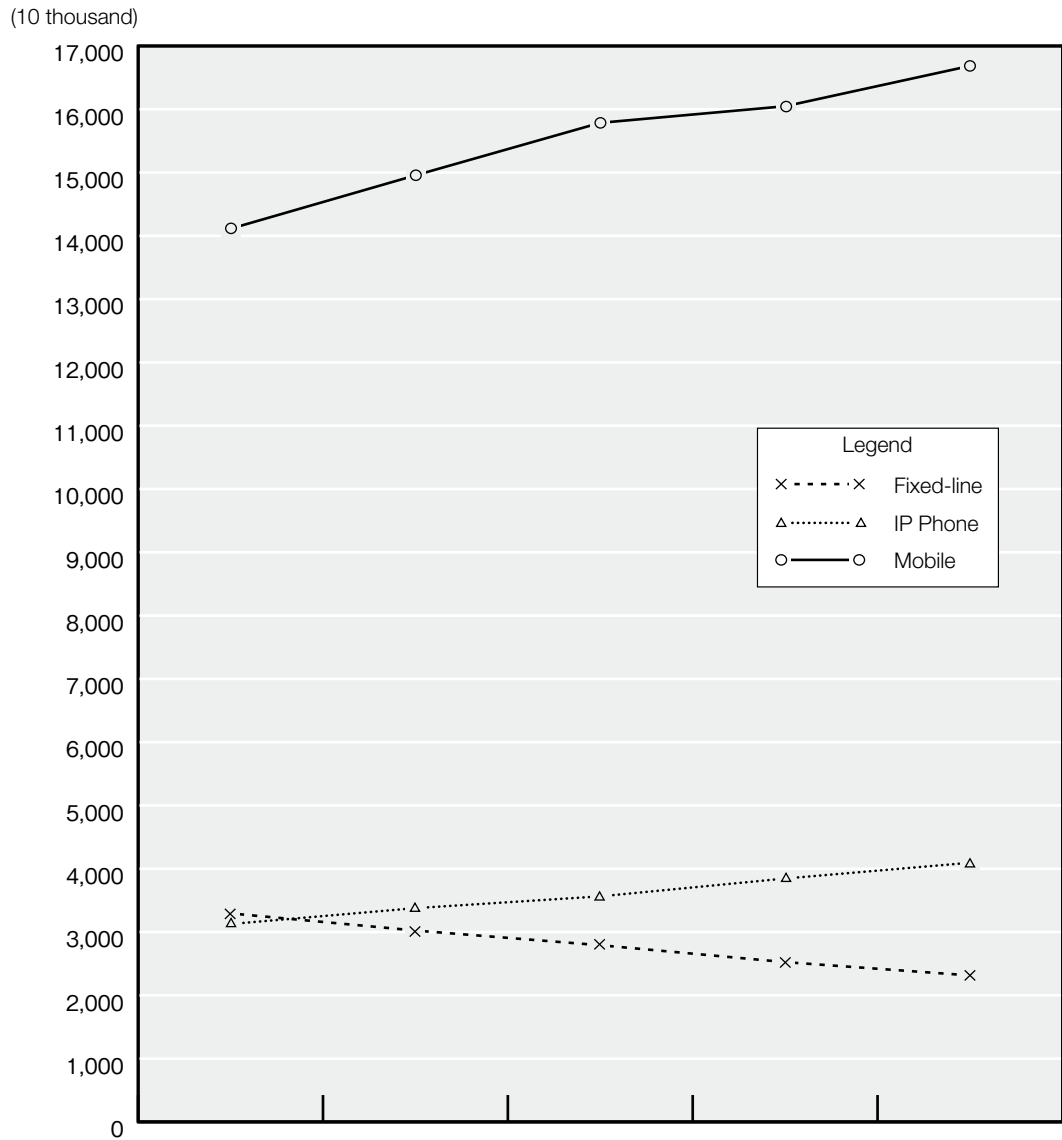


Chapter 2
Situation of Info-communications
Service Usage

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	FY2012	FY2013	FY2014	FY2015	FY2016
Fixed-line Service Total	3,295	3,024	2,792	2,525	2,315
Subscriber Telephone	2,847	2,609	2,408	2,170	1,987
ISDN	427	395	365	337	312
Public Phone	21	20	18	17	16
IP Phone	3,127	3,378	3,564	3,846	4,095
(0ABJ-IP phone)	2,407	2,650	2,846	3,075	3,241
(050-IP phone)	721	728	718	771	854
Mobile Service Total	14,113	14,956	15,786	16,056	16,685
Mobile Phone	13,604	14,401	15,270	15,656	16,350
PHS	509	555	516	400	336

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

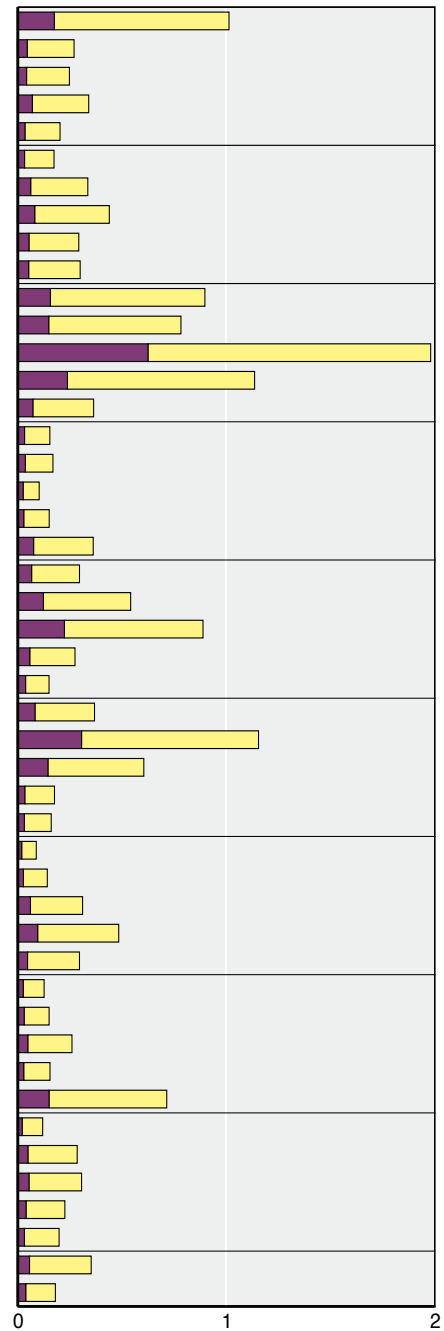
*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

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

(Contracts)

Pref.	FY2012	FY2013	FY2014	FY2015	FY2016			
	Total	Total	Total	Total	Total	NTT(Re-entry)		
						Total	Business	Residential
Hokkaido	1,414,479	1,310,396	1,231,775	1,118,934	1,048,790	1,014,803	177,068	837,735
Aomori	371,355	340,150	319,874	294,974	280,216	271,634	46,779	224,855
Iwate	333,829	307,749	289,951	271,145	257,667	249,395	43,874	205,521
Miyagi	496,168	456,125	422,222	386,938	360,444	341,865	71,383	270,482
Akita	275,871	252,827	237,370	220,930	211,037	204,322	36,114	168,208
Yamagata	242,674	221,143	206,116	191,932	181,432	175,469	34,113	141,356
Fukushima	452,002	417,945	391,959	367,725	347,577	337,543	63,609	273,934
Ibaraki	654,431	591,992	548,312	501,077	459,998	440,676	82,986	357,690
Tochigi	414,820	377,782	350,886	325,768	305,783	294,193	55,214	238,979
Gunma	422,014	387,588	361,534	333,619	312,803	300,880	53,919	246,961
Saitama	1,394,879	1,279,577	1,187,413	1,063,767	955,825	899,160	158,016	741,144
Chiba	1,230,953	1,127,916	1,045,211	938,013	836,549	784,348	150,154	634,194
Tokyo	3,273,695	2,987,695	2,757,515	2,461,604	2,198,493	1,982,058	626,246	1,355,812
Kanagawa	1,889,145	1,717,006	1,579,557	1,391,775	1,222,482	1,137,549	239,648	897,901
Niigata	513,393	467,953	437,503	403,919	379,784	365,412	74,119	291,293
Toyama	236,755	209,757	189,325	173,643	162,035	155,501	34,141	121,360
Ishikawa	250,302	228,979	208,501	189,358	178,028	170,318	37,869	132,449
Fukui	162,200	143,456	127,067	115,567	107,856	104,280	27,243	77,037
Yamanashi	211,966	195,279	182,687	168,463	156,978	152,430	30,403	122,027
Nagano	543,226	492,242	445,804	406,153	376,480	363,486	77,554	285,932
Gifu	429,283	393,291	361,104	329,528	308,494	297,699	68,041	229,658
Shizuoka	833,713	758,123	691,675	616,388	572,497	543,066	124,406	418,660
Aichi	1,410,229	1,282,197	1,170,291	1,029,443	944,346	890,045	225,344	664,701
Mie	417,300	382,805	341,497	309,056	285,176	276,127	59,243	216,884
Shiga	231,860	209,257	191,309	172,418	158,708	151,510	39,133	112,377
Kyoto	570,250	523,444	482,403	423,967	390,737	369,707	84,318	285,389
Osaka	1,974,742	1,814,267	1,661,137	1,447,796	1,270,066	1,156,391	307,633	848,758
Hyogo	965,598	874,909	803,059	714,349	644,383	606,190	146,355	459,835
Nara	274,045	251,174	230,715	202,996	187,527	177,736	35,396	142,340
Wakayama	240,798	223,187	206,525	189,378	170,236	162,035	33,069	128,966
Tottori	125,595	112,663	104,811	97,627	92,830	90,261	20,524	69,737
Shimane	192,301	178,570	162,188	151,688	145,771	143,213	28,477	114,736
Okayama	434,847	403,337	375,504	345,317	324,663	312,391	62,447	249,944
Hiroshima	682,090	639,410	595,141	537,776	504,593	485,831	97,157	388,674
Yamaguchi	413,210	381,091	350,550	327,799	304,110	297,631	48,443	249,188
Tokushima	184,307	168,277	154,188	141,372	132,048	127,971	27,662	100,309
Kagawa	244,373	212,956	192,734	170,928	159,614	151,786	32,218	119,568
Ehime	370,246	341,950	314,015	285,965	268,258	261,597	49,815	211,782
Kochi	216,649	203,905	184,706	168,966	159,761	156,212	30,193	126,019
Fukuoka	1,128,701	1,048,134	966,476	865,975	778,581	716,155	151,501	564,654
Saga	174,813	159,517	145,317	133,452	125,243	121,039	22,785	98,254
Nagasaki	396,161	368,083	341,643	314,495	294,649	286,632	50,322	236,310
Kumamoto	420,166	392,948	367,044	340,191	316,434	307,648	55,288	252,360
Oita	313,129	293,761	272,944	249,984	233,960	227,405	41,257	186,148
Miyazaki	285,549	260,843	239,878	219,309	204,597	199,807	33,287	166,520
Kagoshima	480,932	450,917	423,086	385,329	361,576	353,722	57,942	295,780
Okinawa	275,575	250,959	230,268	206,638	188,825	181,943	39,935	142,008
Total	28,470,619	26,093,532	24,080,790	21,703,434	19,867,940	18,797,072	4,092,643	14,704,429

NTT Subscribers by Region (FY 2016)



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

2-1-3 Number of ISDN Contracts by Prefecture

(Contracts)

Pref.	Basic Interface							Primary Rate Interface				
	FY2013	FY2014	FY2015	FY2016			FY2013	FY2014	FY2015	FY2016		
	Total	Total	Total	Total	NTT East · West (Re-entry)			Total	Total	Total	Total	NTT East · West (Re-entry)
					Total	Business	Residential					
Hokkaido	172,986	159,315	146,656	134,634	112,106	97,707	14,399	932	936	850	832	505
Aomori	33,280	30,747	28,449	26,347	22,183	20,743	1,440	153	141	131	131	101
Iwate	35,373	32,549	30,002	27,929	22,932	21,262	1,670	127	122	108	107	81
Miyagi	71,285	66,013	60,897	56,665	43,001	40,310	2,691	572	517	481	456	216
Akita	26,604	24,387	22,665	21,148	17,885	16,586	1,299	119	116	107	103	85
Yamagata	29,761	27,250	24,771	22,844	19,232	17,898	1,334	137	121	112	109	84
Fukushima	49,759	45,965	42,412	38,937	32,758	29,925	2,833	168	159	158	148	108
Ibaraki	71,757	65,591	59,501	54,401	44,030	40,161	3,869	422	390	328	295	226
Tochigi	52,528	47,417	43,786	40,508	32,589	29,645	2,944	344	324	284	278	221
Gunma	50,944	46,897	43,141	40,005	31,758	28,810	2,948	365	329	327	279	194
Saitama	168,492	156,571	145,871	135,168	95,538	84,895	10,643	1,073	1,040	968	928	577
Chiba	143,995	134,973	125,904	116,402	86,050	77,755	8,295	1,422	1,301	1,221	1,159	754
Tokyo	691,486	640,940	594,230	548,527	362,710	333,962	28,748	18,518	17,709	17,228	16,656	8,422
Kanagawa	237,970	223,222	208,347	193,439	138,787	124,935	13,852	3,502	3,308	3,039	2,834	1,665
Niigata	61,240	56,657	52,560	48,719	38,803	36,200	2,603	233	212	206	192	119
Toyama	34,168	30,688	28,265	25,925	21,539	19,544	1,995	186	174	174	173	115
Ishikawa	37,826	34,152	31,264	28,316	23,026	20,971	2,055	263	228	209	213	114
Fukui	24,539	22,226	20,088	18,474	16,056	14,863	1,193	128	121	100	93	80
Yamanashi	23,648	21,420	19,491	17,971	15,635	13,980	1,655	124	112	90	82	72
Nagano	65,401	59,333	53,910	49,450	41,600	36,979	4,621	331	289	242	230	147
Gifu	57,438	52,889	48,999	45,419	38,168	34,186	3,982	270	253	223	220	164
Shizuoka	108,438	99,700	91,715	84,632	65,562	61,272	4,290	549	520	499	455	335
Aichi	224,021	207,860	192,358	176,800	131,374	121,403	9,971	1,793	1,685	1,572	1,508	987
Mie	52,487	47,965	44,180	40,881	35,051	31,631	3,420	206	199	176	167	132
Shiga	36,532	34,016	31,512	29,327	24,192	22,348	1,844	202	188	185	174	116
Kyoto	79,429	72,659	66,226	61,216	45,827	40,586	5,241	447	419	396	373	246
Osaka	342,758	316,850	291,100	267,722	176,633	161,792	14,841	4,918	4,730	4,550	4,449	2,514
Hyogo	125,188	116,654	107,929	100,240	77,247	70,703	6,544	954	925	899	885	588
Nara	30,474	28,009	25,784	23,762	18,381	15,639	2,742	124	105	99	107	81
Wakayama	23,722	21,973	20,142	18,633	15,892	14,408	1,484	77	67	63	66	55
Tottori	17,693	16,315	15,161	13,852	12,413	11,181	1,232	82	82	74	66	53
Shimane	22,072	20,200	18,731	17,276	15,764	14,265	1,499	172	161	155	142	88
Okayama	57,471	53,911	49,707	46,172	38,473	34,955	3,518	301	288	286	266	209
Hiroshima	90,754	84,328	77,618	71,746	58,366	53,207	5,159	541	507	441	428	313
Yamaguchi	40,895	37,613	34,809	32,179	27,711	25,006	2,705	167	156	143	144	122
Tokushima	21,490	19,901	18,234	16,547	14,321	13,009	1,312	112	102	95	87	72
Kagawa	31,429	28,774	26,558	24,020	19,508	18,323	1,185	191	178	166	157	94
Ehime	39,148	35,984	32,803	29,947	26,144	23,725	2,419	227	216	192	184	140
Kochi	21,598	19,600	17,764	16,603	14,934	13,672	1,262	87	85	84	83	72
Fukuoka	159,040	147,525	136,479	124,845	87,692	81,606	6,086	1,387	1,350	1,269	1,188	587
Saga	20,229	18,460	16,878	15,566	13,119	12,041	1,078	74	68	68	61	52
Nagasaki	35,662	33,220	30,715	28,291	23,997	22,108	1,889	158	170	168	177	102
Kumamoto	46,690	42,749	39,538	36,675	30,420	28,140	2,280	240	224	209	202	132
Oita	34,359	32,074	29,882	27,886	23,486	21,381	2,105	128	125	119	110	74
Miyazaki	28,989	26,403	24,381	22,566	19,168	17,544	1,624	148	139	135	130	91
Kagoshima	43,301	40,131	37,296	34,673	29,411	27,031	2,380	166	165	156	152	108
Okinawa	31,174	29,052	27,162	25,157	21,225	20,315	910	372	327	321	310	213
Nationwide	3,905,523	3,611,128	3,335,871	3,078,442	2,322,697	2,118,608	204,089	43,212	41,083	39,106	37,589	21,626

