

## APPENDIX B: RESULTS-PROPAGATION CONDITION 1

This appendix contains graphs of the results of the simulation study. The measured (by simulation) network performance criteria, average link success rate, average call success rate, and average message delay are presented, by hour, for each sounding scheme (see Table 3) and each of the traffic rates (5, 10, 15, 30, 45, and 60 messages per hour) under propagation condition 1. (See Table 4.)

Graphs on facing pages are representations of the same data. On the left facing page, network performance criteria traces for a sound scheme are represented by squares connected by dashed lines. These traces are plotted along with the baseline (no sounds) traces, x's connected with dotted lines.

On the right facing page, the average difference, from equation 8, between the performance criteria traces on the left facing page, are presented along with error bars indicating the 90% confidence intervals for the average difference. The hourly means (the center of the interval) are connected by dotted lines.

For each of these graphs the horizontal axis represents a 24-hour period in universal time (UT). For the call success rate and link success rate graphs, the vertical scale reflects performance as a rate, data points between zero and one inclusive. For the average message delay graphs, the vertical scale represents delay in minutes. The graphs on the right hand facing pages may have negative values in the vertical scales since these graphs indicate differences.

The results graphs within a traffic rate are presented in order of sounds scheduled sounds on the network every 15, 10, 6, 3, 2, and 1 minute(s).

There were no results at sounds scheduled every 1, 2, and 10 minutes per hour at 60 messages per hour. These simulation runs failed against the simulation stopping conditions, see Section 3.1.1.

A more detailed description and discussion of the following graphs along with interpretations and analysis of the results is presented in Section 4.2.1.

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Traffic Rate (Messages Per Hour)	Figures	Pages
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30	B-37 through B-48	88 - 99
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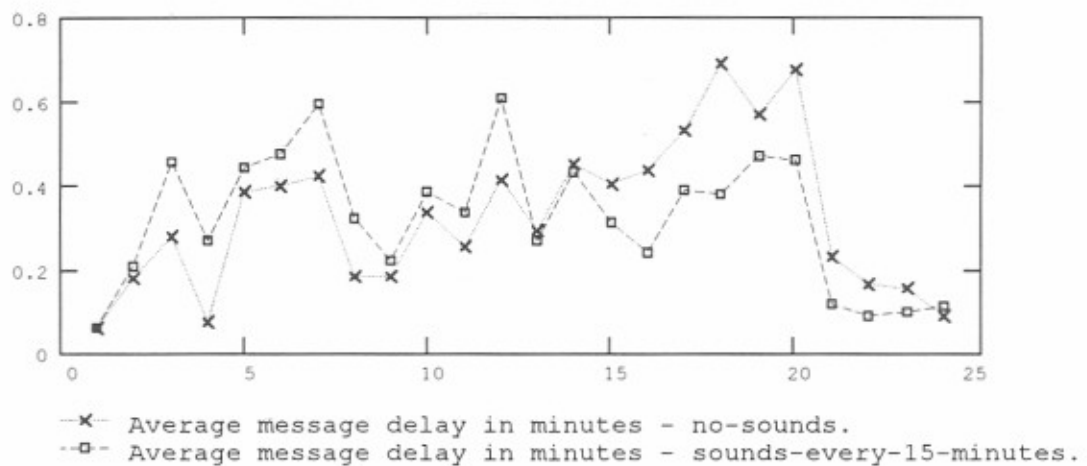
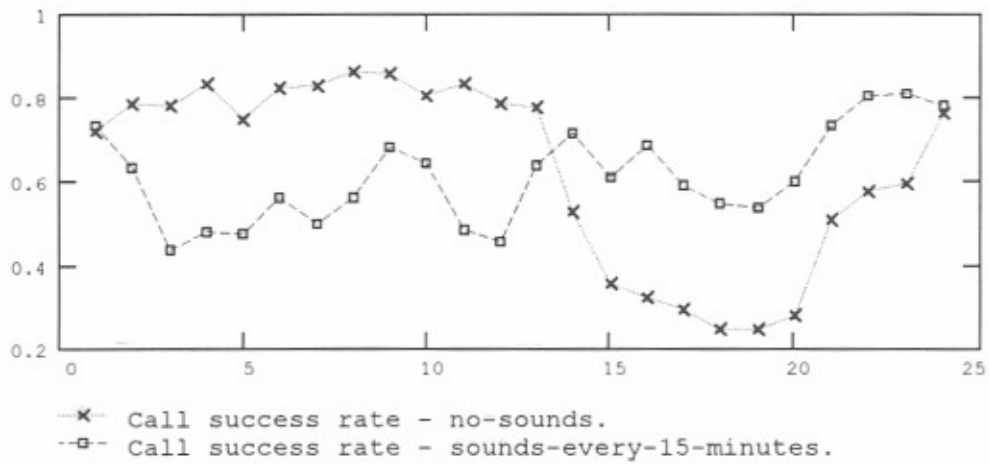
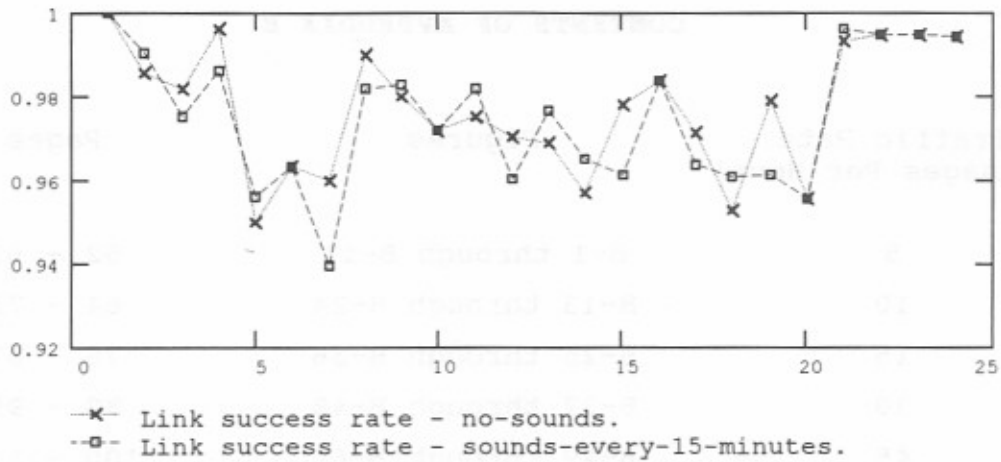
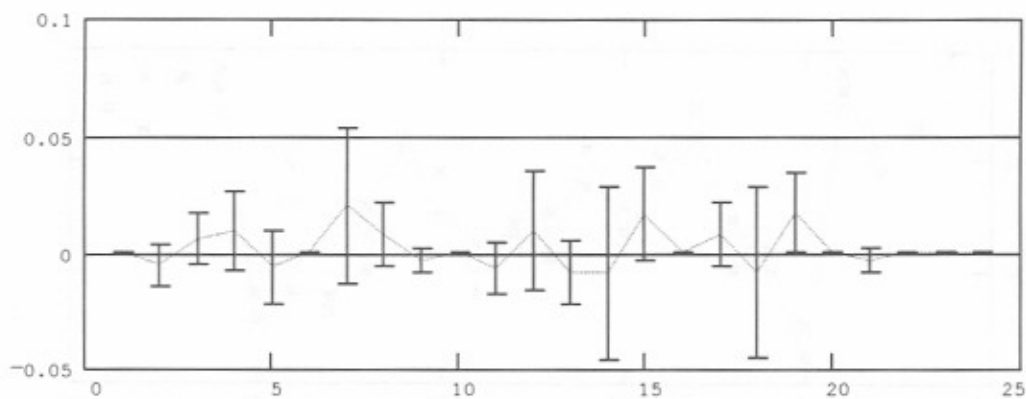
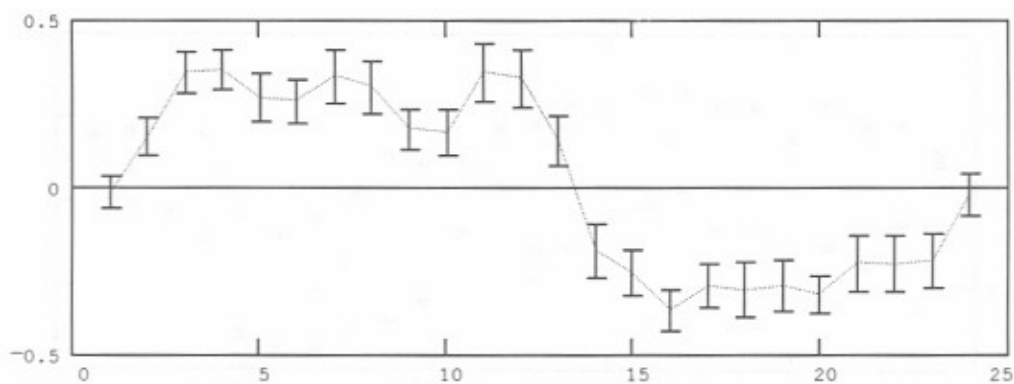


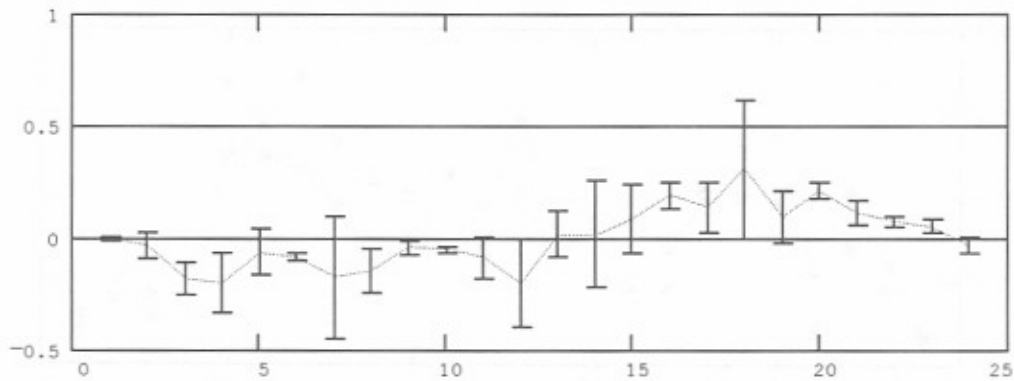
Figure B-1. Simulated network performance by hour-data traces - 5 messages per hour - propagation condition 1 - sounds every 15 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.

Figure B-2. Simulated network performance by hour-confidence - 5 messages per hour - propagation condition 1 - sounds every 15 minutes.

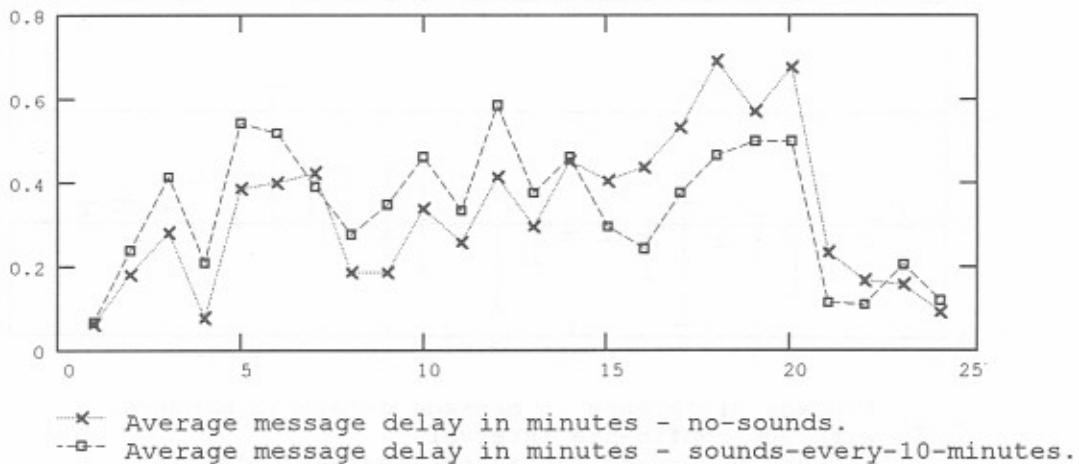
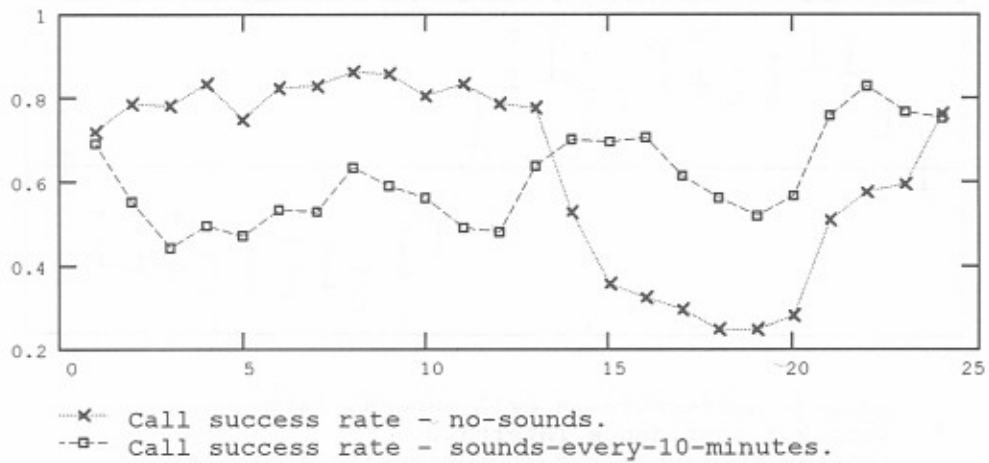
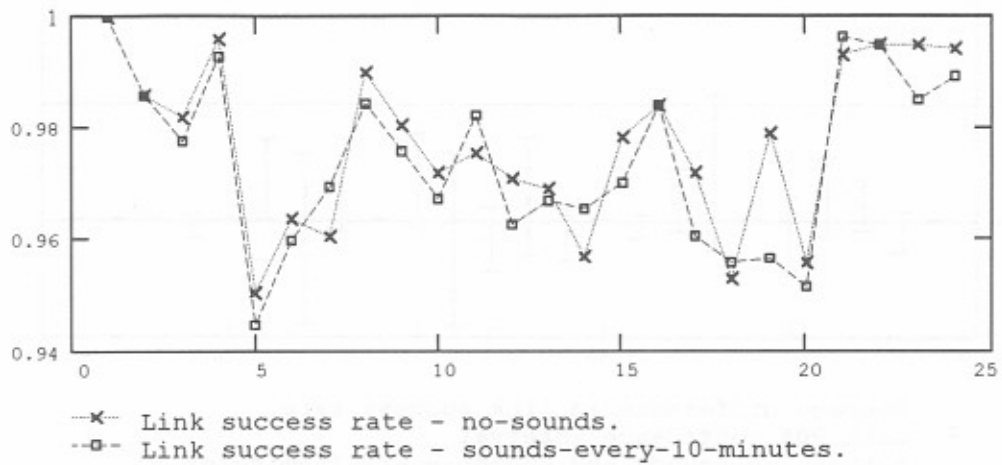
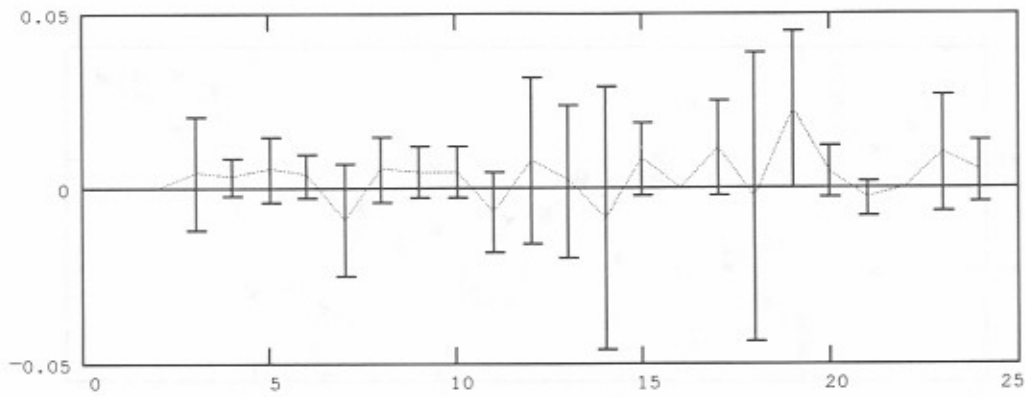
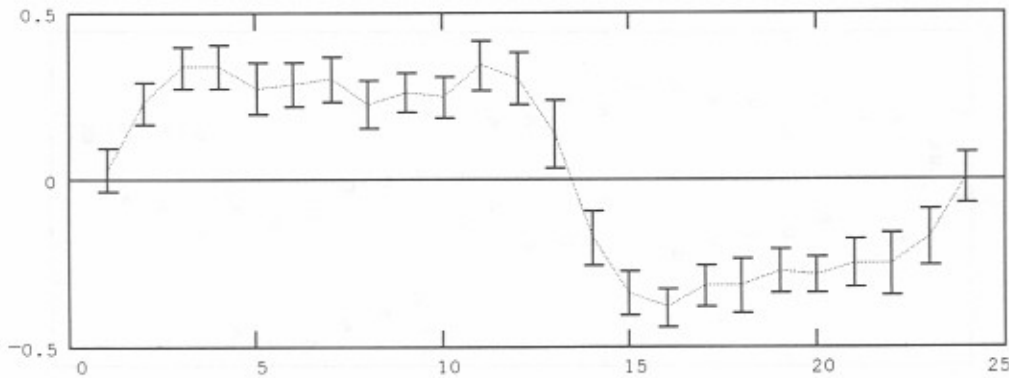


