	FY2020	FY2021	FY2022
Subscriber Telephone	21.2	19.5	17.4	16.3	13.1	152.7	132.2	108.6	97.2	84.2
Public Telephone										
ISDN										
IP Phone	30.4	31.3	32.1	34.8	36.9	164.0	164.3	153.5	157.0	157.0
Mobile Phone/PHS	343.8	327.4	307.1	302.8	295.0	466.3	445.3	416.5	412.4	403.8
Total	395.5	378.1	356.5	353.9	344.9	783.0	741.8	678.7	666.6	645.0

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-1-2 Trends in Total Number of Calls between Fixed Telephone and Mobile Telephone

(100 Million calls)



(100 Million calls)

Outgoing	Incoming	FY2018	FY2019	FY2020	FY2021	FY2022
Fixed	Fixed	265.1	245.9	212.7	203.1	191.2
Fixed	Mobile	51.6	50.8	49.5	51.1	50.0
Mobile	Mobile	343.8	327.4	307.1	302.8	295.0
Mobile	Fixed	122.5	117.9	109.5	109.6	108.8
Total		783.0	741.8	678.7	666.6	645.0

Note: Outgoing from fixed telephone: Outgoing from subscriber telephones, public telephones, ISDN and IP phones

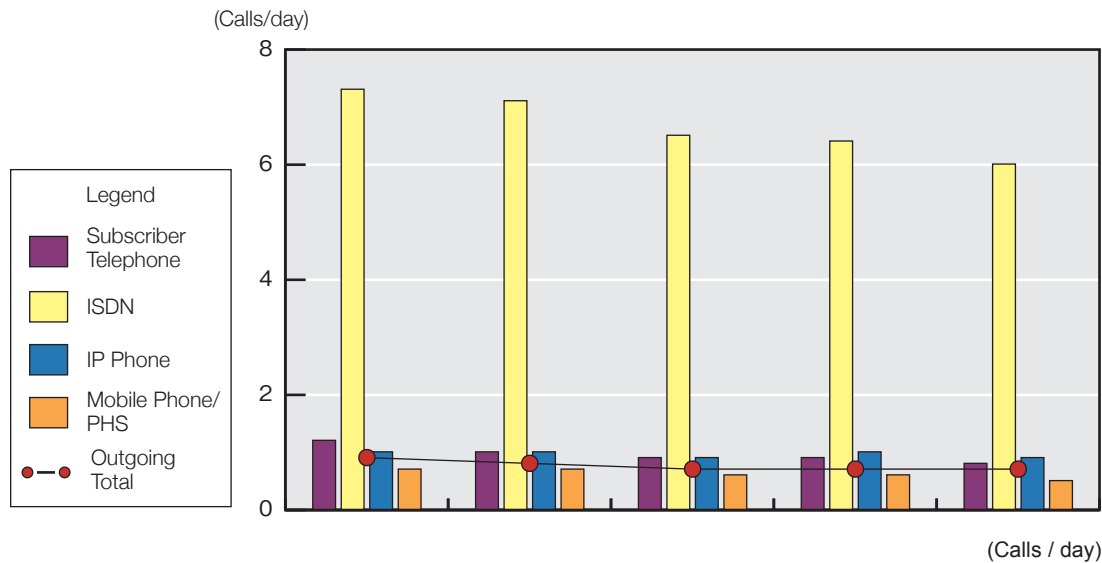
Outgoing from mobile telephone: Outgoing from mobile phones and PHS

Incoming to fixed telephone: Incoming to subscriber telephones, ISDN and IP phones

Incoming to mobile telephone: Incoming to mobile phones and PHS

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-1-3 Trends in Daily Number of Calls per Subscription (Contract)



Note: The categories of respective outgoing calls are as listed below. For example, the number of outgoing calls from subscriber telephones shows the total number of calls outgoing from subscriber telephones and destined for fixed telephones, IP phones, mobile phones, and PHS terminals. Since the actual number of outgoing calls from fixed telephones and destined for IP phones, mobile phones and PHS terminals cannot be identified, the number of those calls is calculated according to the ratio to the number of outgoing calls from fixed telephones and destined for fixed telephones.

Outgoing	ISDN	Cellular Telephone	PHS
Incoming	Fixed Telephone, IP Phone, Mobile Phone, PHS	Fixed Telephone, IP Phone, Mobile Phone, PHS	Fixed Telephone, IP Phone, Mobile Phone, PHS

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-1-4 Trends in Total Call Duration

(Million hours)

Incoming \ Outgoing	Subscriber Telephone/ISDN					IP Phone				
	FY2018	FY2019	FY2020	FY2021	FY2022	FY2018	FY2019	FY2020	FY2021	FY2022
Subscriber Telephone	194.6	154.3	130.1	111.6	95.7	4.4	4.2	4.3	4.1	4.2
Public Telephone	1.3	1.1	1.0	0.9	0.8					
ISDN	153.3	138.4	115.2	100.7	89.0					
IP Phone	340.4	327.5	304.2	286.8	269.3	49.9	48.2	48.7	52.4	52.8
Mobile Phone/PHS	194.6	183.9	183.9	178.6	167.9	276.5	303.2	334.1	355.0	345.1
Total	884.1	805.2	734.3	678.6	622.7	330.8	355.6	387.1	411.5	402.2

Incoming \ Outgoing	Mobile Phone/PHS					Total				
	FY2018	FY2019	FY2020	FY2021	FY2022	FY2018	FY2019	FY2020	FY2021	FY2022
Subscriber Telephone	63.3	59.3	60.3	55.5	45.1	416.9	357.3	310.9	272.8	234.8
Public Telephone										
ISDN										
IP Phone	93.6	97.8	114.1	121.4	127.9	483.9	473.5	466.9	460.7	449.9
Mobile Phone/PHS	1,656.1	1,607.1	1,736.2	1,707.5	1,623.3	2,127.2	2,094.2	2,254.2	2,241.1	2,136.3
Total	1,813.0	1,764.2	1,910.6	1,884.5	1,796.2	3,027.9	2,925.0	3,032.1	2,974.6	2,821.1

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-1-5 Trends in Average Call Duration per Call

(Seconds)

Incoming Outgoing	Subscriber Telephone/ISDN					IP Phone				
	FY2018	FY2019	FY2020	FY2021	FY2022	FY2018	FY2019	FY2020	FY2021	FY2022
Subscriber Telephone	106.5	103.2	110.7	107.7	104.7	121.8	126.0	129.0	123.0	116.3
Public Telephone	78.0	79.2	90.0	108.0	96.0					
ISDN	86.5	87.0	87.7	86.1	87.5					
IP Phone	100.9	97.4	99.4	95.0	91.4	148.5	144.6	155.2	139.7	135.8
Mobile Phone/PHS	138.7	145.2	167.2	169.6	168.4	138.3	151.0	172.1	178.2	170.4
Total	105.3	104.2	110.3	108.0	105.8	139.4	149.7	169.1	171.5	164.2

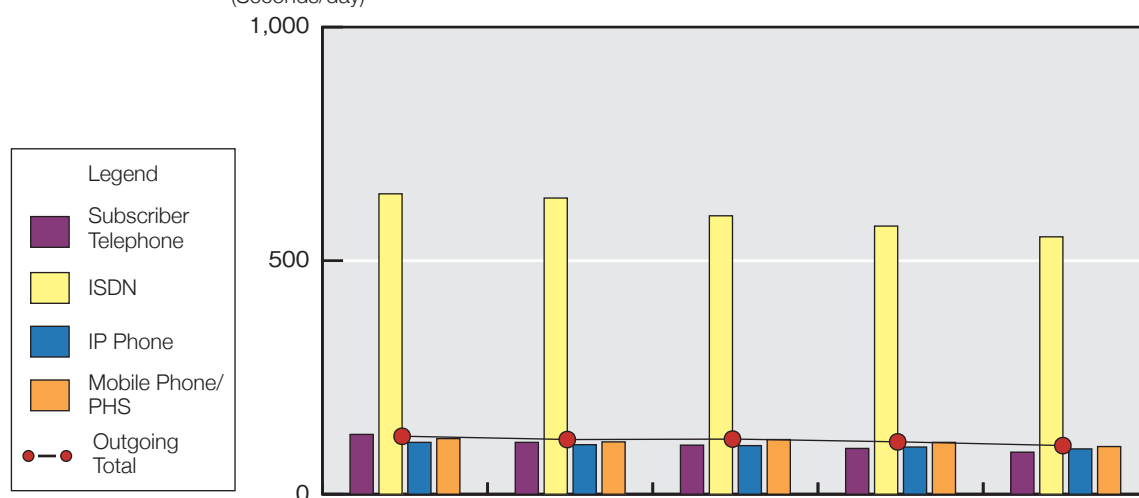
Incoming Outgoing	Mobile Phone/PHS					Total				
	FY2018	FY2019	FY2020	FY2021	FY2022	FY2018	FY2019	FY2020	FY2021	FY2022
Subscriber Telephone	107.5	109.5	124.8	122.6	123.9	98.3	97.3	103.1	101.0	100.4
Public Telephone										
ISDN										
IP Phone	110.8	112.5	128.0	125.6	124.8	106.2	103.7	109.5	105.6	103.2
Mobile Phone/PHS	173.4	176.7	203.5	203.0	198.1	164.2	169.3	194.8	195.6	190.5
Total	165.0	168.0	192.9	191.7	187.5	139.2	142.0	160.8	160.6	157.5

Note: Total Call Duration (seconds) ÷ Total Number of Calls (calls)

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-1-6 Trends in Daily Call Duration per Subscription (Contract)

(Seconds/day)



Outgoing	FY2018	FY2019	FY2020	FY2021	FY2022
Subscriber Telephone	128	111	105	98	90
ISDN	643	634	596	574	551
IP Phone	111	106	104	101	97
Mobile Phone/PHS	119	112	117	111	102
Outgoing Total	124	117	118	112	104

Note: The category of outgoing call duration and calculation method are the same as those in note of 2-2-1-3.

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-2 Situation of Traffic of Subscriber Telephone/ISDN

2-2-2-1 Situation of Calls by Time Zone

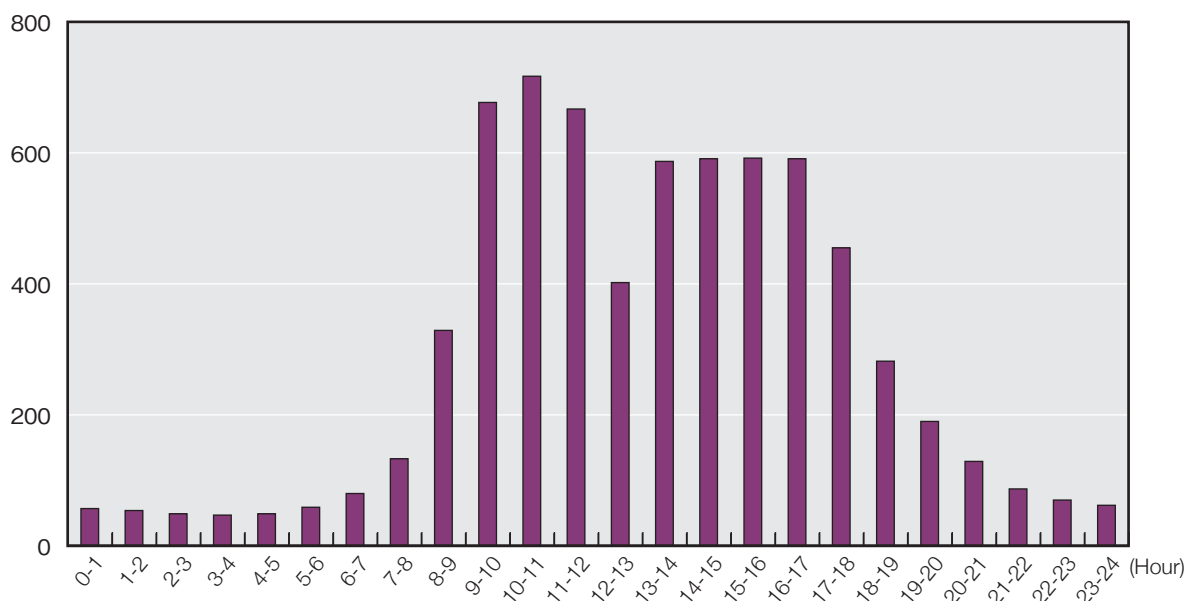
2-2-2-1-1 Trends in Number of Calls by Time Zone

(Million calls)

Time Zone	FY2018	FY2019	FY2020	FY2021	FY2022
0-1	100	87	71	63	57
1-2	89	79	66	58	54
2-3	81	71	61	55	49
3-4	75	67	58	52	47
4-5	76	68	60	55	49
5-6	93	81	73	65	59
6-7	130	113	97	87	80
7-8	244	202	164	150	133
8-9	616	509	415	371	329
9-10	1,267	1,085	869	768	677
10-11	1,323	1,132	919	816	717
11-12	1,227	1,055	862	763	667
12-13	733	626	519	462	402
13-14	1,074	925	757	673	587
14-15	1,082	932	767	676	591
15-16	1,077	933	768	678	592
16-17	1,083	939	760	671	591
17-18	905	774	597	525	455
18-19	602	503	381	334	282
19-20	410	344	260	228	190
20-21	267	226	175	154	129
21-22	169	144	109	95	87
22-23	128	109	82	73	70
23-24	111	95	74	66	62
Total	12,961	11,103	8,966	7,938	6,952

Number of Calls by Time Zone (FY2022)

(Million calls)



*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

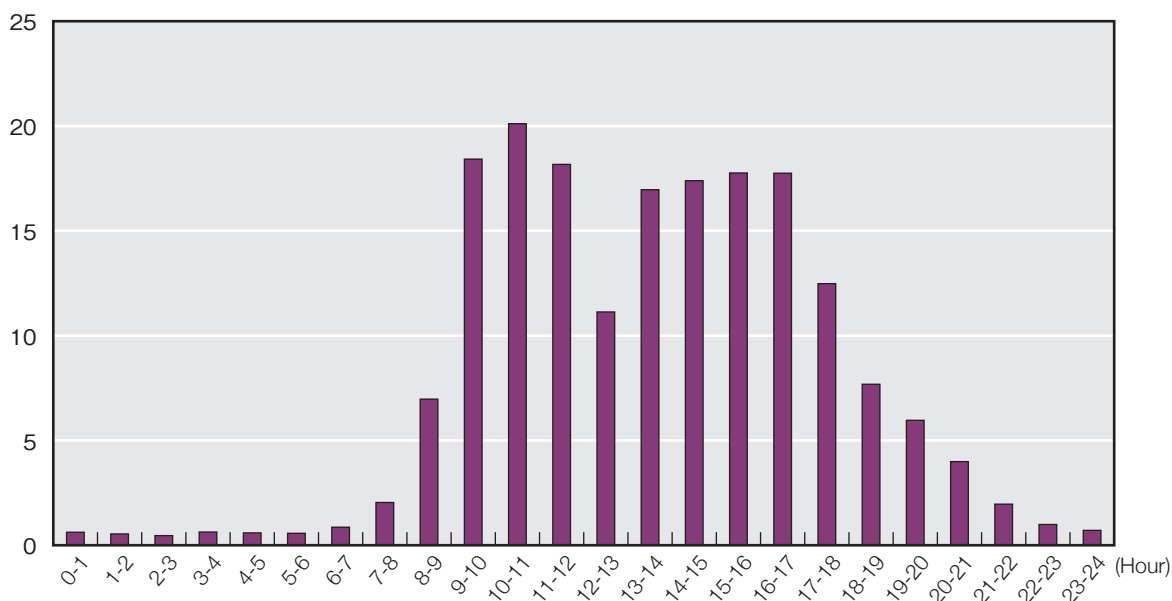
2-2-2-1-2 Trends in Call Duration by Time Zone

(Million hours)

Time Zone	FY2018	FY2019	FY2020	FY2021	FY2022
0-1	1.27	1.07	0.78	0.75	0.62
1-2	1.01	0.87	0.67	0.57	0.54
2-3	0.84	0.74	0.57	0.49	0.46
3-4	1.13	1.01	0.79	0.68	0.63
4-5	0.90	1.24	0.68	0.56	0.59
5-6	1.00	0.86	0.71	0.63	0.57
6-7	1.68	1.43	1.12	0.97	0.86
7-8	4.26	3.44	2.66	2.36	2.04
8-9	13.87	11.37	9.29	8.10	6.97
9-10	34.44	29.05	24.05	21.06	18.42
10-11	36.28	30.71	26.48	23.03	20.11
11-12	32.32	27.51	23.81	20.73	18.17
12-13	19.66	16.53	14.53	12.67	11.13
13-14	29.78	25.39	22.25	19.36	16.96
14-15	30.35	26.02	22.97	19.88	17.39
15-16	31.15	26.68	23.35	20.28	17.76
16-17	32.02	27.38	23.19	20.19	17.75
17-18	25.50	21.24	16.79	14.42	12.48
18-19	17.60	14.09	10.81	9.17	7.68
19-20	13.99	11.08	8.64	7.25	5.96
20-21	9.98	7.85	6.05	4.92	3.99
21-22	4.96	3.90	2.88	2.31	1.96
22-23	2.40	1.94	1.31	1.09	0.99
23-24	1.56	1.27	0.90	0.77	0.71
Total	347.90	292.71	245.27	212.29	184.73

