

GAO

Office of Information Management and  
Communications

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April 1994

# MISSION SUPPORT PROJECT

## Computer and Network Operations Survey Results

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United States  
General Accounting Office  
Washington, D.C. 20548

Office of Information Management  
and Communications

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Assistant Comptroller General  
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This report provides results of a recent employee survey on computer and software use in a network environment.<sup>1</sup> Over 75 percent responded with their perceptions on how the network, computers, and software had affected the ease and the speed with which staff could perform their work. Responses are summarized below; detailed responses to each question can be found in attachment I.

## Network Is Faster and Easier

Over 80 percent of the respondents said that the network and electronic mail (cc: mail) were much faster and easier for sending and receiving automated files compared with the previous method of using CrossTalk in a stand-alone setting. Also, staff who sent or received files more frequently indicated to a greater extent that it was easier and faster compared with staff who performed these tasks less often. For example, of staff who sent files 10 or more times a month, over 80 percent said that the network and electronic mail were much faster and easier. For staff who sent less than 10 files each month, about 68 percent said the network and electronic mail were much faster and easier.

Staff also responded that the network setting provided a faster and easier means to use some software packages compared with a stand-alone setting. For example, over 50 percent said that to use graphics software was faster and easier, given that the network enabled staff to access this software from their desktops. In a stand-alone setting, graphics software is not always easily accessible since it is only located only on certain workstations. Regarding use of word processing and spreadsheet software, staff responses were equally divided about whether their use was faster and easier with the network or about the same in each setting. This is not unexpected as these software applications are most often available on all stand-alone workstations and thus readily available.

<sup>1</sup>The survey was mailed November 18, 1993, to 584 staff in the pilot test units—HEHS; RCED's Agriculture, Transportation, and headquarters locations; and SFRO. As of February 1, 1994, 444 had responded.

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## Windows Provides Benefits

At the time of the survey, about half the respondents were using Windows software. We asked staff to compare their Windows experiences with their experiences on non-Windows software. In addition, we asked them to compare the use of Windows software on the network with operating in a stand-alone setting without Windows.

Staff who indicated that they used Windows software all or almost all of the time were more likely to say that it was easier than non-Windows software. About 90 percent of staff who used Windows all or almost all the time said it was easier to switch from one software application to another. But of those who used Windows software half the time or less, only 40 percent said that it was easier for this task. This is not uncommon as it takes time to learn how to use new software and transition to this new operating environment. But once staff have worked with Windows, they agree that it is easier and faster.

Staff also indicated that using Windows software on the network was easier and faster than using non-Windows software in a stand-alone setting. Over 85 percent of the staff said that the Windows version of electronic mail was faster and easier for sending and receiving automated files compared with CrossTalk in a stand-alone setting. In addition, staff who sent and received files more often indicated that using Windows on the network was faster and easier.

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## Network Improves Communication and Information Access

Nearly all the survey respondents—99 percent—used the network to perform assignment tasks and over 94 percent were satisfied with the network. Over 80 percent said that it was of great or very great help for communicating with others, and over 70 percent said that it was valuable for keeping them informed of matters related to their work.

In addition, 346 respondents provided comments to the question on how a GAO-wide network would affect their work. The question and several examples of responses follow.

Consider if the network were in place throughout GAO rather than just the pilot location of HEHS, RCED, and SFRO. What impact, if any, would this have on your ability to communicate, share information, and conduct your work?

“It would be easier to receive communications from headquarters and to share information with issue areas regarding jobs.”

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“Save time by eliminating manual steps. Better response time from recipient.”

“It would (could) certainly cut down on the massive amounts of paper circulated throughout GAO. It would also expedite the transfer of info between D.C. and the regions. A GAO-wide network is imperative and will greatly enhance this environment.”

“This would greatly enhance my ability to communicate, etc., with folks in D.C. I worked on a job in RCED where we had access to the network, and it allowed us both greater communication and more timely communication. Unfortunately, now I work on AEMD jobs, where we don't have network access.”

“A network really facilitates sending products to other locations and receiving comments from others—expeditiously.”

“Communication and ability to do my work would greatly improve.”