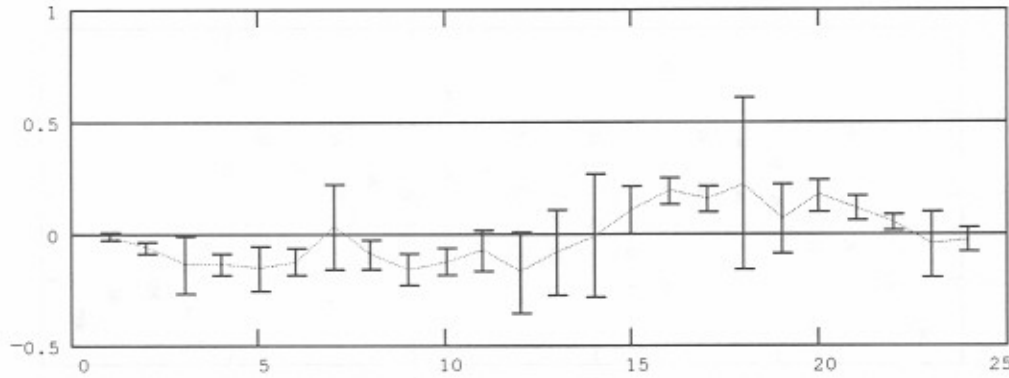
Figure B-3. Simulated network performance by hour-data traces - 5 messages per hour - propagation condition 1 - sounds every 10 minutes.



— Average difference in link success rate,  
 x with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.



— Average difference in call success rate,  
 x with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.



— Average difference in message delays in minutes,  
 x with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.

Figure B-4. Simulated network performance by hour-confidence - 5 messages per hour - propagation condition 1 - sounds every 10 minutes.

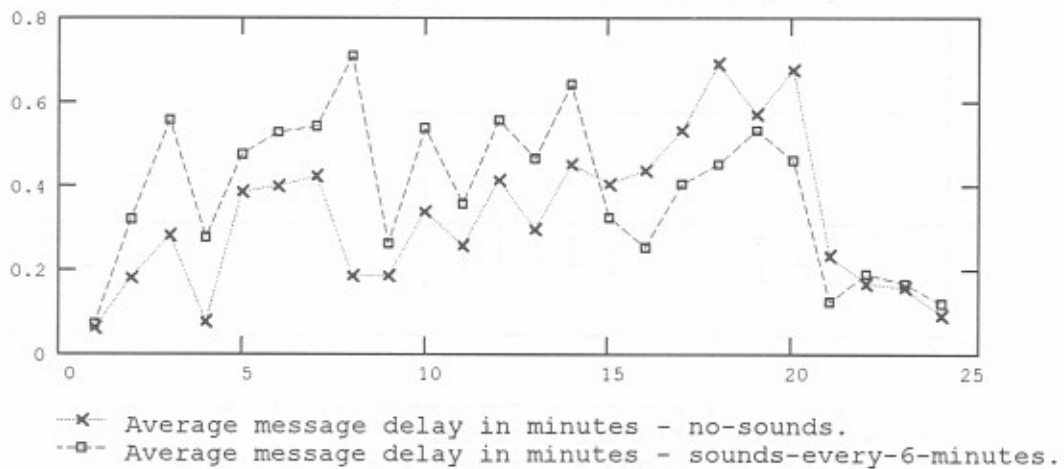
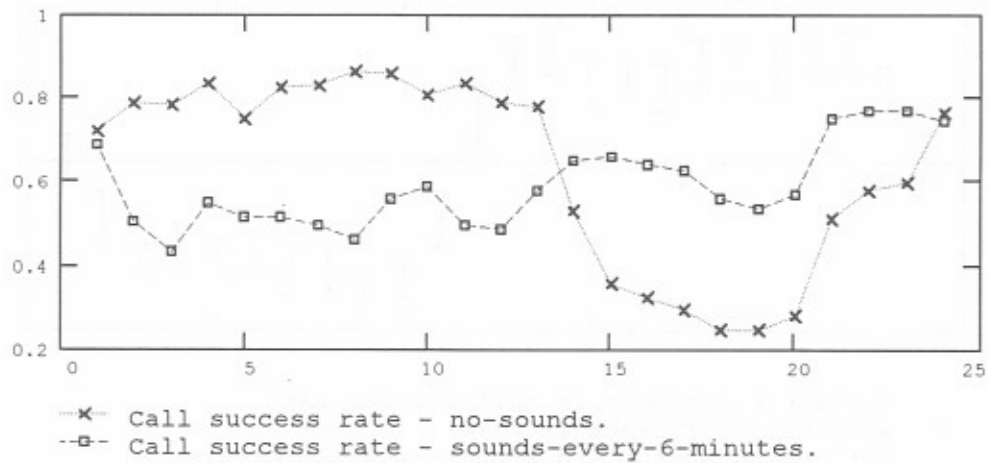
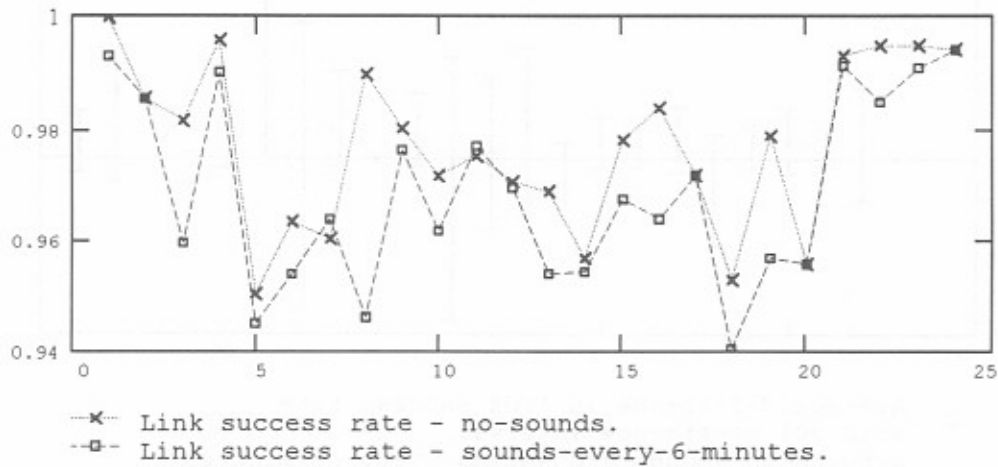
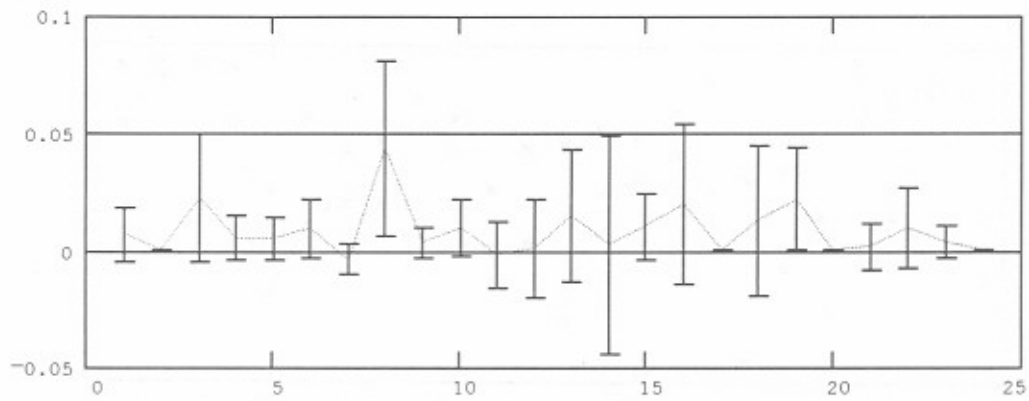
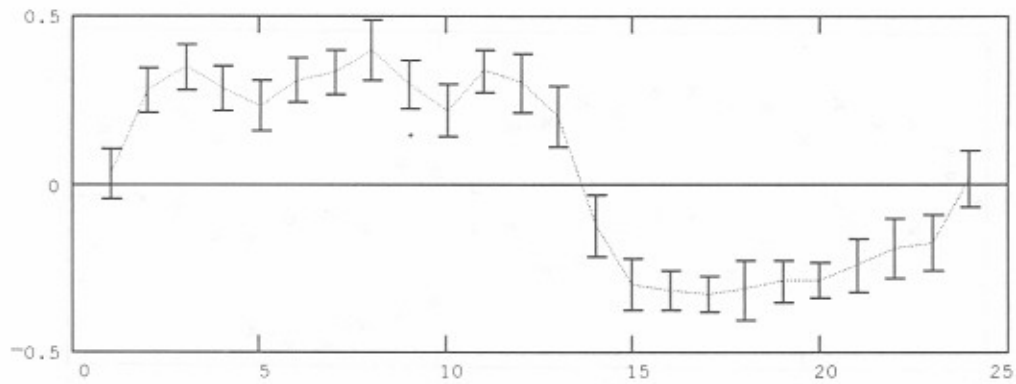


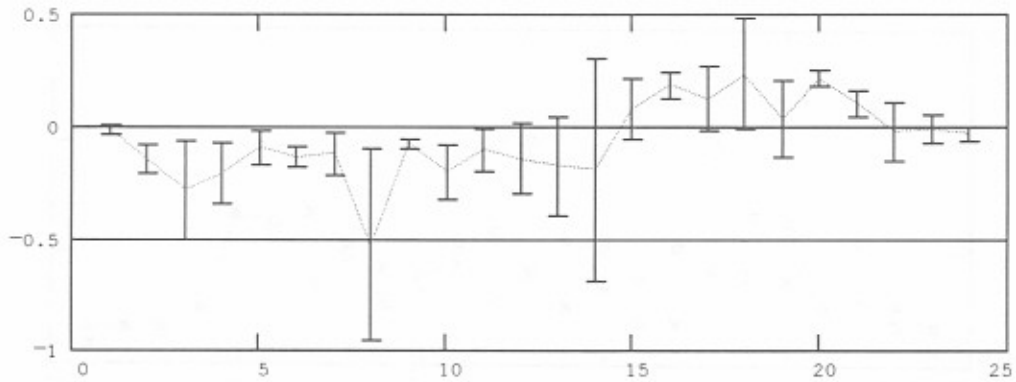
Figure B-5. Simulated network performance by hour-data traces - 5 messages per hour - propagation condition 1 - sounds every 6 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.

Figure B-6. Simulated network performance by hour-confidence - 5 messages per hour - propagation condition 1 - sounds every 6 minutes.



