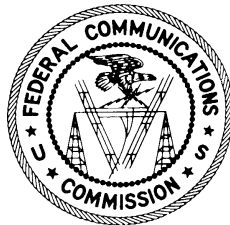


# Voice Telephone Services: Status as of June 30, 2016

Industry Analysis and Technology Division  
Wireline Competition Bureau  
April 2017



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This report is available for reference in the FCC's Reference Information Center, Courtyard Level, 445 12th Street, SW, Washington, DC. Copies may be purchased by contacting Best Copy and Printing, Inc., 445 12th Street, SW, Room CY-B402, Washington, DC 20554, telephone (800) 378-3160, or via their website at [www.bcpiweb.com](http://www.bcpiweb.com). The report can also be downloaded from the Voice Telephone Services Reports webpage at <https://www.fcc.gov/general/iatd-data-statistical-reports>.

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### SUPPLEMENTAL MATERIALS AVAILABLE ON FCC WEBSITE

- Table 1 and Table 2 in Excel format (national-level data back to June 2015)
- State-level Subscriptions table in Excel format (data back to June 2015)
- State-level Number of Providers table in Excel format (data back to June 2015)
- County-level Subscriptions information in Excel format (data back to June 2014)
- CSV-format file of consistent data series published for 2008-2016
- Crosswalk to the report *Local Telephone Competition: Status as of December 31, 2013* in PDF format

# Voice Telephone Services: Status as of June 30, 2016

## Introduction

The Commission has used FCC Form 477 to collect subscribership information from providers of voice telephone services – the incumbent local exchange carriers (ILECs), competitive local exchange carriers (CLECs), and mobile voice providers – since December 1999. The Commission has required interconnected Voice over Internet Protocol (“interconnected VoIP”) service providers to report subscribership information since December 2008 because the use of VoIP technology is growing rapidly and it increasingly is used to provide voice telephone service.<sup>1</sup> Also, starting with the data reported for 2014, Form 477 has been modified to distinguish “over-the-top” (colloquially, “bring your own broadband”) interconnected VoIP subscriptions from other interconnected VoIP subscriptions.<sup>2</sup>

This report summarizes the information collected about telephone services as of June 30, 2016. It demonstrates continued growth in subscribership to interconnected VoIP and mobile voice services and continued decline in subscribership to traditional wired telephone services.<sup>3</sup>

## Comparison to Local Telephone Competition Report

This report previously was titled *Local Telephone Competition*. Reports under the earlier title summarized Form 477 data through December 31, 2013. Reports under the current title provide much of the summarized data as supplemental spreadsheet files, available at <https://www.fcc.gov/voice-telephone-services-report>. A crosswalk between data elements in this report and data elements in the *Local Telephone Competition* report is available at that page.

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<sup>1</sup> The FCC’s rules (at 47 C.F.R. § 9.3) state:

An interconnected Voice over Internet Protocol (VoIP) service is a service that:

- (1) Enables real-time, two-way voice communications;
- (2) Requires a broadband connection from the user’s location;
- (3) Requires Internet protocol-compatible customer premises equipment (CPE); and
- (4) Permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.

We note that the current interpretation of element (4) of the definition excludes the VoIP services that Skype offers in the United States, and subscribers to those services are not reported on Form 477.

<sup>2</sup> The Technical Notes and the Glossary that appear at the end of this report provide more-detailed information about the current Form 477 and the meaning of terms used in this report. To be consistent with modifications to Form 477 that were adopted in 2013 (to be effective for reporting June 2014 and later data), and to avoid confusion, this report no longer uses the terms “standalone VoIP” and, by contrast, “broadband bundle.” Standalone VoIP in the earlier, *Local Telephone Competition*, reports has a different meaning from “over-the-top” VoIP in this report. In particular, subscriptions reported as standalone VoIP for December 2013 and earlier dates included over-the-top subscriptions as defined in this report and also video-plus-VoIP service subscriptions sold by cable TV system operators and other entities that own last-mile facilities to end-user premises. We note that, accordingly, 13% of total interconnected VoIP subscriptions were categorized as standalone VoIP in December 2013 and, by contrast, 10% of total interconnected VoIP subscriptions were categorized as over-the-top VoIP in December 2014.