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

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

Pref.	(Contracts)			
	FY2013	FY2014	FY2015	FY2016
Hokkaido	5,231,226	5,350,534	5,454,681	5,628,567
Aomori	1,137,082	1,164,922	1,180,895	1,185,464
Iwate	1,098,903	1,130,029	1,150,618	1,161,157
Miyagi	2,415,504	2,486,210	2,517,887	2,649,001
Akita	888,331	905,949	917,016	923,155
Yamagata	1,000,933	1,022,890	1,035,577	1,035,506
Fukushima	1,795,902	1,843,928	1,865,646	1,876,552
Ibaraki	2,867,649	2,929,304	2,950,824	2,935,554
Tochigi	1,896,520	1,940,162	1,961,335	1,960,543
Gunma	1,924,674	1,974,927	1,995,547	2,001,361
Saitama	7,704,654	7,892,112	7,992,843	7,907,212
Chiba	6,587,280	6,737,160	6,783,558	6,703,486
Tokyo	32,003,114	37,450,472	38,874,559	43,969,701
Kanagawa	10,632,652	10,943,930	10,958,710	10,793,756
Niigata	2,103,770	2,161,867	2,195,206	2,195,780
Toyama	1,024,667	1,054,381	1,071,610	1,076,276
Ishikawa	1,143,038	1,175,762	1,183,916	1,190,430
Fukui	757,706	779,791	786,004	785,905
Yamanashi	855,925	870,142	874,081	866,157
Nagano	1,990,357	2,046,386	2,076,953	2,092,662
Gifu	2,047,195	2,081,276	2,079,645	2,056,505
Shizuoka	3,726,166	3,799,847	3,825,605	3,801,794
Aichi	8,121,927	8,359,881	8,569,274	8,728,288
Mie	1,846,304	1,872,879	1,868,921	1,844,985
Shiga	1,404,901	1,434,362	1,433,183	1,412,280
Kyoto	2,787,102	2,844,085	2,885,375	2,869,833
Osaka	10,779,924	11,070,243	11,210,611	11,283,150
Hyogo	5,862,246	5,988,312	5,976,998	5,868,607
Nara	1,410,191	1,425,544	1,410,836	1,376,081
Wakayama	960,225	977,466	978,010	966,765
Tottori	522,411	537,649	545,553	549,703
Shimane	629,130	651,343	666,999	673,563
Okayama	1,928,133	1,984,426	2,006,855	2,001,624
Hiroshima	2,988,627	3,085,534	3,151,486	3,271,591
Yamaguchi	1,348,437	1,379,108	1,417,839	1,411,005
Tokushima	720,533	736,139	739,083	736,088
Kagawa	1,026,323	1,056,273	1,064,419	1,078,177
Ehime	1,339,352	1,370,989	1,386,364	1,385,463
Kochi	676,430	689,243	700,002	705,678
Fukuoka	5,550,095	5,659,089	5,716,705	6,733,714
Saga	788,274	806,187	812,393	812,431
Nagasaki	1,284,657	1,314,119	1,333,751	1,343,038
Kumamoto	1,720,195	1,765,233	1,784,841	1,794,022
Oita	1,079,947	1,097,270	1,110,134	1,121,831
Miyazaki	1,018,893	1,038,773	1,050,432	1,058,566
Kagoshima	1,521,046	1,550,811	1,574,789	1,584,730
Okinawa	1,412,456	1,419,652	1,432,165	1,445,016
Total	149,561,007	157,856,591	160,559,734	166,852,753

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

2-1-5 Situation of Contracts for Leased Circuits

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

(thousand circuits)

	FY2012	FY2013	FY2014	FY2015	FY2016
General Leased Circuits (Frequency Band Use)	172	166	147	130	121
General Leased Circuits (Code Transmission)	26	24	23	22	21
High-Speed Digital Transmission Services	241	232	224	216	209
Total	439	422	394	368	351

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

2-1-5-2 Number of International Leased Circuits

(circuits)

	FY2012	FY2013	FY2014	FY2015	FY2016
Mid to High Speed Code Transmission	1,483	1,737	1,565	1,763	2,461
Voice Class	1	0	0	0	0
Total	1,484	1,737	1,565	1,763	2,461

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

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

(Contracts)

	FY2014	FY2015	FY2016	FY2017
Internet connection service (for fixed communication) (total of 65 providers)	40,220,503	41,044,449	42,054,024	42,791,451
Internet connection service (for mobile communication) (total of 35 providers)	157,754,467	158,016,835	165,751,956	173,012,613
FTTH access service (total of 286 providers)	26,563,253	27,817,166	29,253,178	30,303,105
DSL access service (total of 19 providers)	3,752,583	3,203,476	2,511,979	2,146,444
CATV access service (total of 306 providers)	6,429,665	6,731,524	6,852,499	6,891,644
FWA access service (total of 43 providers)	6,901	6,346	5,883	4,862
BWA access service (total of 40 providers)	19,465,661	35,136,714	47,887,838	58,226,305
3.9-4G mobile phone terminals Packet communications service (total of 4 providers)	67,781,298	87,471,782	102,942,198	120,727,053
Mobile Phone and PHS terminal Internet connection service (total of 4 providers)	157,278,435	160,058,977	165,679,553	172,452,554
Public radio LAN access service (total of 28 providers)	81,391,982	87,039,648	97,570,993	106,233,630
IP-VPN service (total of 40 providers)	535,130	571,148	585,361	618,566
Wide-area Ethernet service (total of 74 providers)	455,344	492,673	531,214	567,845

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

2-2 Situation of Traffic

2-2-1 Whole Traffic

2-2-1-1 Situation of Total Number of Calls

(100 Million calls)

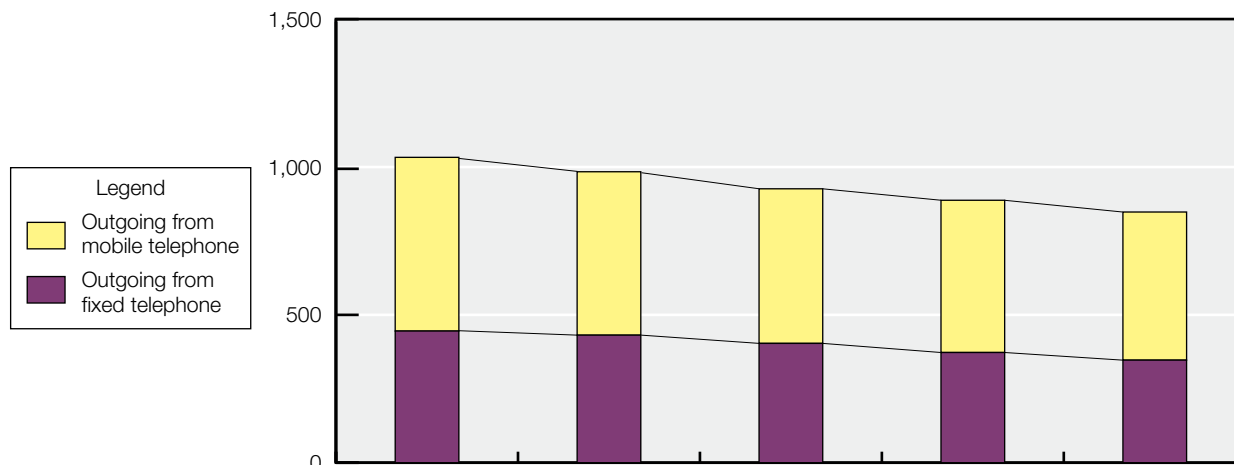
Incoming \ Outgoing	Subscriber Telephone · ISDN					IP Phone				
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2012	FY2013	FY2014	FY2015	FY2016
Subscriber Telephone	151.8	139.3	123.2	105.7	89.0	3.2	3.0	2.7	2.3	1.6
Public Telephone	1.7	1.4	1.2	1.0	0.8					
ISDN	119.4	110.2	99.0	88.6	78.2					
IP Phone	97.0	105.8	110.0	112.4	115.6	10.9	11.5	11.1	10.4	11.2
Mobile phone/PHS	77.0	67.6	63.2	62.4	60.8	41.1	47.2	51.9	60.1	64.7
Total	446.8	424.3	396.6	370.2	344.4	55.2	61.7	65.8	72.8	77.5

Incoming \ Outgoing	Mobile phone/PHS					Total				
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2012	FY2013	FY2014	FY2015	FY2016
Subscriber Telephone	41.9	38.1	33.2	28.7	25.0	318.0	292.1	259.2	226.4	194.6
Public Telephone										
ISDN										
IP Phone	22.2	24.7	25.2	26.2	27.8	130.1	141.9	146.4	149.1	154.7
Mobile phone/PHS	472.7	441.6	411.3	395.6	378.5	590.8	556.4	526.4	518.1	503.9
Total	536.8	504.4	469.6	450.5	431.3	1038.9	990.4	932.0	893.5	853.2

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

2-2-1-2 Total Number of Calls Between Fixed Telephone and Mobile Telephone

(100 million calls)



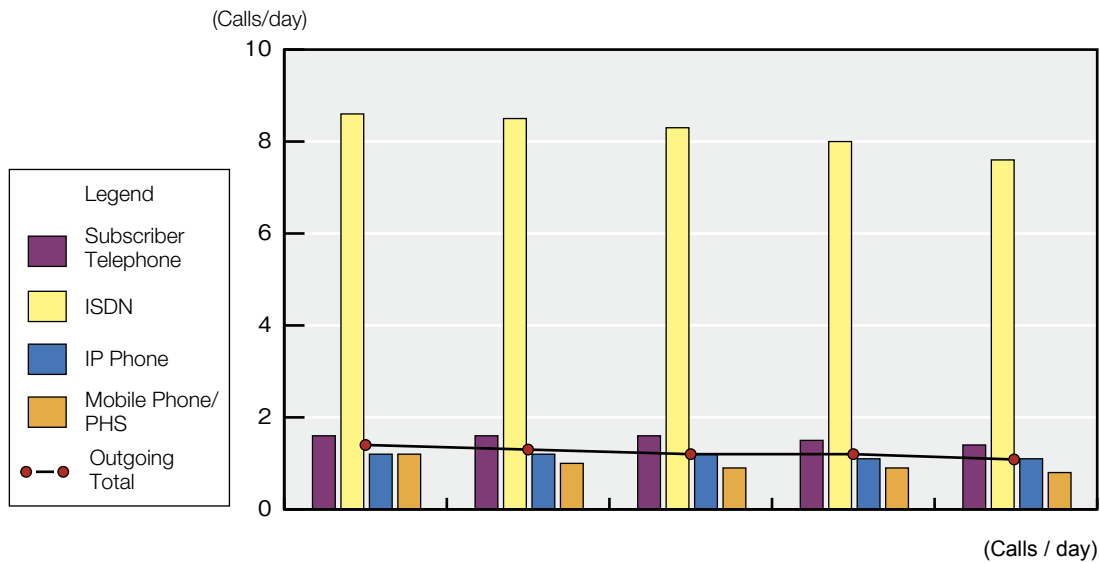
(100 Million calls)

Outgoing	Incoming	FY2012	FY2013	FY2014	FY2015	FY2016
Fixed	Fixed	384.0	371.2	347.2	320.4	296.4
Fixed	Mobile	64.1	62.8	58.4	54.9	52.8
Mobile	Mobile	472.7	441.6	411.3	395.6	378.5
Mobile	Fixed	118.1	114.8	115.1	122.5	125.5
Total		1,038.9	990.4	932.0	893.5	853.2

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 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 Situation of Total Call Duration

(Million hours)

Outgoing \ Incoming	Subscriber Telephoe · ISDN					IP Phone				
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2012	FY2013	FY2014	FY2015	FY2016
Subscriber Telephone	542.3	488.1	421.7	350.0	282.9	15.2	13.6	11.8	9.0	5.8
Public Telephone	3.7	3.2	2.6	2.2	1.8					
ISDN	296.4	271.2	240.1	210.2	183.7					
IP Phone	382.9	394.9	382.5	363.4	359.3	53.9	56.0	52.7	47.7	49.9
Mobile phone/PHS	222.0	196.5	200.3	213.5	210.2	110.2	127.6	149.5	195.3	220.9
Total	1,447.3	1,353.8	1,247.2	1,139.2	1,037.9	179.3	197.2	214.1	252.1	276.7

Outgoing \ Incoming	Mobile phone/PHS					Total				
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2012	FY2013	FY2014	FY2015	FY2016
Subscriber Telephone	109.9	105.1	92.5	81.7	72.2	967.5	881.3	768.7	653.1	546.4
Public Telephone										
ISDN										
IP Phone	65.8	72.2	73.7	77.2	83.8	502.6	523.1	509.0	488.3	493.0
Mobile phone/PHS	1,982.3	1,820.3	1,772.5	1,821.8	1,800.2	2,314.5	2,144.4	2,122.4	2,230.6	2,231.4
Total	2,158.0	1,997.7	1,938.7	1,980.7	1,956.2	3,784.5	3,548.8	3,400.0	3,372.1	3,270.8