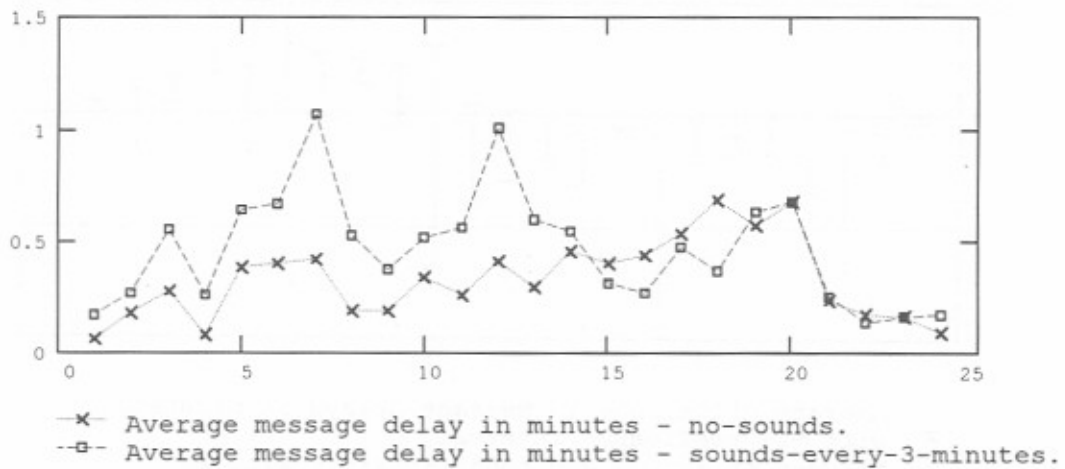
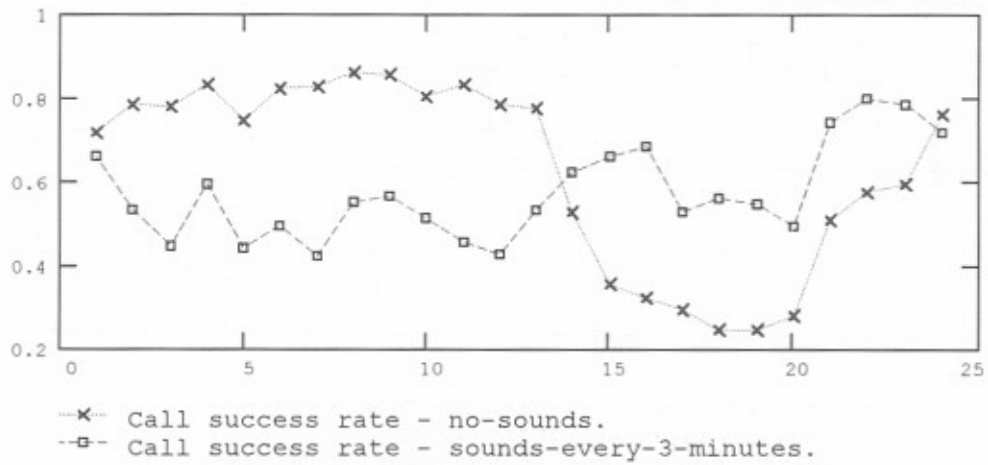
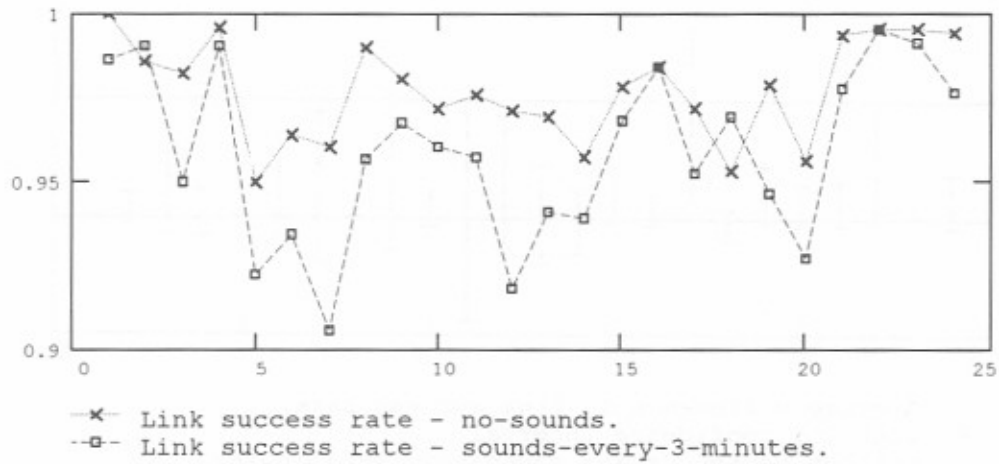
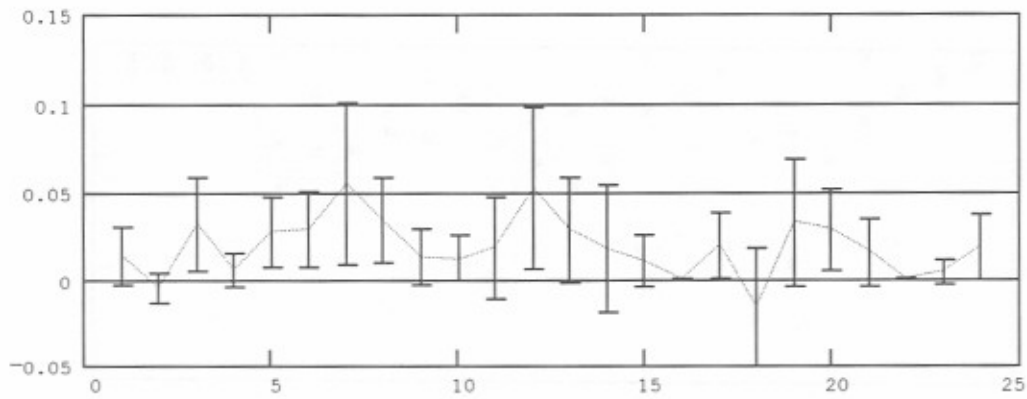
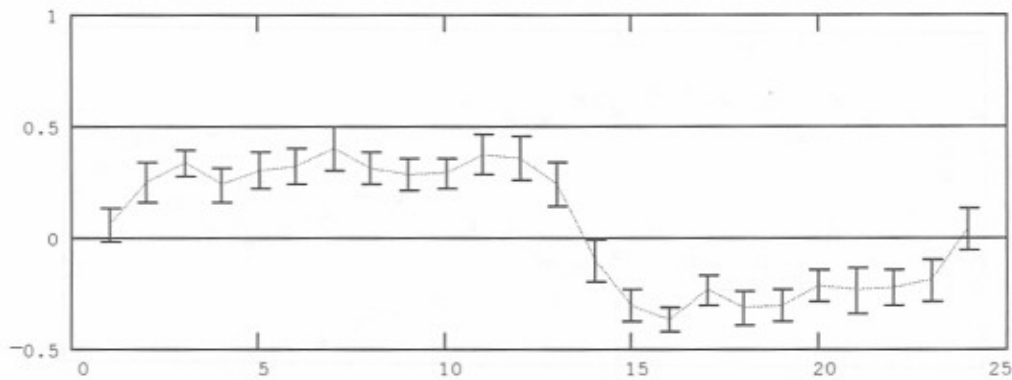


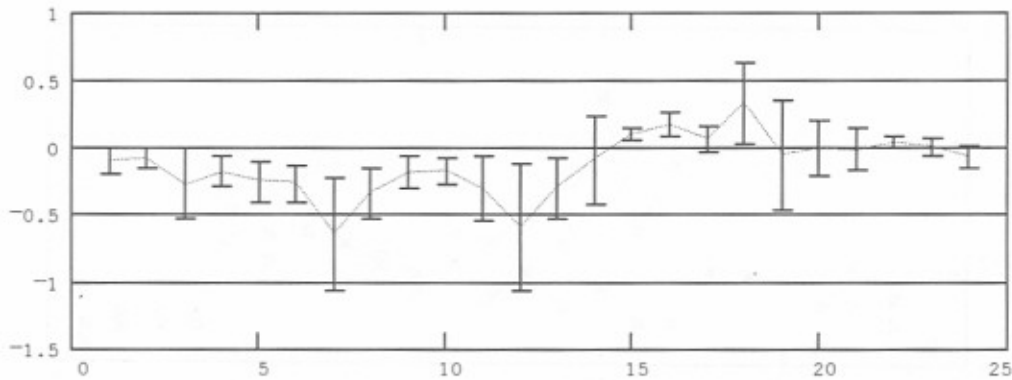
Figure B-7. Simulated network performance by hour-data traces - 5 messages per hour - propagation condition 1 - sounds every 3 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.

Figure B-8. Simulated network performance by hour-confidence - 5 messages per hour - propagation condition 1 - sounds every 3 minutes.

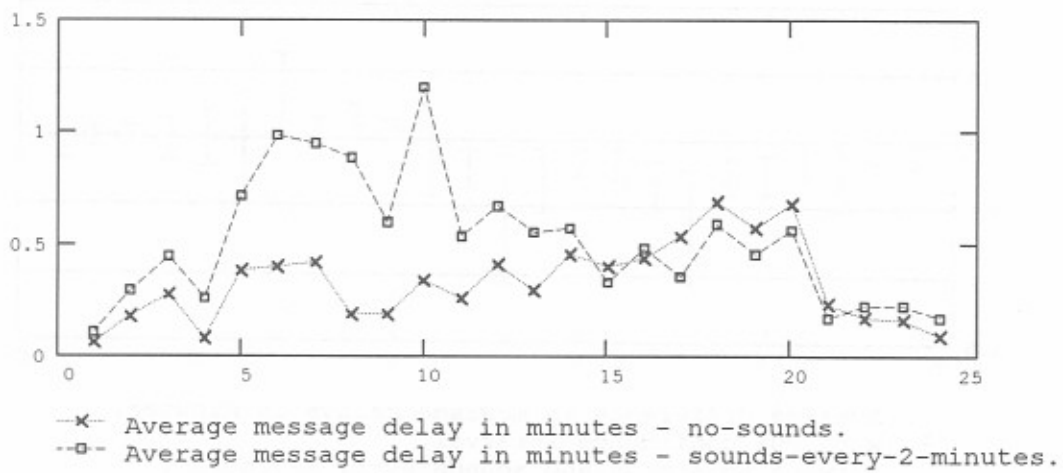
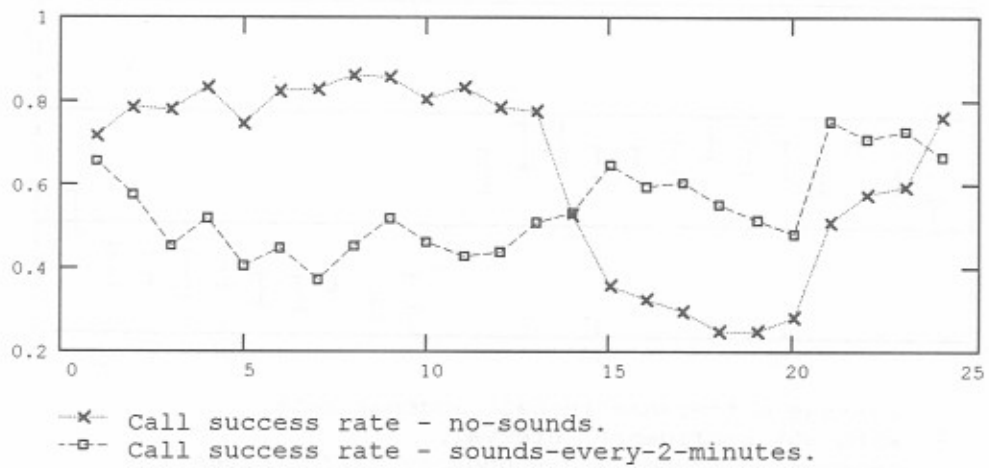
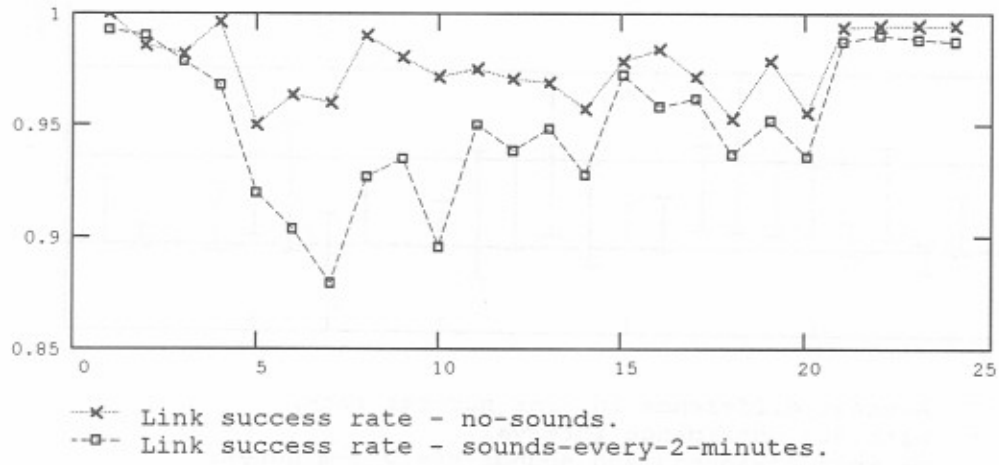
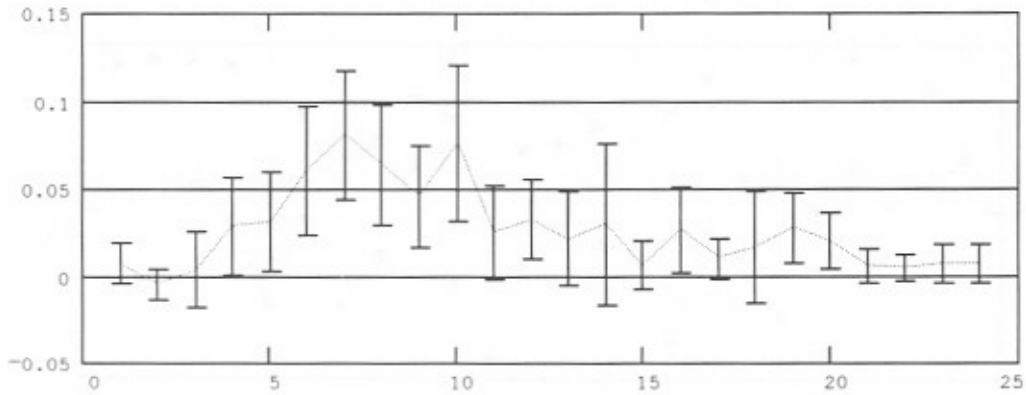
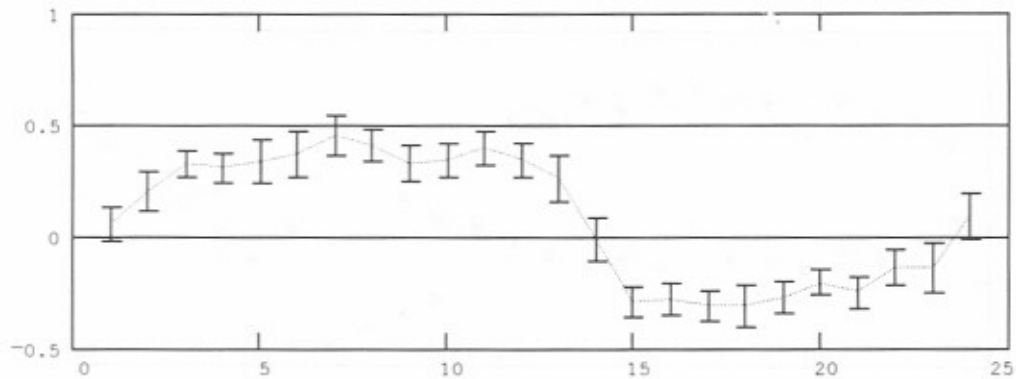


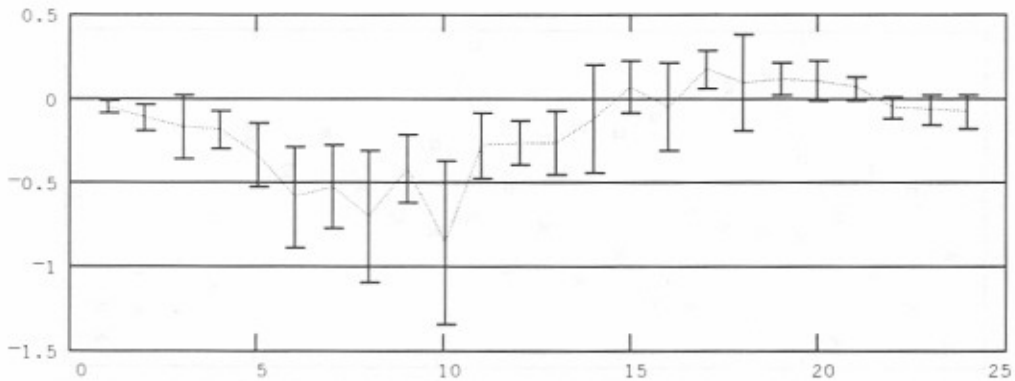
Figure B-9. Simulated network performance by hour-data traces - 5 messages per hour - propagation condition 1 - sounds every 2 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.