Duration by Time Zone (FY2022)

(Million hours)



*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-2-2 Situation of Number of Calls by Duration

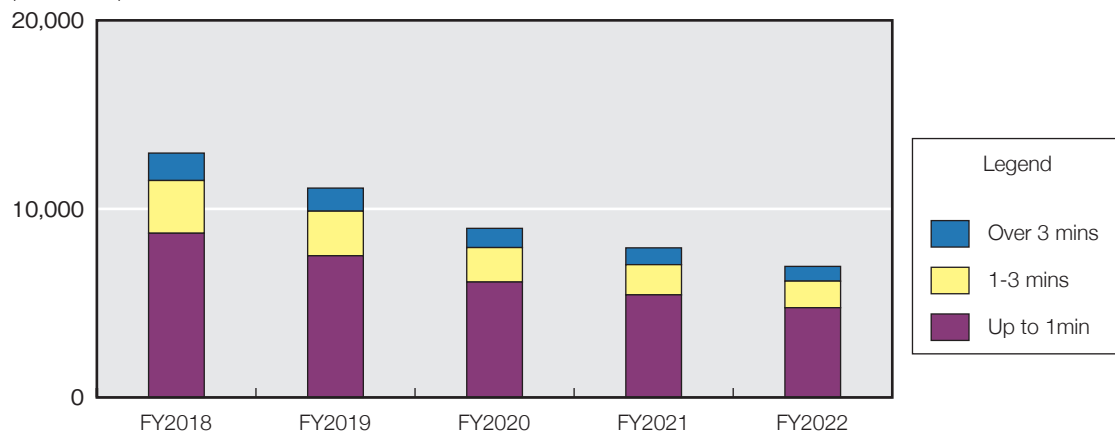
2-2-2-2-1 Trends in Number of Calls by Duration

(Million calls)

Duration	FY2018	FY2019	FY2020	FY2021	FY2022
up to 1 min	8,709	7,515	6,122	5,442	4,761
1-3 mins	2,798	2,364	1,828	1,601	1,408
over 3 mins	1,454	1,225	1,019	892	782
Total	12,961	11,103	8,966	7,938	6,952

Number of Calls by Duration

(Million calls)



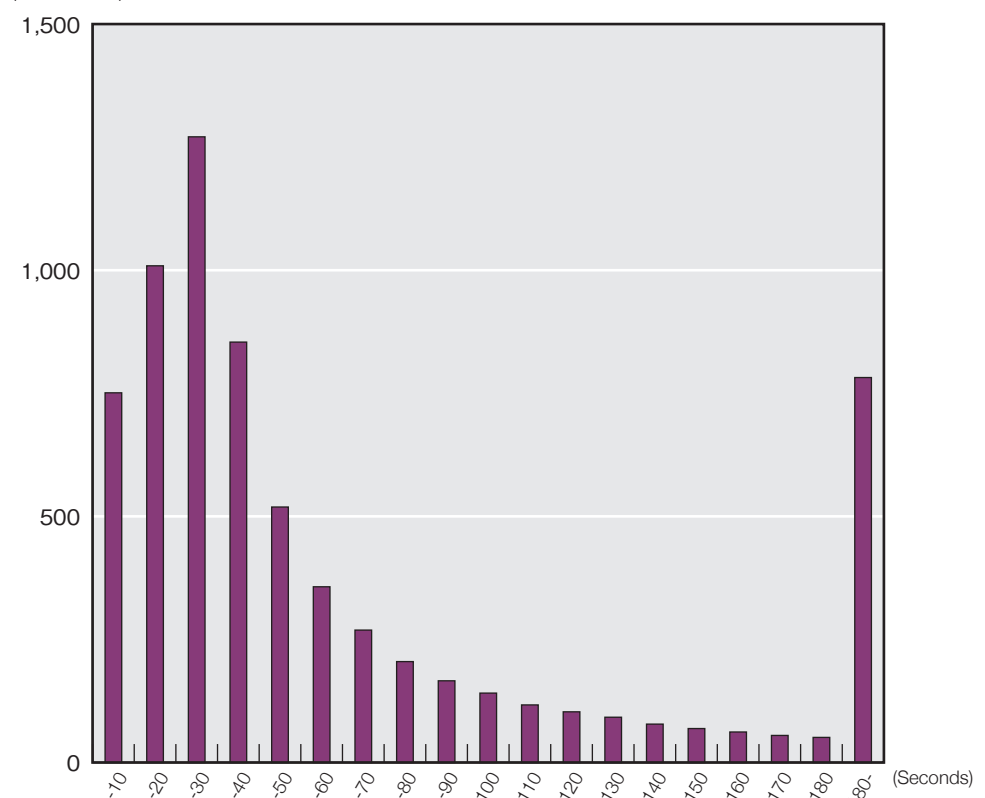
*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-2-2-2 Number of Calls by Duration (10-second steps) (FY2022)

(Million calls)

Step	Total
~ 10 sec.	751
~ 20 sec.	1,009
~ 30 sec.	1,271
~ 40 sec.	854
~ 50 sec.	519
~ 60 sec.	357
~ 70 sec.	269
~ 80 sec.	205
~ 90 sec.	166
~ 100 sec.	141
~ 110 sec.	117
~ 120 sec.	103
~ 130 sec.	92
~ 140 sec.	78
~ 150 sec.	69
~ 160 sec.	62
~ 170 sec.	55
~ 180 sec.	51
180 sec. ~	782
Total	6,952

(Million calls)



*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-2-3 Situation of Calls by Prefecture

2-2-2-3-1 Ranking of Number of Outgoing and Incoming Calls by Prefecture (FY2022)

(Million calls)

Ranking	Outgoing			Incoming		
	Pref.	Number of outgoing calls	Ratio (%)	Pref.	Number of incoming calls	Ratio (%)
1	Tokyo	1,342	19.3	Tokyo	1,292	18.6
2	Osaka	658	9.5	Osaka	672	9.7
3	Kanagawa	463	6.7	Kanagawa	405	5.8
4	Aichi	381	5.5	Aichi	389	5.6
5	Saitama	357	5.1	Saitama	307	4.4
6	Fukuoka	285	4.1	Fukuoka	296	4.3
7	Hokkaido	284	4.1	Hokkaido	289	4.2
8	Chiba	266	3.8	Chiba	281	4.0
9	Hyogo	263	3.8	Hyogo	233	3.3
10	Shizuoka	177	2.5	Shizuoka	181	2.6
11	Hiroshima	149	2.1	Hiroshima	163	2.3
12	Kyoto	133	1.9	Miyagi	150	2.2
13	Miyagi	130	1.9	Kyoto	146	2.1
14	Niigata	116	1.7	Niigata	129	1.9
15	Ibaraki	111	1.6	Nagano	112	1.6
16	Nagano	97	1.4	Ibaraki	110	1.6
17	Gifu	92	1.3	Gifu	95	1.4
18	Okayama	91	1.3	Gunma	92	1.3
19	Fukushima	86	1.2	Okayama	90	1.3
20	Gunma	84	1.2	Fukushima	87	1.3
21	Kagoshima	80	1.1	Tochigi	81	1.2
22	Mie	75	1.1	Kumamoto	78	1.1
23	Kumamoto	75	1.1	Kagoshima	78	1.1
24	Tochigi	73	1.0	Mie	77	1.1
25	Iwate	65	0.9	Iwate	65	0.9
26	Yamaguchi	64	0.9	Yamaguchi	62	0.9
27	Aomori	63	0.9	Aomori	62	0.9
28	Nagasaki	60	0.9	Nagasaki	60	0.9
29	Ishikawa	56	0.8	Ehime	59	0.8
30	Oita	56	0.8	Ishikawa	59	0.8
31	Shiga	55	0.8	Okinawa	56	0.8
32	Ehime	55	0.8	Yamagata	56	0.8
33	Yamagata	53	0.8	Oita	55	0.8
34	Kagawa	53	0.8	Shiga	53	0.8
35	Akita	51	0.7	Akita	53	0.8
36	Miyazaki	48	0.7	Kagawa	51	0.7
37	Okinawa	48	0.7	Toyama	51	0.7
38	Toyama	47	0.7	Miyazaki	51	0.7
39	Nara	46	0.7	Shimane	50	0.7
40	Shimane	45	0.7	Nara	45	0.7
41	Wakayama	43	0.6	Wakayama	41	0.6
42	Kochi	33	0.5	Fukui	35	0.5
43	Yamanashi	32	0.5	Saga	34	0.5
44	Fukui	31	0.5	Kochi	33	0.5
45	Saga	31	0.4	Yamanashi	33	0.5
46	Tokushima	29	0.4	Tokushima	29	0.4
47	Tottori	26	0.4	Tottori	27	0.4
	Total	6,953	100.0	Total	6,953	100.0

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-2-3-2 Main Destination Prefectures by Originating Prefecture (FY2022)

Outgoing	Total Number of Outgoing calls (million)	Incoming									
		1		2		3		4		5	
		Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)
Hokkaido	284	Hokkaido	80.2	Tokyo	7.4	Miyagi	2.5	Osaka	1.2	Kanagawa	1.1
Aomori	63	Aomori	74.2	Miyagi	7.5	Tokyo	5.0	Iwate	2.7	Akita	1.4
Iwate	65	Iwate	72.2	Miyagi	9.9	Tokyo	5.5	Aomori	2.3	Akita	1.5
Miyagi	130	Miyagi	65.3	Tokyo	9.0	Fukushima	3.9	Iwate	3.0	Yamagata	2.9
Akita	51	Akita	75.6	Miyagi	6.7	Tokyo	5.2	Aomori	1.7	Yamagata	1.6
Yamagata	53	Yamagata	71.8	Miyagi	9.2	Tokyo	6.2	Kanagawa	1.2	Saitama	1.1
Fukushima	86	Fukushima	69.7	Miyagi	10.1	Tokyo	9.2	Saitama	1.3	Kanagawa	1.2
Ibaraki	111	Ibaraki	56.0	Tokyo	12.2	Chiba	8.1	Saitama	7.3	Nagano	2.7
Tochigi	73	Tochigi	61.5	Tokyo	12.5	Saitama	6.9	Ibaraki	3.3	Gunma	3.0
Gunma	84	Gunma	57.6	Tokyo	12.6	Saitama	6.4	Niigata	4.4	Tochigi	3.0
Saitama	357	Saitama	44.1	Tokyo	19.8	Chiba	5.8	Kanagawa	3.8	Gunma	2.3
Chiba	266	Chiba	57.1	Tokyo	19.9	Saitama	4.0	Kanagawa	3.0	Ibaraki	2.2
Tokyo	1,342	Tokyo	54.9	Kanagawa	6.1	Saitama	5.2	Osaka	4.5	Chiba	3.7
Kanagawa	463	Kanagawa	52.2	Tokyo	22.3	Osaka	4.0	Chiba	2.9	Saitama	2.6
Niigata	116	Niigata	77.2	Tokyo	7.5	Saitama	1.5	Osaka	1.4	Kanagawa	1.2
Toyama	47	Toyama	68.5	Tokyo	6.2	Ishikawa	5.0	Osaka	4.4	Kyoto	3.4
Ishikawa	56	Ishikawa	60.4	Tokyo	9.5	Toyama	5.0	Osaka	4.1	Kyoto	3.9
Fukui	31	Fukui	71.2	Tokyo	5.7	Osaka	4.6	Kyoto	3.9	Ishikawa	3.7
Yamanashi	32	Yamanashi	62.8	Tokyo	13.0	Saitama	6.7	Shizuoka	5.0	Kanagawa	2.7
Nagano	97	Nagano	68.6	Tokyo	9.0	Chiba	4.8	Niigata	4.0	Aichi	2.3
Gifu	92	Gifu	61.9	Aichi	17.1	Tokyo	5.8	Osaka	3.3	Nagano	1.1
Shizuoka	177	Shizuoka	69.6	Tokyo	8.4	Aichi	7.6	Osaka	2.8	Kanagawa	2.8
Aichi	381	Aichi	65.5	Tokyo	7.3	Osaka	4.5	Hyogo	3.7	Gifu	3.3
Mie	75	Mie	65.9	Aichi	12.6	Tokyo	5.9	Osaka	4.8	Kanagawa	1.2
Shiga	55	Shiga	53.2	Osaka	16.1	Kyoto	11.1	Tokyo	5.5	Aichi	2.1
Kyoto	133	Kyoto	56.9	Osaka	15.0	Tokyo	7.2	Hyogo	2.7	Shiga	2.6
Osaka	658	Osaka	58.3	Tokyo	8.1	Hyogo	5.4	Kyoto	3.0	Aichi	2.9
Hyogo	263	Hyogo	48.6	Osaka	20.6	Tokyo	6.1	Fukuoka	3.0	Kyoto	1.8
Nara	46	Nara	53.1	Osaka	20.3	Kyoto	9.5	Tokyo	5.6	Hyogo	1.8
Wakayama	43	Wakayama	62.3	Osaka	12.2	Tokyo	6.6	Kyoto	4.4	Aichi	1.7
Tottori	26	Tottori	68.6	Shimane	9.5	Hiroshima	4.6	Tokyo	4.2	Osaka	3.8
Shimane	45	Shimane	60.4	Tokyo	12.7	Hiroshima	5.4	Osaka	5.1	Tottori	2.6
Okayama	91	Okayama	63.2	Hiroshima	8.4	Osaka	5.8	Tokyo	5.5	Hyogo	4.5
Hiroshima	149	Hiroshima	70.8	Tokyo	5.1	Osaka	4.8	Okayama	3.5	Yamaguchi	2.6
Yamaguchi	64	Yamaguchi	66.0	Fukuoka	9.9	Hiroshima	8.2	Tokyo	5.0	Osaka	3.3
Tokushima	29	Tokushima	70.1	Tokyo	5.9	Osaka	5.4	Kagawa	5.0	Hiroshima	3.2
Kagawa	53	Kagawa	61.8	Osaka	5.9	Tokyo	5.9	Ehime	4.6	Hiroshima	3.5
Ehime	55	Ehime	70.1	Tokyo	5.9	Osaka	4.8	Hiroshima	4.0	Kagawa	3.9
Kochi	33	Kochi	75.0	Tokyo	5.1	Osaka	4.0	Kagawa	3.3	Hiroshima	2.6
Fukuoka	285	Fukuoka	65.0	Tokyo	6.6	Osaka	4.9	Kumamoto	2.2	Saga	2.0
Saga	31	Saga	67.1	Fukuoka	15.7	Tokyo	4.6	Nagasaki	2.6	Osaka	2.3
Nagasaki	60	Nagasaki	71.9	Fukuoka	9.8	Tokyo	5.1	Osaka	2.5	Saga	1.6
Kumamoto	75	Kumamoto	70.3	Fukuoka	11.2	Tokyo	4.7	Osaka	2.3	Kagoshima	1.5
Oita	56	Oita	71.1	Fukuoka	11.3	Tokyo	4.2	Hyogo	2.5	Osaka	2.4
Miyazaki	48	Miyazaki	74.3	Fukuoka	7.1	Tokyo	4.2	Kagoshima	2.9	Kumamoto	2.2
Kagoshima	80	Kagoshima	71.8	Fukuoka	6.4	Tokyo	4.5	Osaka	2.8	Miyazaki	2.3
Okinawa	48	Okinawa	76.2	Tokyo	7.4	Fukuoka	4.4	Osaka	3.8	Kanagawa	1.0