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

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

(Seconds)

Incoming \ Outgoing	Subscriber Telephone · ISDN					IP Phone				
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2012	FY2013	FY2014	FY2015	FY2016
Subscriber Telephone	128.6	126.2	123.2	119.2	114.4	168.0	161.7	157.3	140.9	130.5
Public Telephone	79.4	79.8	78.0	79.2	81.0					
ISDN	89.4	88.6	87.3	85.4	84.6					
IP Phone	142.1	134.4	125.2	116.4	111.9	177.9	175.1	170.9	165.1	160.4
Mobile phone/PHS	103.8	104.6	114.1	123.2	124.5	96.6	97.4	103.7	117.0	122.9
Total	116.6	114.9	113.2	110.8	108.5	116.8	115.0	117.1	124.7	128.5

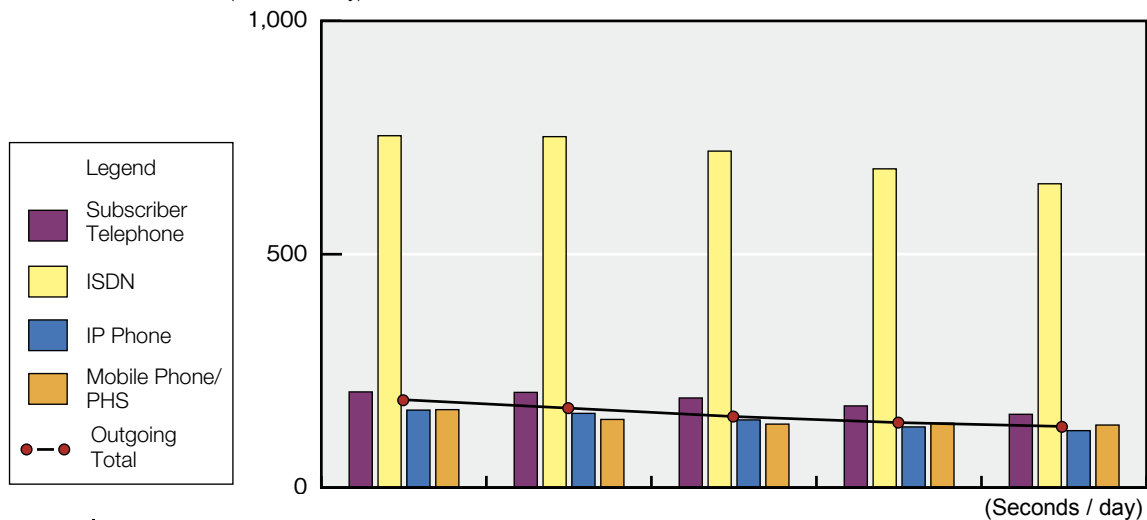
Incoming \ Outgoing	Mobile phone/PHS					Total				
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2012	FY2013	FY2014	FY2015	FY2016
Subscriber Telephone	94.3	99.2	100.3	102.5	104.0	109.5	108.6	106.8	103.8	101.1
Public Telephone										
ISDN										
IP Phone	106.6	105.4	105.3	106.1	108.5	139.0	132.7	125.2	117.9	114.7
Mobile phone/PHS	151.0	148.4	155.1	165.8	171.2	141.0	138.7	145.1	155.0	159.4
Total	144.7	142.6	148.6	158.3	163.3	131.1	129.0	131.3	135.9	138.0

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 Daily Duration per Subscription (Contract)

(Seconds/day)



Outgoing	FY2012	FY2013	FY2014	FY2015	FY2016
Subscriber Telephone	205	204	192	175	157
ISDN	754	752	721	683	651
IP Phone	166	159	145	130	122
Mobile phone/PHS	167	146	136	138	134
Outgoing Total	185	167	154	149	142

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 Traffic of Subscriber Telephone/ISDN

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

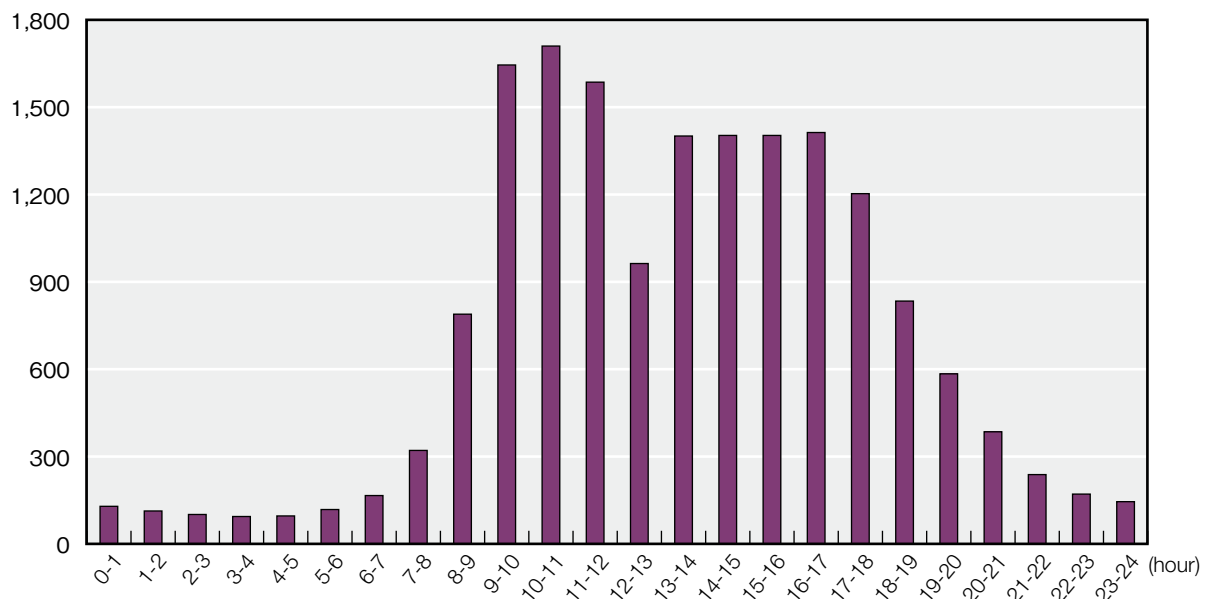
2-2-2-1-1 Number of Calls by Time Zone

(Million calls)

Time Zone	FY2012	FY2013	FY2014	FY2015	FY2016
0-1	191	176	160	145	129
1-2	160	149	136	126	113
2-3	144	133	122	113	101
3-4	131	121	111	104	94
4-5	132	123	113	105	96
5-6	162	152	139	130	118
6-7	245	227	205	187	166
7-8	486	447	399	361	321
8-9	1,274	1,139	1,024	893	789
9-10	2,597	2,386	2,131	1,860	1,645
10-11	2,659	2,465	2,214	1,944	1,710
11-12	2,439	2,267	2,036	1,802	1,586
12-13	1,477	1,379	1,239	1,096	963
13-14	2,168	2,005	1,802	1,590	1,401
14-15	2,158	2,006	1,798	1,583	1,403
15-16	2,176	2,020	1,809	1,586	1,403
16-17	2,233	2,064	1,845	1,617	1,413
17-18	2,001	1,834	1,618	1,397	1,203
18-19	1,467	1,333	1,159	985	834
19-20	1,109	997	845	698	584
20-21	753	666	564	469	385
21-22	444	393	334	283	238
22-23	287	258	224	196	171
23-24	227	207	186	166	145
Total	27,119	24,947	22,213	19,434	17,003

Number of Calls by Time Zone (FY2016)

(Million calls)



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

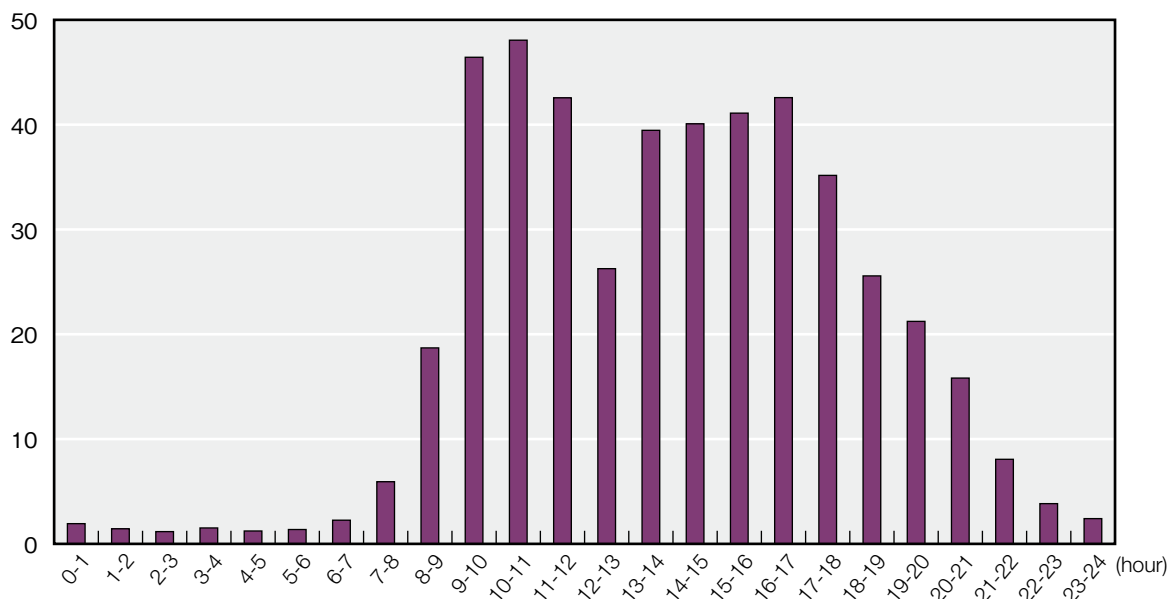
2-2-2-1-2 Duration by Time Zone

(Million hours)

Time Zone	FY2012	FY2013	FY2014	FY2015	FY2016
0-1	3.97	3.44	2.94	2.42	1.93
1-2	2.76	2.43	2.14	1.84	1.44
2-3	2.27	2.03	1.83	1.57	1.17
3-4	2.77	3.15	2.26	1.99	1.52
4-5	2.30	2.18	1.98	1.71	1.23
5-6	2.58	2.38	2.16	1.86	1.37
6-7	4.30	3.94	3.45	2.94	2.26
7-8	11.20	10.06	8.56	7.26	5.93
8-9	35.99	31.58	27.04	22.34	18.70
9-10	79.86	72.55	63.64	54.14	46.43
10-11	80.34	73.76	65.22	55.86	48.06
11-12	69.50	64.17	56.97	49.33	42.56
12-13	42.79	39.66	35.15	30.46	26.26
13-14	64.11	58.92	52.58	45.46	39.46
14-15	64.56	59.72	53.06	45.97	40.08
15-16	66.08	61.06	54.42	47.13	41.10
16-17	69.54	63.98	56.93	49.28	42.58
17-18	61.60	56.04	48.86	41.46	35.16
18-19	48.99	43.74	37.54	31.08	25.57
19-20	45.81	39.81	33.25	26.71	21.23
20-21	38.15	32.24	26.14	20.27	15.82
21-22	22.36	18.46	14.53	10.89	8.07
22-23	10.62	8.75	6.82	5.12	3.84
23-24	5.92	4.98	4.07	3.17	2.41
Total	838.39	759.02	661.53	560.24	474.17

Duration by Time Zone (FY2016)

(Million hours)



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

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

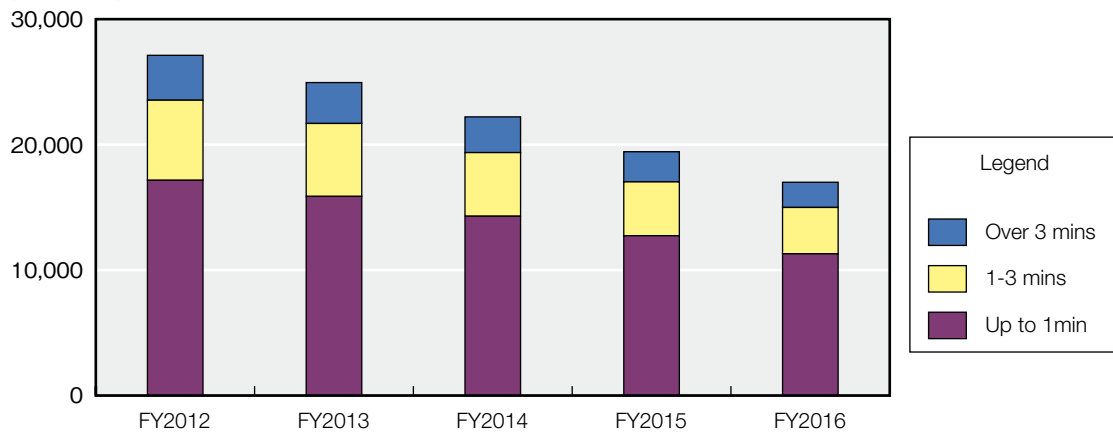
2-2-2-2-1 Number of Calls by Duration

(Million calls)

Duration	FY2012	FY2013	FY2014	FY2015	FY2016
up to 1 min	17,158	15,874	14,295	12,739	11,297
1-3 mins	6,381	5,814	5,070	4,291	3,696
over 3 mins	3,579	3,259	2,848	2,402	2,008
Total	27,118	24,947	22,213	19,434	17,003

Number of Calls by Duration

(Million calls)