Figure B-10. Simulated network performance by hour-confidence - 5 messages per hour - propagation condition 1 - sounds every 2 minutes.

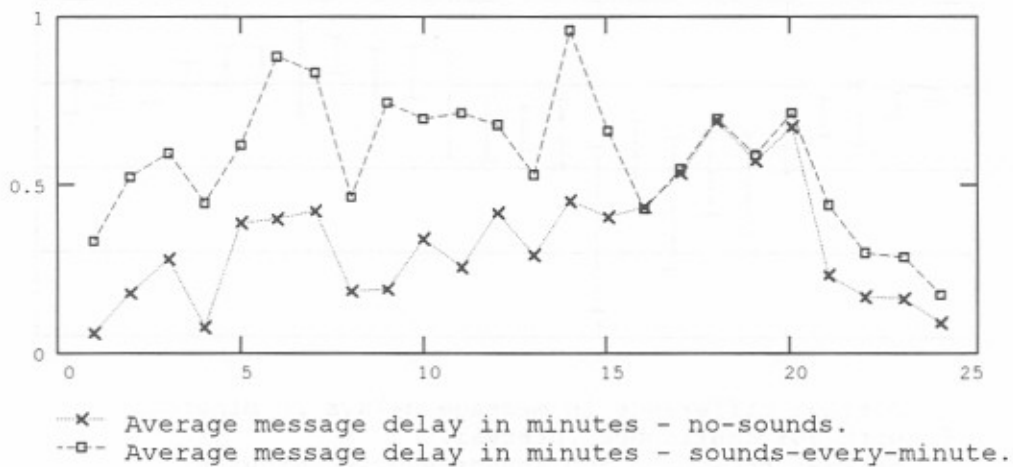
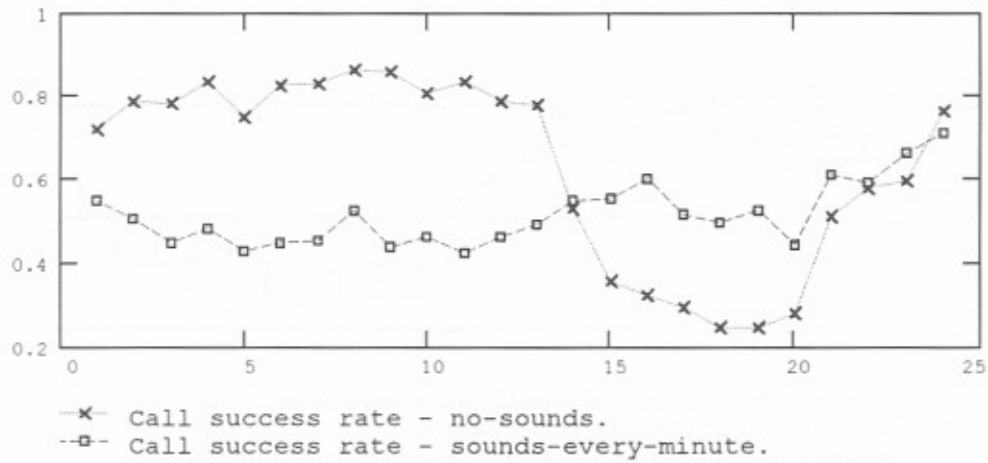
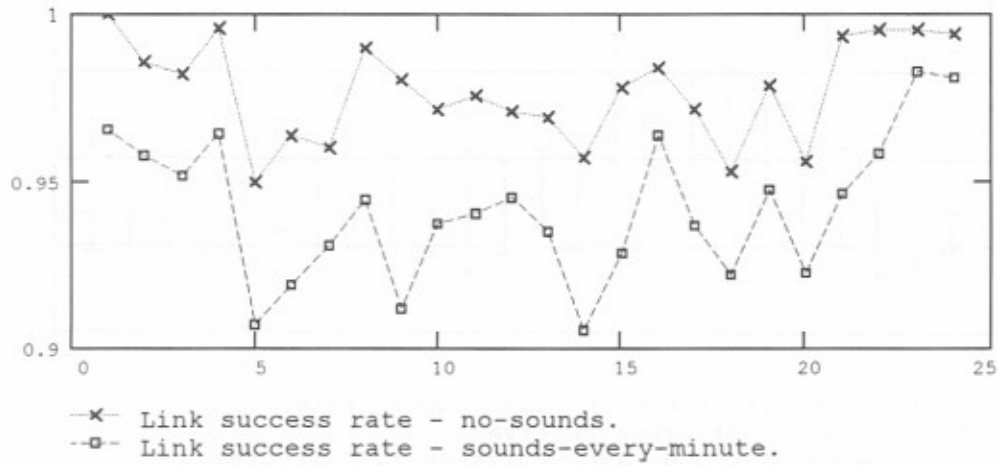
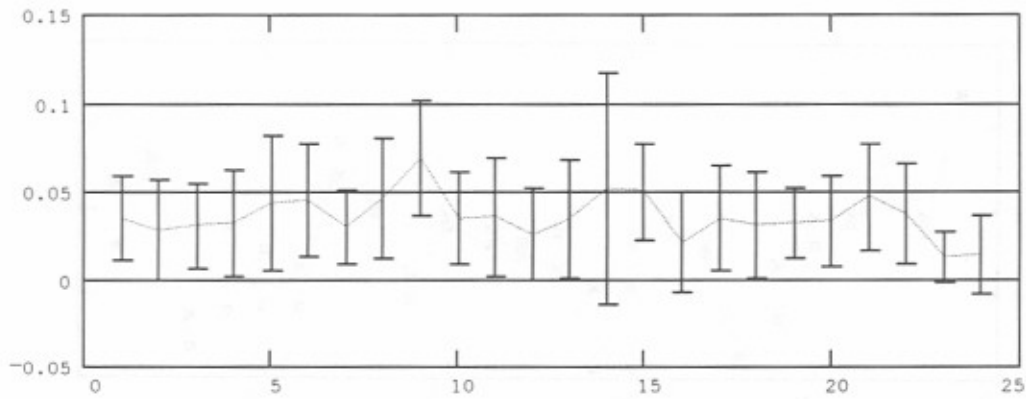
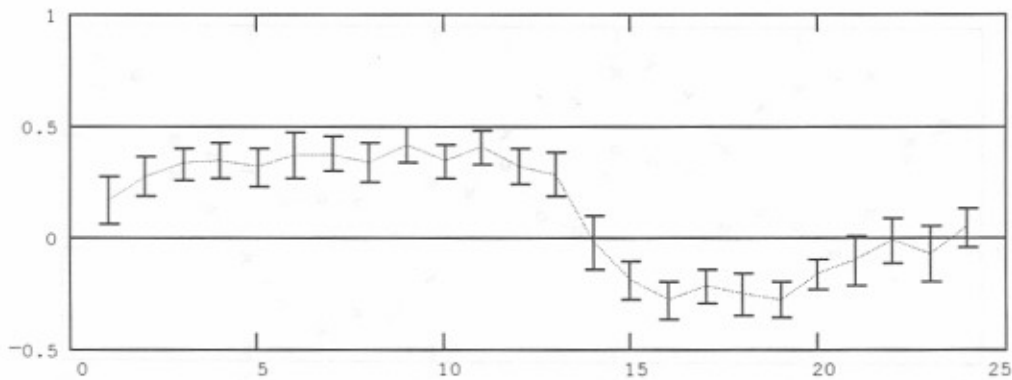


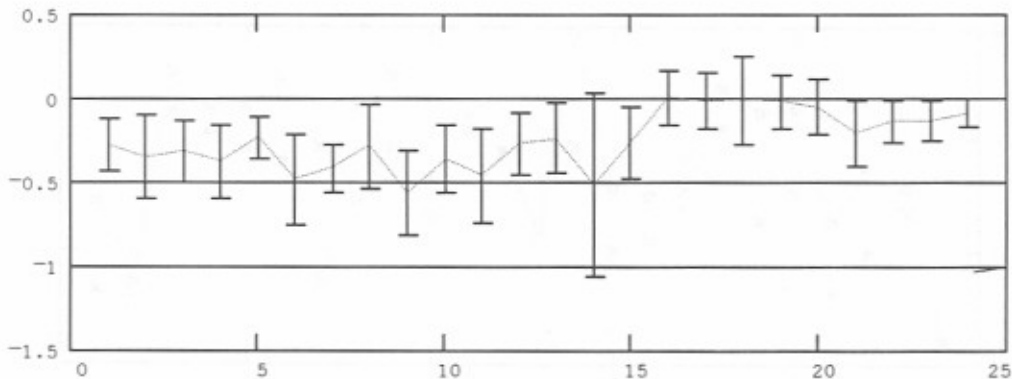
Figure B-11. Simulated network performance by hour-data traces - 5 messages per hour - propagation condition 1 - sounds every minute.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.

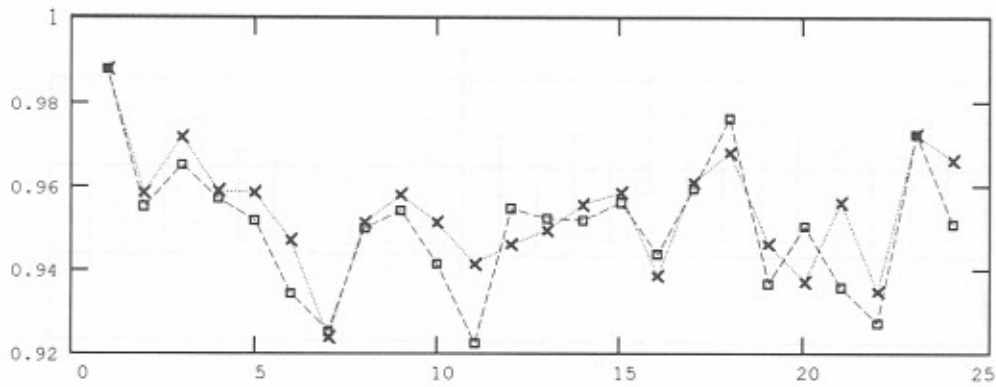


— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.

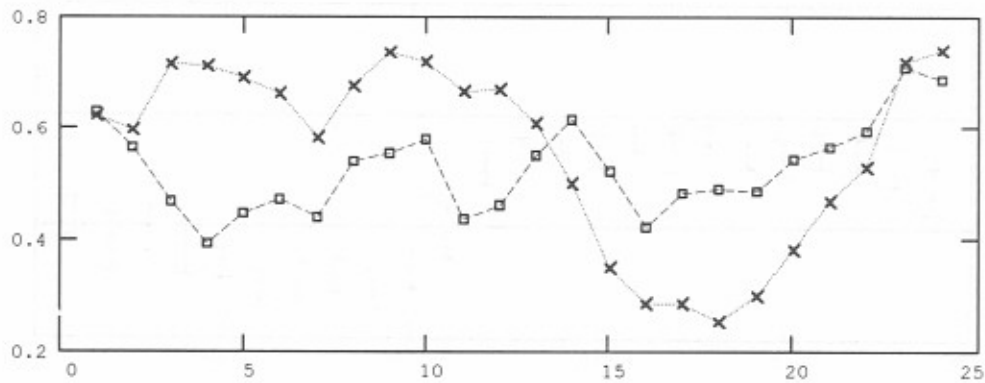


— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.

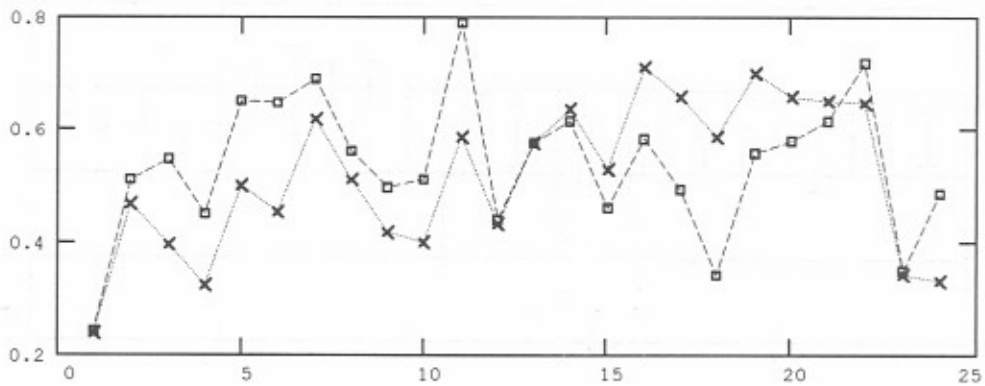
Figure B-12. Simulated network performance by hour-confidence - 5 messages per hour - propagation condition 1 - sounds every minute.



--x-- Link success rate - no-sounds.  
 --□-- Link success rate - sounds-every-15-minutes.



--x-- Call success rate - no-sounds.  
 --□-- Call success rate - sounds-every-15-minutes.



--x-- Average message delay in minutes - no-sounds.  
 --□-- Average message delay in minutes - sounds-every-15-minutes.

Figure B-13. Simulated network performance by hour-data traces - 10 messages per hour - propagation condition 1 - sounds every 15 minutes.