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

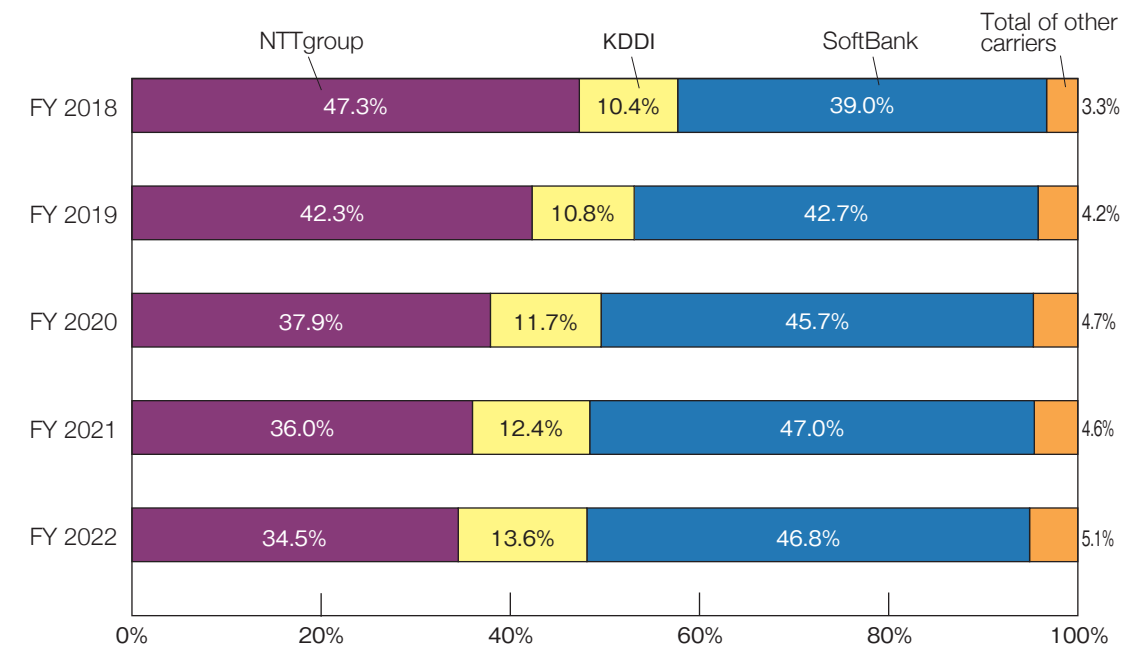
2-2-2-3-3 Main Originating Prefectures by Destination Prefecture (FY2022)

Incoming	Total number of incoming calls (million)	Outgoing									
		1		2		3		4		5	
		Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)
Hokkaido	289	Hokkaido	79.0	Tokyo	9.4	Osaka	1.6	Saitama	1.5	Kanagawa	1.3
Aomori	62	Aomori	75.9	Tokyo	6.5	Miyagi	3.8	Saitama	2.4	Iwate	2.4
Iwate	65	Iwate	71.8	Tokyo	6.7	Miyagi	5.9	Saitama	2.7	Aomori	2.6
Miyagi	150	Miyagi	56.5	Tokyo	9.3	Fukushima	5.8	Hokkaido	4.7	Iwate	4.3
Akita	53	Akita	72.4	Tokyo	6.7	Miyagi	3.9	Osaka	2.9	Saitama	2.5
Yamagata	56	Yamagata	68.1	Tokyo	7.6	Miyagi	6.8	Saitama	3.0	Osaka	1.9
Fukushima	87	Fukushima	68.3	Tokyo	8.7	Miyagi	5.7	Saitama	3.4	Chiba	2.1
Ibaraki	110	Ibaraki	56.2	Tokyo	15.2	Saitama	6.8	Chiba	5.3	Kanagawa	3.4
Tochigi	81	Tochigi	55.5	Tokyo	15.4	Saitama	7.4	Ibaraki	3.4	Kanagawa	3.1
Gunma	92	Gunma	52.5	Tokyo	13.7	Saitama	8.9	Kanagawa	4.3	Osaka	2.8
Saitama	307	Saitama	51.3	Tokyo	22.7	Kanagawa	3.9	Chiba	3.4	Ibaraki	2.6
Chiba	281	Chiba	53.9	Tokyo	17.7	Saitama	7.4	Kanagawa	4.7	Ibaraki	3.2
Tokyo	1,292	Tokyo	57.0	Kanagawa	8.0	Saitama	5.5	Osaka	4.1	Chiba	4.1
Kanagawa	405	Kanagawa	59.6	Tokyo	20.1	Saitama	3.4	Osaka	2.9	Chiba	2.0
Niigata	129	Niigata	69.6	Tokyo	8.6	Saitama	3.2	Nagano	3.0	Gunma	2.9
Toyama	51	Toyama	62.8	Tokyo	8.9	Osaka	5.4	Ishikawa	5.4	Saitama	2.7
Ishikawa	59	Ishikawa	57.9	Tokyo	7.9	Osaka	5.9	Aichi	4.1	Toyama	4.0
Fukui	35	Fukui	63.3	Tokyo	8.1	Osaka	5.4	Ishikawa	4.9	Hyogo	2.5
Yamanashi	33	Yamanashi	60.3	Tokyo	17.2	Kanagawa	6.4	Saitama	2.2	Osaka	2.0
Nagano	112	Nagano	59.6	Tokyo	11.6	Osaka	6.3	Aichi	3.8	Ibaraki	2.6
Gifu	95	Gifu	59.5	Aichi	13.2	Tokyo	7.4	Osaka	4.7	Saitama	1.9
Shizuoka	181	Shizuoka	67.8	Tokyo	10.5	Aichi	4.8	Kanagawa	4.2	Osaka	2.7
Aichi	389	Aichi	64.2	Tokyo	8.4	Osaka	4.9	Gifu	4.0	Shizuoka	3.5
Mie	77	Mie	63.8	Aichi	11.2	Tokyo	7.5	Osaka	5.1	Hyogo	1.7
Shiga	53	Shiga	54.8	Osaka	12.2	Tokyo	8.2	Kyoto	6.4	Hyogo	4.3
Kyoto	146	Kyoto	51.5	Osaka	13.3	Tokyo	7.1	Shiga	4.2	Hyogo	3.2
Osaka	672	Osaka	57.1	Tokyo	8.9	Hyogo	8.1	Kyoto	3.0	Kanagawa	2.8
Hyogo	233	Hyogo	54.9	Osaka	15.3	Tokyo	7.3	Aichi	6.1	Fukuoka	2.0
Nara	45	Nara	53.7	Osaka	17.3	Tokyo	8.6	Hyogo	5.2	Kanagawa	2.8
Wakayama	41	Wakayama	65.4	Osaka	12.7	Tokyo	6.4	Hyogo	4.0	Kanagawa	2.1
Tottori	27	Tottori	65.4	Tokyo	6.8	Hyogo	5.1	Shimane	4.4	Osaka	4.1
Shimane	50	Shimane	55.3	Tokyo	9.3	Osaka	5.6	Tottori	5.0	Hiroshima	4.4
Okayama	90	Okayama	63.8	Tokyo	7.3	Osaka	5.8	Hiroshima	5.7	Hyogo	4.4
Hiroshima	163	Hiroshima	64.7	Tokyo	6.8	Okayama	4.7	Osaka	4.0	Yamaguchi	3.2
Yamaguchi	62	Yamaguchi	68.5	Tokyo	6.2	Hiroshima	6.1	Fukuoka	4.5	Osaka	3.1
Tokushima	29	Tokushima	67.9	Tokyo	6.8	Osaka	5.4	Kagawa	5.4	Hyogo	3.8
Kagawa	51	Kagawa	63.3	Tokyo	7.0	Osaka	5.9	Ehime	4.1	Hyogo	3.2
Ehime	59	Ehime	65.3	Tokyo	9.1	Osaka	5.2	Kagawa	4.1	Hyogo	2.7
Kochi	33	Kochi	74.7	Tokyo	6.1	Osaka	4.0	Kagawa	3.2	Hyogo	2.4
Fukuoka	296	Fukuoka	62.5	Tokyo	7.7	Osaka	4.0	Kumamoto	2.8	Hyogo	2.7
Saga	34	Saga	61.2	Fukuoka	16.8	Tokyo	6.2	Saitama	3.2	Nagasaki	2.8
Nagasaki	60	Nagasaki	72.3	Fukuoka	7.6	Tokyo	6.9	Osaka	2.4	Hyogo	2.2
Kumamoto	78	Kumamoto	67.1	Fukuoka	8.0	Tokyo	6.9	Saitama	3.0	Osaka	2.5
Oita	55	Oita	72.2	Fukuoka	8.8	Tokyo	6.0	Osaka	2.8	Saitama	2.4
Miyazaki	51	Miyazaki	70.6	Tokyo	7.0	Fukuoka	5.7	Kagoshima	3.6	Osaka	2.6
Kagoshima	78	Kagoshima	73.6	Tokyo	6.3	Fukuoka	4.9	Hyogo	2.6	Osaka	2.5
Okinawa	56	Okinawa	65.3	Tokyo	11.9	Osaka	4.7	Fukuoka	3.1	Saitama	2.2

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

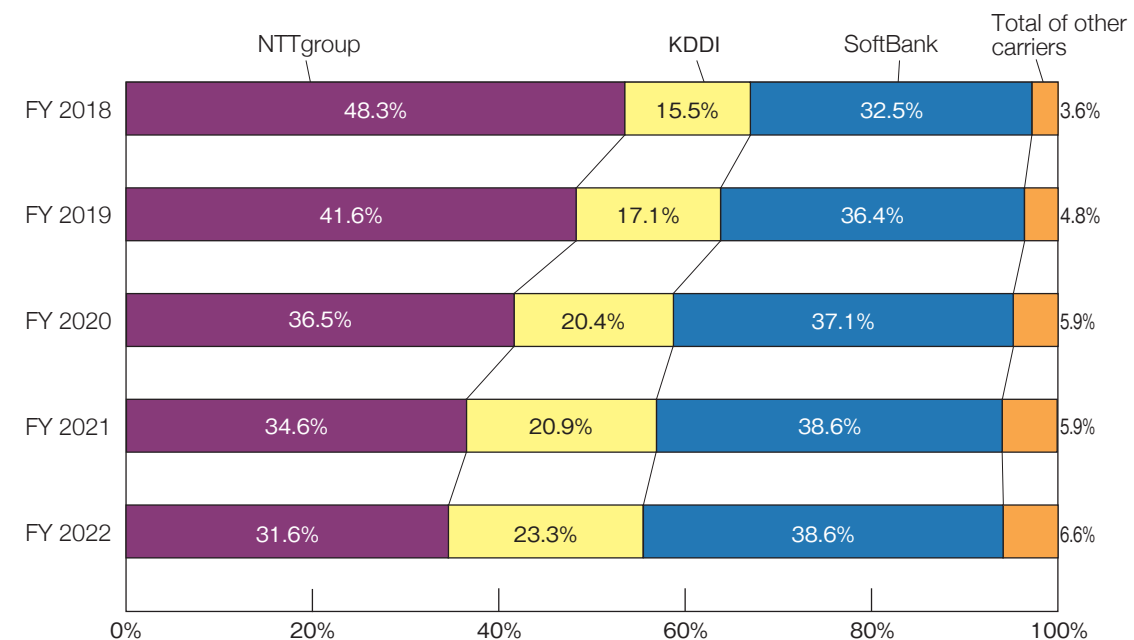
2-2-2-4 Situation of Share by Carrier in Calls between Prefectures

2-2-2-4-1 Trends in Ratio of Number of Calls by Carrier in Calls between Prefectures



*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-2-4-2 Trends in Ratio of Call Hours by Carrier in Calls between Prefectures



*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-3 Situation of Traffic of IP Phones

2-2-3-1 Trends in Number of Telephone Numbers in Use and Communications Traffic

	FY2018		FY2019		FY2020		FY2021		FY2022	
Total number of numbers in use (million numbers)	43.41	(2.0%)	44.13	(1.7%)	44.67	(1.2%)	45.35	(1.5%)	45.69	(0.8%)
(0ABJ-IP phone)	34.46	(2.4%)	35.21	(2.2%)	35.68	(1.3%)	35.94	(0.7%)	36.12	(0.5%)
(050-IP phone)	8.95	(0.4%)	8.92	(▲0.3%)	8.99	(0.7%)	9.41	(4.7%)	9.57	(1.7%)
Number of calls (billion calls)	16.53	(1.8%)	16.55	(0.1%)	15.47	(▲6.5%)	15.82	(2.3%)	15.83	(0.0%)
From IP phones to subscriber telephones, ISDN, IP phones, mobile phones, and PHS phones	16.40	(1.9%)	16.43	(0.2%)	15.35	(▲6.6%)	15.70	(2.3%)	15.70	(▲0.0%)
From fixed-line services to IP phones	0.13	(▲10.9%)	0.12	(▲8.9%)	0.12	(2.4%)	0.12	(5.4%)	0.13	(4.7%)
From mobile and PHS phones to IP phones	7.20	(2.1%)	7.23	(0.5%)	6.99	(▲3.4%)	7.17	(2.6%)	7.29	(1.6%)
Duration of calls (million hours)	488.5	(▲1.2%)	477.7	(▲2.2%)	471.2	(▲1.4%)	464.7	(▲1.4%)	454.2	(▲2.3%)
From IP phones to subscriber telephones, ISDN, IP phones, mobile phones, and PHS phones	483.9	(▲1.1%)	473.5	(▲2.1%)	466.9	(▲1.4%)	460.7	(▲1.3%)	449.9	(▲2.3%)
From fixed-line services to IP phones	4.7	(▲7.9%)	4.2	(▲10.0%)	4.3	(2.3%)	4.1	(▲5.1%)	4.2	(4.0%)
From mobile and PHS phones to IP phones	276.5	(7.9%)	303.2	(9.6%)	334.1	(10.2%)	355.0	(6.2%)	345.1	(▲2.8%)

Notes: Figures in parentheses indicate rates of increase/decrease over the previous fiscal year.

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-4 Situation of Traffic of Mobile and PHS Phones

2-2-4-1 Situation of Calls by Time Zone

2-2-4-1-1 Trends in Number of Calls by Time Zone

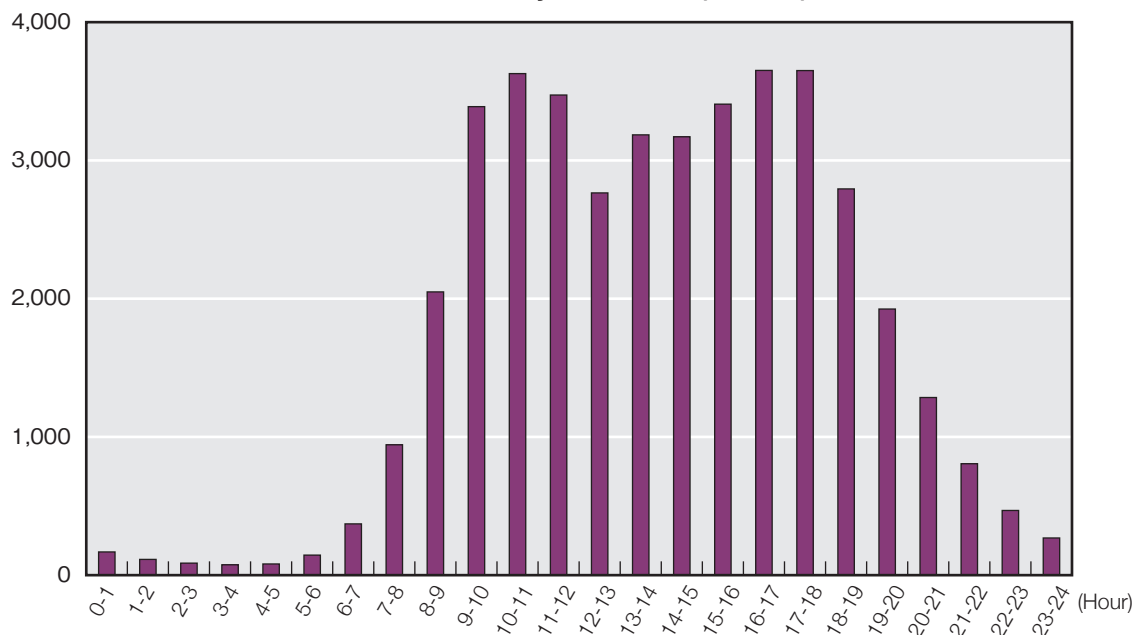
(Calls to and from mobile / PHS phones)

(Million calls)