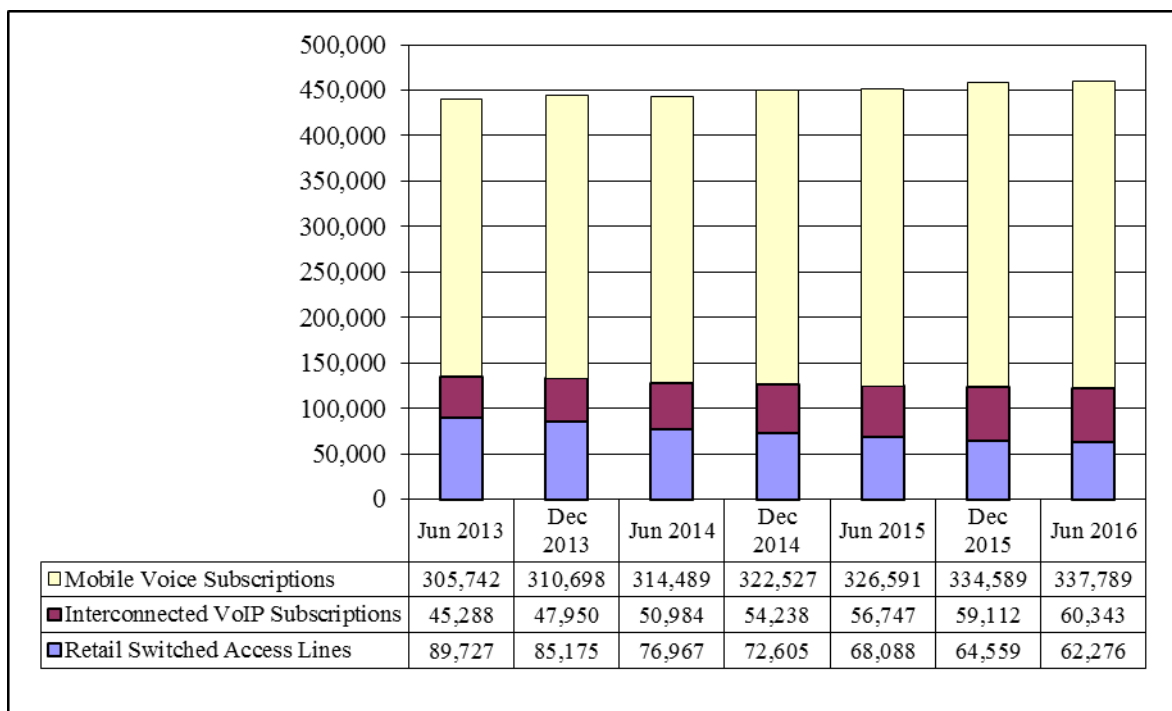
<sup>3</sup> The presentation of mobile wireless telephone subscriber counts in this report does not constitute, or imply, Commission analysis of the extent to which wireline and mobile wireless telephone services are demand substitutes or complements in general or in any particular situation.

## Retail Voice Telephone Service Connections

Retail voice telephone service customers are served by two wireline technologies – “end-user” switched access lines and interconnected VoIP “subscriptions” – and by mobile wireless subscriptions.

- In June 2016, there were 62 million end-user switched access lines in service, 60 million interconnected VoIP subscriptions, and 338 million mobile subscriptions in the United States, or 460 million retail voice telephone service connections in total. See Figure 1.
- Over the three-year period presented in Figure 1, interconnected VoIP subscriptions increased at a compound annual growth rate of 10%, mobile voice subscriptions increased at a compound annual growth rate of 3%, and retail switched access lines declined at 11% per year.<sup>4</sup>

**Figure 1**  
**Retail Voice Telephone Service Connections, 2013-2016**  
**(in Thousands)**



Some previously published data have been revised.

- Of the 123 million wireline retail voice telephone service connections (including both switched access lines and interconnected VoIP subscriptions) in June 2016, 66 million (or 54%) were residential connections and 56 million (or 46%) were business connections.<sup>5</sup> See Figure 2.

<sup>4</sup> The compound annual growth rate (CAGR) is a smoothed rate of growth calculated in three steps. First, divide the ending value by the beginning value. Second, raise the result of that division to a power equal to one divided by the number of years in the period (in this case, 3 years, so the power is 1/3). Third, subtract the number one from the result of the second step.

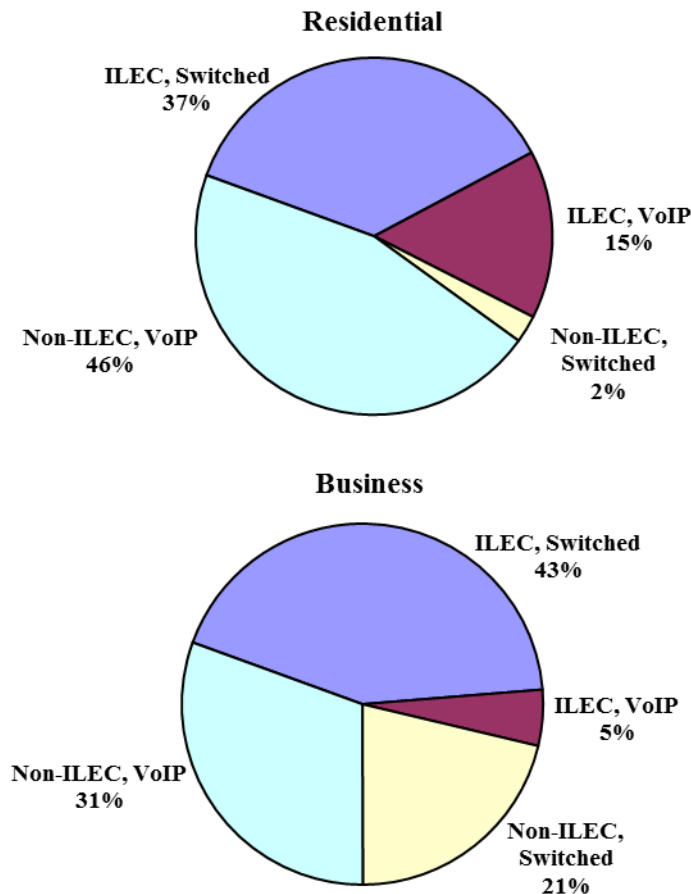
<sup>5</sup> FCC Form 477 does not distinguish between residential and business subscribers to mobile *voice* service. The information that Form 477 collects about mobile *broadband* service is summarized elsewhere; see *Internet Access Services: Status as of June 30, 2016*, available at <https://www.fcc.gov/reports-research/reports/internet-access-services-reports/internet-access-services-reports>.