“If all locations were hard-wired, it would have a huge positive impact. We wouldn't waste so much time faxing and Cross-Talking, which is a particularly difficult chore when you have a 3-hour time difference to contend with. However, the hard-wiring is necessary because I have worked with people in RCED that refused to use the network because they had to go through modems.”

“The specialized work of reports analysts and writer-editors would be greatly facilitated by the use of WAN links. The value-added gains this region's reports analysts have realized through the use of this region's networked applications will be multiplied many times as the synergistic benefits of the technology become more apparent with wider implementation GAO-wide.”

“Tremendous because I work with GGD and we're dependent on rustic 'stand-alone' technique to share info (e.g., pouch mail, fax, CrossTalk). Exchange of info would be more frequent, easier, more timely.”

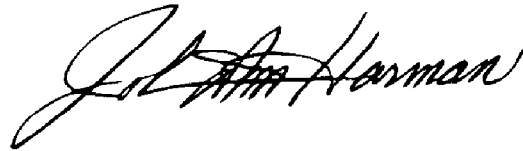
“I think it's amazing that it hasn't already been opened up to the entire organization. It would make it much easier to communicate across division lines. In fact, I've delayed getting messages to people in non-LAN divisions because of the relative difficulty of communicating with them.”

As shown, the staff responses illustrate the value of using advanced technology for their work and the benefits that could be realized from a GAO-wide network.

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A part of the Mission Support Project, OMC will continue to obtain user perceptions on how technology affects their work. Future surveys will address staff experiences with using the Data Collection and Analysis (DCA) application, which was implemented at the pilot units late in 1993 and is being used by numerous staff at these locations. We appreciate the feedback that staff provide on their experiences and will continue to use this information to refine and enhance the technology to meet user needs.

If you have any questions, please contact me at (202) 512-5138.

A handwritten signature in black ink, reading "John W. Harman". The signature is written in a cursive style with a large, stylized initial "J".

John W. Harman  
Project Director, Mission Support Project

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## Abbreviations

DCA	Data Collection and Analysis
DMTAG	Design, Methodology, and Technical Assistance Group
EAG	Economic Analysis Group
HEHS	Health, Education, and Human Services Division
GAO	General Accounting Office
GGD	General Government Division
GS	General Schedule
LAN	local area network
MSP	Mission Support Project
OIMC	Office of Information Management and Communications
RCED	Resources, Community, and Economic Development Division
SFRO	San Francisco Regional Office
SES	Senior Executive Service
TAG	Technical Assistance Group
WAN	wide-area network



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# Summary of Survey Results

## Survey Questions Asked of Employees Using Computers in a Network Environment and Responses<sup>1</sup>

The Mission Support Project team, of the Office of Information Management and Communications (OIMC), is conducting a survey of Health, Education, and Human Services Division (HEHS), Resources, Community, and Economic Development Division (RCED), and San Francisco Regional Office (SFRO) employees who use computers in a network environment. The purpose of this survey is to determine how the network, computers, and software affect the ease and speed with which GAO employees can perform their work. This survey is one of several efforts the team is using to obtain employees' perceptions of this system.

### 1. Where is your current work location?

<u>Percent</u>	<u>Location</u>
44.8	HEHS - One Massachusetts Avenue
10.3	RCED - Agriculture audit site
12.0	RCED - Transportation audit site
12.9	RCED - GAO headquarters
19.4	San Francisco Regional Office

### 2. In total, how many years have you worked at GAO?

Average: 14 years

### 3. What is your current band, grade, or SES level?

<u>Percent</u>	
23.3	Band I
43.4	Band II
13.2	Band III
17.9	GS staff
2.2	SES

<sup>1</sup>The number of responses to each question varied depending on whether the respondent had performed certain tasks with the network or had a basis for comparison. Therefore, the percentages are based on the responses applicable for each question.

Appendix I  
Summary of Survey Results

4. Which of the following best describes your job role?

<u>Percent</u>	<u>Job Role</u>
12.3	Administrative, clerical, or secretarial
56.2	Evaluator or evaluator-related specialist
12.3	Specialist (DMTAG, TAG, or EAG)
11.3	Assistant Director
3.6	Unit Manager (Issue Area Director, Regional Manager, Assistant Comptroller General, etc.)
4.3	Other

5. Have you ever used the network to perform a task?

<u>Percent</u>	
99.5	Yes
0.5	No (Stop—Please return survey. Thank you)

6. Have you ever used non-Windows software to perform a task?

<u>Percent</u>	
97.6	Yes
2.4	No (Go to question 13.)