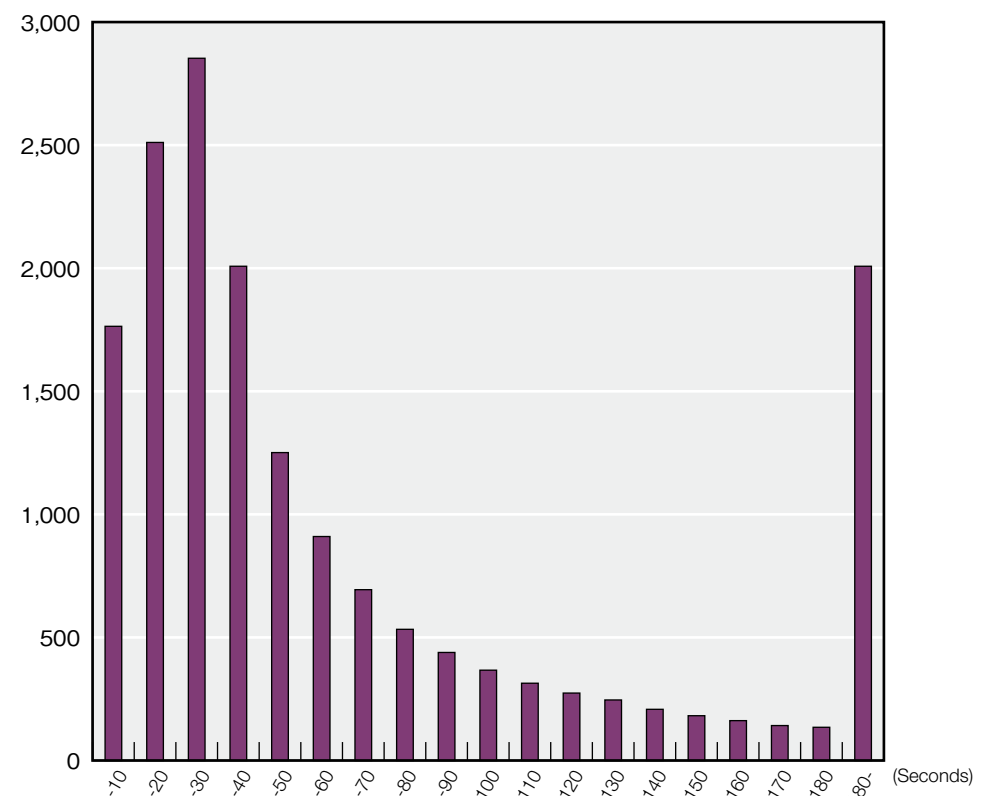
*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-2-2-2 Number of Calls Classified According to 10-second Steps (FY2016)

(Million calls)

Step	Total
~ 10 sec.	1,764
~ 20 sec.	2,511
~ 30 sec.	2,853
~ 40 sec.	2,008
~ 50 sec.	1,251
~ 60 sec.	910
~ 70 sec.	694
~ 80 sec.	533
~ 90 sec.	439
~ 100 sec.	367
~ 110 sec.	314
~ 120 sec.	274
~ 130 sec.	246
~ 140 sec.	208
~ 150 sec.	182
~ 160 sec.	162
~ 170 sec.	142
~ 180 sec.	135
180 sec. ~	2,008
Total	17,003

(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 (FY2016)

(Million calls)

Ranking	Outgoing			Incoming		
	Pref.	Number of outgoing calls	Ratio (%)	Pref.	Number of incoming calls	Ratio (%)
1	Tokyo	3,975.3	23.4	Tokyo	3,160.9	18.6
2	Osaka	1,831.5	10.8	Osaka	1,641.0	9.7
3	Kanagawa	1,018.3	6.0	Kanagawa	1,052.0	6.2
4	Aichi	895.1	5.3	Aichi	1,013.2	6.0
5	Hokkaido	710.6	4.2	Saitama	760.9	4.5
6	Fukuoka	701.9	4.1	Fukuoka	709.8	4.2
7	Saitama	669.5	3.9	Hokkaido	687.4	4.1
8	Chiba	614.7	3.6	Chiba	680.1	4.0
9	Hyogo	548.2	3.2	Hyogo	540.4	3.2
10	Shizuoka	417.1	2.5	Shizuoka	466.5	2.8
11	Hiroshima	335.8	2.0	Hiroshima	389.4	2.3
12	Kyoto	303.4	1.8	Kyoto	368.3	2.2
13	Miyagi	295.3	1.7	Miyagi	339.1	2.0
14	Niigata	254.1	1.5	Niigata	301.5	1.8
15	Ibaraki	249.8	1.5	Ibaraki	285.8	1.7
16	Nagano	222.8	1.3	Nagano	257.3	1.5
17	Okayama	201.7	1.2	Gifu	228.7	1.3
18	Gifu	197.1	1.2	Gunma	226.4	1.3
19	Kagoshima	193.4	1.1	Okayama	223.1	1.3
20	Fukushima	193.3	1.1	Fukushima	211.5	1.2
21	Gunma	189.1	1.1	Tochigi	200.4	1.2
22	Kumamoto	174.8	1.0	Mie	192.0	1.1
23	Mie	166.3	1.0	Kumamoto	185.9	1.1
24	Tochigi	165.5	1.0	Kagoshima	181.6	1.1
25	Yamaguchi	141.7	0.8	Ehime	152.2	0.9
26	Nagasaki	139.5	0.8	Yamaguchi	151.4	0.9
27	Okinawa	138.6	0.8	Nagasaki	148.7	0.9
28	Iwate	135.1	0.8	Iwate	146.4	0.9
29	Ehime	132.6	0.8	Aomori	142.5	0.8
30	Aomori	131.7	0.8	Ishikawa	135.6	0.8
31	Shiga	126.4	0.7	Shiga	132.1	0.8
32	Kagawa	119.8	0.7	Yamagata	131.3	0.8
33	Ishikawa	119.3	0.7	Okinawa	128.9	0.8
34	Oita	118.0	0.7	Oita	128.5	0.8
35	Yamagata	113.6	0.7	Toyama	123.5	0.7
36	Miyazaki	111.8	0.7	Kagawa	123.0	0.7
37	Akita	110.0	0.6	Miyazaki	117.8	0.7
38	Toyama	107.7	0.6	Akita	117.0	0.7
39	Nara	104.8	0.6	Nara	115.6	0.7
40	Wakayama	90.8	0.5	Wakayama	102.2	0.6
41	Shimane	81.1	0.5	Shimane	90.9	0.5
42	Yamanashi	75.5	0.4	Yamanashi	87.0	0.5
43	Kochi	70.4	0.4	Fukui	85.0	0.5
44	Fukui	69.7	0.4	Kochi	78.5	0.5
45	Tokushima	69.2	0.4	Saga	77.8	0.5
46	Saga	65.8	0.4	Tokushima	74.1	0.4
47	Tottori	59.2	0.3	Tottori	63.8	0.4
	Total	16,956.8	100.0	Total	16,956.8	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 (FY2016)

Outgoing	Total Number of Outgoing calls (million)	Incoming									
		1		2		3		4		5	
		Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)
Hokkaido	710.6	Hokkaido	73.4	Tokyo	7.8	Miyagi	2.1	Kanagawa	1.7	Osaka	1.6
Aomori	131.7	Aomori	74.9	Miyagi	6.9	Tokyo	5.6	Iwate	2.4	Hokkaido	1.4
Iwate	135.1	Iwate	71.9	Miyagi	9.3	Tokyo	5.6	Aomori	2.4	Yamagata	1.6
Miyagi	295.3	Miyagi	62.6	Tokyo	8.9	Fukushima	4.0	Iwate	3.2	Yamagata	2.7
Akita	110.0	Akita	73.0	Tokyo	5.9	Miyagi	5.5	Yamagata	2.3	Iwate	1.5
Yamagata	113.6	Yamagata	72.8	Miyagi	8.0	Tokyo	6.6	Kanagawa	1.3	Saitama	1.1
Fukushima	193.3	Fukushima	68.9	Miyagi	8.9	Tokyo	8.6	Kanagawa	1.6	Saitama	1.5
Ibaraki	249.8	Ibaraki	59.9	Tokyo	12.4	Chiba	7.3	Saitama	6.8	Tochigi	2.4
Tochigi	165.5	Tochigi	62.1	Tokyo	12.6	Saitama	6.5	Ibaraki	3.1	Gunma	3.1
Gunma	189.1	Gunma	59.5	Tokyo	12.1	Saitama	6.2	Niigata	4.0	Tochigi	3.2
Saitama	669.5	Saitama	52.0	Tokyo	21.1	Chiba	5.4	Kanagawa	3.1	Gunma	2.1
Chiba	614.7	Chiba	56.2	Tokyo	20.5	Saitama	4.0	Kanagawa	3.7	Ibaraki	2.1
Tokyo	3,975.3	Tokyo	49.4	Kanagawa	6.9	Saitama	5.4	Osaka	4.7	Chiba	4.2
Kanagawa	1,018.3	Kanagawa	55.9	Tokyo	20.9	Saitama	2.7	Osaka	2.6	Chiba	2.2
Niigata	254.1	Niigata	76.5	Tokyo	8.1	Saitama	1.5	Kanagawa	1.3	Osaka	1.3
Toyama	107.7	Toyama	69.4	Ishikawa	5.6	Tokyo	5.4	Osaka	4.0	Aichi	2.6
Ishikawa	119.3	Ishikawa	65.1	Toyama	5.2	Tokyo	5.0	Osaka	4.7	Kyoto	3.3
Fukui	69.7	Fukui	70.2	Osaka	5.9	Tokyo	4.9	Ishikawa	4.7	Kyoto	3.2
Yamanashi	75.5	Yamanashi	62.8	Tokyo	12.6	Saitama	6.4	Shizuoka	4.0	Kanagawa	3.0
Nagano	222.8	Nagano	73.3	Tokyo	8.3	Niigata	3.6	Aichi	2.2	Saitama	1.5
Gifu	197.1	Gifu	62.9	Aichi	17.9	Tokyo	4.9	Osaka	3.7	Kanagawa	1.0
Shizuoka	417.1	Shizuoka	70.1	Tokyo	7.6	Aichi	7.2	Kanagawa	2.9	Osaka	2.6
Aichi	895.1	Aichi	69.7	Tokyo	6.6	Osaka	4.4	Gifu	3.4	Shizuoka	2.4
Mie	166.3	Mie	67.0	Aichi	12.7	Osaka	5.2	Tokyo	4.4	Kyoto	1.1
Shiga	126.4	Shiga	52.7	Osaka	14.8	Kyoto	12.0	Tokyo	4.7	Aichi	2.4
Kyoto	303.4	Kyoto	60.6	Osaka	14.0	Tokyo	5.8	Shiga	2.7	Hyogo	2.3
Osaka	1,831.5	Osaka	52.4	Tokyo	7.3	Hyogo	5.9	Aichi	3.9	Kyoto	3.2
Hyogo	548.2	Hyogo	52.8	Osaka	18.6	Tokyo	7.2	Kanagawa	2.4	Aichi	1.7
Nara	104.8	Nara	55.0	Osaka	19.8	Kyoto	9.2	Tokyo	4.2	Hyogo	1.5
Wakayama	90.8	Wakayama	65.4	Osaka	12.8	Kyoto	4.5	Tokyo	4.4	Aichi	1.7
Tottori	59.2	Tottori	66.4	Shimane	5.4	Hiroshima	5.4	Osaka	4.4	Tokyo	4.2
Shimane	81.1	Shimane	68.1	Hiroshima	6.7	Tokyo	5.1	Osaka	4.7	Tottori	3.3
Okayama	201.7	Okayama	66.2	Hiroshima	8.7	Osaka	6.4	Tokyo	4.7	Hyogo	1.8
Hiroshima	335.8	Hiroshima	70.3	Osaka	4.9	Tokyo	4.7	Okayama	3.8	Yamaguchi	2.7
Yamaguchi	141.7	Yamaguchi	67.4	Fukuoka	9.5	Hiroshima	8.2	Tokyo	3.9	Osaka	3.3
Tokushima	69.2	Tokushima	65.3	Osaka	5.8	Kagawa	5.3	Tokyo	4.6	Hiroshima	3.5
Kagawa	119.8	Kagawa	58.0	Osaka	6.4	Tokyo	5.8	Ehime	4.2	Hiroshima	3.5
Ehime	132.6	Ehime	72.2	Osaka	4.8	Tokyo	4.5	Kagawa	3.8	Hiroshima	3.5
Kochi	70.4	Kochi	75.3	Osaka	4.3	Tokyo	3.8	Kagawa	3.6	Hiroshima	2.7
Fukuoka	701.9	Fukuoka	62.5	Tokyo	5.8	Osaka	4.9	Kumamoto	2.3	Saga	1.8
Saga	65.8	Saga	67.3	Fukuoka	16.3	Tokyo	3.5	Nagasaki	2.7	Osaka	2.4
Nagasaki	139.5	Nagasaki	71.7	Fukuoka	9.4	Tokyo	3.9	Osaka	2.8	Saga	1.6
Kumamoto	174.8	Kumamoto	68.7	Fukuoka	11.1	Tokyo	3.9	Osaka	3.0	Kagoshima	1.5
Oita	118.0	Oita	72.0	Fukuoka	12.3	Tokyo	3.3	Osaka	2.9	Kumamoto	1.9
Miyazaki	111.8	Miyazaki	71.5	Fukuoka	6.0	Tokyo	3.8	Kagoshima	3.6	Kumamoto	2.7
Kagoshima	193.4	Kagoshima	66.3	Fukuoka	5.8	Tokyo	3.6	Osaka	3.2	Kumamoto	2.1
Okinawa	138.6	Okinawa	60.7	Tokyo	8.9	Osaka	5.6	Fukuoka	4.1	Kanagawa	3.0

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

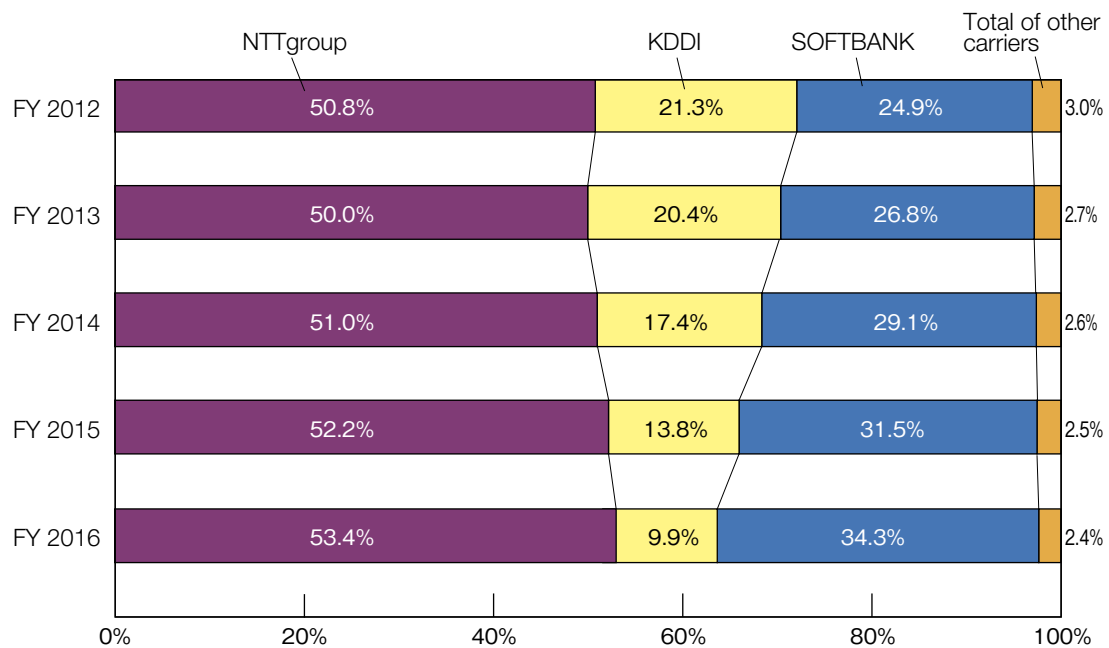
2-2-2-3-3 Main Originating Prefectures by Destination Prefecture (FY2016)