**Figure 2**  
**Wireline Retail Voice Telephone Service Connections by Technology, Regulatory Status,**  
**and Customer Type as of June 30, 2016 (in Thousands)**

<b>Total</b>	<b>Switched Access Lines</b>	<b>Interconnected VoIP</b>	<b>Total</b>
ILEC	48,633	12,903	61,535
Non-ILEC	13,643	47,440	61,083
<b>Total</b>	<b>62,276</b>	<b>60,343</b>	<b>122,619</b>
<b>Residential</b>			
ILEC	24,286	10,078	34,364
Non-ILEC	1,652	30,184	31,835
<b>Residential Total</b>	<b>25,938</b>	<b>40,262</b>	<b>66,200</b>
<b>Business</b>			
ILEC	24,346	2,825	27,171
Non-ILEC	11,991	17,256	29,248
<b>Business Total</b>	<b>36,338</b>	<b>20,081</b>	<b>56,419</b>

Figures may not sum to totals due to rounding.

ILEC = Incumbent local exchange carrier. A voice-service affiliate of an ILEC that is operating outside the ILEC's traditional service area ("study area") is a Non-ILEC.



- Cross-classified by technology and the retailer’s regulatory status in Figure 2, the 66 million wireline residential connections in June 2016 were: 37% ILEC switched access lines, 46% non-ILEC interconnected VoIP subscriptions, 15% ILEC interconnected VoIP subscriptions, and 2% non-ILEC switched access lines. Similarly, the 56 million wireline business connections were: 43% ILEC switched access lines, 31% non-ILEC interconnected VoIP subscriptions, 5% ILEC interconnected VoIP subscriptions, and 21% non-ILEC switched access lines.

### **Retail Service Relationships**

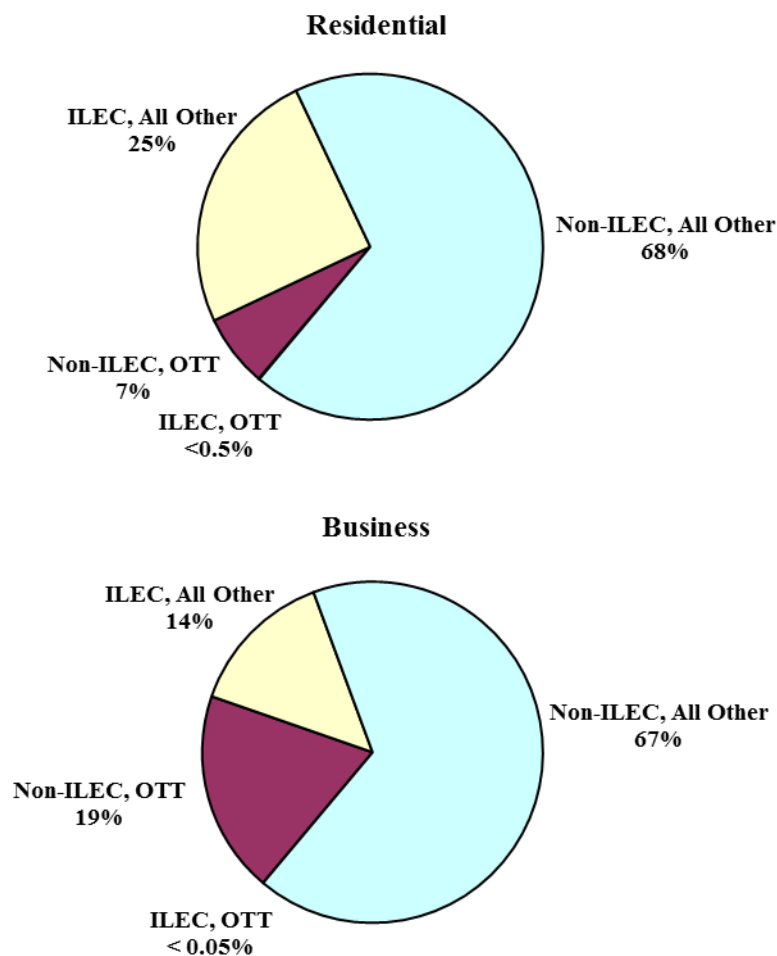
The revised Form 477 program collects two types of information about retail service relationships.

