

Assumptions

Note

1	Number of interconnected VoIP service provider respondents.	
	Number of interconnected VoIP service providers subject to Compliance Letter base based on current 499 filers	393
	Number of interconnected VoIP service providers subject to all other information collection requirements. (Underlying IVoIP providers.)	12
	Systems replacing webpage / system each year	3

2 VoIP residential penetration:

YEAR	2006	2007	2008	2009	2010	2011
Accounts at year end in millions (#)	5.2	9.0	10.7	12.2	13.3	13.9
Initial registrations in year	2.6	3.8	1.7	1.5	1.1	0.6
Churn (##)	1.04	1.80	2.14	2.44	2.66	2.78
Other changes in millions (###)	1.04	1.80	2.14	2.44	2.66	2.78
Registrations	4.68	7.40	5.98	6.38	6.42	6.16
IVoIP phone sales (####)	3.5	5.4	4.2	4.5	4.4	4.2

#	We don't have definitive IVoIP customer counts. Data for 2005 through 2007 based on a combination of household penetration data and wireline customer counts.	
##	Percentage of VoIP customers that change providers each year.	20%
###	Other causes of additional registration, such as laptop users registering temporary locations, expressed as registrations per total number of accounts.	20%
####	Estimated as New accounts +1/3 of churn phones + 20% of prior year existing accounts (replacement phones)	

3	Annual costs for additional server space, memory, communications, and backup/recovery service associated with registration systems (per provider).	\$1,000
4	Hourly rate for senior attorney and officer time, based on 2009 GS 15 Step 10 [Washington-Baltimore-Northern Virginia] divided by 2000 hours and increased by 80% to reflect overhead and other loadings.	\$137.88
5	Hourly rate for development of web based software and internal data systems based on 2009 GS 13 Step 5 [Washington-Baltimore-Northern Virginia] annual salary divided by 2000 hours and increased by 80% to reflect overhead and other loadings.	\$88.67
6	Hourly rate for service representatives based on 2009 GS 7 Step 5 [Washington-Baltimore-Northern Virginia] annual salary divided by 2000 hours and increased by 80% to reflect overhead and other loadings.	\$42.03
7	Value of consumer time based on average hourly earnings for all private employment for November 2008 (Economic Report of the President, 2009, Table B-47).	\$18.30

Assumptions - Continued

Note #

8	Programmer hours needed by a service provider to develop, test & deploy a webpage to collect registration information, including FAQs, etc., and to develop a separate tracking system for mail-in registrations (per provider).	300												
9	Annual programming maintenance associated with registration information and E911 notification systems.	300												
10	Percentage of existing customers that will require telephone follow-up in order to obtain registration information and certification statement.	10%												
11	Average time to contact a customer, explain the purpose of the call and obtain registration information and customer certification (hours).	0.25												
12	Telephone contacts generated per hundred registrations.	1 = 1 percent												
13	Average service representative hours to handle each registration including time to verify that customer understands any E911 limitations.	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="padding: 2px;">hours</td> <td style="padding: 2px;">0.15</td> </tr> </table> = Minutes 9	hours	0.15										
hours	0.15													
14	Average customer hours to complete registration and verify that they understand the E911 limitations of providers (average for online & operator calls).	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="padding: 2px;">hours</td> <td style="padding: 2px;">0.09</td> </tr> </table> = Minutes 5.4	hours	0.09										
hours	0.09													
15	Number of consortiums that will develop router based gateways to relay E911 calls from Internet platforms to the E911 network.	2												
16	Number of gateway routers employed in each E911 network. (Depending on a number of factors, this value could range from 7 to 200. If the latter, some might not be deployed in the initial year.)	75												
17	Cost per gateway router (middle of estimated range of \$50,000 to \$200,000).	\$125,000												
18	Amortization period in years for router hardware.	5.0												
19	Connections to LEC specialized Routers:	200												
	Connections in same city.	75												
	Connections in different cities.	125												
20	Monthly Cost of T1 connections between gateway routers and specialized routers:													
	Connections in same city.	300												
	Connections in different cities.	1000												
21	Programmer hours needed by a service provider to develop, test & deploy and manage automated systems registering customer information to the ILEC ALI databas (Assumption that these have largely been developed by 2008													
hours	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">2005</td> <td style="padding: 2px;">2006</td> <td style="padding: 2px;">2007</td> <td style="padding: 2px;">2008</td> <td style="padding: 2px;">2009</td> <td style="padding: 2px;">2010 & beyond</td> </tr> <tr> <td style="padding: 2px;">2000</td> <td style="padding: 2px;">2000</td> <td style="padding: 2px;">2000</td> <td style="padding: 2px;">500</td> <td style="padding: 2px;">500</td> <td style="padding: 2px;">500</td> </tr> </table>	2005	2006	2007	2008	2009	2010 & beyond	2000	2000	2000	500	500	500	
2005	2006	2007	2008	2009	2010 & beyond									
2000	2000	2000	500	500	500									

Assumptions - Continued

Note #

- 22 Monthly charge per telephone number for ILEC handling of E911 calls
(includes access to ALI databases and specialized routers).