Incoming	Total number of incoming calls (million)	Outgoing									
		1		2		3		4		5	
		Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)
Hokkaido	687.4	Hokkaido	75.9	Tokyo	12.5	Osaka	2.0	Kanagawa	1.4	Saitama	0.8
Aomori	142.5	Aomori	69.3	Tokyo	12.5	Miyagi	4.1	Iwate	2.3	Hokkaido	1.6
Iwate	146.4	Iwate	66.3	Tokyo	12.6	Miyagi	6.4	Aomori	2.2	Osaka	1.6
Miyagi	339.1	Miyagi	54.5	Tokyo	13.9	Fukushima	5.1	Hokkaido	4.5	Iwate	3.7
Akita	117.0	Akita	68.6	Tokyo	12.6	Miyagi	3.6	Iwate	1.7	Osaka	1.7
Yamagata	131.3	Yamagata	63.0	Tokyo	13.3	Miyagi	6.2	Akita	1.9	Osaka	1.8
Fukushima	211.5	Fukushima	62.9	Tokyo	15.8	Miyagi	5.6	Kanagawa	2.0	Osaka	2.0
Ibaraki	285.8	Ibaraki	52.4	Tokyo	22.0	Chiba	4.4	Saitama	3.6	Kanagawa	2.9
Tochigi	200.4	Tochigi	51.2	Tokyo	21.6	Saitama	4.4	Ibaraki	3.0	Gunma	3.0
Gunma	226.4	Gunma	49.7	Tokyo	20.7	Saitama	6.2	Osaka	3.4	Kanagawa	3.0
Saitama	760.9	Saitama	45.7	Tokyo	28.5	Kanagawa	3.6	Chiba	3.2	Osaka	3.0
Chiba	680.1	Chiba	50.8	Tokyo	24.7	Saitama	5.3	Kanagawa	3.3	Osaka	3.1
Tokyo	3,160.9	Tokyo	62.1	Kanagawa	6.7	Saitama	4.5	Osaka	4.3	Chiba	4.0
Kanagawa	1,052.0	Kanagawa	54.1	Tokyo	26.1	Osaka	3.2	Chiba	2.1	Saitama	2.0
Niigata	301.5	Niigata	64.4	Tokyo	14.9	Nagano	2.7	Gunma	2.5	Osaka	2.4
Toyama	123.5	Toyama	60.5	Tokyo	10.9	Osaka	7.6	Ishikawa	5.0	Aichi	2.8
Ishikawa	135.6	Ishikawa	57.3	Tokyo	10.5	Osaka	8.4	Toyama	4.4	Aichi	3.5
Fukui	85.0	Fukui	57.5	Tokyo	11.2	Osaka	10.0	Ishikawa	4.2	Aichi	2.8
Yamanashi	87.0	Yamanashi	54.5	Tokyo	19.9	Osaka	5.5	Kanagawa	3.8	Saitama	2.3
Nagano	257.3	Nagano	63.5	Tokyo	16.6	Osaka	2.6	Aichi	2.6	Kanagawa	2.1
Gifu	228.7	Gifu	54.2	Aichi	13.2	Tokyo	10.6	Osaka	7.5	Kanagawa	1.4
Shizuoka	466.5	Shizuoka	62.6	Tokyo	13.3	Osaka	6.5	Aichi	4.6	Kanagawa	3.3
Aichi	1,013.2	Aichi	61.6	Tokyo	11.1	Osaka	7.1	Gifu	3.5	Shizuoka	3.0
Mie	192.0	Mie	58.0	Tokyo	10.1	Aichi	9.9	Osaka	8.6	Kanagawa	1.5
Shiga	132.1	Shiga	50.4	Osaka	15.4	Tokyo	10.7	Kyoto	6.2	Aichi	2.3
Kyoto	368.3	Kyoto	49.9	Osaka	15.9	Tokyo	8.9	Shiga	4.1	Nara	2.6
Osaka	1,641.0	Osaka	58.5	Tokyo	11.5	Hyogo	6.2	Kyoto	2.6	Aichi	2.4
Hyogo	540.4	Hyogo	53.5	Osaka	19.9	Tokyo	10.5	Kanagawa	2.0	Fukuoka	1.6
Nara	115.6	Nara	49.8	Osaka	23.0	Tokyo	10.1	Kyoto	2.3	Hyogo	2.0
Wakayama	102.2	Wakayama	58.1	Osaka	18.6	Tokyo	9.7	Hyogo	1.7	Kanagawa	1.2
Tottori	63.8	Tottori	61.6	Tokyo	9.1	Osaka	7.1	Shimane	4.2	Hiroshima	3.6
Shimane	90.9	Shimane	60.7	Tokyo	10.3	Osaka	6.8	Hiroshima	5.0	Tottori	3.5
Okayama	223.1	Okayama	59.8	Tokyo	10.5	Osaka	8.8	Hiroshima	5.6	Hyogo	2.2
Hiroshima	389.4	Hiroshima	60.6	Tokyo	9.3	Osaka	6.5	Okayama	4.5	Yamaguchi	3.0
Yamaguchi	151.4	Yamaguchi	63.1	Tokyo	10.1	Hiroshima	6.1	Osaka	5.4	Fukuoka	5.3
Tokushima	74.1	Tokushima	61.0	Tokyo	10.5	Osaka	8.8	Kagawa	4.5	Hyogo	1.9
Kagawa	123.0	Kagawa	56.5	Tokyo	10.3	Osaka	9.3	Ehime	4.1	Tokushima	3.0
Ehime	152.2	Ehime	62.9	Tokyo	10.4	Osaka	8.0	Kagawa	3.3	Hiroshima	1.8
Kochi	78.5	Kochi	67.5	Tokyo	9.6	Osaka	6.8	Kagawa	2.9	Ehime	2.0
Fukuoka	709.8	Fukuoka	61.8	Tokyo	10.0	Osaka	5.5	Kumamoto	2.7	Oita	2.0
Saga	77.8	Saga	56.9	Fukuoka	16.1	Tokyo	8.4	Osaka	5.5	Nagasaki	2.8
Nagasaki	148.7	Nagasaki	67.2	Tokyo	8.9	Fukuoka	8.3	Osaka	4.6	Kanagawa	1.2
Kumamoto	185.9	Kumamoto	64.6	Fukuoka	8.6	Tokyo	8.2	Osaka	5.1	Kagoshima	2.2
Oita	128.5	Oita	66.1	Fukuoka	9.5	Tokyo	9.0	Osaka	5.1	Kumamoto	1.2
Miyazaki	117.8	Miyazaki	67.8	Tokyo	8.4	Fukuoka	5.7	Osaka	4.8	Kagoshima	3.5
Kagoshima	181.6	Kagoshima	70.6	Tokyo	7.9	Fukuoka	5.5	Osaka	4.6	Miyazaki	2.2
Okinawa	128.9	Okinawa	65.2	Tokyo	12.3	Osaka	6.3	Fukuoka	3.1	Aichi	1.6

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

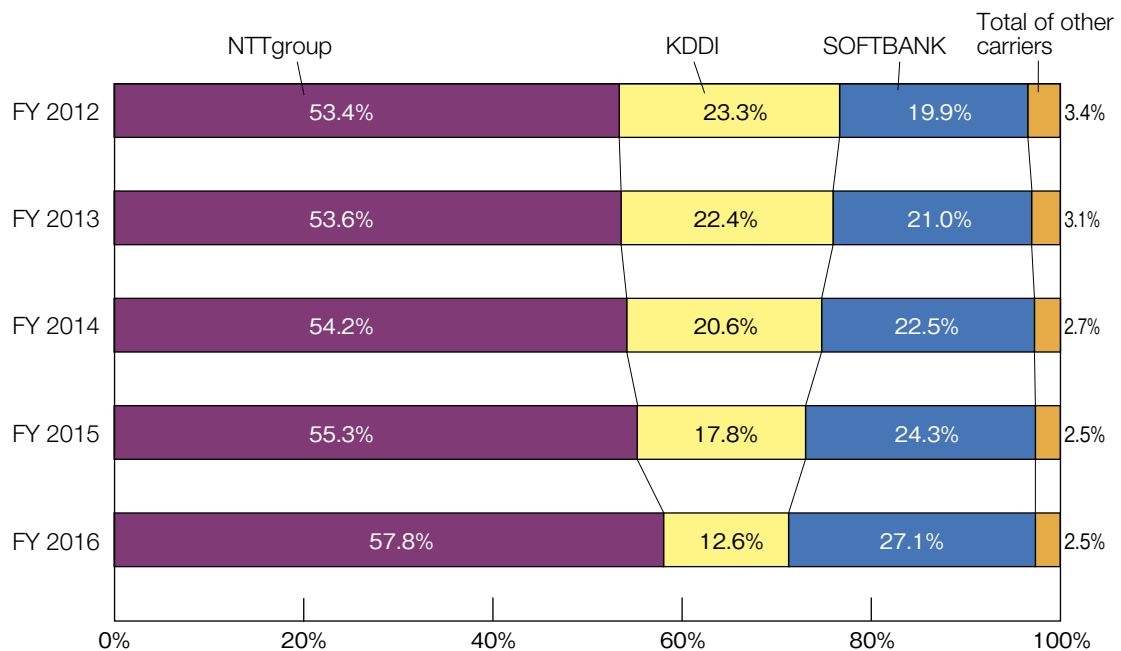
2-2-2-4 Share by Carrier in Calls Between Prefectures

2-2-2-4-1 Changes in the 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 Changes in the 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 Traffic of IP Phones

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

	FY2012		FY2013		FY2014		FY2015		FY2016	
Total number of numbers in use (million numbers)	31.27	(9.8%)	33.78	(8.0%)	35.64	(5.5%)	38.46	(7.9%)	40.95	(6.5%)
(0ABJ-IP phone)	24.07	(14.8%)	26.50	(10.1%)	28.46	(7.4%)	30.75	(8.0%)	32.41	(5.4%)
(050-IP phone)	7.21	(▲4.3%)	7.28	(1.1%)	7.18	(▲1.4%)	7.71	(7.4%)	8.54	(10.8%)
Number of calls (billion calls)	13.34	(6.4%)	14.50	(8.7%)	14.91	(2.9%)	15.14	(1.5%)	15.63	(3.3%)
From IP phones to subscriber telephones, ISDN, IP phones, mobile phones, and PHS phones	13.01	(6.8%)	14.19	(9.1%)	14.64	(3.2%)	14.91	(1.8%)	15.47	(3.8%)
From fixed-line services to IP phones	0.32	(▲7.7%)	0.30	(▲6.5%)	0.27	(▲10.7%)	0.23	(▲15.3%)	0.16	(▲29.7%)
Duration of calls (million hours)	517.7	(2.0%)	536.7	(3.7%)	520.7	(▲3.0%)	497.3	(▲4.5%)	498.8	(0.3%)
From IP phones to subscriber telephones, ISDN, IP phones, mobile phones, and PHS phones	502.6	(2.5%)	523.1	(4.1%)	509.0	(▲2.7%)	488.3	(▲4.1%)	493.0	(1.0%)
From fixed-line services to IP phones	15.2	(▲11.7%)	13.6	(▲10.0%)	11.8	(▲13.7%)	9.0	(▲23.5%)	5.8	(▲35.6%)

Notes:

1. Figures in parentheses indicate rates of increase/decrease over the previous fiscal year.
2. The total number of phone numbers in use shown for each fiscal year is accurate as of the end of the fiscal year.

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

2-2-4 Traffic of Mobile and PHS Phone

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

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

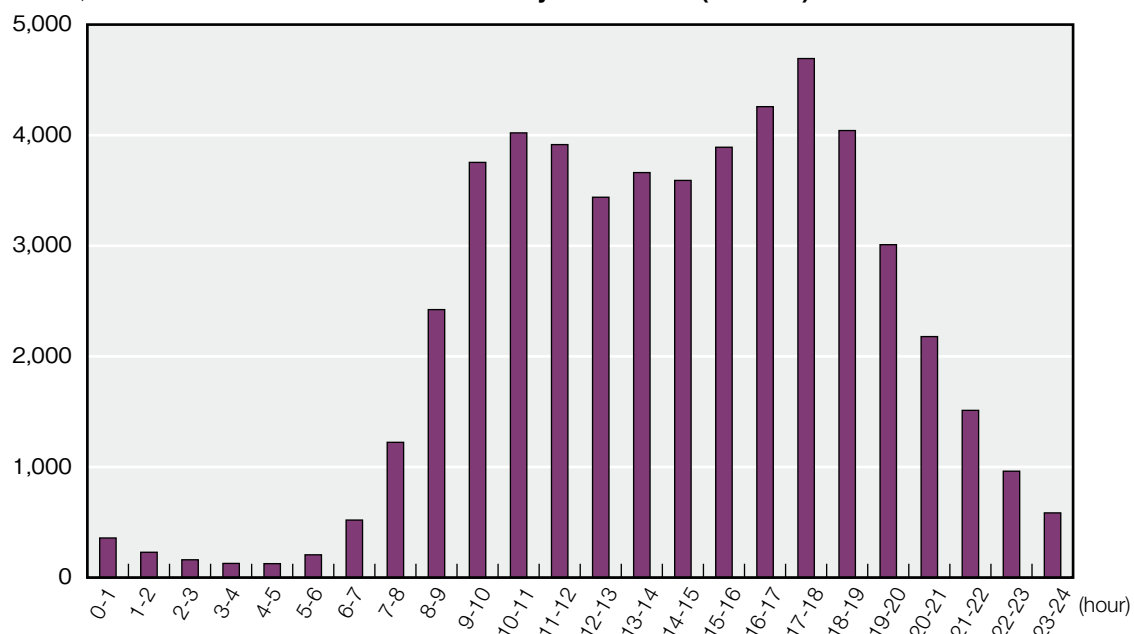
(Calls to and from mobile / PHS phones)

(Million calls)

Time Zone	FY2012	FY2013	FY2014	FY2015	FY2016
0-1	674	522	435	393	358
1-2	410	318	265	243	229
2-3	256	207	176	166	161
3-4	179	150	131	128	128
4-5	157	139	125	125	126
5-6	240	227	208	208	206
6-7	601	579	538	534	520
7-8	1,403	1,355	1,270	1,256	1,223
8-9	2,627	2,567	2,464	2,461	2,423
9-10	3,918	3,861	3,768	3,793	3,754
10-11	4,283	4,191	4,076	4,079	4,021
11-12	4,271	4,145	4,004	3,985	3,915
12-13	4,089	3,871	3,653	3,560	3,439
13-14	4,122	3,949	3,787	3,741	3,662
14-15	4,020	3,854	3,698	3,660	3,591
15-16	4,371	4,184	4,012	3,971	3,891
16-17	4,806	4,591	4,397	4,354	4,258
17-18	5,566	5,266	4,972	4,852	4,693
18-19	5,106	4,753	4,412	4,237	4,042
19-20	4,012	3,683	3,367	3,194	3,010
20-21	3,071	2,762	2,483	2,334	2,179
21-22	2,267	1,969	1,745	1,630	1,512
22-23	1,611	1,338	1,151	1,055	962
23-24	1,076	854	716	647	585
Total	63,136	59,333	55,855	54,605	52,889