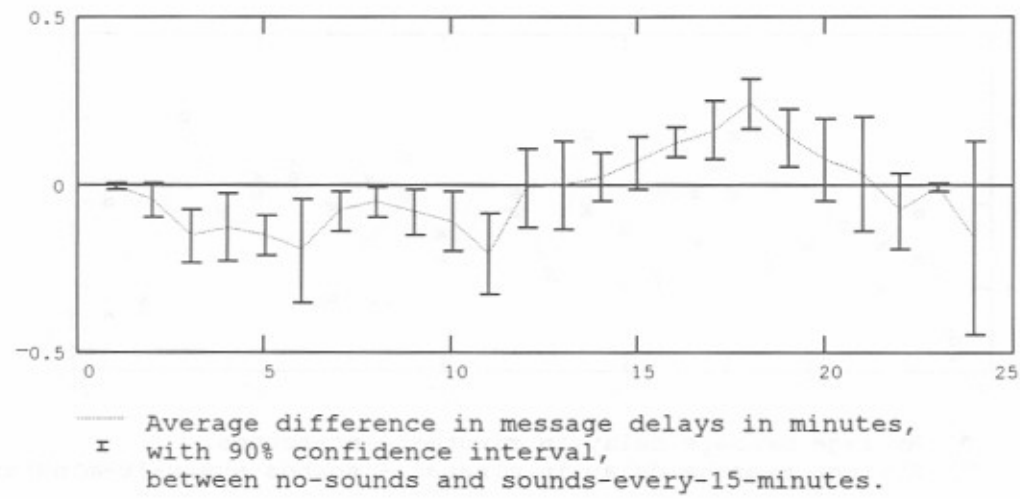
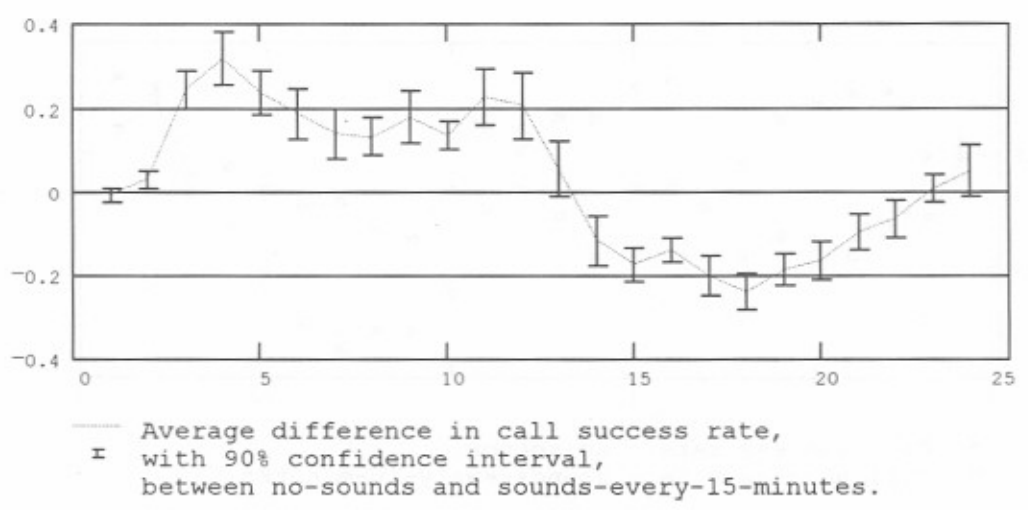
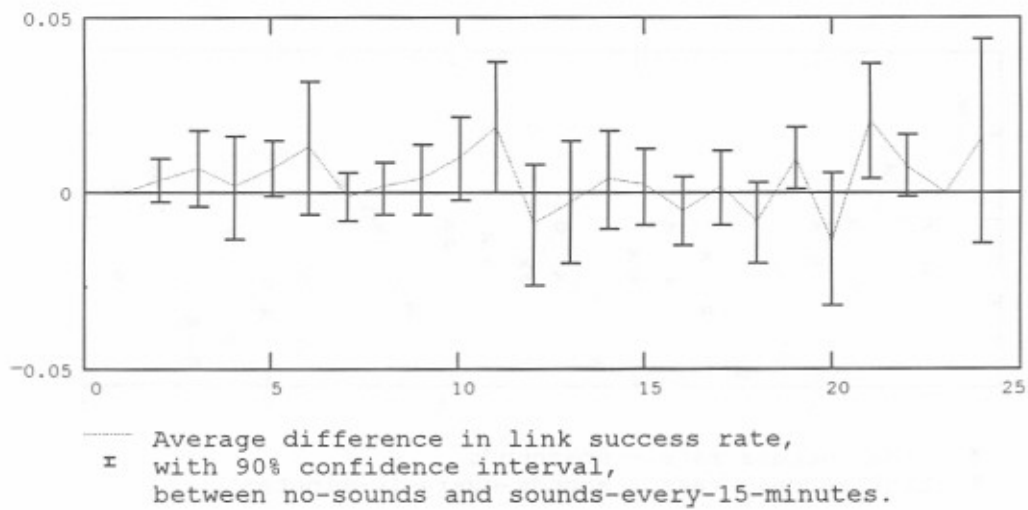


Figure B-14. Simulated network performance by hour-confidence - 10 messages per hour - propagation condition 1 - sounds every 15 minutes.



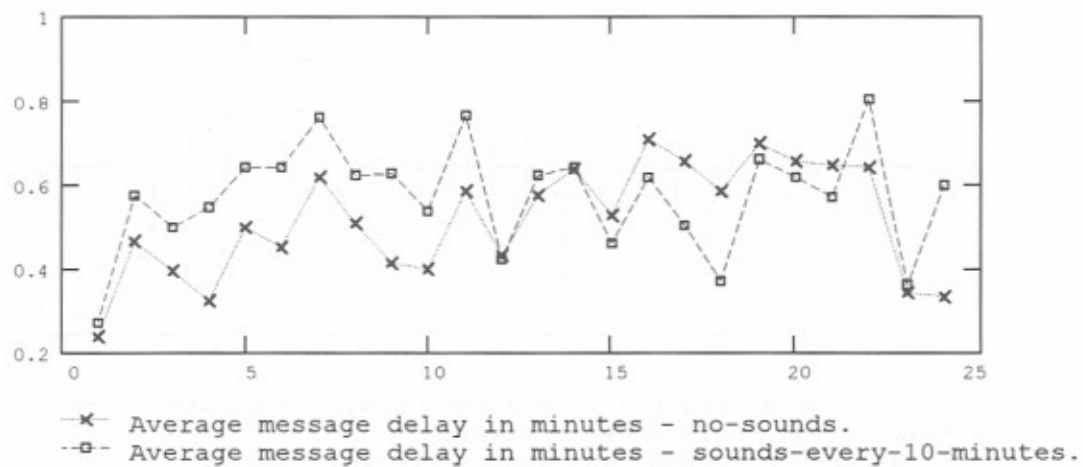
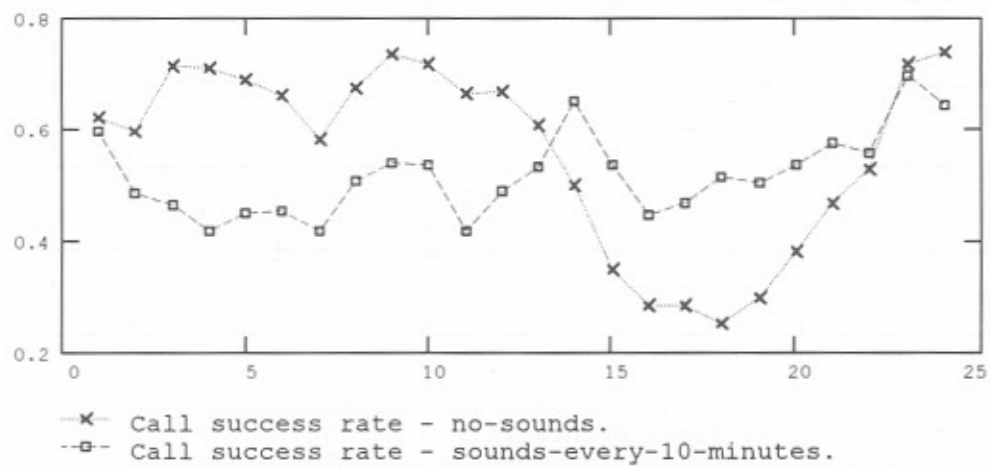
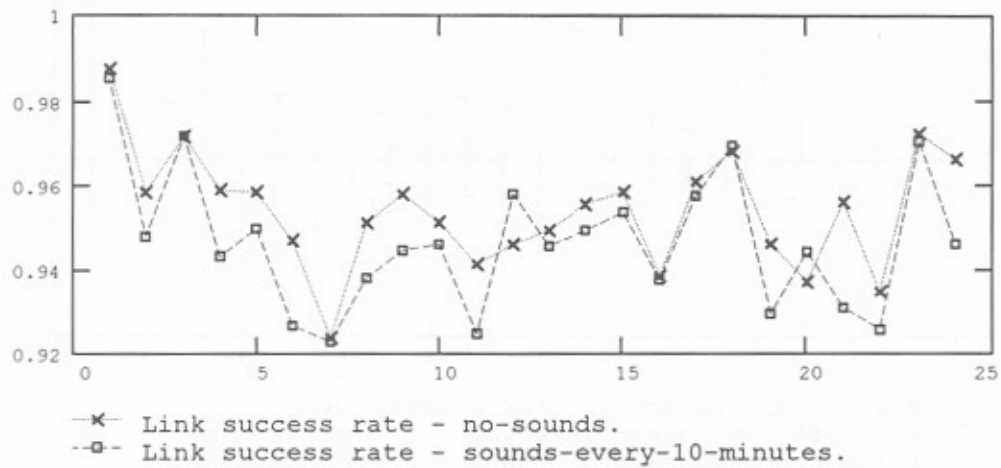
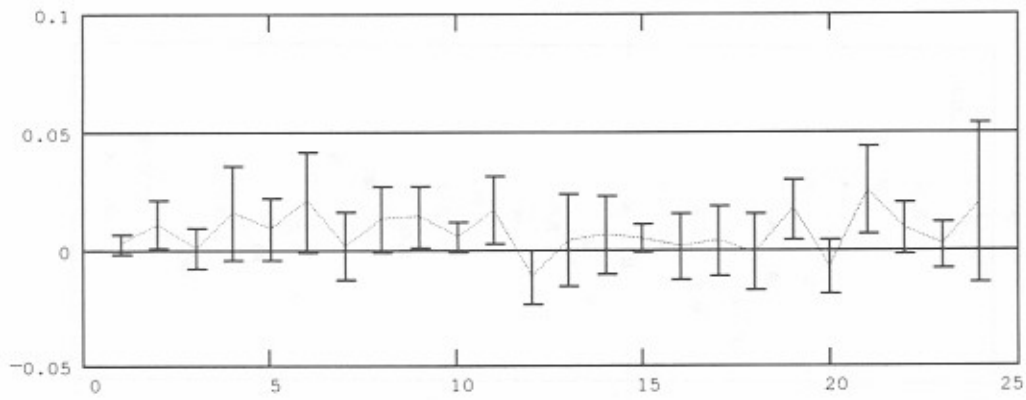
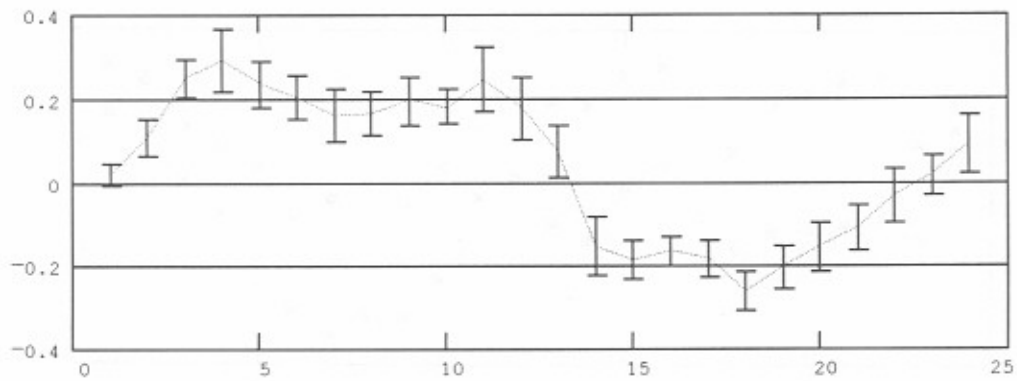


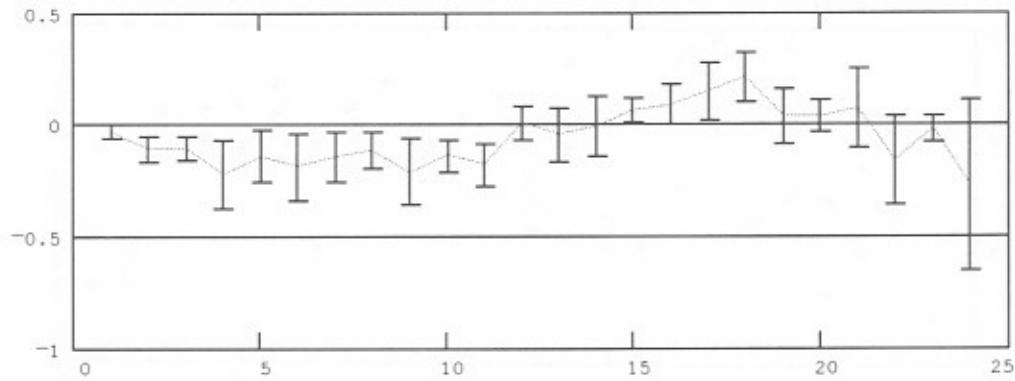
Figure B-15. Simulated network performance by hour-data traces - 10 messages per hour - propagation condition 1 - sounds every 10 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.

Figure B-16. Simulated network performance by hour-confidence - 10 messages per hour - propagation condition 1 - sounds every 10 minutes.