7. About how many times in the last 30 days did you use the network and non-Windows software to perform each of the following tasks?

Responses in percent

<b>Task</b>	<b>Number of times task performed</b>				
	<b>30 or more</b>	<b>20 to 29</b>	<b>10 to 19</b>	<b>1 to 9</b>	<b>Zero</b>
Send messages	37.9	10.2	20.1	25.5	6.2
Receive messages	76.4	8.7	5.0	5.7	4.2
Send files	6.3	5.6	14.2	45.9	27.9
Retrieve files	6.7	6.2	17.5	51.9	17.7
Use WordPerfect	55.9	14.0	11.5	14.2	4.5
Use spreadsheet software	5.4	3.3	9.7	31.0	50.5
Use graphics software	3.9	1.0	5.4	34.5	55.2
Other	13.9	3.3	9.0	27.9	45.9

**Appendix I  
Summary of Survey Results**

8. In your opinion, is it faster to send and retrieve automated files on the network using "cc: mail" or in a stand-alone setting using CrossTalk?

Responses in percent

<b>Task</b>	<b>Much faster using cc: mail</b>	<b>Faster using c: mail</b>	<b>About as fast with either</b>	<b>Faster using CrossTalk</b>	<b>Much faster using CrossTalk</b>
Send files	85.4	10.4	3.6	0.3	0.3
Retrieve files	81.3	14.0	3.8	0.6	0.3

9. In your opinion, is it easier to send and retrieve automated files on the network using "cc: mail" or in a stand-alone setting using CrossTalk?

Responses in percent

<b>Task</b>	<b>Much easier using cc: mail</b>	<b>Easier using cc: mail</b>	<b>About as easy with either</b>	<b>Easier using CrossTalk</b>	<b>Much easier using CrossTalk</b>
Send files	83.4	10.7	4.2	1.3	0.3
Retrieve files	79.3	12.4	6.4	1.3	0.6

10. In your opinion, is it faster to perform each of the following tasks on the network or in a stand-alone setting?

Responses in percent

<b>Using software:</b>	<b>Much faster on the network</b>	<b>Faster on the network</b>	<b>About as fast with either</b>	<b>Faster in a stand-alone setting</b>	<b>Much faster in a stand-alone setting</b>
WordPerfect	23.5	18.0	48.7	7.4	2.4
Spreadsheet	19.4	22.0	44.4	9.5	4.7
Graphics	26.5	23.5	39.2	6.4	4.4
Other	33.3	25.6	25.6	2.6	12.8

Appendix I  
Summary of Survey Results

11. In your opinion, is it easier to perform each of the following tasks on the network or in a stand-alone setting?

Responses in percent

Using software:	Much easier on the network	Easier on the network	About as easy with either	Easier in a stand-alone setting	Much easier in a stand-alone setting
WordPerfect	26.9	19.5	48.0	4.2	1.3
Spreadsheet	26.4	21.3	41.7	6.4	4.3
Graphics	29.7	25.4	35.4	6.2	3.3
Other	41.5	19.5	22.0	9.8	7.3

12. Have you ever used Windows software on the network?

Percent

49.1 Yes  
50.9 No (Go to question 21.)

13. When did you begin to use Windows software on the network?

Percent      Began in the:

12.0 Last month  
20.7 Last 2 - 3 months  
43.3 Last 4 - 6 months  
24.0 Last 7 - 12 months

14. In the last 30 days, about what proportion of the time did you use Windows software?

Percent      Proportion of time:

25.2 All or almost all of the time  
13.9 Most of the time  
10.4 About half the time  
27.2 Some of the time  
23.3 Little or none of the time