(Million calls)

Number of Calls by Time Zone (FY2016)



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

2-2-4-1-2 Duration by Time Zone

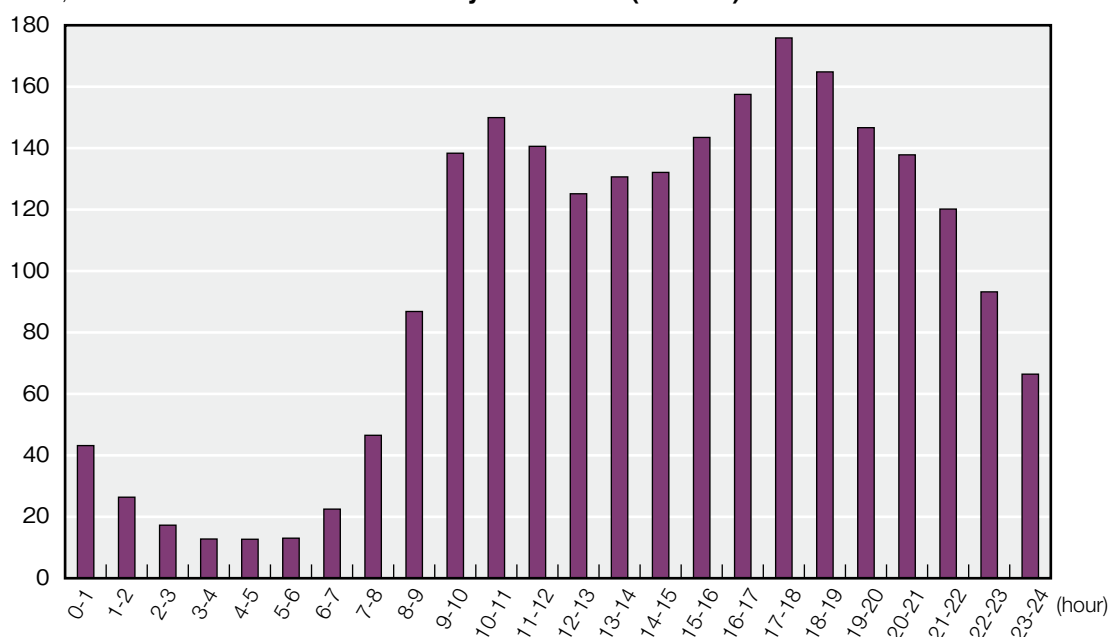
(Calls to and from mobile / PHS phones)

(Million hours)

Time Zone	FY2012	FY2013	FY2014	FY2015	FY2016
0-1	71.11	51.24	45.78	46.49	43.18
1-2	49.31	32.72	28.01	28.17	26.38
2-3	27.41	18.69	16.72	17.72	17.27
3-4	16.70	12.09	11.32	12.61	12.77
4-5	12.38	10.05	9.92	11.78	12.69
5-6	12.25	10.97	10.86	12.39	13.04
6-7	21.23	20.25	19.84	21.70	22.50
7-8	44.43	43.41	42.66	45.42	46.53
8-9	81.83	80.64	80.66	85.24	86.83
9-10	126.80	126.06	128.33	136.03	138.35
10-11	139.66	137.80	140.10	147.91	149.94
11-12	133.88	130.97	132.28	139.10	140.59
12-13	129.45	123.66	121.86	125.66	125.15
13-14	128.17	123.90	124.04	129.41	130.64
14-15	127.88	123.75	124.24	130.35	132.10
15-16	138.83	134.31	134.96	141.72	143.48
16-17	152.04	146.94	147.97	155.83	157.49
17-18	177.37	170.00	168.75	175.45	175.87
18-19	173.76	164.08	161.18	166.11	164.82
19-20	158.00	147.59	144.52	148.78	146.66
20-21	150.89	138.69	135.30	140.06	137.82
21-22	135.17	120.44	117.68	123.32	120.17
22-23	119.26	100.64	94.71	97.84	93.22
23-24	98.88	77.71	70.54	71.27	66.43
Total	2,426.69	2,246.60	2,212.22	2,310.35	2,303.94

(Million hours)

Duration by Time Zone (FY2016)



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

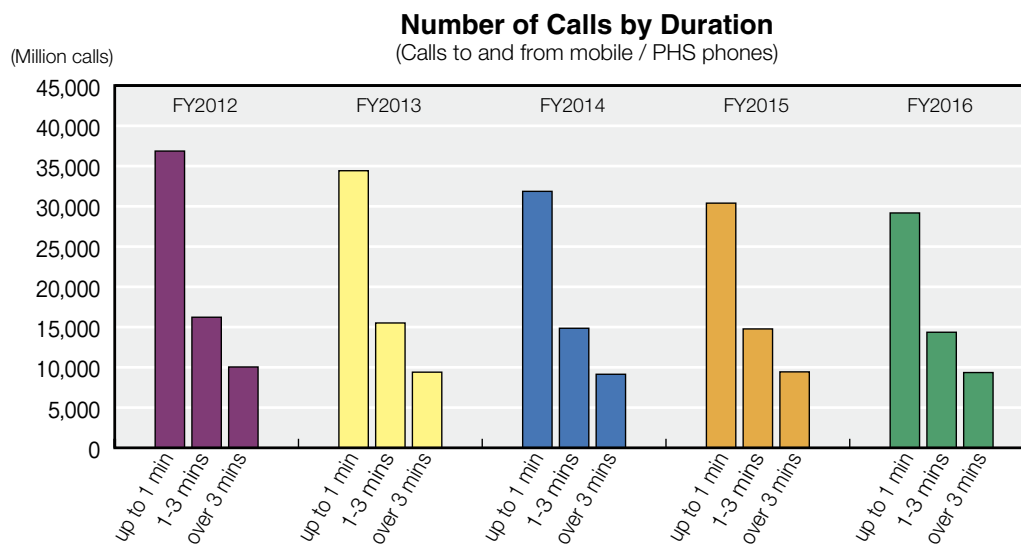
2-2-4-2 Situation of Number of Calls by Duration

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

(Calls to and from mobile / PHS phones)

(Million calls)

Duration	FY2012	FY2013	FY2014	FY2015	FY2016
up to 1 min	36,865	34,423	31,861	30,396	29,177
1-3 mins	16,224	15,511	14,855	14,771	14,359
over 3 mins	10,047	9,399	9,139	9,437	9,352
Total	63,136	59,333	55,855	54,605	52,889



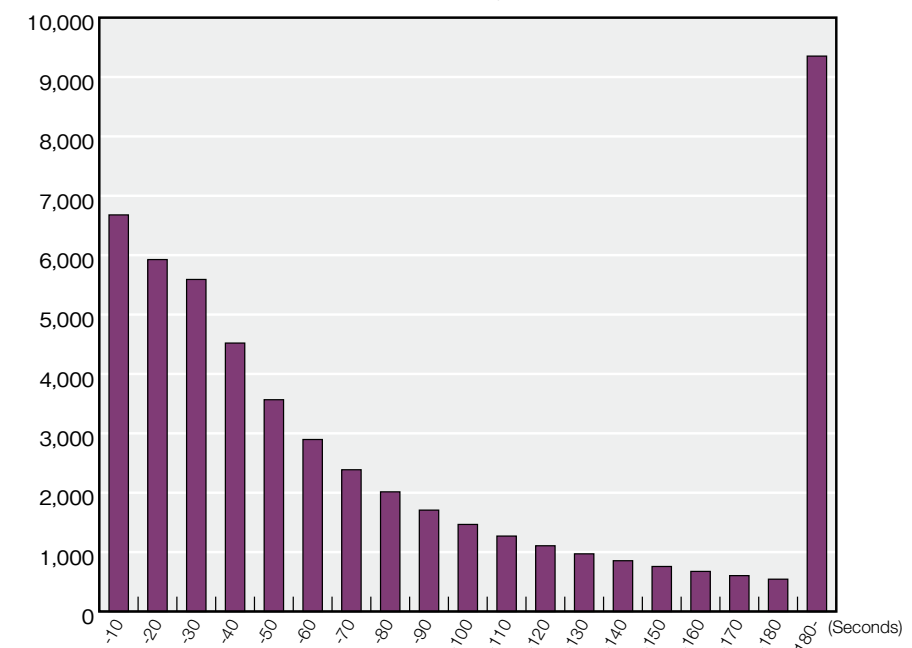
*Compiled by TCA based on data publicized by the Ministry of Internal Affairs and Communications

2-2-4-2-2 Number of Calls Classified According to 10-second Steps (FY2016)

(Million calls)

Step	Calls to and from mobile/PHS phones
~10 sec.	6,678
~20 sec.	5,926
~30 sec.	5,591
~40 sec.	4,520
~50 sec.	3,566
~60 sec.	2,896
~70 sec.	2,387
~80 sec.	2,015
~90 sec.	1,707
~100sec.	1,466
~110sec.	1,270
~120sec.	1,107
~130sec.	971
~140sec.	855
~150sec.	758
~160sec.	675
~170sec.	604
~180sec.	544
180sec.~	9,352
Total	52,889

Calls to and from mobile / PHS phones
Number of Calls Classified According to 10-second Steps (FY2016)



*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 (FY2016)

(Million calls)

Ranking	Outgoing			Incoming		
	Pref.	No. of Outgoing	Ratio (%)	Pref.	No. of Incoming	Ratio (%)
1	Tokyo	7,235	13.9	Tokyo	7,832	15.0
2	Osaka	4,186	8.0	Osaka	4,394	8.4
3	Aichi	3,039	5.8	Aichi	3,098	5.9
4	Kanagawa	2,983	5.7	Kanagawa	2,895	5.6
5	Fukuoka	2,546	4.9	Fukuoka	2,686	5.2
6	Saitama	2,314	4.4	Saitama	2,233	4.3
7	Chiba	2,163	4.2	Chiba	2,101	4.0
8	Hyogo	2,087	4.0	Hyogo	1,918	3.7
9	Hokkaido	1,928	3.7	Hokkaido	1,907	3.7
10	Shizuoka	1,439	2.8	Shizuoka	1,396	2.7
11	Hiroshima	1,183	2.3	Hiroshima	1,241	2.4
12	Ibaraki	1,121	2.2	Ibaraki	1,072	2.1
13	Kyoto	1,020	2.0	Miyagi	1,032	2.0
14	Miyagi	957	1.8	Kyoto	972	1.9
15	Kumamoto	908	1.7	Kumamoto	901	1.7
16	Okinawa	884	1.7	Okinawa	874	1.7
17	Okayama	827	1.6	Okayama	786	1.5
18	Kagoshima	794	1.5	Kagoshima	756	1.5
19	Mie	781	1.5	Mie	748	1.4
20	Nagano	774	1.5	Nagano	741	1.4
21	Fukushima	766	1.5	Gifu	735	1.4
22	Gifu	762	1.5	Tochigi	734	1.4
23	Tochigi	752	1.4	Niigata	723	1.4
24	Niigata	742	1.4	Fukushima	713	1.4
25	Gunma	729	1.4	Gunma	704	1.4
26	Ehime	576	1.1	Ehime	551	1.1
27	Nagasaki	573	1.1	Nagasaki	547	1.1
28	Oita	538	1.0	Yamaguchi	524	1.0
29	Yamaguchi	536	1.0	Oita	514	1.0
30	Shiga	532	1.0	Shiga	512	1.0
31	Nara	510	1.0	Kagawa	482	0.9
32	Miyazaki	504	1.0	Nara	478	0.9
33	Ishikawa	444	0.9	Miyazaki	477	0.9
34	Kagawa	428	0.8	Ishikawa	475	0.9
35	Wakayama	414	0.8	Aomori	402	0.8
36	Iwate	409	0.8	Wakayama	397	0.8
37	Aomori	404	0.8	Iwate	391	0.8
38	Yamagata	393	0.8	Yamagata	377	0.7
39	Saga	381	0.7	Saga	352	0.7
40	Toyama	369	0.7	Toyama	350	0.7
41	Yamanashi	365	0.7	Yamanashi	349	0.7
42	Kochi	326	0.6	Akita	318	0.6
43	Akita	322	0.6	Kochi	308	0.6
44	Fukui	319	0.6	Fukui	302	0.6
45	Tokushima	317	0.6	Tokushima	302	0.6
46	Shimane	256	0.5	Shimane	248	0.5
47	Tottori	232	0.4	Tottori	219	0.4
	Total	52,071	100.0	Total	52,071	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 (FY2016)