	2005	2006	2007	2008	2009	2010 & beyond
charge	\$1.25	\$0.85	\$0.50	\$0.50	\$0.50	\$0.50

- 23 Paper records per cubic foot. 500
- 24 Monthly cost per cubic foot of storage based on charges for off-site storage. \$0.80
- 25 Annual programmer time per provider to monitor storage of computerized records and perform backups (one hour per month). 12
- 26 Cost of mailout for each existing customer. \$2.75
- 27 Cost of E911 sticker and associated explanation material. \$0.25
- 28 Attorney time to prepare a compliance letter and officer time to review and sign the letter. 16

	Estimated Burden Hours to the Public				Estimated Dollar Burden to the Public			
	2009	2010	2011	Average 2009 to 2011	2009	2010	2011	Average 2009 to 2011
A. Collection of the "registered Location" from each VoIP customer								
1) Development and operation of registration location databases:								
Annual costs for additional server space, memory, communications, and backup/recovery service associated with registration systems Annual cost X number of service providers. See notes 1 and 3.					\$12,000	\$12,000	\$12,000	\$12,000
Programmer hours needed by a service provider to develop, test & deploy a webpage to collect Registered Location information, including FAQs, etc., and to develop a separate tracking system for mail-in registrations. Hours X cost per hour X number of service providers (Startup cost allocated 3 years). See notes 1, 5 and 8.	900	900	900	900	\$26,600	\$26,600	\$26,600	\$26,600
Annual programming maintenance associated with registration information systems and databases. Programmer & analyst hours X cost per hour X number of service providers. See notes 1, 5 and 9.	3,600	3,600	3,600	3,600	\$319,198	\$319,198	\$319,198	\$319,198
Subtotal	4,500	4,500	4,500	4,500	\$357,798	\$357,798	\$357,798	\$357,798
2) Costs to service providers of collecting registration information from existing customers that require telephone follow-up (i.e., those that do not respond to emails, billing inserts or separate letters). Estimated accounts on June 1 X percent follow-up X minutes per contact X cost per hour. (Start up cost allocated over 3 years.) See notes 2, 10, 11 and 6. NOTE: no startup cost after 2007								
3) Cost of handling new customers, churn customers, and existing customers that register additional locations, where the customer prefers to deal with a live service representative. Included also is the cost of handling complaints and customer inquiries about the registration requirement. (Registrations + Churn + changes) X percent requiring handling X time per call X hourly rate. See notes 2, 12, 13 and 6.	9,570	9,630	9,240	9,480	\$402,270	\$404,792	\$388,399	\$398,487
4) Burden to customers for providing information via webpage, mail, or calls to customer service. Registrations X time per registration X value of customer time See notes 2, 14 and 7.	574,200	577,800	554,400	568,800	\$10,507,860	\$10,573,740	\$10,145,520	\$10,409,040

	Estimated Burden Hours to the Public				Estimated Dollar Burden to the Public			
	2009	2010	2011	Average 2009 to 2011	2009	2010	2011	Average 2009 to 2011
A. Continued								
Subtotal Q12: Total Hours	587,370	591,030	567,240	581,880	\$11,229,328	\$11,297,731	\$10,853,117	\$11,126,725
Subtotal Q13A: Capital & Startup Cost	900	900	900	900	\$38,600	\$38,600	\$38,600	\$38,600
Subtotal Q13B: O&M and Services Cost								
Total burden for collection of the registered location from each customer	588,270	591,930	568,140	582,780	\$11,267,928	\$11,336,330	\$10,891,717	\$11,165,325
B. Making registered location information available to or through the ALI databases								
1) Annual equipment cost of VoIP gateway routers. (number of routers X cost per router / amortization years) X consortiums See notes 16, 17, 18 and 15.					\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000
2) Monthly telecommunications costs of connections between gateway routers and ILEC Selective Routers. (number of connections X cost per router X 12 months) X consortiums See notes 19, 20 and 15.					\$3,540,000	\$3,540,000	\$3,540,000	\$3,540,000
3) Programming and operations cost associated with updating ILEC ALI databases. Programmer hours X cost per hour X providers See notes 21, 5 and 1.	6,000	6,000	6,000	6,000	\$531,997	\$531,997	\$531,997	\$531,997
4) Monthly payments to ILECs for access to specialized routers, dedicated E911 network, and PSAP functions. Avg. customers per year X ILEC charge X months) See notes 2 and 22.					\$68,700,000	\$76,500,000	\$81,600,000	\$75,600,000
Subtotal Q12: Total Hours	6,000	6,000	6,000	6,000	\$531,997	\$531,997	\$531,997	\$531,997
Subtotal Q13A: Capital & Startup Cost					\$3,750,000	\$3,750,000	\$3,750,000	\$3,750,000
Subtotal Q13B: O&M and Services Cost					\$72,240,000	\$80,040,000	\$85,140,000	\$79,140,000
Total burden for making registered location information available to or through the ALI databases.	6,000	6,000	6,000	6,000	\$76,521,997	\$84,321,997	\$89,421,997	\$83,421,997