Time Zone	FY2018	FY2019	FY2020	FY2021	FY2022
0-1	276	248	176	160	168
1-2	181	164	118	108	114
2-3	132	121	90	83	87
3-4	110	100	78	74	75
4-5	112	104	86	82	81
5-6	186	174	149	146	145
6-7	470	440	373	373	371
7-8	1,136	1,073	929	943	943
8-9	2,317	2,222	2,021	2,053	2,049
9-10	3,638	3,530	3,394	3,431	3,389
10-11	3,877	3,768	3,728	3,711	3,628
11-12	3,739	3,627	3,609	3,569	3,473
12-13	3,170	3,031	2,881	2,838	2,765
13-14	3,474	3,355	3,311	3,271	3,185
14-15	3,420	3,315	3,299	3,260	3,171
15-16	3,706	3,582	3,524	3,497	3,407
16-17	4,036	3,889	3,761	3,742	3,651
17-18	4,328	4,118	3,820	3,755	3,650
18-19	3,586	3,351	2,969	2,890	2,794
19-20	2,586	2,393	2,044	1,995	1,925
20-21	1,824	1,670	1,375	1,334	1,285
21-22	1,224	1,107	857	819	806
22-23	753	679	497	464	468
23-24	447	400	289	263	269
Total	48,728	46,460	43,379	42,860	41,899

(Million calls)

Number of Calls by Time Zone (FY2022)



*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-4-1-2 Trends in Call Duration by Time Zone

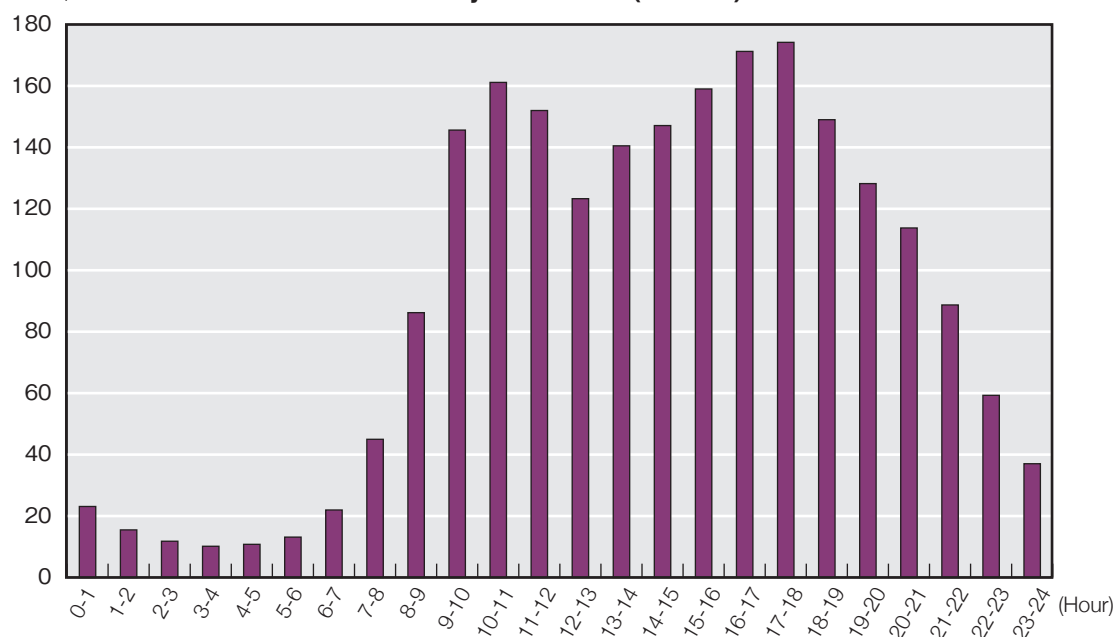
(Calls to and from mobile / PHS phones)

(Million hours)

Time Zone	FY2018	FY2019	FY2020	FY2021	FY2022
0-1	32.19	30.05	28.00	25.83	23.11
1-2	20.03	19.16	18.18	17.24	15.49
2-3	14.11	13.95	13.55	13.11	11.80
3-4	11.28	11.47	11.43	11.36	10.16
4-5	11.47	11.70	11.99	12.05	10.79
5-6	12.79	13.27	13.79	14.18	13.14
6-7	22.32	22.51	22.43	23.01	21.97
7-8	46.37	45.82	44.66	45.83	44.98
8-9	86.83	85.60	85.46	87.42	86.20
9-10	138.73	137.77	147.69	149.96	145.63
10-11	150.16	149.92	168.69	168.10	161.15
11-12	140.20	140.24	160.60	159.23	152.00
12-13	120.95	119.31	128.68	127.89	123.30
13-14	129.57	129.27	147.36	146.35	140.51
14-15	131.97	132.58	154.69	153.52	147.10
15-16	143.68	143.77	165.99	165.41	159.01
16-17	157.15	156.77	177.51	177.74	171.24
17-18	171.32	168.87	182.72	181.49	174.19
18-19	155.87	151.42	158.19	156.67	149.01
19-20	136.20	131.66	136.25	135.73	128.21
20-21	125.06	120.12	124.12	122.23	113.77
21-22	104.41	98.99	99.41	96.21	88.71
22-23	76.19	71.44	68.51	64.94	59.29
23-24	50.97	47.36	44.33	40.94	37.03
Total	2,189.83	2,153.00	2,314.22	2,296.47	2,187.80

(Million hours)

Duration by Time Zone (FY2022)



*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

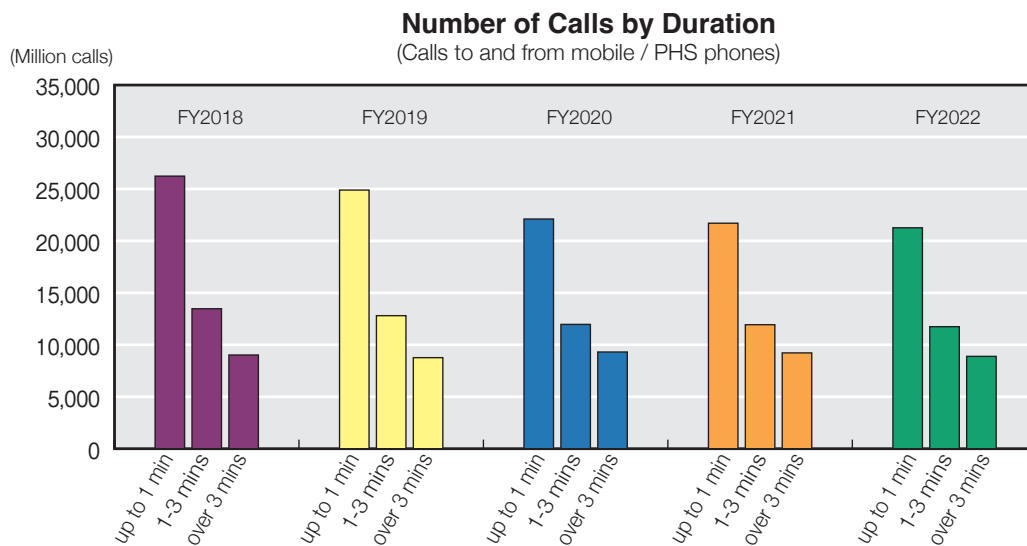
2-2-4-2 Situation of Number of Calls by Duration

2-2-4-2-1 Trends in Number of Calls by Duration

(Calls to and from mobile / PHS phones)

(Million calls)

Duration	FY2018	FY2019	FY2020	FY2021	FY2022
up to 1 min	26,235	24,894	22,107	21,704	21,265
1-3 mins	13,472	12,804	11,965	11,935	11,745
over 3 mins	9,020	8,763	9,309	9,221	8,888
Total	48,728	46,460	43,379	42,860	41,899



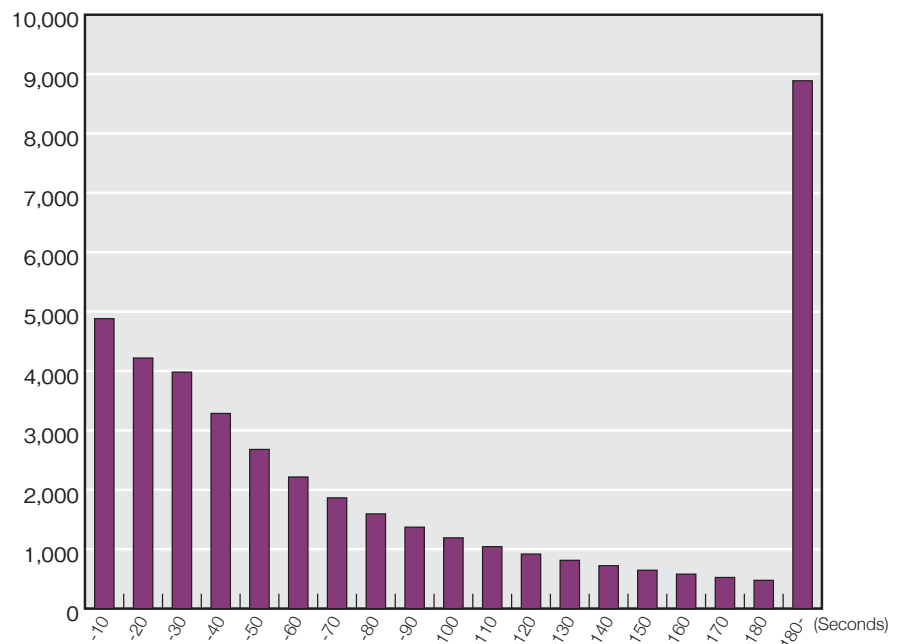
*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-4-2-2 Number of Calls by Duration (10-second steps) (FY2022)

(Million calls)

(Million calls)

Step	Calls to and from mobile/PHS phones
~ 10 sec.	4,882
~ 20 sec.	4,219
~ 30 sec.	3,982
~ 40 sec.	3,286
~ 50 sec.	2,680
~ 60 sec.	2,216
~ 70 sec.	1,865
~ 80 sec.	1,595
~ 90 sec.	1,371
~ 100sec.	1,192
~ 110sec.	1,043
~ 120sec.	918
~ 130sec.	813
~ 140sec.	722
~ 150sec.	646
~ 160sec.	580
~ 170sec.	524
~ 180sec.	476
180sec.~	8,888
Total	41,899



*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-4-3 Situation of Calls by Prefecture

2-2-4-3-1 Ranking of Number of Outgoing and Incoming Calls by Prefecture (FY2022)

(Million calls)

Ranking	Outgoing			Incoming		
	Pref.	No. of Outgoing	Ratio (%)	Pref.	No. of Incoming	Ratio (%)
1	Tokyo	5,233	12.7	Tokyo	5,727	13.9
2	Osaka	3,236	7.9	Osaka	3,191	7.8
3	Kanagawa	2,344	5.7	Kanagawa	2,290	5.6
4	Aichi	2,321	5.6	Aichi	2,278	5.5
5	Fukuoka	2,022	4.9	Fukuoka	2,014	4.9
6	Saitama	1,921	4.7	Saitama	1,855	4.5
7	Chiba	1,816	4.4	Chiba	1,825	4.4
8	Hyogo	1,616	3.9	Hokkaido	1,518	3.7
9	Hokkaido	1,548	3.8	Hyogo	1,516	3.7
10	Shizuoka	1,108	2.7	Shizuoka	1,096	2.7
11	Hiroshima	952	2.3	Hiroshima	943	2.3
12	Ibaraki	949	2.3	Ibaraki	930	2.3
13	Kyoto	832	2.0	Kyoto	820	2.0
14	Miyagi	737	1.8	Miyagi	733	1.8
15	Kumamoto	687	1.7	Kumamoto	681	1.7
16	Okayama	684	1.7	Okayama	676	1.6
17	Okinawa	677	1.6	Okinawa	652	1.6
18	Kagoshima	651	1.6	Kagoshima	650	1.6
19	Mie	631	1.5	Nagano	629	1.5
20	Tochigi	631	1.5	Niigata	626	1.5
21	Nagano	629	1.5	Tochigi	623	1.5
22	Niigata	627	1.5	Mie	623	1.5
23	Gunma	609	1.5	Gunma	605	1.5
24	Gifu	604	1.5	Fukushima	598	1.5
25	Fukushima	592	1.4	Gifu	594	1.4
26	Ehime	479	1.2	Ehime	479	1.2
27	Nagasaki	465	1.1	Nagasaki	465	1.1
28	Oita	446	1.1	Oita	447	1.1
29	Yamaguchi	433	1.1	Yamaguchi	431	1.0
30	Shiga	420	1.0	Shiga	413	1.0
31	Miyazaki	408	1.0	Miyazaki	409	1.0
32	Nara	383	0.9	Nara	377	0.9
33	Kagawa	353	0.9	Kagawa	353	0.9
34	Ishikawa	352	0.9	Ishikawa	353	0.9
35	Wakayama	346	0.8	Wakayama	344	0.8
36	Aomori	328	0.8	Aomori	328	0.8
37	Yamagata	323	0.8	Yamagata	321	0.8
38	Iwate	320	0.8	Iwate	319	0.8
39	Saga	313	0.8	Yamanashi	310	0.8
40	Yamanashi	313	0.8	Saga	301	0.7
41	Toyama	289	0.7	Toyama	289	0.7
42	Kochi	274	0.7	Kochi	273	0.7
43	Akita	270	0.7	Akita	270	0.7
44	Tokushima	269	0.7	Tokushima	267	0.6
45	Fukui	257	0.6	Fukui	255	0.6
46	Shimane	209	0.5	Shimane	209	0.5
47	Tottori	180	0.4	Tottori	181	0.4
	Total	41,086	100.0	Total	41,086	100.0

Note: Compiled from data on calls to and from mobile and PHS phones.

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-4-3-2 Main Destination Prefectures by Originating Prefecture (FY2022)

Outgoing	Total number of outgoing calls (million)	Incoming									
		1		2		3		4		5	
		Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)
Hokkaido	1,548	Hokkaido	91.3	Tokyo	3.4	Kanagawa	0.6	Saitama	0.5	Chiba	0.5
Aomori	328	Aomori	87.2	Tokyo	2.8	Iwate	2.0	Miyagi	1.9	Akita	0.9
Iwate	320	Iwate	83.4	Miyagi	4.6	Tokyo	3.0	Aomori	2.1	Akita	1.2
Miyagi	737	Miyagi	81.6	Tokyo	4.3	Fukushima	2.5	Iwate	2.0	Yamagata	1.5
Akita	270	Akita	86.9	Tokyo	2.9	Miyagi	2.2	Iwate	1.5	Aomori	1.1
Yamagata	323	Yamagata	86.2	Miyagi	3.7	Tokyo	3.0	Fukushima	1.1	Akita	0.7
Fukushima	592	Fukushima	84.8	Tokyo	3.5	Miyagi	3.3	Ibaraki	1.2	Saitama	0.9
Ibaraku	949	Ibaraki	79.0	Tokyo	5.9	Chiba	4.4	Saitama	2.4	Tochigi	2.3
Tochigi	631	Tochigi	78.9	Tokyo	5.1	Ibaraki	3.5	Saitama	2.9	Gunma	2.8
Gunma	609	Gunma	80.0	Saitama	5.1	Tokyo	4.8	Tochigi	3.0	Kanagawa	1.0
Saitama	1,921	Saitama	69.1	Tokyo	16.6	Chiba	2.7	Kanagawa	2.1	Gunma	1.6
Chiba	1,816	Chiba	74.1	Tokyo	13.6	Saitama	2.6	Ibaraki	2.1	Kanagawa	2.0
Tokyo	5,233	Tokyo	71.6	Kanagawa	6.1	Saitama	5.0	Chiba	3.9	Osaka	1.7
Kanagawa	2,344	Kanagawa	73.3	Tokyo	15.5	Chiba	1.7	Saitama	1.6	Shizuoka	1.0
Niigata	627	Niigata	87.7	Tokyo	3.8	Saitama	1.0	Nagano	0.8	Kanagawa	0.7
Toyama	289	Toyama	84.5	Ishikawa	4.0	Tokyo	2.8	Osaka	1.1	Aichi	1.1
Ishikawa	352	Ishikawa	83.7	Toyama	3.2	Tokyo	2.8	Fukui	2.0	Osaka	1.5
Fukui	257	Fukui	84.9	Ishikawa	2.9	Tokyo	2.2	Osaka	1.9	Aichi	1.2
Yamanashi	313	Yamanashi	83.4	Tokyo	6.1	Kanagawa	2.1	Nagano	1.6	Shizuoka	1.5
Nagano	629	Nagano	85.8	Tokyo	4.1	Aichi	1.2	Saitama	1.0	Kanagawa	0.9
Gifu	604	Gifu	77.7	Aichi	11.5	Tokyo	2.5	Chiba	1.1	Osaka	1.1
Shizuoka	1,108	Shizuoka	84.3	Tokyo	4.6	Aichi	3.0	Kanagawa	2.0	Osaka	0.8
Aichi	2,321	Aichi	82.8	Tokyo	4.2	Gifu	3.0	Mie	1.7	Osaka	1.4
Mie	631	Mie	82.2	Aichi	6.5	Tokyo	2.2	Osaka	1.9	Gifu	0.9
Shiga	420	Shiga	76.0	Kyoto	6.1	Osaka	5.4	Tokyo	2.6	Aichi	1.4
Kyoto	832	Kyoto	75.5	Osaka	8.4	Tokyo	3.4	Shiga	3.0	Hyogo	2.2
Osaka	3,236	Osaka	76.7	Tokyo	5.3	Hyogo	4.5	Kyoto	2.1	Nara	1.5
Hyogo	1,616	Hyogo	75.1	Osaka	12.3	Tokyo	3.5	Kyoto	1.2	Chiba	1.0
Nara	383	Nara	72.8	Osaka	12.5	Tokyo	3.5	Kyoto	2.9	Hyogo	1.6
Wakayama	346	Wakayama	83.7	Osaka	7.7	Tokyo	1.9	Nara	1.1	Hyogo	1.0
Tottori	180	Tottori	83.4	Shimane	4.4	Okayama	1.9	Tokyo	1.8	Osaka	1.6
Shimane	209	Shimane	83.9	Tottori	3.8	Hiroshima	3.4	Tokyo	1.7	Osaka	1.3
Okayama	684	Okayama	84.1	Hiroshima	3.5	Tokyo	2.4	Osaka	1.8	Hyogo	1.5
Hiroshima	952	Hiroshima	83.9	Tokyo	2.8	Okayama	2.4	Yamaguchi	1.9	Osaka	1.5
Yamaguchi	433	Yamaguchi	83.4	Hiroshima	4.1	Fukuoka	3.8	Tokyo	2.2	Osaka	1.0
Tokushima	269	Tokushima	86.3	Kagawa	2.9	Tokyo	1.8	Osaka	1.8	Hyogo	1.3
Kagawa	353	Kagawa	82.6	Ehime	2.6	Tokyo	2.3	Tokushima	2.0	Osaka	1.8
Ehime	479	Ehime	86.6	Tokyo	2.2	Kagawa	2.1	Osaka	1.4	Hiroshima	1.3
Kochi	274	Kochi	88.7	Tokyo	1.8	Ehime	1.8	Kagawa	1.5	Osaka	1.3
Fukuoka	2,022	Fukuoka	83.9	Tokyo	2.9	Saga	1.9	Kumamoto	1.6	Oita	1.4
Saga	313	Saga	73.6	Fukuoka	15.5	Nagasaki	3.1	Tokyo	1.8	Kumamoto	1.0
Nagasaki	465	Nagasaki	86.4	Fukuoka	4.5	Saga	2.0	Tokyo	1.8	Kumamoto	0.8
Kumamoto	687	Kumamoto	85.6	Fukuoka	5.0	Tokyo	2.1	Kagoshima	1.2	Miyazaki	0.8
Oita	446	Oita	85.9	Fukuoka	5.7	Tokyo	1.9	Kumamoto	1.0	Miyazaki	0.7
Miyazaki	408	Miyazaki	86.9	Kagoshima	3.0	Fukuoka	2.4	Tokyo	1.9	Kumamoto	1.3
Kagoshima	651	Kagoshima	88.0	Fukuoka	2.3	Miyazaki	2.1	Tokyo	1.9	Kumamoto	1.2
Okinawa	677	Okinawa	89.7	Tokyo	4.9	Fukuoka	0.9	Osaka	0.7	Kanagawa	0.5