- Interconnected VoIP service retailers distinguish over-the-top (“OTT”) interconnected VoIP subscriptions—which, in the revised Form 477 program, means that the VoIP service end user has purchased (or has use of) a broadband connection from an entity that is not affiliated with the VoIP service retailer—by contrast to all other interconnected VoIP subscriptions. See Figure 3.
- Retailers of switched access lines and retailers of interconnected VoIP service distinguish between sales to end users who do not also purchase Internet access from them (including affiliates) and sales to end users who do purchase both these services. See Figure 4.

**Figure 3**  
**Interconnected VoIP Subscriberhip by Reported Service Features, Regulatory Status,**  
**and Customer Type as of June 30, 2016 (in Thousands)**

<b>Total</b>	<b>Over-the-Top (OTT)</b>	<b>All Other VoIP</b>	<b>Total</b>
ILEC	35	12,867	12,903
Non-ILEC	6,588	40,852	47,440
<b>Total</b>	<b>6,624</b>	<b>53,720</b>	<b>60,343</b>
<b>Residential</b>			
ILEC	33	10,045	10,078
Non-ILEC	2,733	27,450	30,184
<b>Residential Total</b>	<b>2,767</b>	<b>37,495</b>	<b>40,262</b>
<b>Business</b>			
ILEC	2	2,822	2,825
Non-ILEC	3,855	13,402	17,256
<b>Business Total</b>	<b>3,857</b>	<b>16,225</b>	<b>20,081</b>

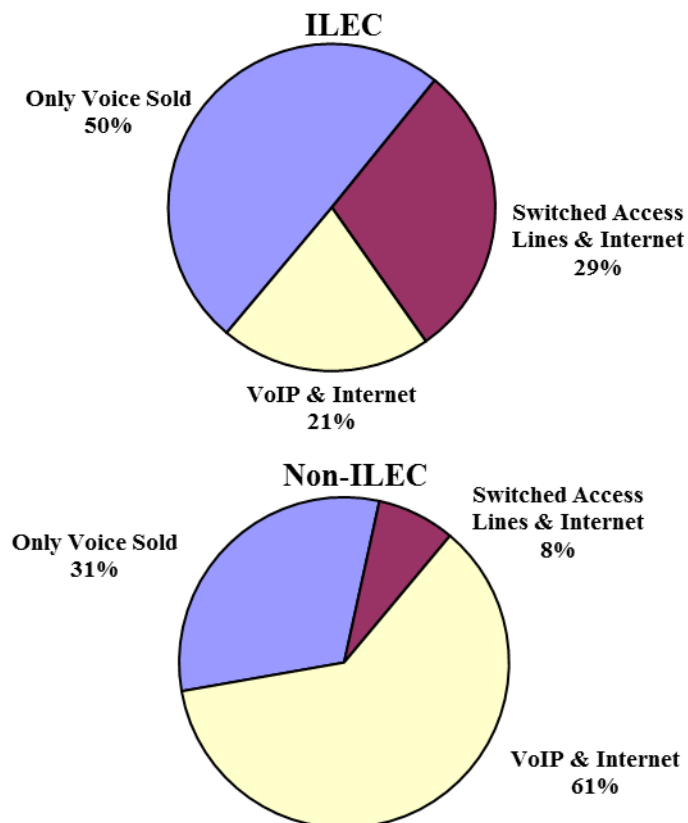
Figures may not sum to totals due to rounding.



**Figure 4**  
**Retail Relationships of Wireline Voice Telephone Service with Internet Access Service**  
**by Regulatory Status as of June 30, 2016 (in Thousands)**

<b>Total Sold to End Users</b>	<b>ILEC</b>	<b>Non-ILEC</b>	<b>Total</b>
Switched Access Lines	48,633	13,643	62,276
Over-the-Top VoIP	35	6,588	6,624
All Other VoIP	12,867	40,852	53,720
<b>Total</b>	<b>61,535</b>	<b>61,083</b>	<b>122,619</b>
<b>Internet Also Sold</b>			
Switched Access Lines	18,106	4,674	22,780
Over-the-Top VoIP	0	0	0
All Other VoIP	12,836	37,337	50,174
<b>Both Sold Total</b>	<b>30,942</b>	<b>42,011</b>	<b>72,954</b>
<b>Internet Not Also Sold</b>			
Switched Access Lines	30,527	8,969	39,496
Over-the-Top VoIP	35	6,588	6,624
All Other VoIP	31	3,515	3,546
<b>Only Voice Total</b>	<b>30,593</b>	<b>19,072</b>	<b>49,665</b>

Figures may not sum totals due to rounding.





## Detailed Voice Telephone Services Data

The remainder of this document consists of national information, technical notes, and a glossary of terms.

- Table 1 summarizes national-level voice telephone service subscription data for June 2016, and also for December and June 2015, for individual data elements collected by FCC Form 477.
- Table 2 shows the number of entities that reported the national-level subscription data for June 2016, and also for December and June 2015.