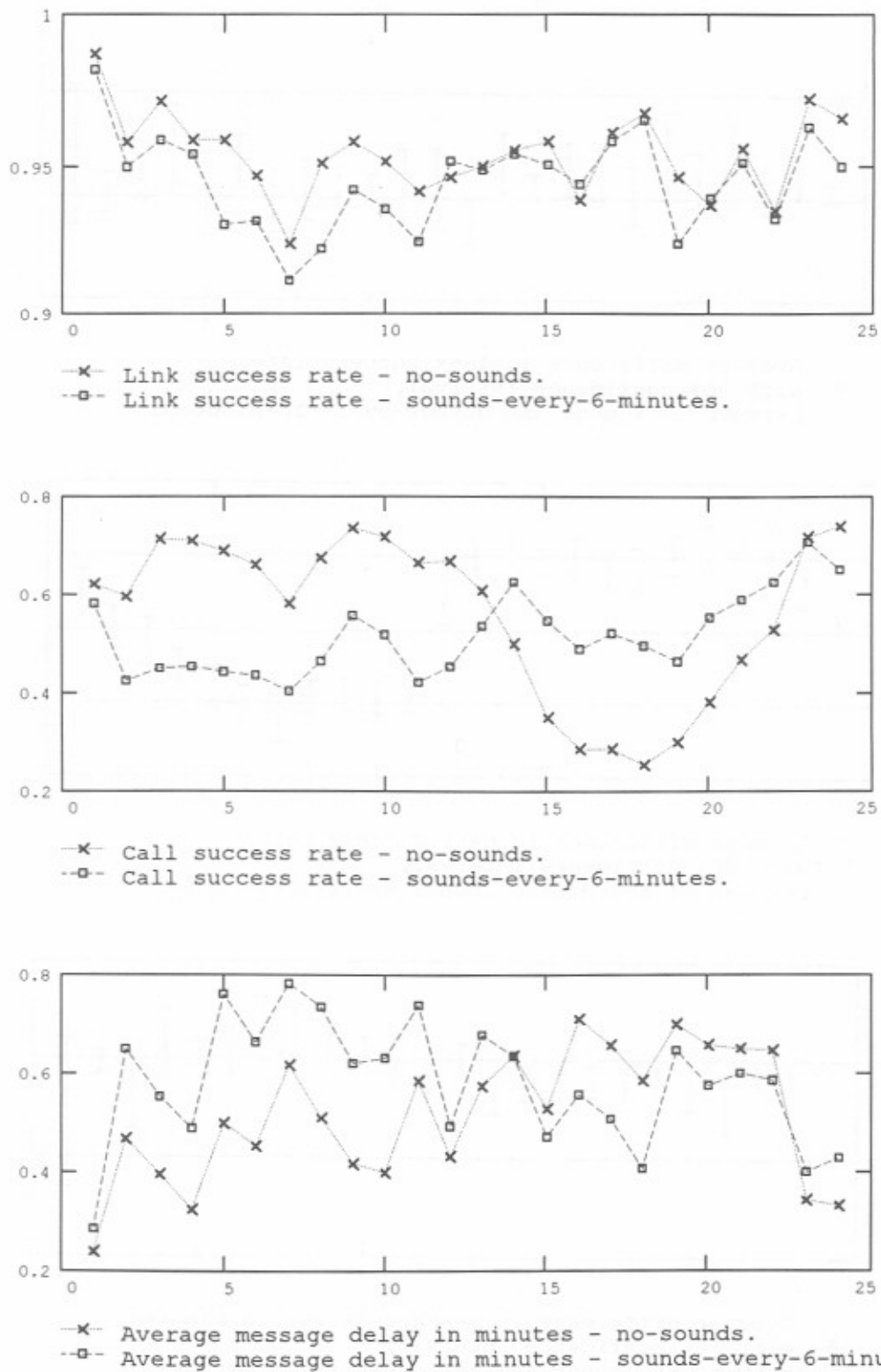
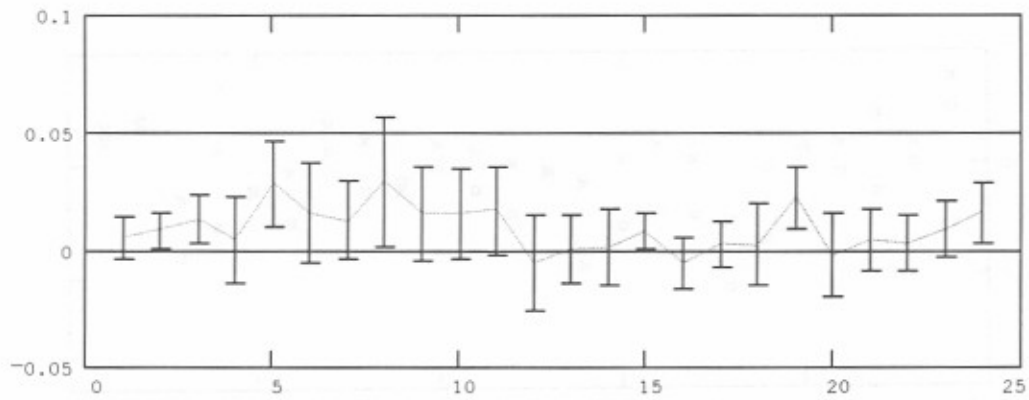
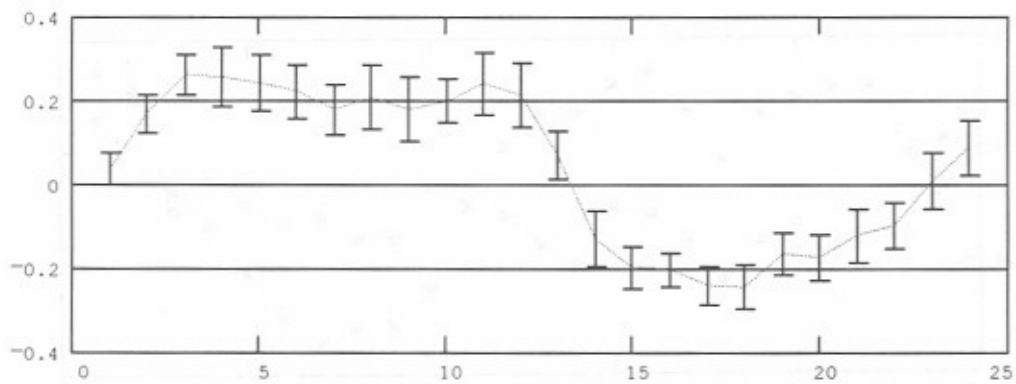


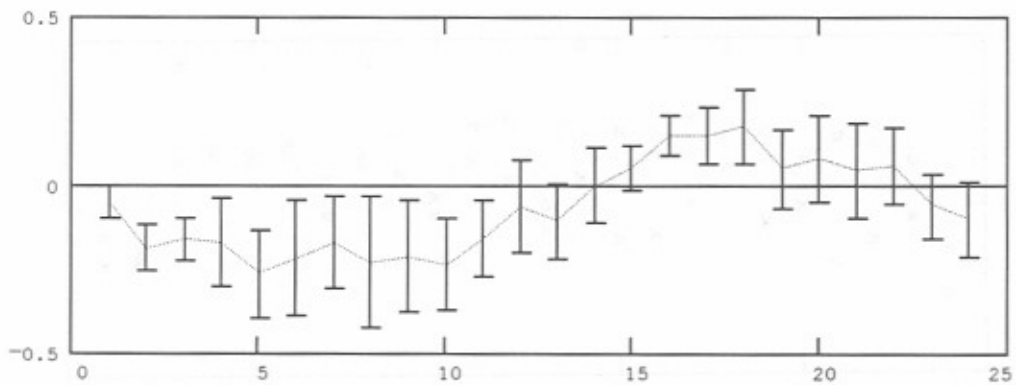
Figure B-17. Simulated network performance by hour-data traces - 10 messages per hour - propagation condition 1 - sounds every 6 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.

Figure B-18. Simulated network performance by hour-confidence - 10 messages per hour - propagation condition 1 - sounds every 6 minutes.

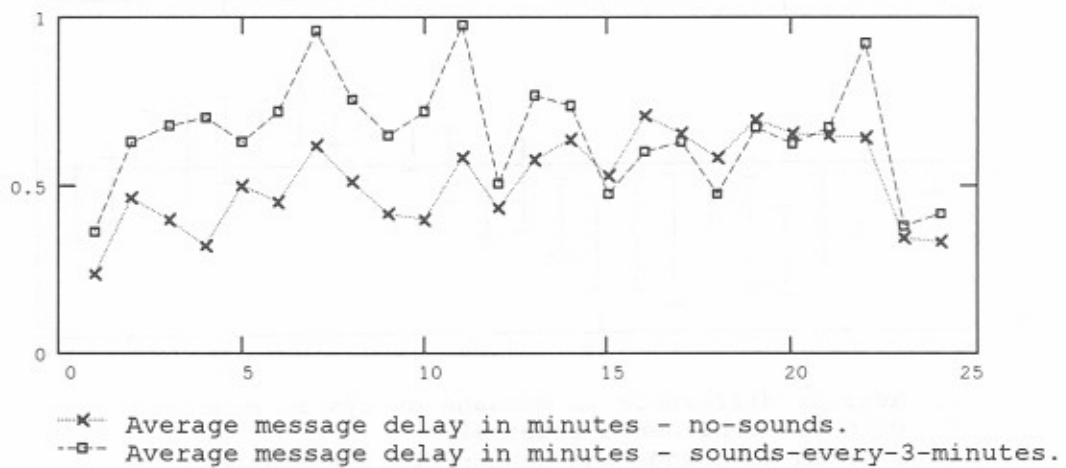
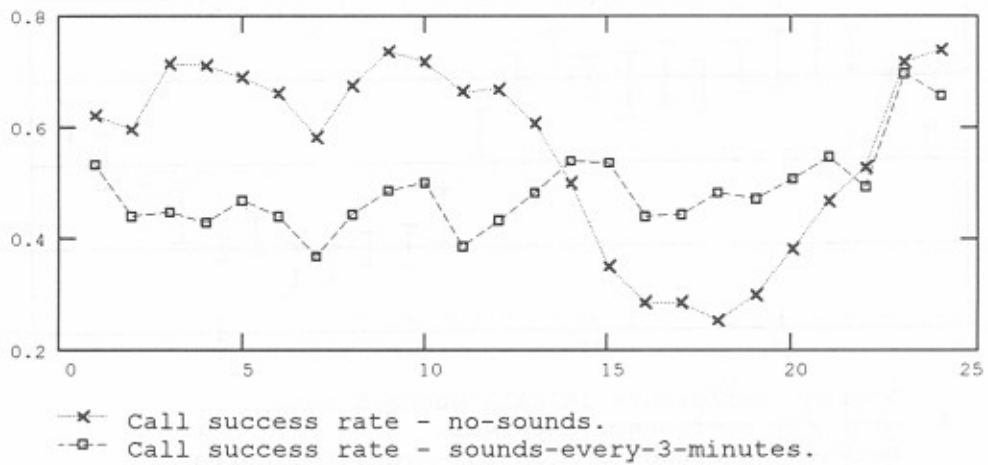
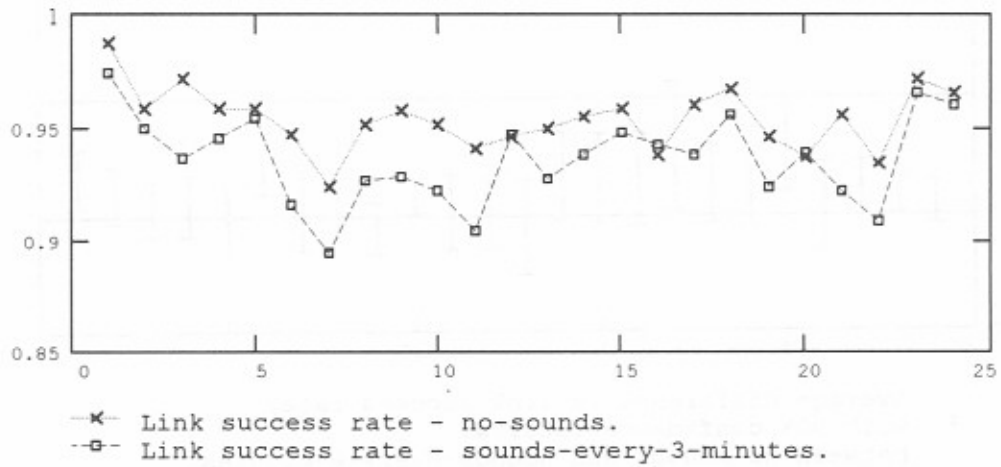


Figure B-19. Simulated network performance by hour-data traces - 10 messages per hour - propagation condition 1 - sounds every 3 minutes.

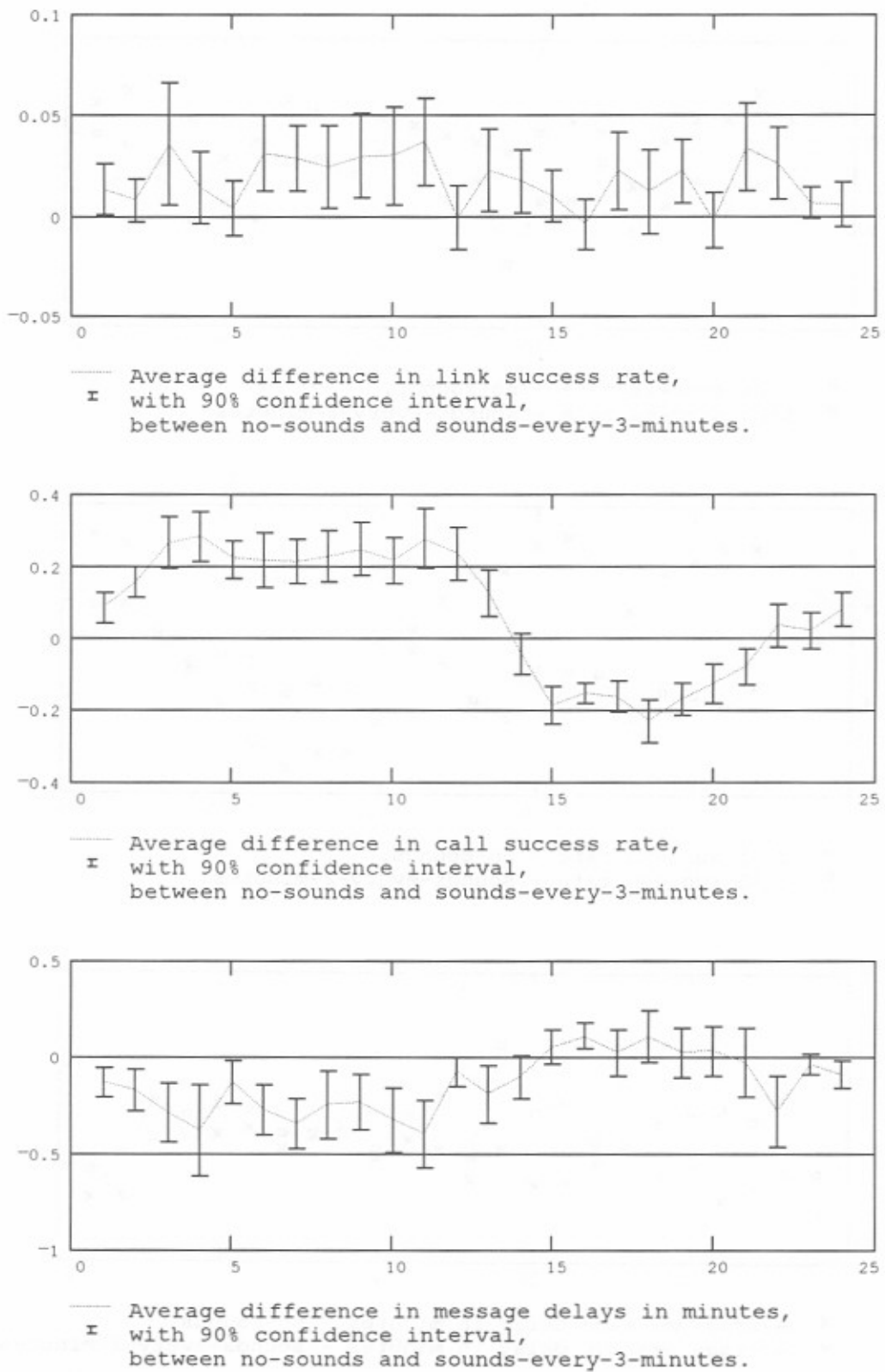


Figure B-20. Simulated network performance by hour-confidence - 10 messages per hour - propagation condition 1 - sounds every 3 minutes.