Note: Compiled from data on calls to and from mobile and PHS phones.

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-4-3-3 Main Originating Prefectures by Destination Prefecture (FY2022)

Incoming	Total number of Incoming calls (million)	Outgoing									
		1		2		3		4		5	
		Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)
Hokkaido	1,518	Hokkaido	93.2	Tokyo	2.2	Kanagawa	0.5	Osaka	0.4	Saitama	0.4
Aomori	328	Aomori	87.1	Tokyo	2.3	Iwate	2.0	Miyagi	1.9	Akita	0.9
Iwate	319	Iwate	83.6	Miyagi	4.5	Tokyo	2.4	Aomori	2.1	Akita	1.2
Miyagi	733	Miyagi	82.1	Tokyo	3.2	Fukushima	2.6	Iwate	2.0	Yamagata	1.6
Akita	270	Akita	87.1	Tokyo	2.4	Miyagi	2.0	Iwate	1.5	Aomori	1.1
Yamagata	321	Yamagata	86.6	Miyagi	3.5	Tokyo	2.3	Fukushima	1.1	Kanagawa	0.8
Fukushima	598	Fukushima	83.9	Tokyo	3.2	Miyagi	3.1	Ibaraki	1.3	Saitama	1.1
Ibaraki	930	Ibaraki	80.6	Tokyo	4.7	Chiba	4.0	Saitama	2.4	Tochigi	2.4
Tochigi	623	Tochigi	79.8	Tokyo	3.9	Ibaraki	3.5	Saitama	3.0	Gunma	3.0
Gunma	605	Gunma	80.5	Saitama	5.2	Tokyo	4.0	Tochigi	2.9	Kanagawa	1.0
Saitama	1,855	Saitama	71.5	Tokyo	14.2	Chiba	2.6	Kanagawa	2.1	Gunma	1.7
Chiba	1,825	Chiba	73.7	Tokyo	11.3	Saitama	2.9	Ibaraki	2.3	Kanagawa	2.2
Tokyo	5,727	Tokyo	65.4	Kanagawa	6.3	Saitama	5.6	Chiba	4.3	Osaka	3.0
Kanagawa	2,290	Kanagawa	75.0	Tokyo	13.8	Saitama	1.8	Chiba	1.6	Shizuoka	1.0
Niigata	626	Niigata	87.9	Tokyo	3.1	Saitama	1.1	Nagano	0.8	Kanagawa	0.8
Toyama	289	Toyama	84.3	Ishikawa	3.9	Tokyo	2.5	Osaka	1.3	Aichi	1.1
Ishikawa	353	Ishikawa	83.6	Toyama	3.3	Tokyo	2.2	Fukui	2.1	Osaka	1.6
Fukui	255	Fukui	85.4	Ishikawa	2.7	Osaka	1.9	Tokyo	1.8	Aichi	1.2
Yamanashi	310	Yamanashi	84.1	Tokyo	5.4	Kanagawa	2.2	Nagano	1.5	Shizuoka	1.5
Nagano	629	Nagano	85.7	Tokyo	3.6	Aichi	1.3	Saitama	1.0	Kanagawa	1.0
Gifu	594	Gifu	78.9	Aichi	11.5	Tokyo	1.8	Osaka	1.1	Mie	1.0
Shizuoka	1,096	Shizuoka	85.3	Tokyo	3.4	Aichi	2.9	Kanagawa	2.1	Osaka	1.0
Aichi	2,278	Aichi	84.4	Gifu	3.1	Tokyo	2.3	Mie	1.8	Shizuoka	1.5
Mie	623	Mie	83.3	Aichi	6.2	Osaka	1.9	Tokyo	1.6	Gifu	0.9
Shiga	413	Shiga	77.5	Kyoto	6.0	Osaka	5.2	Tokyo	1.6	Hyogo	1.4
Kyoto	820	Kyoto	76.6	Osaka	8.2	Shiga	3.1	Hyogo	2.3	Tokyo	2.1
Osaka	3,191	Osaka	77.8	Hyogo	6.2	Tokyo	2.9	Kyoto	2.2	Nara	1.5
Hyogo	1,516	Hyogo	80.0	Osaka	9.5	Tokyo	1.9	Kyoto	1.2	Okayama	0.7
Nara	377	Nara	73.9	Osaka	12.8	Kyoto	3.0	Hyogo	1.7	Tokyo	1.6
Wakayama	344	Wakayama	84.4	Osaka	7.4	Tokyo	1.2	Hyogo	1.2	Nara	1.1
Tottori	181	Tottori	83.0	Shimane	4.4	Okayama	2.0	Osaka	1.9	Tokyo	1.8
Shimane	209	Shimane	83.7	Tottori	3.8	Hiroshima	3.3	Tokyo	1.6	Osaka	1.5
Okayama	676	Okayama	85.0	Hiroshima	3.4	Osaka	2.0	Tokyo	1.6	Hyogo	1.6
Hiroshima	943	Hiroshima	84.8	Okayama	2.6	Yamaguchi	1.9	Tokyo	1.7	Osaka	1.6
Yamaguchi	431	Yamaguchi	83.7	Hiroshima	4.3	Fukuoka	3.8	Tokyo	1.5	Osaka	1.1
Tokushima	267	Tokushima	87.0	Kagawa	2.7	Osaka	1.9	Hyogo	1.4	Tokyo	1.3
Kagawa	353	Kagawa	82.6	Ehime	2.8	Tokushima	2.2	Osaka	1.9	Tokyo	1.8
Ehime	479	Ehime	86.6	Tokyo	2.2	Kagawa	1.9	Osaka	1.5	Hiroshima	1.3
Kochi	273	Kochi	89.0	Ehime	1.8	Tokyo	1.4	Osaka	1.4	Kagawa	1.3
Fukuoka	2,014	Fukuoka	84.2	Saga	2.4	Tokyo	2.0	Kumamoto	1.7	Oita	1.3
Saga	301	Saga	76.7	Fukuoka	12.7	Nagasaki	3.1	Tokyo	1.5	Kumamoto	1.0
Nagasaki	465	Nagasaki	86.5	Fukuoka	4.4	Saga	2.1	Tokyo	1.5	Kumamoto	0.8
Kumamoto	681	Kumamoto	86.4	Fukuoka	4.8	Tokyo	1.4	Kagoshima	1.2	Miyazaki	0.8
Oita	447	Oita	85.7	Fukuoka	6.2	Tokyo	1.4	Kumamoto	1.1	Miyazaki	0.7
Miyazaki	409	Miyazaki	86.7	Kagoshima	3.3	Fukuoka	2.2	Tokyo	1.6	Kumamoto	1.3
Kagoshima	650	Kagoshima	88.1	Fukuoka	2.1	Miyazaki	1.9	Tokyo	1.6	Kumamoto	1.3
Okinawa	652	Okinawa	93.3	Tokyo	1.8	Fukuoka	0.8	Osaka	0.6	Kanagawa	0.5

Note: Compiled from data on calls to and from mobile and PHS phones.

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-5 Situation of Traffic of International Telephone Services

2-2-5-1 Trends in Number and Duration of International Telephone Calls

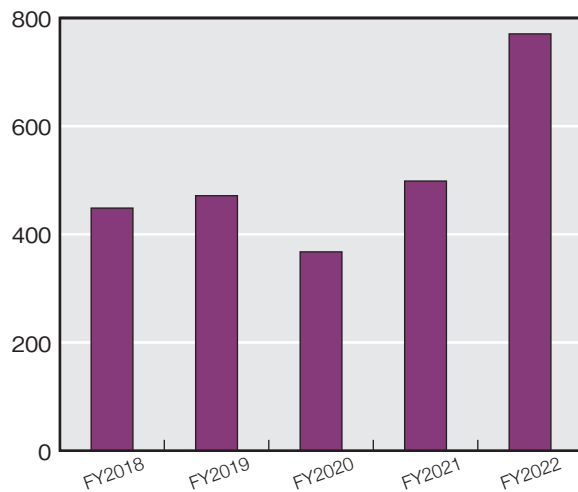
(Million calls, Million minutes)

Category		FY2018	FY2019	FY2020	FY2021	FY2022
Number of Calls	Outgoing	159.1	137.9	50.0	36.4	38.8
	Incoming	289.3	333.5	317.6	462.0	731.9
	Total	448.5	471.4	367.6	498.5	770.6
Duration of calls	Outgoing	594.3	496.5	258.5	174.2	161.1
	Incoming	750.9	661.1	527.1	520.9	485.9
	Total	1,345.2	1,157.6	785.7	695.2	647.0

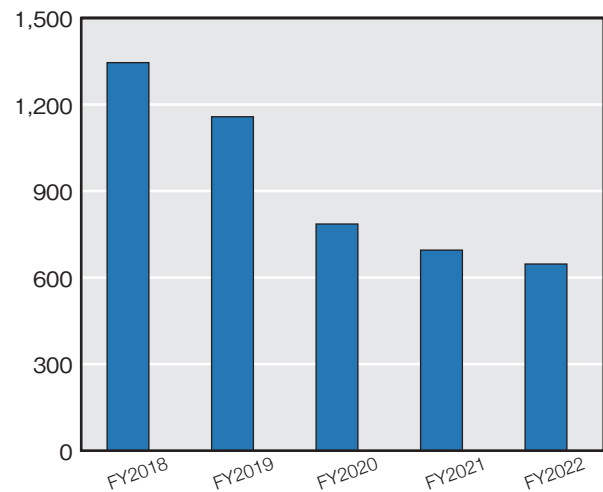
*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

Trend in Number of Calls (Terminal Total)

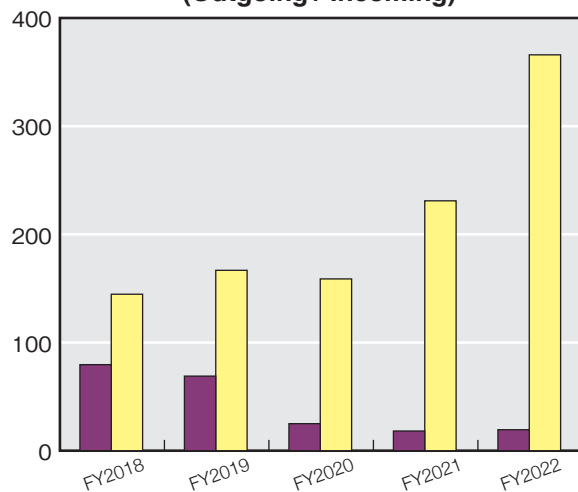
(Million calls)

**Trend in Duration of Calls (Terminal Total)**

(Million minutes)

**Trends in Number of Calls (Outgoing / Incoming)**

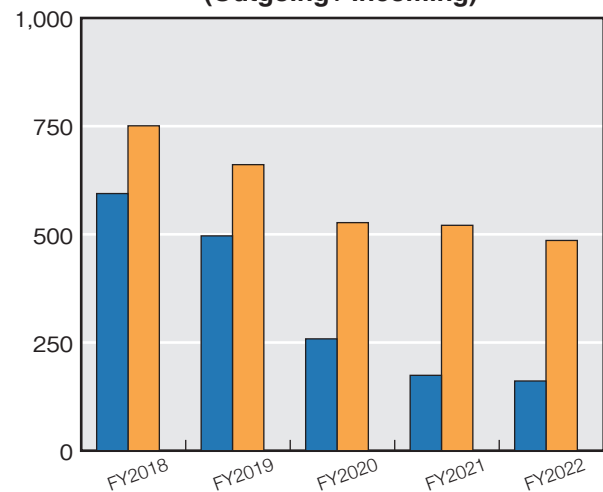
(Million calls)



Legend ■ Outgoing ■ Incoming

Trends in Duration of Calls (Outgoing / Incoming)

(Million minutes)



Legend ■ Outgoing ■ Incoming

2-2-5-2 Situation of Duration of International Calls by Country/Region (Top Countries/Regions Shown)

2-2-5-2-1 Trends in Share of Outgoing Call Duration by Country/Region

Ranking	FY2018		FY2019		FY2020		FY2021		FY2022	
1	U.S.A. (mainland)	19.33%	U.S.A. (mainland)	19.83%	U.S.A. (mainland)	35.13%	U.S.A. (mainland)	33.04%	U.S.A. (mainland)	34.28%
2	China	17.75%	Hong Kong	19.19%	China	16.15%	China	17.07%	China	14.45%
3	Hong Kong	15.84%	China	16.46%	Hong Kong	8.86%	Korea	7.09%	Korea	7.56%
4	Philippines	6.36%	Korea	5.16%	Korea	6.26%	Hong Kong	4.53%	Hong Kong	3.51%
5	Korea	6.06%	Thailand	3.49%	Thailand	3.51%	Philippines	3.77%	Thailand	3.48%
6	Thailand	3.74%	Philippines	3.34%	Philippines	3.49%	Thailand	3.77%	Philippines	3.13%
7	Taiwan	3.19%	Taiwan	3.02%	Taiwan	3.20%	Bangladesh	3.38%	Taiwan	3.07%
8	Singapore	2.80%	Singapore	2.85%	Singapore	2.97%	Taiwan	3.36%	Eritrea	2.84%
9	India	2.49%	India	2.69%	U.K.	2.01%	Singapore	2.46%	Singapore	2.51%
10	Germany	1.80%	U.K.	2.01%	India	1.71%	U.K.	2.02%	U.K.	2.37%
11	U.K.	1.74%	Germany	1.98%	Germany	1.68%	Germany	1.58%	Bangladesh	2.29%
12	Macau	1.68%	Bangladesh	1.61%	France	1.30%	Vietnam	1.41%	Australia	2.09%
13	Vietnam	1.50%	Australia	1.60%	Vietnam	1.17%	France	1.40%	India	1.76%
14	France	1.42%	France	1.56%	Indonesia	1.13%	India	1.35%	Germany	1.70%
15	Australia	1.31%	Macau	1.47%	Australia	1.10%	Australia	1.19%	France	1.41%