Table 1 and Table 2 are available in Excel format at <https://www.fcc.gov/voice-telephone-services-report>. Also available at that page are:

- State-level Subscriptions table in Excel format (data back to June 2015)
- State-level Number of Providers table in Excel format (data back to June 2015)
- County-level Subscriptions information in Excel format (data back to June 2014)
- CSV-format file of the consistent data series that are available back to December 2008, when interconnected VoIP retailers were first required to report subscription information on Form 477.

Earlier data, back to December 1999, are available in the Local Telephone Competition reports at <https://www.fcc.gov/general/local-telephone-competition-reports>. However, researchers who consider using the complete data series for trend analysis should recall the discontinuities in the data that arise from Form 477 modifications over time.

- Between December 1999 and December 2004, Form 477 collected state-by-state data only from local exchange carriers with at least 10,000 end-user switched access lines in service in the state, and from facilities-based mobile voice carriers with at least 10,000 mobile voice subscriptions in service in the state.
- Prior to December 2008, interconnected VoIP service retailers were not required to submit Form 477, but an unknown amount of interconnected VoIP service was included along with the switched access lines reported by some Form 477 filers.
- As discussed earlier in this report, the category standalone interconnected VoIP that was reported from December 2008 to December 2013 is different (that is, includes more subscriptions) than the category over-the-top interconnected VoIP that is reported starting with the June 2014 data.<sup>6</sup>

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<sup>6</sup> See footnote 2, above.

**Table 1. Voice Subscriptions (in Thousands) - Total for US**

Reference	Data element	June 2016	Dec 2015	June 2015
1	Mobile telephony	337,789	334,589	326,591
2	Directly-billed or prepaid	306,275	295,632	286,565
3	Not directly-billed or prepaid	31,514	38,958	40,026
4	Wireline End-User Switched Access Lines and Interconnected VoIP Subscriptions	122,619	123,671	124,836
5	Incumbent LECs	61,535	63,678	66,872
6	Other (Non-ILECs) - Note: ILEC voice-service affiliate operating outside ILEC's study area is included here.	61,083	59,993	57,964
7	Consumer-grade service	66,200	67,524	68,857
8	Incumbent LECs	34,364	35,900	37,888
9	Other (Non-ILECs)	31,835	31,624	30,969
10	Business & Government-grade service	56,419	56,147	55,979
11	Incumbent LECs	27,171	27,778	28,983
12	Other (Non-ILECs)	29,248	28,369	26,995
13	Local exchange telephone service (Switched Access Lines)	62,276	64,559	68,088
14	Incumbent LECs	48,633	51,073	54,639
15	Other (Non-ILECs) - Note: ILEC voice-service affiliate operating outside ILEC's study area is included here.	13,643	13,487	13,450
16	Consumer-grade service	25,938	27,564	29,766
17	Incumbent LECs	24,286	25,807	27,915
18	Other (Non-ILECs)	1,652	1,757	1,851
19	Business & Government-grade service	36,338	36,995	38,323
20	Incumbent LECs	24,346	25,265	26,724
21	Other (Non-ILECs)	11,991	11,730	11,598
22	Interconnected VoIP Subscriptions - Note: Includes both Over-the-top (OTT) and All Other sub-categories.	60,343	59,112	56,747
23	Incumbent LECs	12,903	12,605	12,233
24	Other (Non-ILECs) - Note: ILEC voice-service affiliate operating outside ILEC's study area is included here.	47,440	46,507	44,514
25	Consumer-grade service	40,262	39,960	39,091
26	Incumbent LECs	10,078	10,093	9,974
27	Other (Non-ILECs)	30,184	29,868	29,117
28	Business & Government-grade service	20,081	19,152	17,656
29	Incumbent LECs	2,825	2,512	2,259
30	Other (Non-ILECs)	17,256	16,639	15,397
31	Over-the-top interconnected VoIP	6,624	6,101	5,346
32	Incumbent LECs	35	36	37
33	Other (Non-ILECs) - Note: ILEC voice-service affiliate operating outside ILEC's study area is included here.	6,588	6,065	5,309
34	Consumer-grade service	2,767	2,788	2,649
35	Incumbent LECs	33	34	33
36	Other (Non-ILECs)	2,733	2,754	2,616
37	Business & Government-grade service	3,857	3,313	2,697
38	Incumbent LECs	2	2	3
39	Other (Non-ILECs)	3,855	3,311	2,694
40	All Other interconnected VoIP	53,720	53,011	51,401
41	Incumbent LECs	12,867	12,569	12,196
42	Other (Non-ILECs) - Note: ILEC voice-service affiliate operating outside ILEC's study area is included here.	40,852	40,442	39,205
43	Consumer-grade service	37,495	37,172	36,442
44	Incumbent LECs	10,045	10,058	9,940
45	Other (Non-ILECs)	27,450	27,113	26,502
46	Business & Government-grade service	16,225	15,839	14,959
47	Incumbent LECs	2,822	2,510	2,256
48	Other (Non-ILECs)	13,402	13,328	12,703
49	Local exchange telephone service by last-mile delivery medium	62,276	64,559	68,088
50	Fiber-to-the-premises	6,247	5,561	5,387