Appendix I  
Summary of Survey Results

15. In the last 30 days, about how many times did you perform each of the following tasks using Windows software?

Responses in percent

Task	Number of times task performed				
	30 or more	20 to 29	10 to 19	1 to 9	Zero
Send messages	25.2	8.8	8.8	26.8	30.7
Receive messages	34.1	8.3	8.3	33.2	16.1
Send files	6.3	6.3	9.8	29.3	48.3
Retrieve files	5.4	6.9	11.3	32.4	44.1
Use WordPerfect	31.4	8.3	12.3	29.9	18.1
Use spreadsheet software	9.3	2.9	7.8	22.9	57.1
Use graphics software	3.4	1.0	3.4	11.7	78.0
Other	16.9	8.5	6.8	16.9	50.8

16. In your opinion, is it faster to send and retrieve automated files on the network using Windows cc: mail or in a stand-alone setting using CrossTalk?

Responses in percent

Task	Much faster using Windows cc: mail	Faster using Windows c: mail	About as fast with either	Faster using CrossTalk	Much faster using CrossTalk
Send files	74.2	12.5	8.3	4.2	0.8
Retrieve files	70.6	16.7	7.9	4.0	0.8

17. In your opinion, is it easier to send and retrieve automated files on the network using Windows cc: mail or in a stand-alone setting using CrossTalk?

Responses in percent

Task	Much easier using Windows cc: mail	Easier using Windows cc: mail	About as easy with either	Easier using CrossTalk	Much easier using CrossTalk
Send files	72.6	13.7	9.7	2.4	1.6
Retrieve files	71.3	14.0	10.1	3.9	0.8

Appendix I  
Summary of Survey Results

18. In your opinion, is it faster to perform each of the following tasks with Windows software on the network or in a stand-alone setting with non-Windows software?

Responses in percent

Using software:	Much faster with Windows on the network	Faster with Windows on the network	About as fast with either	Faster in a stand-alone setting	Much faster in a stand-alone setting
WordPerfect	16.9	20.3	33.7	17.4	11.6
Spreadsheet	23.8	23.8	23.8	20.0	8.6
Graphics	29.3	15.5	34.4	8.6	12.1
Other	39.1	21.7	30.4	4.3	4.3

19. In your opinion, is it easier to perform each of the following tasks with Windows on the network or in a stand-alone setting without Windows?

Responses in percent

Using software:	Much easier with Windows on the network	Easier with Windows on the network	About as easy with either	Easier in a stand-alone setting without Windows	Much easier in a stand-alone setting without Windows
WordPerfect	24.0	18.9	30.1	17.9	9.1
Spreadsheet	35.2	15.2	24.8	20.0	4.8
Graphics	35.0	15.0	31.7	15.0	3.3
Other	38.1	14.3	33.3	9.5	4.8

Appendix I  
Summary of Survey Results

20. Indicate whether you find it easier to perform each of the following tasks with Windows or non-Windows software.

Responses in percent

Task	Much easier using Windows Software	Easier using Windows software	About as easy with either	Easier using non-Windows software	Much easier using non-Windows software
Retrieve software	25.9	22.7	31.9	11.4	8.1
Switch between software applications	54.0	30.4	7.2	5.5	3.3
Learn to use software	23.0	27.3	30.4	14.3	5.0
Transfer data between documents in same software application	34.6	22.0	22.0	17.0	4.4
Transfer data from documents in different software applications	51.3	30.1	8.0	8.0	2.7
Other	41.7	8.3	8.3	8.3	33.3

21. In your opinion, of how much help to you in performing your job(s) is the network's cc: mail feature that allows you to send and receive messages?

Percent

62.5	Of very great help
24.0	Of great help
8.9	Of moderate help
2.6	Of some help
1.9	Of little or no help

22. In your opinion, of how much value to you is the network's message/bulletin board feature in keeping you informed of matters related to your immediate work group, division or office, and GAO, as a whole?

Percent

48.8	Of very great value
25.5	Of great value
17.8	Of moderate value
3.8	Of some value
4.1	Of little or no value



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23. Overall, how satisfied or dissatisfied are you with the network?