Outgoing	Total number of outgoing calls (million)	Incoming									
		1		2		3		4		5	
		Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)
Hokkaido	1,928	Hokkaido	92.4	Tokyo	2.8	Kanagawa	0.7	Saitama	0.4	Osaka	0.4
Aomori	404	Aomori	86.6	Miyagi	2.7	Tokyo	2.5	Iwate	2.0	Hokkaido	1.0
Iwate	409	Iwate	79.7	Miyagi	8.3	Tokyo	2.7	Aomori	2.2	Akita	1.2
Miyagi	957	Miyagi	82.9	Tokyo	3.7	Fukushima	2.3	Iwate	2.0	Yamagata	1.5
Akita	322	Akita	85.4	Miyagi	3.7	Tokyo	2.5	Iwate	1.6	Aomori	1.2
Yamagata	393	Yamagata	82.4	Miyagi	7.1	Tokyo	2.8	Fukushima	1.0	Akita	0.8
Fukushima	766	Fukushima	79.1	Miyagi	8.1	Tokyo	3.8	Ibaraki	1.2	Kanagawa	1.0
Ibaraku	1,121	Ibaraki	76.5	Tokyo	8.5	Chiba	4.4	Tochigi	2.3	Saitama	2.3
Tochigi	752	Tochigi	77.5	Tokyo	6.3	Ibaraki	3.6	Gunma	2.9	Saitama	2.9
Gunma	729	Gunma	77.5	Tokyo	7.1	Saitama	5.2	Tochigi	3.2	Kanagawa	1.1
Saitama	2,314	Saitama	69.2	Tokyo	17.3	Chiba	2.4	Kanagawa	1.9	Gunma	1.7
Chiba	2,163	Chiba	74.1	Tokyo	13.3	Saitama	2.7	Ibaraki	2.2	Kanagawa	2.0
Tokyo	7,235	Tokyo	76.0	Kanagawa	5.5	Saitama	4.5	Chiba	3.2	Osaka	1.4
Kanagawa	2,983	Kanagawa	73.0	Tokyo	16.5	Saitama	1.4	Chiba	1.4	Shizuoka	1.0
Niigata	742	Niigata	85.7	Tokyo	5.5	Saitama	0.9	Kanagawa	0.9	Nagano	0.8
Toyama	369	Toyama	80.8	Ishikawa	7.9	Tokyo	2.4	Osaka	1.4	Aichi	1.1
Ishikawa	444	Ishikawa	84.0	Toyama	3.2	Tokyo	2.5	Fukui	1.8	Osaka	1.8
Fukui	319	Fukui	80.9	Ishikawa	6.9	Osaka	2.2	Tokyo	1.9	Aichi	1.3
Yamanashi	365	Yamanashi	79.2	Tokyo	9.6	Kanagawa	2.2	Nagano	1.6	Shizuoka	1.6
Nagano	774	Nagano	81.9	Aichi	4.9	Tokyo	4.3	Saitama	0.9	Kanagawa	0.9
Gifu	762	Gifu	75.9	Aichi	14.4	Tokyo	2.1	Osaka	1.0	Mie	0.9
Shizuoka	1,439	Shizuoka	83.3	Aichi	4.7	Tokyo	4.0	Kanagawa	2.1	Osaka	0.8
Aichi	3,039	Aichi	84.3	Tokyo	3.2	Gifu	3.0	Mie	1.6	Osaka	1.3
Mie	781	Mie	79.1	Aichi	9.2	Osaka	2.2	Tokyo	1.8	Gifu	0.9
Shiga	532	Shiga	74.1	Osaka	7.9	Kyoto	6.2	Tokyo	2.1	Aichi	1.5
Kyoto	1,020	Kyoto	71.5	Osaka	12.4	Shiga	3.2	Tokyo	2.7	Hyogo	2.3
Osaka	4,186	Osaka	80.3	Hyogo	4.5	Tokyo	3.3	Kyoto	2.1	Nara	1.6
Hyogo	2,087	Hyogo	73.6	Osaka	15.7	Tokyo	2.3	Kyoto	1.2	Okayama	0.7
Nara	510	Nara	68.4	Osaka	13.7	Tokyo	6.9	Kyoto	2.7	Hyogo	1.6
Wakayama	414	Wakayama	80.0	Osaka	11.6	Tokyo	1.4	Hyogo	1.2	Mie	1.0
Tottori	232	Tottori	78.0	Hiroshima	6.0	Shimane	4.3	Osaka	2.2	Tokyo	1.7
Shimane	256	Shimane	80.9	Hiroshima	6.3	Tottori	3.9	Tokyo	1.6	Osaka	1.6
Okayama	827	Okayama	80.7	Hiroshima	7.0	Osaka	2.1	Tokyo	1.8	Hyogo	1.6
Hiroshima	1,183	Hiroshima	84.8	Okayama	2.3	Tokyo	2.1	Yamaguchi	1.9	Osaka	1.5
Yamaguchi	536	Yamaguchi	81.5	Hiroshima	5.8	Fukuoka	4.3	Tokyo	1.7	Osaka	1.1
Tokushima	317	Tokushima	82.3	Kagawa	6.3	Osaka	2.2	Tokyo	1.6	Hyogo	1.6
Kagawa	428	Kagawa	82.9	Ehime	2.6	Osaka	2.1	Tokushima	2.1	Tokyo	1.9
Ehime	576	Ehime	83.3	Kagawa	5.6	Tokyo	1.7	Osaka	1.6	Hiroshima	1.4
Kochi	326	Kochi	83.7	Kagawa	6.1	Ehime	1.8	Tokyo	1.5	Osaka	1.5
Fukuoka	2,546	Fukuoka	84.8	Tokyo	2.3	Saga	1.9	Kumamoto	1.8	Oita	1.3
Saga	381	Saga	69.8	Fukuoka	19.4	Nagasaki	3.1	Tokyo	1.3	Kumamoto	1.3
Nagasaki	573	Nagasaki	82.2	Fukuoka	8.7	Saga	2.1	Tokyo	1.4	Kumamoto	0.9
Kumamoto	908	Kumamoto	85.2	Fukuoka	5.9	Tokyo	1.5	Kagoshima	1.1	Miyazaki	0.8
Oita	538	Oita	81.4	Fukuoka	10.0	Tokyo	1.5	Kumamoto	1.1	Osaka	0.7
Miyazaki	504	Miyazaki	81.7	Fukuoka	7.5	Kagoshima	3.0	Tokyo	1.4	Kumamoto	1.4
Kagoshima	794	Kagoshima	83.8	Fukuoka	6.5	Miyazaki	2.1	Tokyo	1.5	Kumamoto	1.4
Okinawa	884	Okinawa	92.9	Tokyo	2.0	Fukuoka	1.0	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

2-2-4-3-3 Main Originating Prefectures by Destination Prefecture (FY2016)

Incoming	Total number of Incoming calls (million)	Outgoing									
		1		2		3		4		5	
		Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)	Pref.	Ratio (%)
Hokkaido	1,907	Hokkaido	93.4	Tokyo	2.0	Kanagawa	0.5	Miyagi	0.4	Saitama	0.4
Aomori	402	Aomori	87.1	Iwate	2.2	Tokyo	2.2	Miyagi	2.0	Hokkaido	1.0
Iwate	391	Iwate	83.4	Miyagi	4.9	Tokyo	2.3	Aomori	2.0	Akita	1.3
Miyagi	1,032	Miyagi	76.8	Fukushima	6.0	Iwate	3.3	Tokyo	2.8	Yamagata	2.7
Akita	318	Akita	86.5	Tokyo	2.5	Miyagi	2.2	Iwate	1.6	Aomori	0.9
Yamagata	377	Yamagata	85.9	Miyagi	3.7	Tokyo	2.4	Fukushima	1.1	Saitama	0.8
Fukushima	713	Fukushima	85.0	Miyagi	3.1	Tokyo	2.8	Ibaraki	1.3	Tochigi	1.0
Ibaraki	1,072	Ibaraki	80.0	Tokyo	4.9	Chiba	4.4	Tochigi	2.5	Saitama	2.4
Tochigi	734	Tochigi	79.4	Tokyo	4.1	Ibaraki	3.5	Gunma	3.1	Saitama	3.1
Gunma	704	Gunma	80.3	Saitama	5.5	Tokyo	4.0	Tochigi	3.1	Kanagawa	1.0
Saitama	2,233	Saitama	71.7	Tokyo	14.6	Chiba	2.6	Kanagawa	1.9	Gunma	1.7
Chiba	2,101	Chiba	76.3	Tokyo	11.1	Saitama	2.7	Ibaraki	2.3	Kanagawa	2.0
Tokyo	7,832	Tokyo	70.2	Kanagawa	6.3	Saitama	5.1	Chiba	3.7	Osaka	1.8
Kanagawa	2,895	Kanagawa	75.2	Tokyo	13.7	Saitama	1.5	Chiba	1.5	Shizuoka	1.0
Niigata	723	Niigata	88.0	Tokyo	3.0	Saitama	1.1	Kanagawa	0.8	Nagano	0.8
Toyama	350	Toyama	85.1	Ishikawa	4.0	Tokyo	2.0	Aichi	1.1	Osaka	1.1
Ishikawa	475	Ishikawa	78.5	Toyama	6.1	Fukui	4.6	Tokyo	1.9	Osaka	1.7
Fukui	302	Fukui	85.4	Ishikawa	2.6	Tokyo	1.7	Osaka	1.7	Aichi	1.3
Yamanashi	349	Yamanashi	82.8	Tokyo	6.0	Kanagawa	2.3	Shizuoka	1.7	Nagano	1.4
Nagano	741	Nagano	85.6	Tokyo	3.5	Aichi	1.3	Saitama	1.1	Kanagawa	1.1
Gifu	735	Gifu	78.6	Aichi	12.2	Tokyo	1.5	Mie	1.0	Osaka	1.0
Shizuoka	1,396	Shizuoka	85.8	Tokyo	3.2	Aichi	2.8	Kanagawa	2.2	Saitama	0.6
Aichi	3,098	Aichi	82.7	Gifu	3.6	Mie	2.3	Shizuoka	2.2	Tokyo	2.0
Mie	748	Mie	82.6	Aichi	6.7	Osaka	2.0	Tokyo	1.2	Gifu	0.9
Shiga	512	Shiga	77.0	Kyoto	6.4	Osaka	5.1	Aichi	1.6	Tokyo	1.4
Kyoto	972	Kyoto	75.0	Osaka	8.8	Shiga	3.4	Hyogo	2.6	Tokyo	2.0
Osaka	4,394	Osaka	76.5	Hyogo	7.5	Kyoto	2.9	Tokyo	2.3	Nara	1.6
Hyogo	1,918	Hyogo	80.1	Osaka	9.9	Tokyo	1.6	Kyoto	1.2	Okayama	0.7
Nara	478	Nara	73.0	Osaka	13.8	Kyoto	3.1	Hyogo	1.9	Tokyo	1.3
Wakayama	397	Wakayama	83.4	Osaka	8.1	Hyogo	1.3	Nara	1.3	Tokyo	1.0
Tottori	219	Tottori	82.6	Shimane	4.6	Okayama	2.3	Osaka	1.8	Hyogo	1.8
Shimane	248	Shimane	83.5	Tottori	4.0	Hiroshima	3.6	Tokyo	1.2	Osaka	1.2
Okayama	786	Okayama	84.9	Hiroshima	3.4	Osaka	1.8	Hyogo	1.8	Tokyo	1.3
Hiroshima	1,241	Hiroshima	80.8	Okayama	4.7	Yamaguchi	2.5	Tokyo	1.5	Osaka	1.4
Yamaguchi	524	Yamaguchi	83.4	Hiroshima	4.4	Fukuoka	4.2	Tokyo	1.3	Osaka	1.0
Tokushima	302	Tokushima	86.4	Kagawa	3.0	Osaka	2.0	Hyogo	1.7	Tokyo	1.3
Kagawa	482	Kagawa	73.7	Ehime	6.6	Tokushima	4.1	Kochi	4.1	Osaka	1.9
Ehime	551	Ehime	87.1	Kagawa	2.0	Tokyo	1.5	Osaka	1.5	Hiroshima	1.3
Kochi	308	Kochi	88.6	Ehime	1.9	Tokyo	1.3	Osaka	1.3	Kagawa	1.3
Fukuoka	2,686	Fukuoka	80.3	Saga	2.8	Kumamoto	2.0	Oita	2.0	Kagoshima	1.9
Saga	352	Saga	75.6	Fukuoka	13.9	Nagasaki	3.4	Tokyo	1.1	Kumamoto	1.1
Nagasaki	547	Nagasaki	86.1	Fukuoka	4.6	Saga	2.2	Tokyo	1.3	Kumamoto	0.9
Kumamoto	901	Kumamoto	85.9	Fukuoka	5.1	Tokyo	1.2	Kagoshima	1.2	Miyazaki	0.8
Oita	514	Oita	85.2	Fukuoka	6.4	Tokyo	1.2	Kumamoto	1.2	Miyazaki	0.8
Miyazaki	477	Miyazaki	86.4	Kagoshima	3.6	Fukuoka	2.3	Kumamoto	1.5	Tokyo	1.3
Kagoshima	756	Kagoshima	88.0	Fukuoka	2.1	Miyazaki	2.0	Tokyo	1.3	Kumamoto	1.3
Okinawa	874	Okinawa	93.9	Tokyo	1.5	Fukuoka	0.7	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 Traffic of International Telephone Services

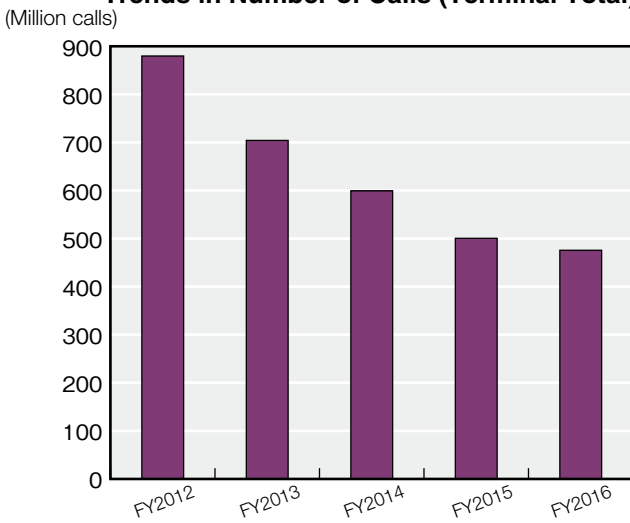
2-2-5-1 Number and Duration of International Telephone Calls

(Million calls, Million minutes)

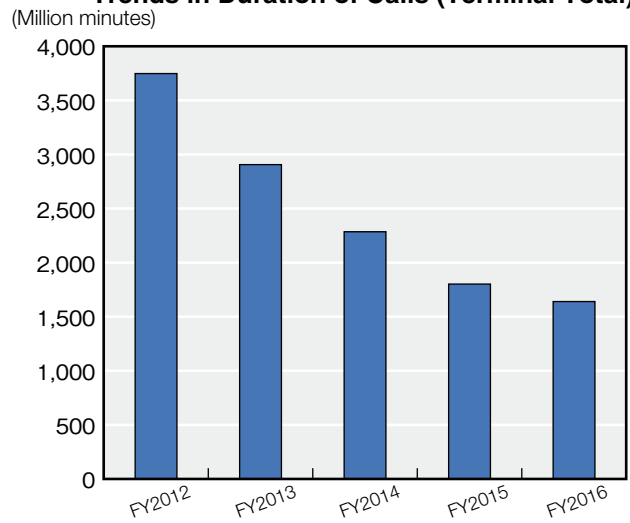
Category		FY2012	FY2013	FY2014	FY2015	FY2016
Number of Calls	Outgoing	457.3	356.2	290.5	247.1	221.8
	Incoming	422.6	348.1	308.8	253.5	253.8
	Total	879.8	704.2	599.3	500.6	475.7
Duration of calls	Outgoing	2,276.1	1,702.4	1,256.6	970.5	855.6
	Incoming	1,471.8	1,203.7	1,028.6	831.3	784.7
	Total	3,747.9	2,906.1	2,285.2	1,801.8	1,640.3

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

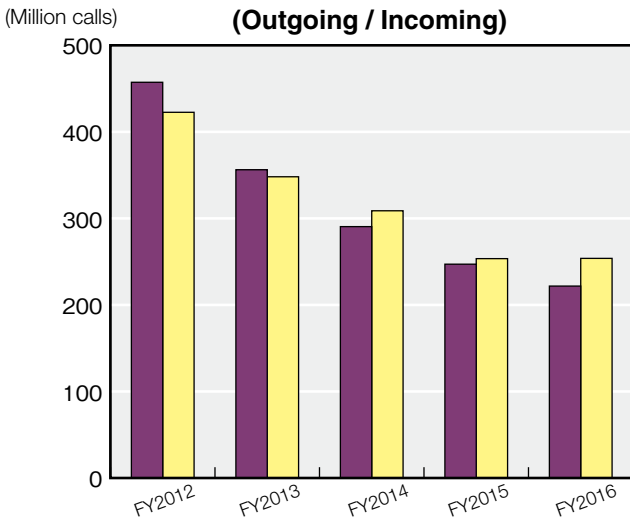
Trends in Number of Calls (Terminal Total)