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-5-2-2 Trends in Share of Incoming Call Duration by Country/Region

Ranking	FY2018		FY2019		FY2020		FY2021		FY2022	
1	China	22.43%	China	25.12%	U.S.A. (mainland)	27.52%	China	35.60%	U.S.A. (mainland)	32.68%
2	U.S.A. (mainland)	20.30%	U.S.A. (mainland)	20.12%	Korea	27.40%	Korea	29.32%	China	30.25%
3	Korea	18.48%	Korea	18.92%	China	26.51%	U.S.A. (mainland)	25.90%	Korea	28.09%
4	Hong Kong	12.73%	Hong Kong	14.03%	Hong Kong	3.17%	Hong Kong	0.93%	U.K.	2.51%
5	Canada	2.33%	Canada	3.16%	Canada	2.05%	Australia	0.86%	Hong Kong	0.72%
6	Singapore	2.14%	Singapore	2.45%	Australia	1.62%	U.K.	0.81%	Australia	0.65%
7	Luxembourg	1.75%	Taiwan	1.23%	Singapore	1.57%	Singapore	0.76%	Singapore	0.58%
8	France	1.73%	Australia	1.20%	Germany	1.38%	Taiwan	0.74%	UAE	0.53%
9	Taiwan	1.70%	Germany	1.15%	Thailand	0.96%	Thailand	0.53%	Indonesia	0.43%
10	Germany	1.66%	Macau	1.08%	Taiwan	0.91%	UAE	0.50%	Taiwan	0.42%
11	Malaysia	1.48%	Malaysia	1.06%	Malaysia	0.86%	Indonesia	0.47%	Malaysia	0.35%
12	Thailand	1.47%	Thailand	1.05%	Belgium	0.77%	Malaysia	0.44%	Germany	0.33%
13	Macau	1.30%	France	0.89%	U.K.	0.66%	Belgium	0.43%	Thailand	0.32%
14	Indonesia	1.24%	Iceland	0.77%	UAE	0.54%	Germany	0.38%	Vietnam	0.31%
15	Australia	1.11%	Indonesia	0.74%	Vietnam	0.53%	Vietnam	0.34%	Belgium	0.28%

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-5-2-3 Outgoing and Incoming Call Duration by Country/Region (FY2022)

Country/Region (descending order according to outgoing duration)	Outgoing from Japan						Incoming to Japan					
	Ranking in outgoing		Duration of outgoing (Million minutes)	Increase or decrease ratio over previous year (%)	Share (%)	Accumu- lated share (%)	Ranking in incoming		Duration of incoming (Million minutes)	Increase or decrease ratio over previous year (%)	Share (%)	Accumu- lated share (%)
	2022	2021					2022	2021				
U.S.A. (mainland)	1	(1)	55.2	▲43.91%	34.28%	34.28%	1	(3)	158.8	19.39%	32.68%	32.68%
China	2	(2)	23.3	▲71.51%	14.45%	48.74%	2	(1)	147.0	▲11.46%	30.25%	62.94%
Korea	3	(3)	12.2	▲52.51%	7.56%	56.29%	3	(2)	136.5	9.12%	28.09%	91.03%
Hong Kong	4	(4)	5.7	▲94.06%	3.51%	59.80%	5	(4)	3.5	▲96.21%	0.72%	91.75%
Thailand	5	(6)	5.6	▲67.64%	3.48%	63.29%	13	(9)	1.6	▲77.28%	0.32%	92.07%
Philippines	6	(5)	5.0	▲69.59%	3.13%	66.42%	16	(17)	0.9	▲62.85%	0.18%	92.26%
Taiwan	7	(8)	4.9	▲67.00%	3.07%	69.49%	10	(8)	2.0	▲74.86%	0.42%	92.68%
Eritrea	8	(163)	4.6	113357.53%	2.84%	72.33%	200	(184)	0.0	▲78.88%	0.00%	92.68%
Singapore	9	(9)	4.0	▲71.43%	2.51%	74.84%	7	(7)	2.8	▲82.54%	0.58%	93.26%
U.K	10	(10)	3.8	▲61.70%	2.37%	77.21%	4	(6)	12.2	171.35%	2.51%	95.77%
Bangladesh	11	(7)	3.7	▲53.89%	2.29%	79.49%	52	(47)	0.0	▲88.47%	0.00%	95.77%
Australia	12	(15)	3.4	▲57.73%	2.09%	81.58%	6	(5)	3.2	▲60.42%	0.65%	96.42%
India	13	(14)	2.8	▲78.73%	1.76%	83.34%	28	(24)	0.2	▲94.07%	0.04%	96.46%
Germany	14	(11)	2.7	▲72.15%	1.70%	85.04%	12	(14)	1.6	▲78.68%	0.33%	96.79%
France	15	(13)	2.3	▲70.79%	1.41%	86.45%	17	(16)	0.7	▲87.39%	0.15%	96.95%
Vietnam	16	(12)	2.1	▲68.95%	1.33%	87.78%	14	(15)	1.5	▲66.49%	0.31%	97.25%
Hawaii (U.S.A.)	17	(16)	2.1	▲49.32%	1.28%	89.05%	23	(22)	0.3	▲82.30%	0.06%	97.31%
Canada	18	(19)	1.9	▲49.46%	1.15%	90.20%	20	(18)	0.4	▲97.86%	0.09%	97.40%
Malaysia	19	(18)	1.8	▲60.83%	1.11%	91.31%	11	(12)	1.7	▲75.55%	0.35%	97.76%
Indonesia	20	(17)	1.6	▲73.63%	1.02%	92.33%	9	(11)	2.1	▲57.22%	0.43%	98.19%
Italy	21	(21)	1.0	▲66.49%	0.61%	92.95%	24	(26)	0.3	▲65.46%	0.06%	98.25%
Belgium	22	(20)	0.8	▲42.94%	0.50%	93.45%	15	(13)	1.4	▲61.48%	0.28%	98.53%
UAE	23	(24)	0.6	▲60.60%	0.39%	93.84%	8	(10)	2.6	▲31.69%	0.53%	99.06%
New Zealand	24	(32)	0.6	▲67.11%	0.34%	94.18%	22	(31)	0.3	▲87.67%	0.06%	99.12%
Brazil	25	(23)	0.5	▲78.32%	0.34%	94.52%	25	(27)	0.3	▲65.97%	0.05%	99.17%
Netherlands	26	(28)	0.5	▲70.18%	0.33%	94.85%	31	(33)	0.1	▲70.25%	0.03%	99.20%
Switzerland	27	(33)	0.5	▲62.58%	0.32%	95.17%	27	(25)	0.2	▲78.16%	0.04%	99.24%
Spain	28	(35)	0.4	▲67.47%	0.28%	95.45%	39	(32)	0.1	▲84.44%	0.01%	99.25%
Sri Lanka	29	(26)	0.4	▲70.63%	0.27%	95.72%	21	(20)	0.3	▲71.78%	0.07%	99.32%
Mexico	30	(30)	0.4	▲64.69%	0.25%	95.97%	19	(21)	0.4	▲62.48%	0.09%	99.42%
Total of other countries	—	—	6.5		4.03%	100.00%	—	—	2.8		0.58%	100.00%
Total of all countries/regions	—	—	161.1		—	—	—	—	485.9		—	—

*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-3 Movements of Services and Charges

2-3-1 Fixed Telephones

2-3-1-1 Progress of Rates

2-3-1-1-1 Progress of Telephone Rates of NTT(Rates do not include tax)

1985	A three-minute call to the longest distance zone covering over 320km cost ¥400.
July 1986	First reduction of rates after NTT privatization was implemented. The Saturday discount was introduced, which applied, as was the case with holidays and nighttime, 40% discount from the normal rates for weekdays.
February 1988	NTT reduced the longest distance rate for weekday daytime calls to a level of ¥360 for 3 minutes.
February 1989	NTT reduced the longest distance rate for weekday daytime calls to a level of ¥330 for 3 minutes. It also cut rates for calls to the adjacent distance zone and areas within a radius of 20km from a level of ¥30 to ¥20 for 3 minutes (First reduction for short-distance calls since 1972).
March 1990	NTT reduced the longest distance rate for weekday daytime calls to a level of ¥280 for 3 minutes. It also introduced late-night discounts for local, short- and middle-distance calls.
March 1991	Distance segments covering over 160km were consolidated into a single longest distance zone, and the longest distance rate for weekday daytime calls was reduced to a level of ¥240 for 3 minutes. NTT also reduced rates for weekday daytime calls to areas within 20-30km radiuses to a level of ¥40 for 3 minutes. Late-night discount time period was extended by two hours to cover from 11 p.m. to 8 a.m. in the next morning.
June 1992	NTT reduced the longest distance rate for weekday daytime calls to a level of ¥200 for 3 minutes.
October 1993	NTT streamlined the distance segments covering 30-100km to two from four steps, and reduced rates for portions exceeding 30km by ¥10-60. The longest distance rate for weekday daytime calls was reduced to a level of ¥180 for 3 minutes.
March 1996	The rate for longest distance calls was lowered to ¥140 per 3 minutes in the daytime on weekdays.
February 1997	The rate for long-distance calls over 100 km was lowered to ¥110 per 3 minutes in the daytime on weekdays.
February 1998	Distances of over 100km were incorporated into the longest distance rate zone, and the longest distance rate for weekday daytime calls was reduced to a level of ¥90 for 3 minutes.
July 1999	With the reorganization of NTT, NTT East and NTT West took charge of intra-prefecture calls, and NTT Communications took inter-prefectures calls.
October 2000	NTT East and West lowered the toll call rate over 20 km in distance. The rate per 3 minutes in the daytime on weekdays was lowered to ¥30 for 20 to 60 km, and to ¥40 for over 60 km.
January 2001	NTT East reduced the local call rates to ¥9 per 3 minutes.
May 2001	NTT East and West lowered the local call rate to ¥8.5 per 3 minutes both in the daytime and at night.
January 2024	NTT East and West began setting rates for inter-prefectural and international calls, in addition to intra-prefectural calls. The rate for both intra-prefectural and inter-prefectural calls became a flat 8.5 yen per 3 minutes.

2-3-1-1-2 Progress of Rates of Long-Distance and International NCCs(Rates do not include tax)

September 1987	Three new long-distance carriers started services. DDI CORPORATION, JAPAN TELECOM CO., LTD. and Teleway Japan Corporation started services. They offer charges about 25% below those of NTT. A 3-minute weekday daytime call to the longest distance zone of 340km cost ¥300 (in the case of NTT-established local portion charge being ¥20).
February 1988	These NCCs reduced evening and late-night rates, and introduced evening discounts into short-distance rates.
February 1989	Rates applicable to all the distance zones were reduced, bringing the longest distance rate for weekday daytime calls down to a level of ¥280 for 3 minutes.
March 1990	The longest distance rate for weekday daytime calls was reduced to a level of ¥240 for 3 minutes. Rates for calls to all the distance zones for evening, Saturdays, Sundays and holidays were reduced.
March 1991	Distance zones covering over 170km were consolidated into the longest distance zone, and the longest distance rate for weekday daytime calls was reduced to a level of ¥200 for 3 minutes. Evening, Saturday, Sunday, and holiday rates were also reduced.
April 1992	The longest distance rate for weekday daytime calls was reduced to a level of ¥180 for 3 minutes.
November 1993	In response to the introduction of the end-to-end charging (that was established by NCCs on an end-to-end basis for the entirety from the calling party through the called party including the local portion) in place of the add-on charging so far applied (total of the charge for trunk portion established by NCCs, and the charge for local portion established by NTT), an overall reduction of rates was implemented. As a result, the longest distance rate for weekday daytime calls was reduced to a level of ¥170 for 3 minutes. The late-night discount time zone (from 11 p.m. to 8 a.m. in the next morning) was established, and the distance zones covering from 60km up to 100km were combined from two to one.
April 1994	The charge for the end portion provided by NTT was changed from the user charge to the cost-based inter-carriers settlement charge (access charge).
March 1996	In response to the reduction of the inter-carrier settlement charges paid by NCCs to NTT relating to the local portion provided by NTT (so-called "access charge"), the longest distance (over 170km) rate for weekday daytime calls was reduced to a level of ¥130 for 3 minutes from ¥170. In addition, the distance zone for short-distance calls, which had been set up in terms of "up to 60km" was divided into two zones, "up to 30km" and "over 30km up to 60km", and the rate-cut was made for "up to 30km" weekday daytime calls, and "up to 30km" and "over 30km up to 60km" late-night and early morning calls.
February 1997	The longest distance rate for weekday daytime calls was reduced to a level of ¥100 for 3 minutes.
February 1998	The longest distance rate for weekday daytime calls was reduced to a level of ¥90 for 3 minutes (The reduction brought NCCs' rates to the same level as NTT's). The distance zones for the adjacent zone and the inside radius of 20km were established.
July 1998	KDD made a full-scaled inroad into domestic telephone markets, setting the longest distance rate for weekday daytime calls at a level of ¥69 for 3 minutes.
April 2000	Daytime and evening rates, etc to 20 - 30km and 30 - 60km distance zones were reduced NTT Communications reduced daytime and evening rates for calls to 30 - 60km and 60 - 100km distance zones, and evening and midnight rates for 60 - 100km and over 100km distance zones.
October 2000	KDD, DDI and IDO merged into KDDI. New Intra-prefecture rates were established at a level of ¥40 for 3-minute weekday daytime call to the 60km or longer distance zone.

December 2000	C&W IDC fully entered the local domestic telephone market, and started the service setting, at a level of ¥45, its remotest distance rate applicable to 3-minute calls of 100km or longer distances for all day.
March 2001	The rate to the remotest distance zone was reduced to a level of ¥80 for 3-minute weekday daytime call, and the rate applicable to the 60-100km distance zone to a level of ¥60 for 3-minute weekday daytime call. NTT Communications reduced rates applicable to the 20 - 30km distance zone for all day, the 30 - 60km distance zone during evening and midnight, the 60 - 100km distance zone during midnight, and the more than 100km distance zone during daytime and midnight.
April 2001	Fusion Communications started IP telephone service, establishing its rate at ¥20 for 3-minute irrespective of distance throughout Japan.
May 2001	NTT Communications entered the local call market in Tokyo, Aichi, and Osaka. The rate is ¥8.5 per 3 minutes. KDDI and Japan Telecom entered the local call market. Their local call rate is ¥8.5 for 3-minute weekday daytime call.
December 2004	Japan Telecom started "OTOKU Line" fixed telephone service.
February 2005	KDDI started "Metal Plus" telephone service.
June 2006	Japan Telecom Co. Ltd. took over telecommunications business from Heisei Denden Corp. and Heisei Denden Communications Corp.
October 2006	Japan Telecom Co. Ltd. changed its company name to SoftBank Telecom Corp.
April 2015	SoftBank Mobile Corp., SoftBank BB Corp., SoftBank Telecom Corp., and Ymobile Corporation merged together to form SoftBank Mobile Corp.
July 2015	SoftBank Mobile Corp. changed its company name to SoftBank Corp.
December 2015	Fusion Communications Corp. changed its company name to Rakuten Communications Corp.
June 2016	KDDI terminated its "Metal Plus" telephone service.
July 2019	Rakuten Communications Corp. transferred its domestic telephone service (MYLINE) and the Rakuten Denwa phone service to Rakuten Mobile, Inc. through a company split.
January 2024	With the transition of the relay network system to being IP-based, KDDI and SoftBank discontinued their MyLine services and began providing call service wholesale.

2-3-1-1-3 Progress of Rates of Regional and Cable TV Operators(Rates do not include tax)

May 1988	Tokyo Telecommunication Network Company Inc. (called TTNNet hereafter, later reformed to the present Poweredcom), a regional common carrier, started direct subscriber telephone service.
June 1997	Cable TV operator, TITUS COMMUNICATIONS CORPORATION, started subscriber telephone services. For call billing the Hudson charging method in units of 20 seconds was introduced.
July 1997	Suginami Cable TV Co., Ltd. (currently J-COM Tokyo) started subscriber telephone services.
January 1998	TTNet started relay telephone services with the rate of ¥9 for 3 minutes intra-zone calls, and the longest distance rate set at ¥72 for 3 minutes on weekday daytime calls.
March 1998	TTNet reduced the longest distance rate for weekday daytime calls to a level of ¥63 for 3 minutes.
April 1999	Kyushu Telecommunication Network Co., LTD. (hereafter, QTNNet) started relay telephone services with the rate of ¥9 for intra-zone calls for 3 minutes on weekdays during the daytime, and ¥70 for the longest distance.
May 2000	TTNet reduced the rate for 3-minute weekday daytime call to 60 - 100km distance zone from ¥54 to ¥45.