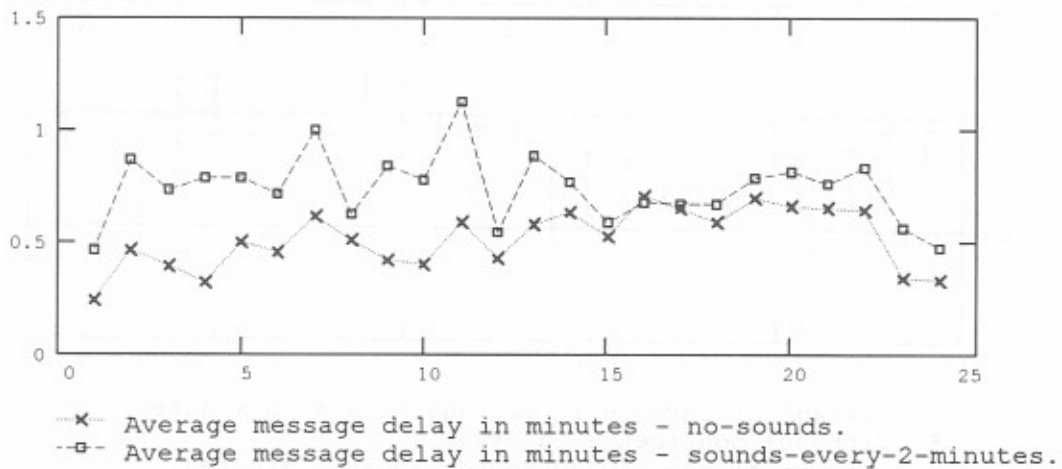
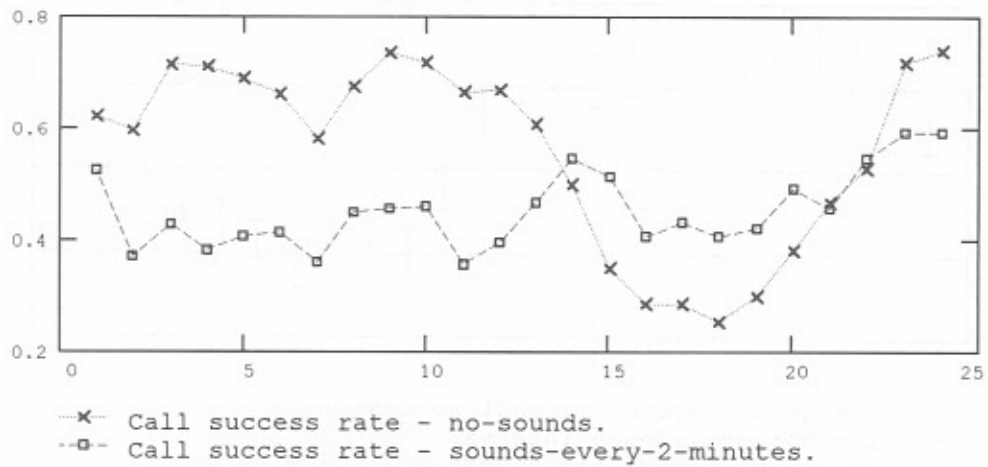
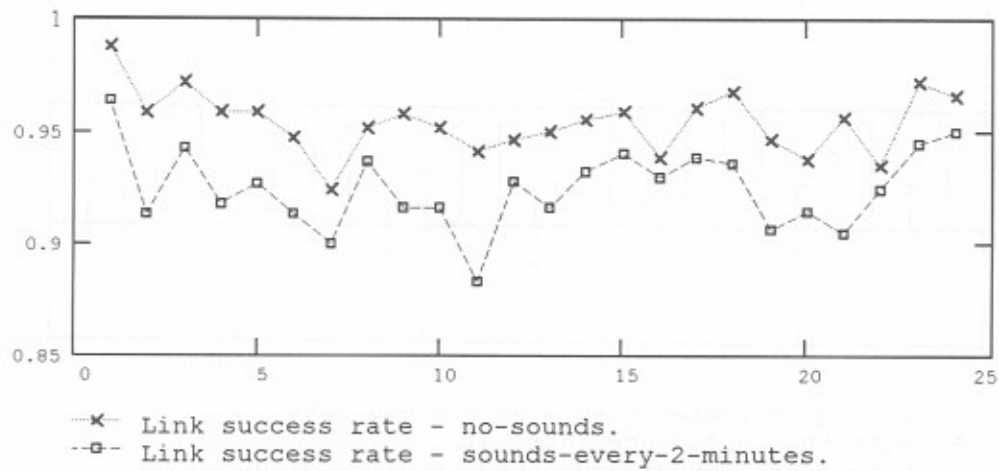
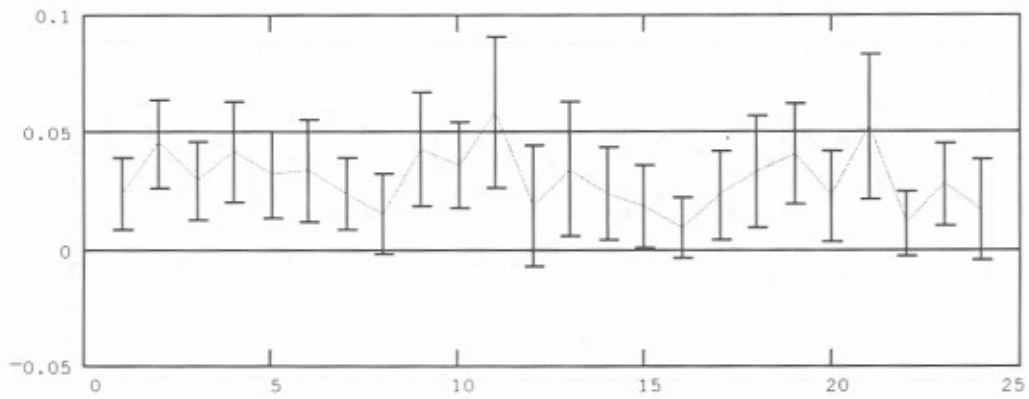
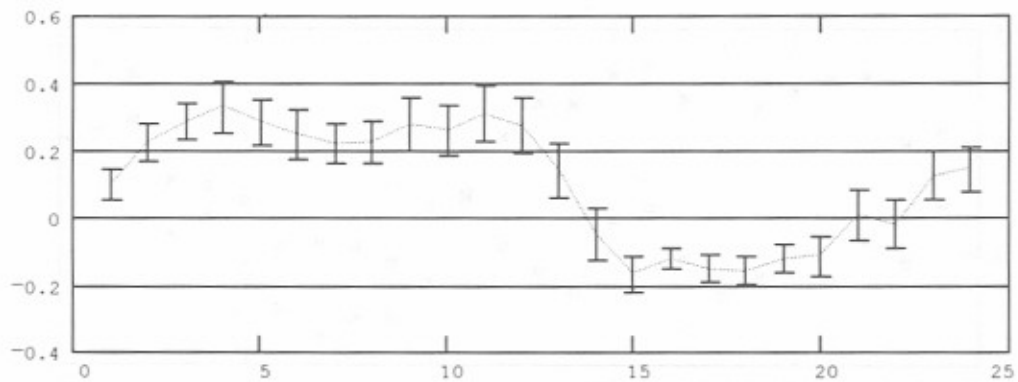


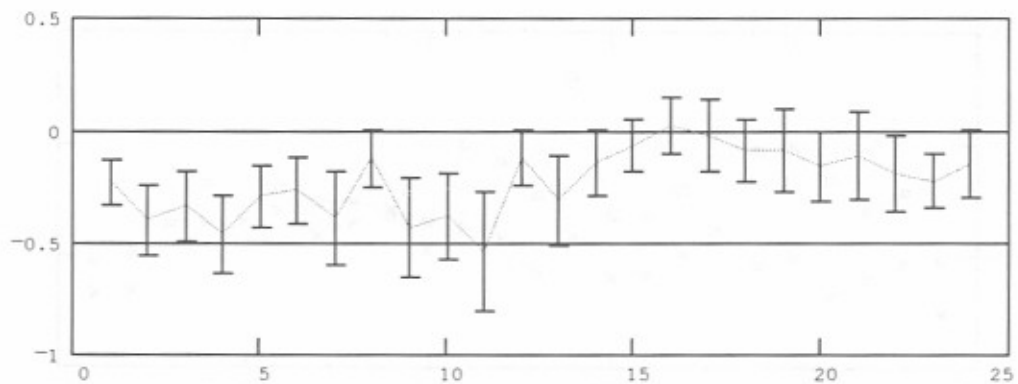
Figure B-21. Simulated network performance by hour-data traces - 10 messages per hour - propagation condition 1 - sounds every 2 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.

Figure B-22. Simulated network performance by hour-confidence - 10 messages per hour - propagation condition 1 - sounds every 2 minutes.



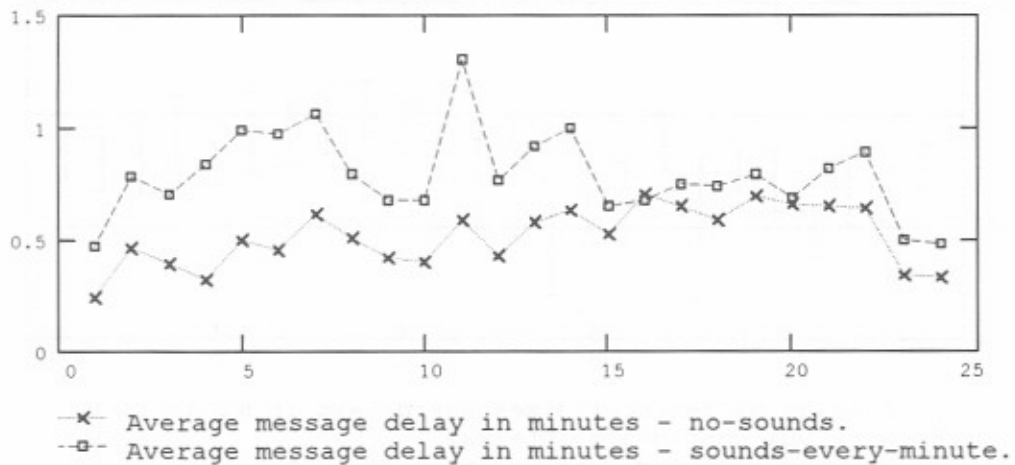
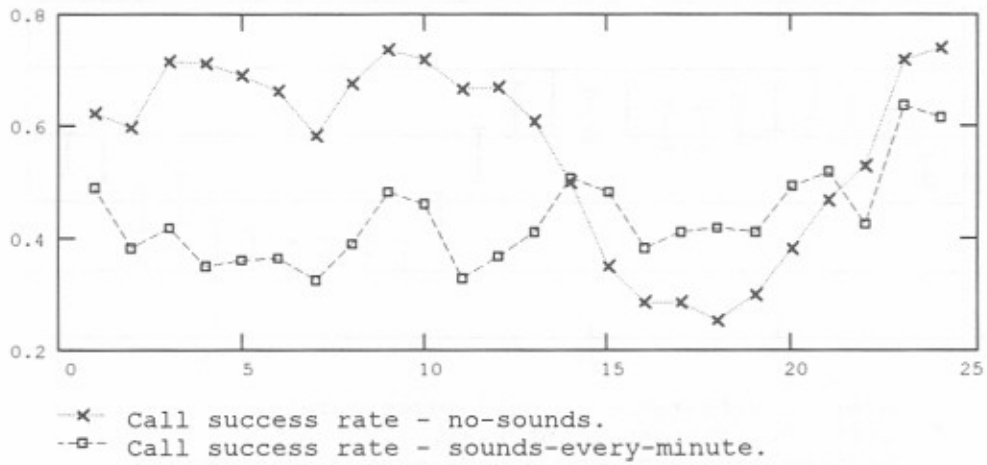
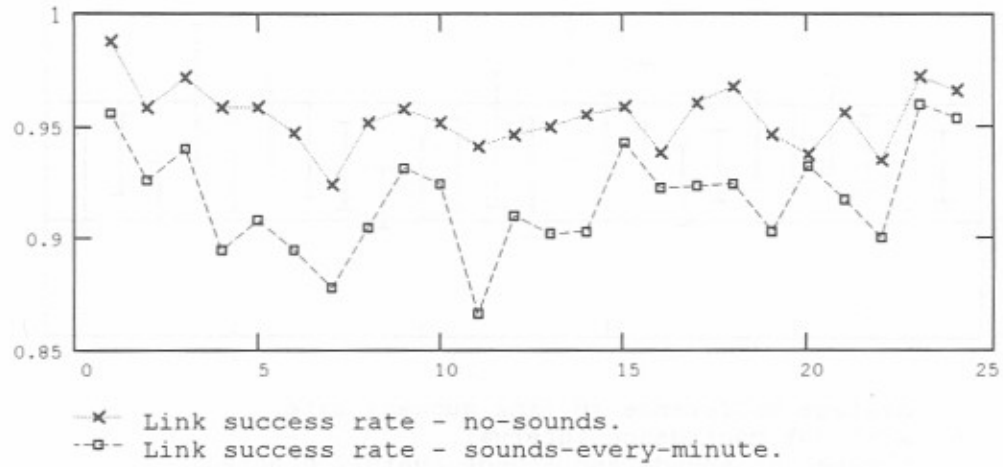
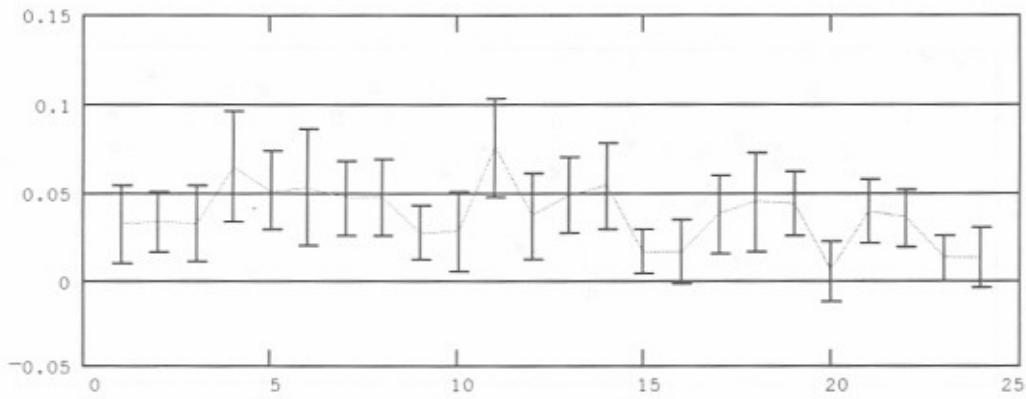
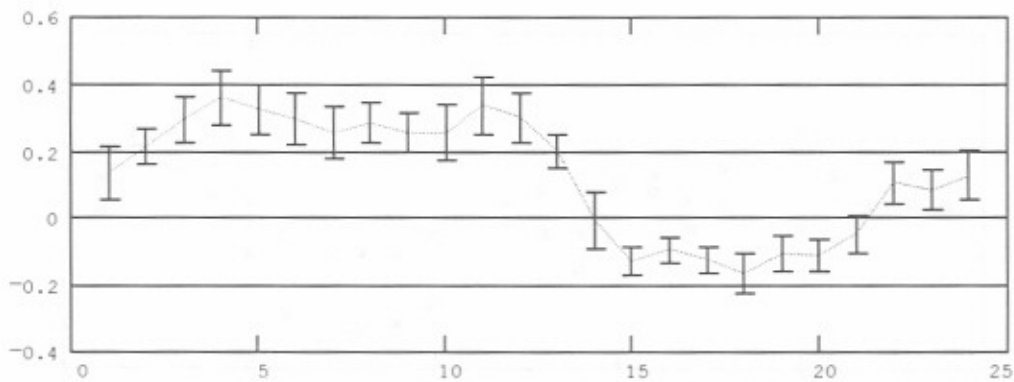


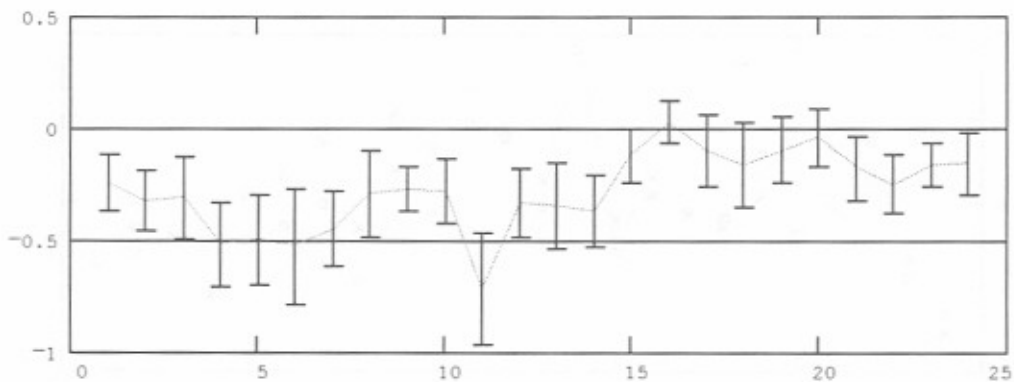
Figure B-23. Simulated network performance by hour-data traces - 10 messages per hour - propagation condition 1 - sounds every minute.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.

