Assumptions
Note #

1. Number of interconnected VoIP service providers subject to information collection requirements: 12 [number used on previous Appendix A versions]

    Systems replacing webpage / system each year: 3 [number used on previous Appendix A versions]

2. VoIP residential penetration:

YEAR	2021 [most recent data available]
Accounts at year end in millions (#)	32.617
Initial registrations in year (##)	0.6
Churn in millions (###)	6.5234
Other changes in millions (####)	6.5234
Registrations in millions (initial+churn+other)	13.6468
IVoIP phone sales (#####)	9.5419

> \#	Source: FCC Voice Telephone Services Report, Nationwide Subscriptions, Interconnected VoIP Subscriptions, Consumer-grade service. Available here: https://www.fcc.gov/sites/default/files/vts_national_table_1.xlsx
> \##	Actual number unknown. Estimate unchanged from previous filing
> \###	Percentage of VoIP customers that change providers each year: 20% [estimate used on previous Appendix A versions]
> \####	Other causes of additional registration, such as laptop users registering temporary locations, expressed as registrations per total number of accounts: 20% [estimate used on previous Appendix A versions]
> \#####   Estimated as New accounts (Initial registrations in year) + 1/3 of churn phones + 20% of prior year existing accounts (replacement phones). [formula used on previous Appendix A versions, using 2020 accounts as prior year existing accounts]

3. Annual costs for additional server space, memory, communications, and backup/recovery service associated with registration systems (per provider).   [estimate used on previous Appendix A versions] $1,000

4. Hourly rate for development of web based software and internal data systems based on hourly rate for 2023 GS 13 Step 5 [Washington-Baltimore-Northern Virginia] ($60.83) and increased by 80% to reflect overhead and other loadings. [formula used on previous Appendix A versions, but simplified in 2023 using actual GS 13 Step 5 hourly rate instead of annual salary] $109.49

Assumptions – continued

5. Hourly rate for service representatives based on hourly rate for 2020 GS 7 Step 5 [Washington-Baltimore-Northern Virginia] ($28.84) and increased by 80% to reflect overhead and other loadings. [formula used on previous Appendix A versions, but simplified in 2023 using actual GS 7 Step 5 hourly rate instead of annual salary]
    $51.91

6. Value of consumer time based on average hourly earnings for all private employment from (Bureau of Labor Statistics, Average hourly earnings, Total private, June 2023) https://www.bls.gov/news.release/empsit.t19.htm $33.58

7. Annual programming maintenance hours associated with registration information and E911 notification systems. [estimate used on previous Appendix A versions]   300

8. Percentage of existing customers that will require telephone follow-up in order to obtain registration information and certification statement. [estimate used on previous Appendix A versions]   10%

9. Average time to contact a customer, explain the purpose of the call and obtain registration information and customer certification (hours). [estimate used on previous Appendix A versions]

    0.25

10. Telephone contacts generated per hundred registrations. [estimate used on all previous Appendix A versions]   1 (1%)

11. Average service representative hours to handle each registration including time to verify that customer understands any E911 limitations. [estimate used on previous Appendix A versions]
    0.15 hours or 9 minutes

12. Average customer hours to complete registration and verify that they understand the E911 limitations of providers (average for online & operator calls). [estimate used on previous Appendix A versions]   0.09 hours or 5.4 minutes

13. Number of consortiums that have developed or will develop router based gateways to relay E911 calls from Internet platforms to the E911 network.   2

14. Number of gateway routers employed in each E911 network. [number used on previous Appendix A versions]   75

15. Cost per gateway router. [number used on previous Appendix A versions] $125,000

16. Amortization period in years for router hardware [number used on previous Appendix A versions]   5

17. Connections to LEC specialized routers [numbers used on previous Appendix A versions]

    200
    Connections in same city.   75
    Connections in different cities.   125

18. Monthly cost of connections between gateway routers and specialized routers [numbers used on previous Appendix A versions]
    Connections in same city.   300
    Connections in different cities.   1000

Assumptions – continued

19. Programmer hours needed by a service provider to develop, test & deploy and manage automated systems registering customer information to the ILEC ALI databases, under the assumption that these have largely been developed by 2008. [retained this estimate, used on previous Appendix A versions]   500

20. Monthly charge per telephone number for ILEC handling of E911 calls (includes access to ALI databases and specialized routers). [number used on previous Appendix A versions]. $0.50

21. Annual programmer time per provider to monitor storage of computerized records and perform backups (one hour per month). [number used on previous Appendix A versions]   12

	Estimated Burden Hours to the Public	Estimated Dollar Burden to the Public
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 providers. See notes 1 and 3.		$12,000
Annual programming maintenance associated with registration information systems and databases. Number of service providers x cost per hour x annual programming maintenance hours. See notes 1, 4 and 7.	3,600	$394,164
2) 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 x percent requiring handling x time per call x hourly rate. See notes 2, 10, 11 and 5.	20,470	$1,062,608
3) 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, 12 and 6.	1,228,212	$41,243,359
Total burden for collection of the registered location for each customer	**1,252,282**	**$42,712,131**

	Estimated Burden Hours to the Public	Estimated Dollar Burden to the Public
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 14, 15, 16 and 13.		$3,750,000
2) Monthly telecommunications costs of connections between gateway routers and ILEC Selective Routers. [(number of connections in same city x cost of connections in same city x 12 months) + (number of connections in different cities x cost of connections in different cities x 12 months)]x consortiums See notes 17, 18 and 13.		$3,540,000
3) Programming and operations cost associated with updating ILEC ALI databases. Programmer hours x cost per hour x providers See notes 19, 4 and 1.	6,000	$656,940
4) Monthly payments to ILECs for access to specialized routers, dedicated E911 network, and PSAP functions. Avg. customers per year x ILEC monthly charge x 12 months. See notes 2 and 20.		$195,702,000
Total burden for making registered location information available to or through the ALI databases.	**6000**	**$203,648,940**
C. Customer Notification		
1) Verifying that new customers have received notification of the E911 capabilities of the provider: hours and costs included with A-3.		
2) Customer time spent reading/listening to E911 limitations and confirming that they have been notified: Covered in A-4.		

	Estimated Burden Hours to the Public	Estimated Dollar Burden to the Public
D. Record of customer notification		
1) Customer notification may be provided in conjunction with the provider's subscription process, which may be conducted electronically. Paper records no longer required.		
2) Computer records associated with certifications provided over the web. Hours per provider x cost per hour x number of providers. See notes 21, 4 and 1.	144	$15,767
Total record keeping burden	**144**	**$15,767**
Summary for all cost elements		
Total Hours and Costs	**1,258,426**	**$246,376,838**