November 2000	QTNNet established new intra-prefecture rate, setting weekday daytime rate for call to a 60km or longer distance zone at a level of ¥27 for 3-minute.
May 2001	TTNet reduced the charges for calls to all the distance zones. The charge applicable to the remotest distance zone was reduced to a level of ¥54 for 3-minute daytime call, ¥36 for 3-minute daytime call to a 60 -100km distance zone, and ¥8.4 for local calls, respectively. QTNNet reduced the rate for intra-zone calls to ¥8.4 for three minutes during the day on weekdays.
April 2003	POWEREDCOM merged with TTNet, and the new company was named POWEREDCOM, Inc.
July 2004	The telephone business of POWEREDCOM is merged with FUSION COMMUNICATIONS CORP.
June 2018	QTNNet (formerly Kyushu Telecommunication Network) terminated its relay telephone services.
April 2019	K-Opticom Corporation changed its company name to OPTAGE Inc.

2-3-1-1-4 Progress of ISDN Service Provision

April 1988	NTT inaugurated ISDN service.
October 1995	Osaka Media Port and Shikoku Information and Telecommunication Network inaugurated ISDN service.
February 1996	NTT started "INS Telehodai", a fixed rate service to selected telephone numbers in the midnight to early morning time zone.
March 1996	HOKKAIDO TELECOMMUNICATION NETWORK and Tohoku Intelligent Telecommunication inaugurated ISDN service.
April 1996	Chubu Telecommunications inaugurated ISDN service.
April 1997	TTNet and QTNNet inaugurated ISDN service.
July 1997	NTT inaugurated ISDN service free of the facilities installation charge, "INS Net 64 Lite".
October 1997	Chugoku Telecommunication Network inaugurated ISDN service.
December 1997	Osaka Media Port started interconnection with NTT.
July 2000	NTT East and NTT West inaugurated fixed rate IP connection service, "FLET'S ISDN".
July 2003	Chugoku Telecommunication Network merged with Chugoku Information System Service and reorganized as Energia Communications.
April 2010	Tohoku Intelligent Telecommunication terminated ISDN service.
March 2011	Energia Communications terminated ISDN service.
December 2013	QTNNet terminated its ISDN service.

• Changes in NTT's Call Rates (for a 3-minute weekday daytime call)

(Tax not included)

Time of Revision		Number of Distance Zone	Within Zone	Adjacent Zone up to 20km	-30km	-40km	-60km	-80km	-100km	-120km	-160km	-240km	-320km	-500km	-750km	Over 750km
Before Aug. 1983		14	10	30	50	60	90	120	140	180	230	280	360	450	600	720
Aug. 1983		14	10	30	50	60	90	120	140	180	230	280	360	450	520	600
Jul. 1985		12	10	30	50	60	90	120	140	180	230	280	360	400		
Jul. 1986		10	10	30	50	60	90	120	140	180		260		400		
Feb. 1988		10	10	30	50	60	90	120	140	180		260		360		
Feb. 1989		10	10	30	50	60	90	120	140	180		260		330		
Mar. 1990		10	10	30	50	60	90	120	140	180		260		280		
Mar. 1991		9	10	30	40	60	90	120	140	180		240				
Jun. 1992		9	10	30	40	60	90	120	140	180		200				
Oct. 1993		7	10	30	40	50		80		140		180				
Mar. 1996		6	10	30	40	50		80		140						
Feb. 1997		6	10	30	40	50		80		110						
Feb. 1998		6	10	30	40	50		80		90						
Inter-Prefer.)	NTT Com	Apr. 2000	—	—	20	40			70		90					
		Mar. 2001	—	—	20	40			60		80					
Intra-Prefer.)	NTT East & West	Oct. 2000	—	10	20	30			40							
		Jan. 2001	—	9 *	20	30			40							
May. 2001		—	8.5	20	30			40								
Jan. 2024		8.5														

Shadowed columns are revised. *In January 2001 only NTT East reduced the local call rates.

[Discount System by Day of the Week and Time Zone]

Nov. 1980	<ul style="list-style-type: none"> • Expansion of evening discount system • Establishment of midnight discount system <ul style="list-style-type: none"> • 60% discount for calls to more-than-320km zones • 9p.m. - 6a.m.
Aug. 1981	<ul style="list-style-type: none"> • Establishment of Sunday/Holiday discount system <ul style="list-style-type: none"> • 40% discount for Sunday/Holiday daytime calls to more-than-60km zones
Jul. 1986	<ul style="list-style-type: none"> • Establishment of Saturday discount system <ul style="list-style-type: none"> • 40% discount for Saturday daytime calls to more-than-60km zones
Mar. 1990	<ul style="list-style-type: none"> • Expansion of midnight discount system <ul style="list-style-type: none"> • 25% discount for intra-zone and short-distance calls • 45% discount for medium- and long-distance calls • 11p.m. - 6a.m.
Mar. 1991	<ul style="list-style-type: none"> • Expansion of midnight discount system <ul style="list-style-type: none"> • 11p.m. - 8a.m.
Oct. 1993	<ul style="list-style-type: none"> • Expansion of midnight discount rate <ul style="list-style-type: none"> • 50 - 55% discount for medium- and long-distance calls
Oct. 2000	<ul style="list-style-type: none"> • Expansion of midnight discount system <ul style="list-style-type: none"> • 20% discount for calls to 20 - 60km section

2-3-2 Mobile Phones

2-3-2-1 Progress of Service Provision and Movements of Carriers — Mobile Phones

December 1979	NTT Public Corp. inaugurated automobile telephone service in 23 Tokyo Metropolitan wards.
April 1987	NTT inaugurated cellular telephone service.
December 1988	Nippon Idou Tsushin Corp. (IDO) inaugurated mobile services based on the NTT large-capacity system.
July 1989	KANSAI CELLULAR TELEPHONE COMPANY inaugurated mobile services based on the TACS system.
July 1992	NTT split up its mobile communications business division, establishing NTT Mobile Communications Network, Inc. (NTT DOCOMO).
March 1993	NTT DOCOMO inaugurated mobile services based on the 800MHz band PDC system.
July 1993	NTT DOCOMO was regionally divided into 9 regional companies under the one-region-one-company system.
October 1993	NTT DOCOMO abolished the deposit money (¥100,000) system.
April 1994	The mobile terminal COAM (Customer Owned and Maintained) system was introduced. Tokyo Digital Phone Co., Ltd. and TU-KA Phone Kansai Co., Ltd. inaugurated mobile services based on the 1.5GHz band PDC system. NTT DOCOMO inaugurated mobile services based on the 1.5GHz band PDC system in Tokyo Metropolitan 23 wards.
June 1994	IDO inaugurated mobile services based on the TACS system.
January 1996	Digital TU-KA Kyushu Co., Ltd. inaugurated mobile services based on the 1.5GHz band PDC system.
December 1996	The prior notification system of mobile communications rate was started. The new subscription fee was abolished.
March 1997	NTT DOCOMO inaugurated packet communications service, “DoPa.”
July 1998	DDI Cellular Group started “cdmaOne” service in Kansai, Kyushu and Okinawa.
October 1998	TU-KA Phone Kansai Co., Ltd. inaugurated prepaid cellular telephone service.
January 1999	The 11-digit numbering system was introduced to the mobile telephone service.
February 1999	NTT DOCOMO inaugurated Internet connection service, “i-mode.”
March 1999	NTT DOCOMO and IDO terminated mobile services based on the NTT large-capacity system.
April 1999	DDI Cellular Group and IDO extended service areas of “cdmaOne” to cover the whole nation, and inaugurated Internet connection service, “EZweb/EZaccess.”
December 1999	J-Phone Group inaugurated Internet connection service, “J-Sky.”
January 2000	DDI Cellular Group and IDO inaugurated packet communications service, “PacketOne.”
April 2000	DDI Cellular Group and IDO started international roaming service “GLOBAL PASSPORT”.
September 2000	DDI Cellular Group and IDO terminated mobile services based on the TACS system.
October 2000	DDI, KDD and IDO merged as DDI CORPORATION (KDDI). Nine J-Phone Group companies are merged for reorganization into J-Phone East Co., Ltd., J-Phone Central Co., Ltd. and J-Phone West Co., Ltd.
November 2000	Seven companies excluding OKINAWA CELLULAR TELEPHONE of DDI Cellular Group merged as au Corp.
October 2001	KDDI merged with au.
October 2001	NTT DOCOMO started full-scale services for IMT-2000 based on the W-CDMA system.

November 2001	J-Phone Co. Ltd. as the holding company merged with J-Phone East Co., Ltd., J-Phone Central Co., Ltd. and J-Phone West Co., Ltd., and the new company was named J-Phone Co., Ltd.
November 2001	KDDI and Okinawa Cellular Telephone Company launched the cellular telephone with GPS navigation function for the first time in the Japanese market.
April 2002	KDDI and Okinawa Cellular Telephone Company started CDMA2000 1x service.
December 2002	J-Phone Co., Ltd. started 3G service using 3GPP-based W-CDMA system, and international roaming with GSM-based networks.
June 2003	NTT DOCOMO started international roaming with GSM-based networks.
October 2003	J-Phone Co., Ltd. was renamed as Vodafone K.K.
October 2003	Vodafone inaugurated "Vodafone live!" as the 3G Internet connection service, which is also available at overseas locations.
November 2003	KDDI and Okinawa Cellular Telephone Company launched CDMA 1X WIN service.
January 2004	NTT DOCOMO inaugurated "i mode Disaster Message Board Service".
May 2004	KDDI and Okinawa Cellular Telephone launched CDMA-based international data roaming services.
July 2004	NTT DOCOMO started to provide "i-mode FeliCa" service.
October 2004	Vodafone Holdings K.K. and Vodafone K.K. were merged into new Vodafone K.K.
December 2004	Vodafone launched international video telephone roaming services.
December 2004	NTT DOCOMO launched W-CDMA type 3G mobile network services based on 3GPP, packet roaming services with GSM (GPRS) networks to make overseas i-mode connection possible, and international video telephone roaming services.
September 2005	KDDI and Okinawa Cellular Telephone Company started to provide "EZ FeliCa" service.
September 2005	KDDI and Okinawa Cellular Telephone Company started au IC card service and international roaming with GSM-based networks.
September 2005	Vodafone started 3G data card international roaming service.
September 2005	NTT DOCOMO started to provide the "i-channel" service based on "Flash Cast".
October 2005	KDDI merged with three Tu-Ka companies.
October 2005	Vodafone launched "Vodafone live! NAVI", a new navigation service allowing use of network-assisted GPS function not only in Japan but also abroad.
November 2005	Vodafone started to provide "Vodafone live! NAVI".
November 2005	NTT DOCOMO started to provide "Push-talk" voice communication service making use of the packet network.
November 2005	KDDI and Okinawa Cellular Telephone Company started "Hello Messenger" service.
November 2005	EMOBILE Ltd. received a radio frequency license for the 1.7GHz frequency band from the Ministry of Internal Affairs and Communications and entered into mobile phone business based on the W-CDMA system.
December 2005	KDDI and Okinawa Cellular Telephone Company launched the terminal compatible with "One-Seg" ground digital telecasting service for mobile and cellular telephones.
December 2005	NTT DOCOMO started to provide a new mobile credit brand "iD".
January 2006	KDDI and Okinawa Cellular Telephone started to provide "au LISTEN MOBILE SERVICE (LISMO)".
March 2006	NTT DOCOMO launched mobile telephone terminals conforming to the one segment terrestrial digital TV service.
April 2006	NTT DOCOMO started to provide "DCMX" credit service.
April 2006	Vodafone joined the SoftBank group.
May 2006	Vodafone released a cellular phone terminal conforming to the one-segment terrestrial

	digital TV service.
August 2006	NTT DOCOMO launched “HSDPA” conforming to high-speed packet communications. NTT DOCOMO started to provide the “music channel” service.
September 2006	KDDI and Okinawa Cellular started “EZ Channel Plus” and “EZ News Flash” utilizing the “BCMCS”.
October 2006	Vodafone changed its company name to SoftBank Mobile Corp. SoftBank Mobile started a new portal site “Yahoo! Keitai”. SoftBank Mobile launched “3G high speed”.
October 2006	Three cellular phone companies started a mobile number portability system.
December 2006	KDDI and Okinawa Cellular Telephone started “EV-DO Rev.A” service.
March 2007	EMOBILE started the “EM mobile broadband” HSDPA data communication service.
May 2007	NTT DOCOMO started to provide the “2in1” service, where a single mobile phone unit has the functions of two mobile phone units.
December 2007	NTT DOCOMO started to provide the “Area Mail” service.
March 2008	KDDI terminated its Tu-Ka service. KDDI and Okinawa Cellular Telephone Company started GSM-based international data-roaming service.
March 2008	EMOBILE started voice communication service based on W-CDMA, and the “EMnet” internet connection service for cellular phone terminals.
June 2008	NTT DOCOMO started to provide the “Home U” service, which allows the use of mobile phones in a broadband environment such as in the home.
July 2008	SoftBank Mobile started to provide the “Double Number” service, which allows a single mobile phone unit to manage two phone numbers and e-mail addresses.
November 2008	EMOBILE started a High-Speed Uplink Packet Access (HSUPA) data communication service.
March 2009	SoftBank Mobile started a high-speed mobile data communication service for PCs.
July 2009	EMOBILE started a High-Speed Packet Access Plus (HSPA+) data communication service.
June 2010	KDDI inaugurated ISP for smartphones “IS NET”.
September 2010	NTT DOCOMO inaugurated ISP for smartphones “sp mode”.
December 2010	NTT DOCOMO inaugurated LTE high-speed data communication service with maximum 75Mbps download traffic speed “Xi (crossy) service”.
December 2010	EMOBILE inaugurated high-speed packet communication service with maximum 42Mbps download traffic speed “EMOBILE G4”.
February 2011	SoftBank Mobile inaugurated high-speed packet communication service with maximum 42Mbps download traffic speed “ULTRA SPEED”.
March 2011	NTT DOCOMO and KDDI started to provide “Disaster Message Board Service” for smartphones.
April 2011	NTT DOCOMO inaugurated SIM unlock.
May 2011	eAccess started selling EMOBILE terminals with SIM unlock.
July 2011	Inter-carrier settlement for Short Message Service (SMS) is inaugurated.
January 2012	SoftBank Mobile began providing Disaster Info.
January 2012	KDDI began providing disaster and evacuation information through its Early Warning Mail services.
January 2012	KDDI began providing mobile NFC services.
February 2012	SoftBank Mobile began providing its “SoftBank 4G” high-speed data communication service with a maximum downstream speed of 110 Mbps.
February 2012	NTT DOCOMO began delivering early warning Area Mails (tsunami warnings).
March 2012	NTT DOCOMO began providing Disaster Voice Messaging Service.