**Table 1. Voice Subscriptions (in Thousands) - Total for US**

Reference	Data element	June 2016	Dec 2015	June 2015
51	Incumbent LECs	3,617	3,457	3,394
52	Other (Non-ILECs)	2,631	2,104	1,993
53	Coaxial cable	1,294	1,058	1,416
54	Incumbent LECs	56	50	59
55	Other (Non-ILECs)	1,238	1,007	1,357
56	Terrestrial fixed wireless	527	540	545
57	Incumbent LECs	516	523	536
58	Other (Non-ILECs)	11	17	9
59	Copper local loop	54,207	57,402	60,741
60	Incumbent LECs	44,444	47,043	50,650
61	Other (Non-ILECs)	9,763	10,359	10,091
62	All Other interconnected VoIP by last-mile delivery medium	53,720	53,011	51,401
63	Fiber-to-the-premises	6,798	6,952	7,012
64	Incumbent LECs	5,341	5,306	5,163
65	Other (Non-ILECs)	1,457	1,645	1,849
66	Coaxial cable	34,193	33,416	32,285
67	Incumbent LECs	6	7	5
68	Other (Non-ILECs)	34,187	33,409	32,280
69	Terrestrial fixed wireless or satellite	86	69	68
70	Incumbent LECs	0	1	1
71	Other (Non-ILECs)	86	68	67
72	Copper local loop	12,643	12,575	12,036
73	Incumbent LECs	7,521	7,255	7,027
74	Other (Non-ILECs)	5,122	5,320	5,008
75	Non-Incumbent LEC local exchange telephone service by means of provisioning	13,643	13,487	13,450
76	Provided over owned last-mile facilities	4,873	4,551	4,661
77	Provided over UNE-L obtained from unaffiliated entity	2,590	2,503	2,368
78	Provided over other services obtained from unaffiliated entity	6,180	6,433	6,420
79	Incumbent LEC local exchange telephone service provided to unaffiliated carriers for resale	5,767	6,063	6,091
80	Wholesale lines	3,546	3,608	3,667
81	UNE-L	2,221	2,455	2,424
82	Local exchange telephone service and long-distance service	62,276	64,559	68,088
83	Consumer-grade service	25,938	27,564	29,766
84	Incumbent LEC is preferred long-distance carrier for its local exchange service customer	15,841	16,847	18,117
85	Incumbent LEC is not preferred long-distance carrier for its local exchange service customer	8,445	8,960	9,798
86	Non-ILEC is preferred long-distance carrier for its local exchange service customer	1,391	1,491	1,576
87	Non-ILEC is not preferred long-distance carrier for its local exchange service customer	261	265	275
88	Business & Government-grade service	36,338	36,995	38,323
89	Incumbent LEC is preferred long-distance carrier for its local exchange service customer	12,998	13,567	14,330
90	Incumbent LEC is not preferred long-distance carrier for its local exchange service customer	11,348	11,698	12,394
91	Non-ILEC is preferred long-distance carrier for its local exchange service customer	7,980	8,639	8,845
92	Non-ILEC is not preferred long-distance carrier for its local exchange service customer	4,011	3,091	2,754
93	End user buys local exchange telephone service and Internet access service from same entity	22,780	22,807	23,561
94	End user buys both services from incumbent LEC or affiliates	18,106	18,578	20,002
95	End user buys both services from Non-ILEC or affiliates	4,674	4,230	3,559
96	End user buys interconnected VoIP and Internet access service from same entity	50,174	48,965	46,755
97	End user buys both services from incumbent LEC or affiliates	12,836	12,536	12,169
98	End user buys both services from Non-ILEC or affiliates	37,337	36,429	34,586