Trends in Duration of Calls (Terminal Total)

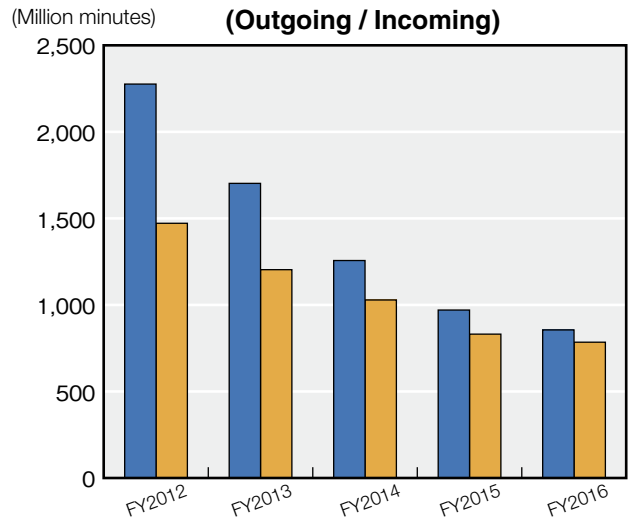


Trends in Number of Calls (Outgoing / Incoming)



Legend ■ Outgoing ■ Incoming

Trends in Duration of Calls (Outgoing / Incoming)



Legend ■ Outgoing ■ Incoming

2-2-5-2 Duration of International Calls by Main Country

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

Ranking	FY2012		FY2013		FY2014		FY2015		FY2016	
1	China	26.06%	China	24.62%	China	22.77%	China	22.32%	China	22.58%
2	U.S.A. (mainland)	13.22%	Philippines	14.88%	U.S.A. (mainland)	13.03%	U.S.A. (mainland)	12.54%	U.S.A. (mainland)	14.52%
3	Philippines	11.15%	U.S.A. (mainland)	11.70%	Philippines	12.18%	Philippines	11.88%	Philippines	12.31%
4	Korea	6.20%	Korea	5.84%	Korea	6.29%	Korea	6.02%	Korea	6.99%
5	Thailand	5.09%	Thailand	4.93%	Thailand	5.02%	Thailand	4.52%	Hong Kong	4.53%
6	Hong Kong	4.13%	Taiwan	3.39%	Taiwan	3.77%	Hong Kong	4.09%	Thailand	4.06%
7	Vietnam	3.60%	Singapore	2.70%	Hong Kong	3.39%	Taiwan	3.92%	Taiwan	3.45%
8	Taiwan	3.55%	Vietnam	2.60%	Brazil	2.47%	Indonesia	2.55%	Singapore	2.50%
9	Singapore	2.79%	Brazil	2.44%	Vietnam	2.35%	Brazil	2.39%	Macau	2.19%
10	Brazil	2.52%	Hong Kong	2.39%	Indonesia	2.25%	Nepal	2.38%	India	2.15%

*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

Ranking	FY2012		FY2013		FY2014		FY2015		FY2016	
1	China	22.75%	China	17.95%	China	17.94%	U.S.A. (mainland)	16.66%	Korea	17.46%
2	U.S.A. (mainland)	13.85%	U.S.A. (mainland)	15.57%	Korea	16.06%	China	14.00%	U.S.A. (mainland)	15.78%
3	Korea	13.52%	Korea	15.55%	U.S.A. (mainland)	14.89%	Korea	13.20%	China	13.91%
4	Hong Kong	6.43%	Taiwan	6.16%	Taiwan	5.90%	Hong Kong	6.72%	Hong Kong	6.32%
5	Taiwan	5.46%	Hong Kong	5.17%	Hong Kong	5.13%	Taiwan	6.23%	Taiwan	5.33%
6	Singapore	3.73%	U.K.	4.15%	Thailand	3.81%	U.K.	5.02%	Singapore	3.89%
7	U.K.	3.68%	Thailand	3.99%	Singapore	3.59%	Thailand	3.99%	Indonesia	3.36%
8	Thailand	3.59%	Singapore	3.72%	U.K.	3.26%	Singapore	3.80%	Thailand	3.35%
9	France	2.44%	Germany	2.42%	Malaysia	2.18%	France	3.32%	U.K.	3.30%
10	Germany	2.09%	Australia	2.29%	Macau	2.10%	Belgium	2.80%	Macau	3.05%

*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 (FY2016)

Country (descending order according to outgoing duration)	Outgoing from Japan						Incoming to Japan					
	Ranking in outgoing		Volume of outgoing (Million minutes)	Increase or decrease ratio over previous year (%)	Share (%)	Accumu lated share (%)	Ranking in incoming		Volume of outgoing (Million minutes)	Increase or decrease ratio over previous year (%)	Share (%)	Accumu lated share (%)
China	1	(1)	193.2	▲10.79%	22.58%	22.58%	3	(2)	109.2	▲6.17%	13.91%	13.91%
U.S.A. (mainland)	2	(2)	124.2	2.03%	14.52%	37.10%	2	(1)	123.9	▲10.59%	15.78%	29.70%
Philippines	3	(3)	105.3	▲8.62%	12.31%	49.41%	18	(16)	9.5	▲27.40%	1.20%	30.90%
Korea	4	(4)	59.8	2.28%	6.99%	56.40%	1	(3)	137.0	24.91%	17.46%	48.36%
Hong Kong	5	(6)	38.7	▲2.34%	4.53%	60.93%	4	(4)	49.6	▲11.21%	6.32%	54.68%
Thailand	6	(5)	34.7	▲20.85%	4.06%	64.99%	8	(7)	26.3	▲20.64%	3.35%	58.03%
Taiwan	7	(7)	29.5	▲22.44%	3.45%	68.44%	5	(5)	41.9	▲19.20%	5.33%	63.37%
Singapore	8	(14)	21.4	13.90%	2.50%	70.93%	6	(8)	30.5	▲3.43%	3.89%	67.26%
Macau	9	(13)	18.7	▲2.97%	2.19%	73.12%	10	(11)	23.9	6.54%	3.05%	70.31%
India	10	(12)	18.4	▲10.66%	2.15%	75.28%	16	(12)	12.1	▲28.43%	1.54%	71.84%
Vietnam	11	(11)	15.5	▲30.06%	1.81%	77.09%	17	(18)	10.1	▲7.54%	1.28%	73.13%
Brazil	12	(9)	14.4	▲37.84%	1.69%	78.78%	24	(27)	3.5	25.77%	0.45%	73.57%
Germany	13	(15)	14.4	▲4.76%	1.68%	80.46%	11	(17)	23.1	80.03%	2.95%	76.52%
Indonesia	14	(8)	14.2	▲42.57%	1.66%	82.12%	7	(14)	26.3	62.92%	3.36%	79.88%
Canada	15	(18)	13.4	24.61%	1.57%	83.69%	21	(21)	7.9	45.14%	1.01%	80.89%
U.K	16	(16)	12.9	▲14.13%	1.51%	85.20%	9	(6)	25.9	▲38.00%	3.30%	84.18%
Australia	17	(17)	12.5	6.32%	1.46%	86.66%	15	(15)	12.6	▲11.85%	1.60%	85.79%
Malaysia	18	(20)	9.2	▲2.24%	1.08%	87.74%	12	(13)	16.7	0.78%	2.12%	87.91%
Nepal	19	(10)	8.1	▲64.94%	0.95%	88.69%	60	(40)	0.2	▲75.06%	0.03%	87.94%
France	20	(19)	7.8	▲26.37%	0.91%	89.60%	14	(9)	15.7	▲42.95%	2.00%	89.94%
Cambodia	21	(26)	6.6	62.31%	0.77%	90.37%	51	(50)	0.3	▲26.87%	0.04%	89.98%
Sri Lanka	22	(21)	5.9	▲24.99%	0.69%	91.06%	28	(25)	2.4	▲21.40%	0.31%	90.29%
Italy	23	(25)	4.1	▲8.01%	0.47%	91.53%	25	(23)	3.2	▲17.41%	0.41%	90.70%
Bangladesh	24	(22)	3.9	▲34.47%	0.45%	91.98%	50	(44)	0.3	▲45.52%	0.04%	90.74%
Pakistan	25	(24)	3.3	▲37.75%	0.38%	92.36%	38	(35)	0.8	▲27.96%	0.11%	90.85%
Hawaii (U.S.A.)	26	(28)	3.2	▲8.75%	0.38%	92.74%	29	(29)	1.9	▲13.31%	0.24%	91.08%
Russia	27	(27)	2.6	▲31.88%	0.31%	93.05%	30	(28)	1.7	▲25.62%	0.22%	91.30%
Kenya	28	(30)	2.6	▲19.32%	0.30%	93.35%	85	(70)	0.1	▲55.44%	0.01%	91.31%
Peru	29	(23)	2.3	▲59.40%	0.26%	93.61%	39	(36)	0.8	▲31.60%	0.10%	91.41%
UAE	30	(32)	2.2	▲23.40%	0.26%	93.87%	23	(24)	4.0	3.66%	0.50%	91.91%
Total of other countries	—	—	52.4		6.13%	100.00%	—	—	63.5		8.09%	100.00%
Total of all countries	—	—	855.6		—	—	—	—	784.7		—	—

*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 Telephone

2-3-1-1 Past of Rates

2-3-1-1-1 Past of Telephone Rates of NTT

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.

2-3-1-1-2 Past of Rates of Long Distance and International NCCs

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.

(Reference) Carriers Participating in MYLINE

(As of October 2018)

Carrier	Call Category	ID number of telephone company	Local	Intra-pref long distance	Outside of Prefecture	International	Registration available in
NTT East		0036	○	○			Eastern Japan
NTT West		0039	○	○			Western Japan
NTT Communications		0033	○	○	○	○	Nationwide
KDDI		0077 001 (International call)	○	○	○	○	Nationwide
SoftBank		0088 0061 (International call)	○	○	○	○	Nationwide
Rakuten Communications		0038	○	○	○	○	Nationwide
ARTERIA Networks Corporation		0060	○	○	○	○	Tokyo and 17 prefectures

2-3-1-1-3 Past of Rates of Regional and Cable TV Operators

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, QTNet) 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	QTNet 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. QTNet 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	QTnet (formerly Kyushu Telecommunication Network) terminated its relay telephone services.

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 QTNet 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.
March 2011	Energia Communications terminated ISDN service.
December 2013	QTNet terminated its ISDN service.

• Change in NTT's Call Rates (weekday daytime for 3 minutes)

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-Pref.) NTT Com	Apr. 2000	—	—	20	40		70		90						
	Mar. 2001	—	—	20	40		60		80						
(intra-Pref.) NTT East & West	Oct. 2000	—	10	20	30		40								
	Jan. 2001	—	9*	20	30		40								
May. 2001	—	8.5	20	30		40									

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 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 Phone and PHS Services

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 4x4 MIMO.
September 2017	KDDI began providing communication service with a maximum downlink of 708 Mbps by introducing 265 QAM and 4x4 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.

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.

2-3-2-2 Progress of Service Provision and Movements of Carriers — PHS

July 1995	DDI TOKYO POCKET TELEPHONE, Inc. DDI HOKKAIDO POCKET TELEPHONE Inc., NTT Central Personal Communications Network Inc., and NTT Hokkaido Personal Communications Network Inc. inaugurated services. After October 1995, 7 companies of DDI POCKET TELEPHONE Group, 7 companies of NTT Personal Communications Network Group and 10 companies of ASTEL Group inaugurated services.
February 1997	The new subscription fee was abolished.
December 1998	Nine companies of NTT Personal Communications Network Group assigned their business to nine companies of NTT DOCOMO Group.
April 1999	ASTEL Tokyo Corporation was merged into Tokyo Telecommunication Network Co., Inc. NTT DOCOMO Group inaugurated 64kbps data communications service.
November 1999	ASTEL Hokkaido Corporation assigned its business to HOKKAIDO TELECOMMUNICATION NETWORK CO., Inc.
January 2000	Nine companies of DDI POCKET TELEPHONE Group were amalgamated as DDI POCKET Inc.
September 2000	ASTEL Tohoku Corporation assigned its business to Tohoku Intelligent Telecommunication Co., Inc.
November 2000	ASTEL Chubu and CHUBU TELECOMMUNICATIONS CO., INC. merged. ASTEL KANSAI CORPORATION assigned its business to K-Opticom Corporation.
April 2001	ASTEL KYUSHU assigned its business to Kyushu Telecommunication Network Co., Inc.
August 2001	DDI Pocket Inc. inaugurated fixed-rate data communication service.
October 2001	Astel Chugoku Corporation assigned its business to Chugoku Information System Service Co., Inc.
December 2001	Astel Hokuriku Corporation assigned its business to Hokuriku Telecommunication Network Co., Inc.
March 2002	Astel Shikoku Corporation assigned its business to Shikoku Information and Telecommunication Network Company, Incorporated.
April 2002	Shikoku Information and Telecommunication Network Company, Incorporated changed the company name to STNet Incorporated.
August 2002	Tokyo Telecommunication Network Company, Incorporated assigned its PHS business to Magic Mail Inc.
October 2002	Magic Mail Inc. was merged with Yozan Inc.
April 2003	NTT DOCOMO group inaugurated fixed-rate data communication service.
July 2003	Chugoku Telecommunication Network merged with Chugoku Information System Service and reorganized as Energia Communications.
November 2003	Kyushu Telecommunications Network Co., Inc. terminated their PHS telephone service.
March 2004	Hokkaido Telecommunications Network Co., Inc. terminated their PHS telephone service.
May 2004	Hokuriku Telecommunications Network Co., Inc. terminated their PHS telephone service.
September 2004	K-Opticom Corporation terminated the PHS voice telephone service out of their PHS services.
October 2004	DDI Pocket, Inc. became independent from the KDDI group.
December 2004	Energia Communications ceased to provide PHS voice telephone service out of their PHS services.
January 2005	Astel Okinawa transferred goodwill to WILLCOM Okinawa.

February 2005	DDI Pocket, Inc. changed the name to WILLCOM, Inc.
May 2005	STNet ceased to provide their PHS telephone service.
May 2005	Chubu Telecommunications Co., Inc. ceased to provide their PHS communication service.
May 2005	Willcom started "Willcom Teigaku Plan" fixed-rate service.
June 2006	YOZAN terminated its PHS telephone service.
December 2006	Tohoku Intelligent Telecommunication terminated its PHS telephone service.
October 2007	Energia Communications terminated PHS services.
January 2008	NTT DOCOMO Group terminated their PHS services.
December 2010	Willcom started the "Fixed Rate with Anyone" service.
September 2011	K-Opticom terminated its PHS service.
June 2014	Willcom merged with eAccess (eAccess Ltd.).

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.

2-3-4 Leased Circuit and Data Transmission Services

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

• Transition 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.

(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.

• **Transition 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.

(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.