Percent

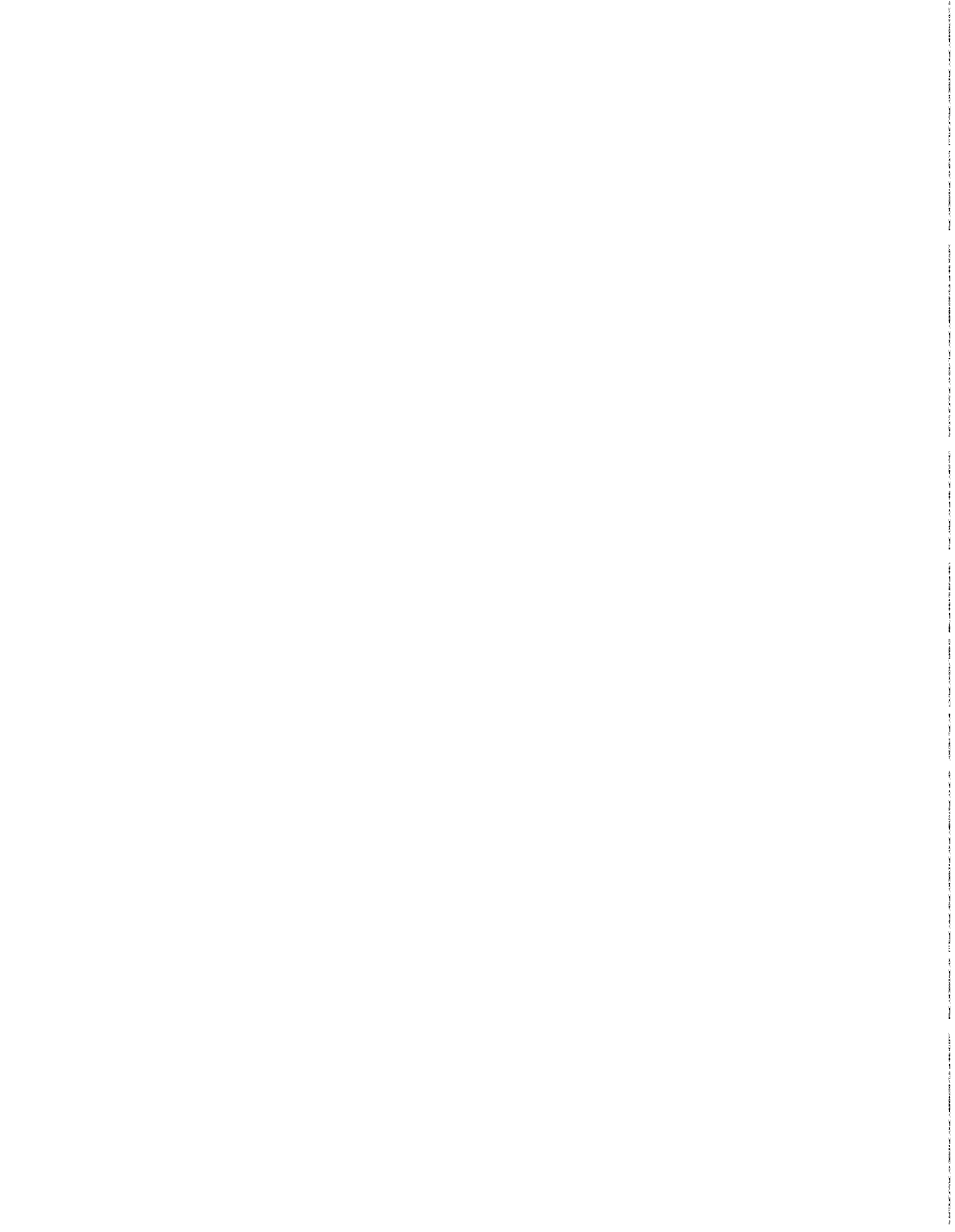
61.2	Very satisfied
32.9	Satisfied
5.5	As satisfied as dissatisfied
0.5	Dissatisfied
0.0	Very dissatisfied

24. Consider if the network were in place throughout GAO rather than just the pilot locations of HEHS, RCED, and SFRO. What impact, if any would this have on your ability to communicate, share information, and conduct your work?

Comments were provided by 346 respondents.

25. Please enter any additional comments or questions you might have about the network, software applications, or the Mission Support Project.

Comments were provided by 129 respondents.



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