**Table 2. Number of Providers Reporting Voice Subscriptions - Total for US**

Reference	Data element	June 2016	Dec 2015	June 2015
1	Mobile telephony	127	130	140
2	Directly-billed or prepaid	126	126	138
3	Not directly-billed or prepaid	23	25	26
4	Wireline End-User Switched Access Lines and Interconnected VoIP Subscriptions	1,668	1,644	1,616
5	Incumbent LECs	740	739	741
6	Other (Non-ILECs) - Note: ILEC voice-service affiliate operating outside ILEC's study area is included here.	1,210	1,178	1,132
7	Consumer-grade service	1,236	1,243	1,239
8	Incumbent LECs	739	738	740
9	Other (Non-ILECs)	758	759	745
10	Business & Government-grade service	1,563	1,539	1,506
11	Incumbent LECs	736	736	735
12	Other (Non-ILECs)	1,105	1,070	1,025
13	Local exchange telephone service (Switched Access Lines)	1,028	1,026	1,026
14	Incumbent LECs	737	736	738
15	Other (Non-ILECs) - Note: ILEC voice-service affiliate operating outside ILEC's study area is included here.	516	514	506
16	Consumer-grade service	921	921	918
17	Incumbent LECs	737	736	738
18	Other (Non-ILECs)	398	400	392
19	Business & Government-grade service	1,008	1,005	1,000
20	Incumbent LECs	734	734	733
21	Other (Non-ILECs)	495	491	483
22	Interconnected VoIP Subscriptions - Note: Includes both Over-the-top (OTT) and All Other sub-categories.	994	952	903
23	Incumbent LECs	97	89	85
24	Other (Non-ILECs) - Note: ILEC voice-service affiliate operating outside ILEC's study area is included here.	957	917	867
25	Consumer-grade service	498	494	485
26	Incumbent LECs	48	43	45
27	Other (Non-ILECs)	470	467	458
28	Business & Government-grade service	900	857	803
29	Incumbent LECs	92	85	80
30	Other (Non-ILECs)	866	825	770
31	Over-the-top interconnected VoIP	559	529	470
32	Incumbent LECs	20	17	17
33	Other (Non-ILECs) - Note: ILEC voice-service affiliate operating outside ILEC's study area is included here.	549	520	462
34	Consumer-grade service	151	155	147
35	Incumbent LECs	8	8	9
36	Other (Non-ILECs)	145	149	140
37	Business & Government-grade service	517	484	421
38	Incumbent LECs	17	14	14
39	Other (Non-ILECs)	509	478	416
40	All Other interconnected VoIP	620	605	604
41	Incumbent LECs	90	81	79
42	Other (Non-ILECs) - Note: ILEC voice-service affiliate operating outside ILEC's study area is included here.	587	574	572
43	Consumer-grade service	391	388	386
44	Incumbent LECs	42	38	40
45	Other (Non-ILECs)	367	365	364
46	Business & Government-grade service	553	539	537
47	Incumbent LECs	85	78	75
48	Other (Non-ILECs)	523	510	506
49	Local exchange telephone service by last-mile delivery medium	1,028	1,026	1,026
50	Fiber-to-the-premises	680	677	656

**Table 2. Number of Providers Reporting Voice Subscriptions - Total for US**

Reference	Data element	June 2016	Dec 2015	June 2015
51	Incumbent LECs	539	530	518
52	Other (Non-ILECs)	301	304	290
53	Coaxial cable	94	90	91
54	Incumbent LECs	20	21	23
55	Other (Non-ILECs)	82	79	77
56	Terrestrial fixed wireless	69	76	69
57	Incumbent LECs	42	44	46
58	Other (Non-ILECs)	37	43	33
59	Copper local loop	857	872	884
60	Incumbent LECs	633	639	654
61	Other (Non-ILECs)	359	371	363
62	All Other interconnected VoIP by last-mile delivery medium	620	605	604
63	Fiber-to-the-premises	344	339	320
64	Incumbent LECs	68	62	60
65	Other (Non-ILECs)	318	315	292
66	Coaxial cable	211	219	215
67	Incumbent LECs	8	9	10
68	Other (Non-ILECs)	209	214	211
69	Terrestrial fixed wireless or satellite	196	182	177
70	Incumbent LECs	11	8	8
71	Other (Non-ILECs)	187	175	171
72	Copper local loop	230	215	214
73	Incumbent LECs	49	41	40
74	Other (Non-ILECs)	205	192	195
75	Non-Incumbent LEC local exchange telephone service by means of provisioning	516	514	506
76	Provided over owned last-mile facilities	363	356	345
77	Provided over UNE-L obtained from unaffiliated entity	128	129	133
78	Provided over other services obtained from unaffiliated entity	216	226	226
79	Incumbent LEC local exchange telephone service provided to unaffiliated carriers for resale	51	42	40
80	Wholesale lines	48	41	38
81	UNE-L	13	10	11
82	Local exchange telephone service and long-distance service	1,028	1,026	1,026
83	Consumer-grade service	921	921	918
84	Incumbent LEC is preferred long-distance carrier for its local exchange service customer	668	677	666
85	Incumbent LEC is not preferred long-distance carrier for its local exchange service customer	691	681	689
86	Non-ILEC is preferred long-distance carrier for its local exchange service customer	372	372	357
87	Non-ILEC is not preferred long-distance carrier for its local exchange service customer	273	271	279
88	Business & Government-grade service	1,008	1,005	1,000
89	Incumbent LEC is preferred long-distance carrier for its local exchange service customer	667	675	661
90	Incumbent LEC is not preferred long-distance carrier for its local exchange service customer	669	658	662
91	Non-ILEC is preferred long-distance carrier for its local exchange service customer	448	442	430
92	Non-ILEC is not preferred long-distance carrier for its local exchange service customer	319	321	315
93	End user buys local exchange telephone service and Internet access service from same entity	917	903	900
94	End user buys both services from incumbent LEC or affiliates	715	711	710
95	End user buys both services from Non-ILEC or affiliates	418	406	397
96	End user buys interconnected VoIP and Internet access service from same entity	568	567	553
97	End user buys both services from incumbent LEC or affiliates	83	74	70
98	End user buys both services from Non-ILEC or affiliates	534	538	522

## Technical Notes

### **General**

Detailed information about the current Form 477 reporting requirements is available at <https://www.fcc.gov/general/form-477-resources-filers#block-menu-block-4>.

See Glossary for definitions of terms used in this report.