	Estimated Burden Hours to the Public				Estimated Dollar Burden to the Public			
	2009	2010	2011	Average 2009 to 2011	2009	2010	2011	Average 2009 to 2011
C. Customer notification								
1) Verifying that current customers have been notified of the E911 capabilities of the provider: hours and costs included with A-2.								
2) Verifying that new customers have received notification of the E911 capabilities of the provider: hours and costs included with A-3.								
3) Customer time spent reading / listening to E911 limitations and confirming that they have been notified: Covered in A-4.								
D. Record of Customer notification								
1) Cost of storing paper records for registration information and notification certifications where customer contact via phone for that year [[(Accounts on June 1 X percent follow-up) + (Registrations X percent requiring handling)] divided by accounts per cubic foot] X cost per foot X 12 months Cost for storage for current plus two prior years See notes 2, 10, 12, 23 and 24.					\$2,198	\$2,448	\$2,611	\$2,419
2) Computer records associated with certifications provided over the web. Hours per provider X cost per hour X number of providers See notes 12, 1 and 5.	144	144	144	144	\$12,768	\$12,768	\$12,768	\$12,768
Subtotal Q12: Total Hours	144	144	144	144	\$12,768	\$12,768	\$12,768	\$12,768
Subtotal Q13A: Capital & Startup Cost								
Subtotal Q13B: O&M and Services Cost					\$5,453	\$6,538	\$7,258	\$6,416
Total record keeping burden	144	144	144	144	\$14,966	\$15,216	\$15,379	\$15,187

	Estimated Burden Hours to the Public				Estimated Dollar Burden to the Public			
	2009	2010	2011	Average 2009 to 2011	2009	2010	2011	Average 2009 to 2011
E. User Notification Stickers								
1) Cost of mailing stickers to existing customers and to new customers that previously subscribed to a different provider (termed 'churn' in assumptions). [Existing customer (1995) + Churn Customers] X cost per mailout See notes 2 and 26.								
2) Cost of including stickers in newly sold phones. New Registrations X cost per sticker See notes 2 and 27.					\$1,113,333	\$1,106,667	\$1,046,667	\$1,088,889
Subtotal Q12: Total Hours								
Subtotal Q13A: Capital & Startup Cost					\$0	\$0	\$0	\$0
Subtotal Q13B: O&M and Services Cost					\$1,113,333	\$1,106,667	\$1,046,667	\$1,088,889
Total					\$1,113,333	\$1,106,667	\$1,046,667	\$1,088,889
F Compliance Letter to be submitted by the VoIP provider to the Commission								
1) Cost to prepare, review, sign and transmit letter. Hours X cost per hour X number of providers NOTE: THIS REQUIREMENT DROPPED SEE NOTES 28, 1 and 4.								
Subtotal Q12: Total Hours								
Subtotal Q13A: Capital & Startup Cost								
Subtotal Q13B: O&M and Services Cost								
Total								
Summary for all cost elements								
Subtotal Q12: Total Hours	593,514	597,174	573,384	588,024	\$11,774,094	\$11,842,496	\$11,397,882	\$11,671,491
Subtotal Q13A: Capital & Startup Cost	900	900	900	900	\$3,788,600	\$3,788,600	\$3,788,600	\$3,788,600
Subtotal Q13B: O&M and Services Cost	0	0	0	0	\$73,358,786	\$81,153,204	\$86,193,924	\$80,235,305
Total All	594,414	598,074	574,284	588,924	\$88,918,225	\$96,780,210	\$101,375,760	\$95,691,398