March 2012	eAccess began providing its “EMOBILE LTE” high-speed data communication service with a maximum downstream speed of 75 Mbps.
March 2012	NTT DOCOMO began selling its “Mobacas” V-High multimedia broadcasting compatible terminals (first such attempt in Japan).
March 2012	KDDI began providing tsunami warnings in its Early Warning Mail services.
March 2012	NTT DOCOMO terminated its PDC service.
April 2012	KDDI introduced the EV-DO Advanced, a technology to ease data communication congestion at wireless base stations.
June 2012	KDDI began providing a Disaster Voice Messaging Service.
July 2012	SoftBank Mobile began providing a Disaster Voice Messaging Service.
July 2012	SoftBank Mobile began providing services using the 900 MHz band.
August 2012	SoftBank Mobile began providing tsunami warnings.
August 2012	Telecommunications carriers began “all-carrier search services” for mobile phone and PHS disaster message board services and NTT EAST/WEST Disaster Message Board (web171).
September 2012	KDDI began providing the 4G LTE service based on the next-generation high-speed communication standard, LTE (Long Term Evolution).
October 2012	Business alliance between SoftBank Mobile and eAccess.
February 2013	NTT DOCOMO, China Mobile and KT developed common requirements for NFC international roaming.
February 2013	SoftBank Mobile began providing its SoftBank satellite phone service.
March 2013	eAccess began providing emergency earthquake warnings, tsunami warnings, and disaster and evacuation information through its Early Warning Mail services.
March 2013	eAccess began providing the FeliCa service.
March 2013	NTT DOCOMO, KDDI, SoftBank Mobile, and eAccess began providing mobile phone services throughout the entire Toei Subway Lines.
April 2013	NTT DOCOMO, KDDI, Okinawa Cellular, and SoftBank Mobile enabled interoperability of the Disaster Voice Messaging Service across the four mobile phone carriers.
July 2013	NTT DOCOMO, KDDI, and SoftBank Mobile began providing the LTE service at Mt. Fuji.
September 2013	SoftBank Mobile began providing international LTE roaming services.
September 2013	KDDI began providing international LTE roaming services.
October 2013	KDDI adopted the IEEE802.11ac next-generation wireless LAN standard for its au Wi-Fi SPOT public wireless LAN services.
November 2013	NTT DOCOMO, KDDI, Okinawa Cellular, SoftBank Mobile, and eAccess began using mobile phone numbers starting with 070.
November 2013	NTT DOCOMO developed a multi-band indoor base station and antenna.
January 2014	Six mobile phone and PHS carriers enabled interoperability of the Disaster Voice Messaging Service across these carriers.
March 2014	NTT DOCOMO began providing international LTE roaming services.
April 2014	NTT DOCOMO, KDDI, Okinawa Cellular, and SoftBank Mobile began delivering information on the protection of the people using the early warning Area Mails and Early Warning Mail services.
May 2014	Six mobile phone and PHS carriers standardized the number and varieties of pictographs used in text messages, including SMS, exchanged between carriers.
May 2014	KDDI introduced Carrier Aggregation, an LTE-Advanced technology based on the next-generation high-speed communication standard LTE, with a maximum receiving speed of 150 Mbps for the first time in Japan.
May 2014	NTT DOCOMO released guidelines for video distribution utilizing the next-generation

	video compression technology, HEVC.
June 2014	eAccess Ltd. and Willcom, Inc. merged.
June 2014	NTT DOCOMO developed the world's first new SIM-based authentication mini device, called Portable SIM.
June 2014	NTT DOCOMO began providing Japan's first VoLTE call service.
July 2014	eAccess Ltd. changed its company name to Ymobile Corporation.
August 2014	Ymobile started its new Y!mobile service.
October 2014	Number portability between mobile and PHS phones began.
November 2014	NTT DOCOMO started Japan's first international outbound roaming service on a TD-LTE network.
December 2014	KDDI began providing the au VoLTE next-generation voice calling service, utilizing the 4G LTE network.
December 2014	SoftBank Mobile began providing voice communication services using the VoLTE technology, a technology that enables voice communication over the LTE high-speed data communication network.
March 2015	NTT DOCOMO began providing LTE-Advanced services under the name "PREMIUM 4G" with a maximum downlink of 225 Mbps, which was the fastest in Japan.
April 2015	SoftBank Mobile Corp., SoftBank BB Corp., SoftBank Telecom Corp., and Ymobile Corporation merged together.
May 2015	The revised SIM unlocking guidelines came into effect, and NTT DOCOMO, KDDI, and SoftBank Mobile began providing SIM unlocking services based on the new guidelines.
July 2015	SoftBank Mobile Corp. changed its company name to SoftBank Corp.
October 2015	NTT DOCOMO became Japan's first telecommunications carrier to provide an international VoLTE roaming service.
March 2016	NTT DOCOMO began providing services using the world's first network function virtualization (NFV) technology that can run Evolved Packet Core (EPC) software from multiple vendors on its commercial network.
June 2016	KDDI began providing international VoLTE roaming services.
September 2016	SoftBank began providing the world's first commercial service with Massive MIMO (spatial multiplexing technology).
March 2017	NTT DOCOMO began providing communication service with a maximum downlink of 682 Mbps by introducing two new technologies: 256 QAM and 4×4 MIMO.
September 2017	KDDI began providing communication service with a maximum downlink of 708 Mbps by introducing 256 QAM and 4×4 MIMO.
May 2018	NTT DOCOMO, KDDI, and SoftBank began providing the +Message service, a new service as an extension of SMS, based on the GSMA specifications.
June 2018	NTT DOCOMO, in collaboration with China Mobile, commercialized the world's first IoT multi-vendor eSIM solution based on the GSMA 3.1 specifications.
October 2018	NTT DOCOMO, SoftBank, and KDDI each began providing services for VoLTE interconnection between different carriers.
October 2019	Rakuten Mobile began providing commercial service with the world's first end-to-end fully virtualized cloud-native network.
March 2020	NTT DoCoMo, KDDI, and SoftBank each began providing communication service using the fifth-generation mobile communication system (5G).
April 2020	Rakuten Mobile launched full-scale mobile carrier service.
September 2020	Rakuten Mobile began providing communication service using the fifth-generation mobile communication system.
October 2020	KDDI completed its succession of UQ mobile's business.
March 2021	SoftBank launched a new online-only plan under the brand name "LINEMO."

March 2021	KDDI launched a new online-only plan under the brand name “povo.”
March 2021	NTT DOCOMO launched a new online-only plan under the brand name “ahamo.”
March 2022	KDDI and Okinawa Cellular Telephone Company terminated their CDMA 1X WIN and other services for au 3G mobile phones.
May 2023	NTT DOCOMO, KDDI, Okinawa Cellular Telephone Company, SoftBank, and Rakuten Mobile introduced a “One Stop” version of mobile number portability (MNP).
July 2023	NTT DOCOMO merged with NTT Resonant.
September 2023	NTT DOCOMO, KDDI, Okinawa Cellular Telephone Company, SoftBank, and Rakuten Mobile began providing free access to 00000JAPAN, a public wireless LAN service for use in the event of a telecommunications failure.
June 2024	Rakuten Mobile began providing services using the 700 MHz band.
July 2024	SoftBank terminated its 3G mobile phone service.

Note: The transmission speeds referred to in the chronology are those at the time of the introduction of the corresponding services by the relevant companies.

2-3-3 International Telephone Services

2-3-3-1 Progress of Service Provision and Movements of Carriers

- In October 1989, International Telecom Japan Inc. (ITJ) and International Digital Communications Inc. (IDC) introduced services with 23% lower rates than those of Kokusai Denshin Denwa Co., Ltd. (KDD)
- From 1989 through 1996 KDD implemented rate reductions eight times, and ITJ and IDC five times, resulting in a steady shift toward less expensive rates.

October 1998	DDI Corporation (DDI) started international telephone services with the level of charge set at ¥240 for a daytime 3-minute call to U.S. MCI Worldcom Japan, Inc. (WCOM) started international telephone services with the level of charge set at ¥248 for a daytime 3-minute call to U.S.
December 1998	KDD reduced charges for calls to all destinations (230 countries and areas). The average reduction rate was about 10.6%. As the result, a daytime 3-minute call to U.S. cost ¥240. Japan Telecom (JT) reduced charges for calls to 28 destinations. The average reduction rate was about 8.6%. A daytime 3-minute call to U.S. cost ¥240. IDC reduced charges for calls to 23 destinations. The average reduction rate was about 9.0%. A daytime 3-minute call to U.S. cost ¥240. WCOM reduced charges. A daytime 3-minute call to U.S. cost ¥150.
January 1999	DDI reduced charges for calls to 25 destinations. The average reduction rate was about 8.4%. A daytime 3-minute call to U.S. cost ¥168. JT reduced charges for calls to 97 destinations. The average reduction rate was about 2.2%. IDC reduced charges for calls to 51 destinations. The average reduction rate was about 3.5%.
March 1999	DDI reduced charges for calls to 27 destinations, with a main target of reduction on calls placed during 23:00 to 08:00 of the following day. The average reduction rate was about 5.8%.
July 1999	Tokyo Telecommunication Network Co., Inc. (TTNet) started international telephone services with the level of charge set at ¥168 for a daytime 3-minute call to U.S.
October 1999	JT reduced charges for all destinations (223 countries and areas). The average reduction rate was about 10.3%. A daytime 3-minute call to U.S. cost ¥180. Cable & Wireless IDC reduced charges for calls to 192 destinations. The average reduction rate was about 10.9%. A daytime 3-minute call to U.S. cost ¥180. NTT Communications Corp. started international telephone services with the level of charge set at ¥180 for a daytime 3-minute call to U.S.
November 1999	KDD reduced charges for calls to all destinations (231 countries and areas). The average reduction rate was about 11.1%. A daytime 3-minute call to U.S. cost ¥180. DDI reduced charges for calls to 38 destinations. The average reduction rate was about 8.4%. A daytime 3-minute call to U.S. cost ¥156. TTNet reduced charges for calls to 58 destinations. The average reduction rate was about 11%. A daytime 3-minute call to U.S. cost ¥132.
December 1999	KDD reduced charges for cellular/PHS-originated calls to all destinations (231 countries/areas). The average reduction rate was about 11.9%.
February 2000	KDD reduced charges for calls to 17 destinations (Taiwan, China, U.K., France, Germany, etc.). The average reduction rate was about 1.4%.
October 2000	DDI, KDD and IDO were merged as KDDI.
April 2001	Fusion Communications started international telephone services, establishing the all-time flat rate system. The charge for 3-minute calls to U.S. is ¥90.
September 2001	Fusion Communications Corporation reduced the charges for calls to all destinations (230 countries and areas). A three-minute call to the U.S. cost ¥45.

April 2003	POWEREDCOM merged with TNet, and the new company was named POWEREDCOM, Inc.
July 2004	The telephone business of POWEREDCOM is merged with FUSION COMMUNICATIONS CORP.
October 2006	Japan Telecom Co. Ltd. changed its company name to SoftBank Telecom Corp.
April 2015	SoftBank Mobile Corp., SoftBank BB Corp., SoftBank Telecom Corp., and Ymobile Corporation merged together to form SoftBank Mobile Corp.
July 2015	SoftBank Mobile Corp. changed its company name to SoftBank Corp.
December 2015	Fusion Communications Corp. changed its company name to Rakuten Communications Corp.
July 2019	Rakuten Communications Corp. transferred its international telephone service to Rakuten Mobile, Inc. through a company split.
January 2024	NTT Communications Corporation (NTTCom) terminated its dialing service for international calls (0033 international calls).

2-3-4 Leased Circuit and Data Transmission Services

2-3-4-1 Progress of Service Provision and Movements of Carriers

• Progress of Leased Circuit Service Provision

(NTT)

December 1997	NTT started "Digital Access 128" as short-distance economy service.
April 1998	NTT started "Digital Access 1500" service.
August 1998	NTT started "Digital Reach" as medium- and long-distance economy service.
December 1998	NTT started "ATM SHARE LINK" as partial band assurance type exclusively for ATM.
October 1999	NTT Communications started "Gigaway" service.
March 2000	NTT Communications started "Air Access" service.
April 2001	NTT East and West started "Digital Access 6000" service.
November 2001	NTT East started "Metro High Link" service.
June 2002	NTT East started "Super-high Link" service.
July 2002	NTT West started "Giga Data Link" service.
October 2002	NTT Communications started "EtherArcstream" service.
June 2004	NTT Communications started "GIGASTREAM" service.
December 2008	NTT Communications started "GIGASTREAM Premium Ether" service.
May 2011	NTT Communications started to provide "Arcstar Universal One".

(Long-Distance and International Carriers)

April 1998	KDDI (TWJ) started to provide leased circuit service for ATM.
October 1998	Long-distance and International NCCs started economy services.
September to October 1999	Long-distance and International NCCs acquired rate setting right and started end-to-end rate services.
January 2000	Global Access started domestic and international leased circuit service.
July 2000	Japan Telecom started domestic wide-band leased circuit service.
October 2002	Japan Telecom started international wide-band leased circuit service.
January 2024	Rakuten Mobile began providing KŌSOKU Access.

(Regional Carriers)

April 1997	Nine electric power companies started joint high-speed digital transmission service.
January 1998	TTNet started FDDI leased circuit service.
April 1998	TTNet started leased circuit service for ATM.
May 1998	Ten electric power companies completed nationwide linkage of high-speed digital transmission services.
October 1998	Nine electric power companies started linkage of ATM leased circuit services.
August 1999	Ten electric power companies completed nationwide linkage of economy services.
April 2001	TTNet started to provide "PeneLink (leased circuit)" (Ethernet leased circuit service).
September 2001	Keio Network Communications started to provide "Express-Ether" service.
April 2002	Osaka Media Port started Ether leased circuit service.
June 2002	Chubu Telecommunication started optical fiber leased circuit service.

April 2003 Osaka Media Port started Ether Network service (W-Link).

(Regional CATV)

April 2002 Katch Network started optical fiber leased circuit service.

December 2002 Himawari Network started optical fiber leased circuit service.

December 2002 My Television started regional LAN services.

• Progress of Data Transmission Service Provision

(NTT)

December 1996	NTT started OCN service.
August 1999	NTT Communications started to provide OBN (Open Business Network) service.
September 1999	NTT Communications started to provide "Arcstar Value Access" service.
May 2000	NTT East and West started to provide Wide LAN Service.
July 2000	NTT Communications started "Super VPN (current Arcstar IP-VPN)" service.
July 2000	NTT DOCOMO and NTT Communications jointly started to provide "RALS (Remote Access Line Service)".
September 2000	NTT East started to provide FLET's Office".
October 2000	NTT Communications started to provide "Broadband Access" service.
October 2000	NTT East and West started to provide "Mega Data Nets" service.
December 2000	NTT Communications started to provide "Giga Ether Platform" service.
January 2001	NTT Communications started to provide "Arcstar Global IP-VPN" service.
March 2001	NTT East started to provide "Metro Ether" service.
April 2001	NTT Communications started to provide "e-VLAN" service.
May 2001	NTT West started to provide "Urban Ether" service.
March 2002	NTT East started to provide "FLET's Group Access" service.
March 2002	NTT East started to provide "Super Wide LAN Service".
March 2002	NTT West started to provide "Wide LAN Plus" service.
March 2003	NTT East started to provide "FLET's Office Wide" service.
April 2003	NTT Communications started to provide "Super HUB" service.
May 2003	NTT Communications started to provide "FLEXGIGAWAY" service.
July 2003	NTT East started to provide "Flat Ether" service.
October 2003	NTT West started to provide "Flat Ether" service.
December 2003	NTT East started to provide the Smart Ether service.
June 2004	NTT Communications started to provide the "Group-VPN" service.
April 2006	NTT West started to provide the "Business Ether" service.
May 2006	NTT East started to provide the "Business Ether" service.
July 2009	NTT Communications started to provide the "Group-Ether" service.
May 2011	NTT Communications started to provide "Arcstar Universal One".

(Long-Distance and International Carriers)

April 1997	Long-distance and International NCCs sequentially started to provide computer network services.
April 1999	Japan Telecom started to provide international cell relay service.
April 2000	Japan Telecom started to provide Solteria (IP-VPN) service.
October 2000	KDDI started to provide ANDROMEGA IP-VPN service.
February 2001	Fusion Communications started to provide FUSION IP-VPN service.
October 2001	Japan Telecom started to provide "Wide-Ether" (wide-area LAN).
December 2001	Cable & Wireless IDC started to provide "High-speed Ethernet Service".

December 2001	KDDI started to provide "Ether-VPN" service.
September 2002	Cable & Wireless IDC started to provide "IP-VPN QoS" service.
November 2002	Japan Telecom started to provide "ASSOCIO (MLPS Traffic Switching Service)".
August 2012	SoftBank Telecom began providing its White Cloud SmartVPN service.
January 2024	Rakuten Mobile began providing VPN services.

(Regional Carriers)

From September 1997	Power company based NCCs sequentially started to provide computer network services.
March 2001	Hokkaido Telecommunication Network, Inc started to provide wide-area Ethernet service "L2L".
April 2001	Poweredcom started to provide "Powered Ethernet" wide-area Ethernet connection service.
April 2001	TTNet started to provide "Pene-Link (Multi-access)" (wide-area Ethernet connection service).
June 2001	K-Opticom started to provide IP-VPN service.
July 2001	Poweredcom started to provide "Powered-IP MPLS" (IP-VPN connection service).
August 2001	Chugoku Telecommunication Network started to provide Ethernet communication network service "V-LAN".
June 2002	Keio Network Communications started to provide "Multi-Express Ether" service.
July 2003	Chugoku Telecommunication Network merged with Chugoku Information System Service and reorganized as Energia Communications.
January 2003	Chubu Telecommunication started to provide band-assured type Ether network service "CTC Ether Link".
June 2005	Chubu Telecommunication started to provide "CTC Ether DIVE" wide-area Ethernet service.

(Regional CATV)

December 1995	Himawari Network started to provide cell relay service.
November 1997	Katch Network started to provide cell relay service.
April 1998	MICS Network started to provide ATM switching service.
September 1999	MICS Network started to provide wide-area LAN service.