### **Counting lines and subscribers**

- Form 477 counts both switched access lines and interconnected VoIP subscriptions as the maximum number of calls that may be active, simultaneously, from the end user's location under the purchased service plan. All VoIP subscriptions discussed in this report are interconnected VoIP subscriptions.
- Form 477 data may not count all VoIP phone connections to Internet Protocol Private Branch Exchange (IP PBX) equipment that is owned by business end users because of the variety of ways the IP PBX may connect to the public switched telephone network.

### **Holding company-subsidiary relationships**

- When counting service providers that report voice telephone service in a particular geography, we count a holding company or common-control entity no more than once in any specified sub-category of total providers.
- Nationwide counts of providers are unique counts for any specified sub-category of total providers (for example, all non-ILECs or all interconnected VoIP providers); an entity operating in multiple states is counted only once.

### **ILEC-CLEC affiliations**

- If a CLEC is affiliated with an ILEC and reports some end-user switched access lines or interconnected VoIP subscriptions in the ILEC's service area in the state, then the switched access lines or interconnected VoIP subscriptions reported by the CLEC are allocated between the ILEC and non-ILEC categories based on staff estimates.

### **Mobile voice subscriptions**

- Commercial mobile radio service (CMRS) carriers that own or operate wireless networks report both their retail voice service subscriptions and the retail subscriptions of the mobile voice service resellers that use their network. Mobile voice service resellers do not file Form 477.

### **UNE-Platform lines replaced by commercial agreements**

- UNE-Platform (UNE-P) was the combination of ILEC loop UNE, switching UNE, and transport UNE. The Commission directed CLECs to migrate their retail customers served by UNE-P to an alternative arrangement within 12 months of the effective date of the *Triennial Review Remand Order*, that is, by March 11, 2006. See C.F.R. § 51.319(d)(2)(ii). Such lines are reported on Form 477 as ILEC wholesale lines provided to unaffiliated providers for resale.

## Glossary

<b>Term</b>	<b>Definition</b>
All Other interconnected VoIP	Interconnected VoIP service other than OTT interconnected VoIP. (See the definition of OTT VoIP, below.)
Circuit switching	A method of completing electronic communications in which a transmission path is established for dedicated use by a communication; the basis of the public switched telephone network (PSTN).
Coaxial cable	The technology widely used by cable system operators to terminate their services at the end user's premises.
Copper local loop	The technology widely used by telephone companies to terminate their service at the end user's premises.
CLEC	Competitive Local Exchange Carrier: A local exchange carrier (LEC) that operates within the traditional service area of an unaffiliated incumbent LEC.
End users	Residential, business, institutional, or government entities that use services for their own purposes and who do not resell such services to other entities.
Fixed wireless service	A radio communication service between specified fixed points.
FTTP or FTTH	Fiber to the Premises (Home): A network access architecture in which optical fiber is deployed all the way to the customer's premises (home).
Internet access service	Service that provides end users access to the Internet.
ILEC	Incumbent Local Exchange Carrier: A company or cooperative that was providing telephone service in a localized area, typically on a monopoly basis, prior to enactment of the Telecommunications Act of 1996.
Internet protocol or IP	A language and set of formal rules that govern how packets transit the Internet.
Interconnected VoIP or iVoIP	A service that enables real-time, two-way voice communications; requires a broadband connection from the user's location; requires Internet-protocol compatible customer premises equipment; and permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.
LEC	Local Exchange Carrier: A company that provides telephone service within a localized area and access services that connect its customers to long-distance (Interexchange Carrier) networks.
Local loop	The physical connection between the customer's premises and the telephone company's local switching office, typically provided using copper, fiber, or a combination of copper and fiber facilities.
Mobile wireless service	A radio communication service between mobile and fixed stations, or between mobile stations.

Non-ILEC	Any provider of communications services who does not have ILEC regulatory status. A voice-service affiliate of an ILEC that is operating outside the ILEC's traditional service area ("study area") is a Non-ILEC.
OTT interconnected VoIP	Over-the-top interconnected VoIP: Service delivered to the end-user customer's premises over a high-capacity connection that the customer obtains (that is, buys), or has the use of, from an entity not affiliated with the interconnected VoIP service provider. (Colloquially, "bring-your-own-broadband.")
PBX	Private Branch Exchange: A communications switch that is owned or leased by the service provider's end-user customer and generally located on the customer's premises.
Packet switching	A method of completing electronic communications in which the information is disassembled into discrete packets that are transmitted independently and later reassembled; IP is an example.
Retail wireline voice telephone service	Switched access lines and interconnected VoIP subscriptions for which an end user is the customer.
Switched access line	A service connection between an end user and the local telephone company's switch; the basis of plain old telephone service (POTS).
UNE	Unbundled Network Element: A physical or functional element of an ILEC network that must be provided to a CLEC at a cost-based price, as provide for in the Telecommunications Act of 1996.
UNE-L	UNE-Loop: An ILEC unbundled local loop provided to a CLEC at a cost-based price.
Wholesale switched access lines	Local telephone service provided to an unaffiliated telephone company, which resells the service to end users; typically provided by an ILEC to a CLEC.