Figure B-24. Simulated network performance by hour-confidence - 10 messages per hour - propagation condition 1 - sounds every minute.

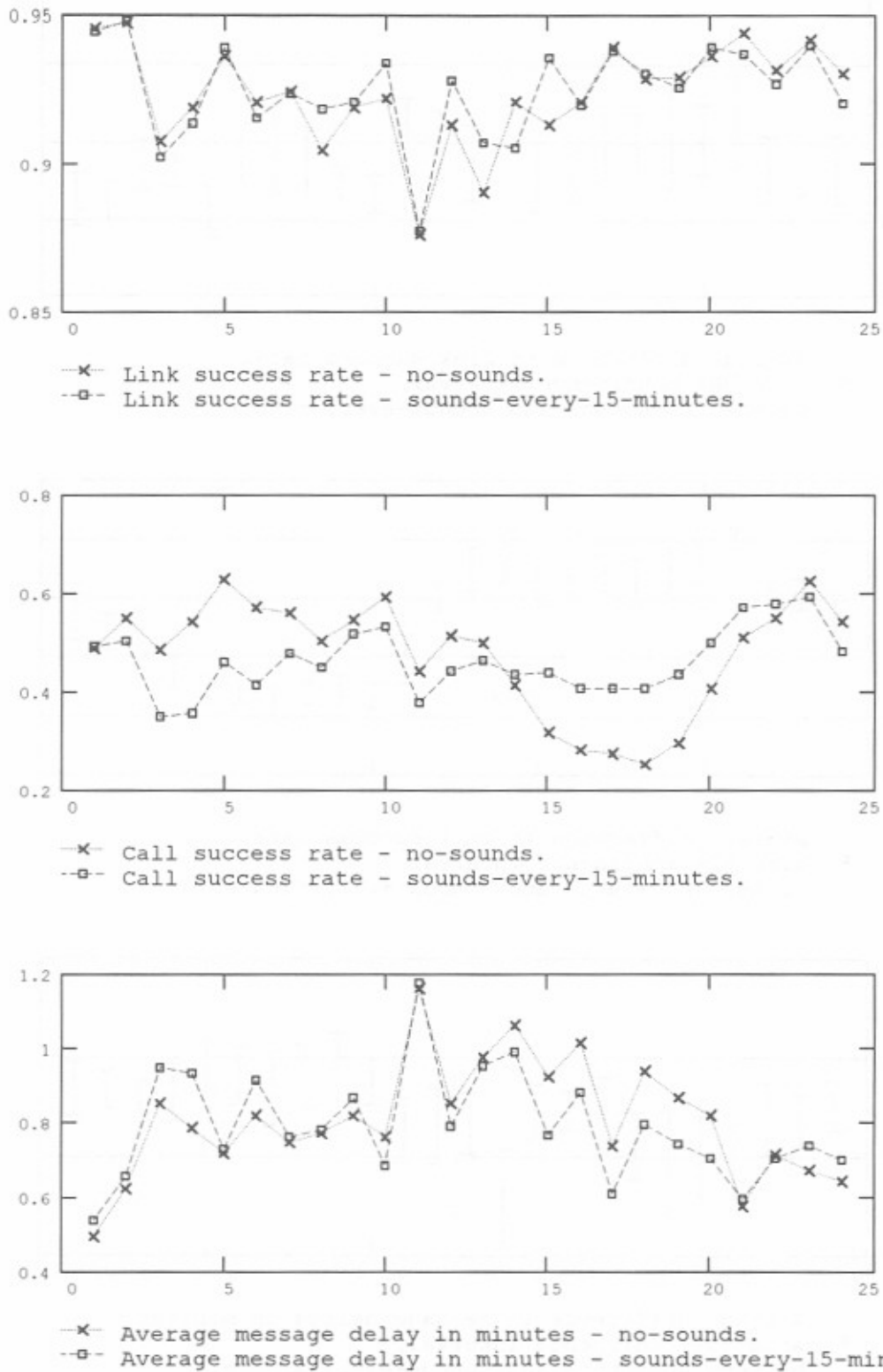
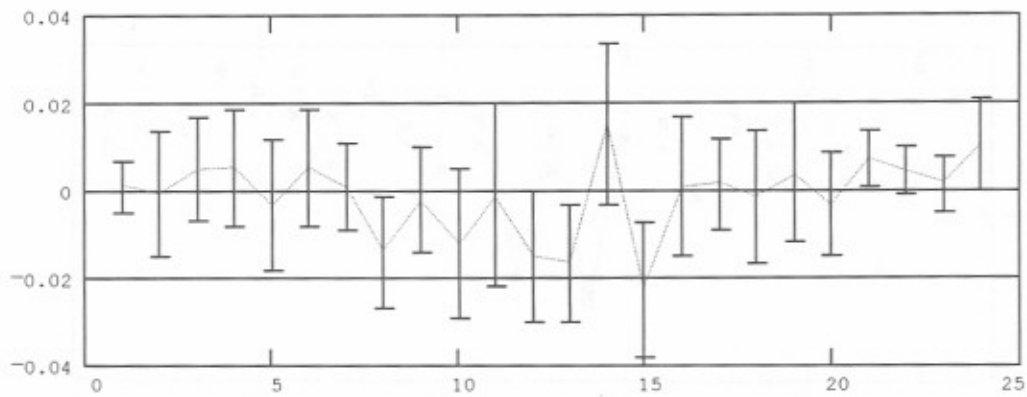
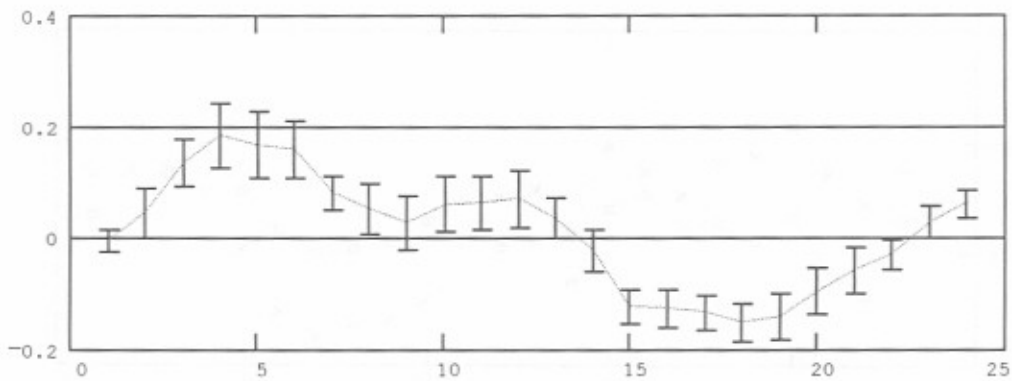


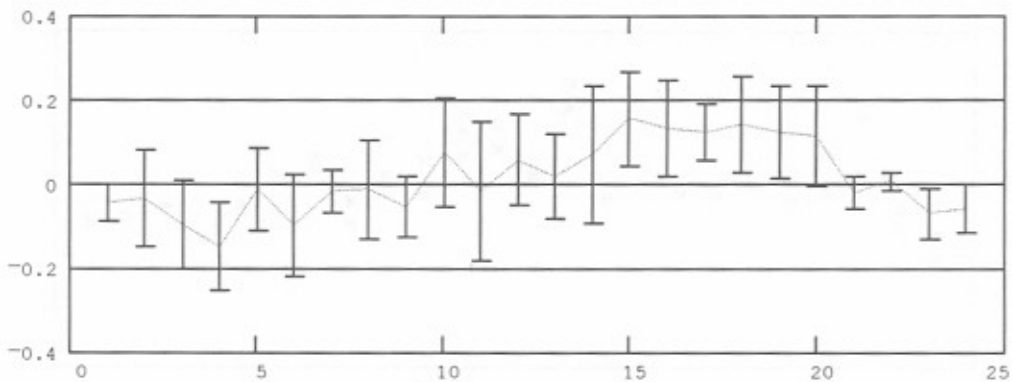
Figure B-25. Simulated network performance by hour-data traces - 15 messages per hour - propagation condition 1 - sounds every 15 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.

Figure B-26. Simulated network performance by hour-confidence - 15 messages per hour - propagation condition 1 - sounds every 15 minutes.

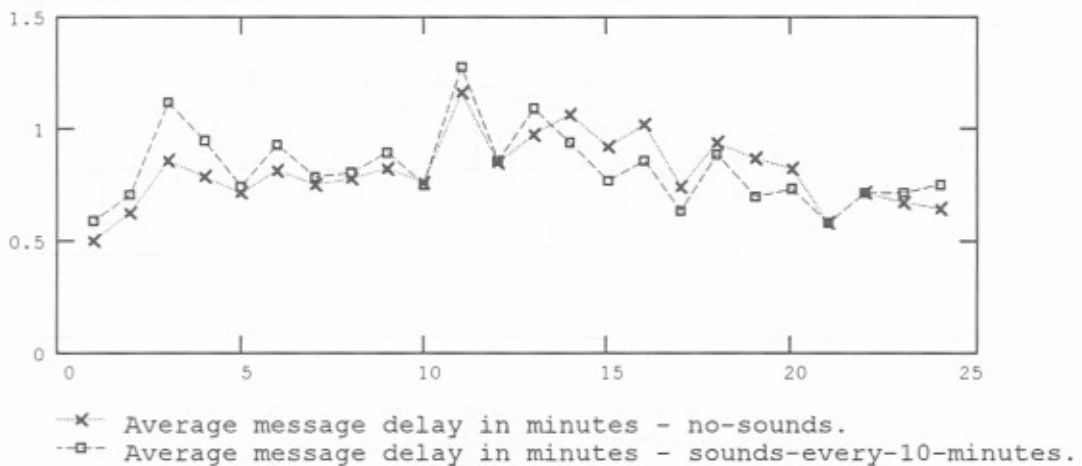
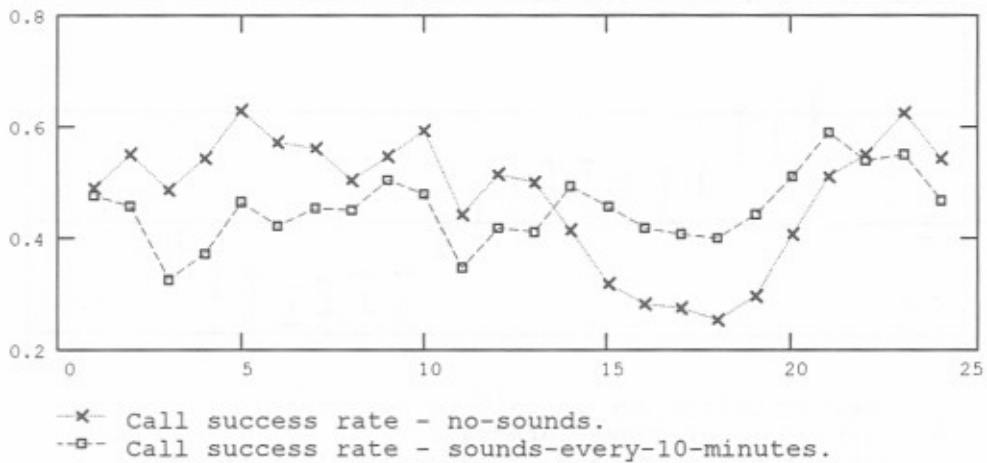
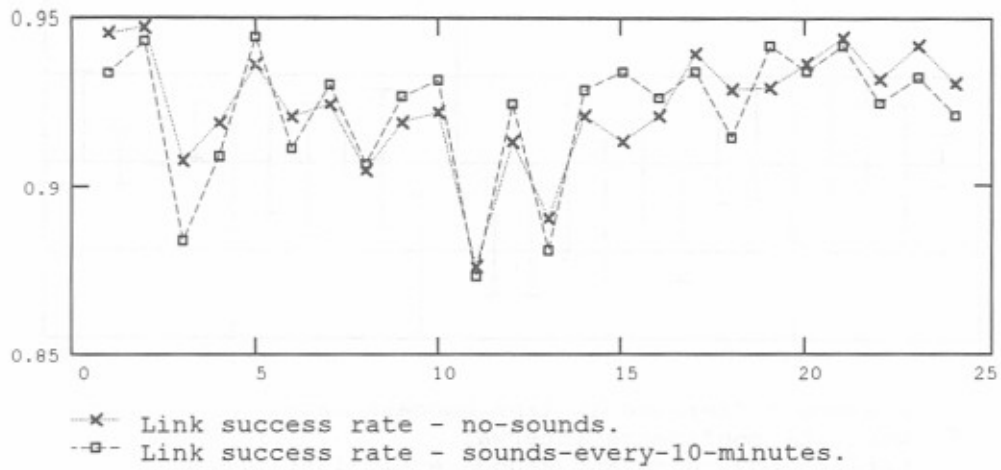
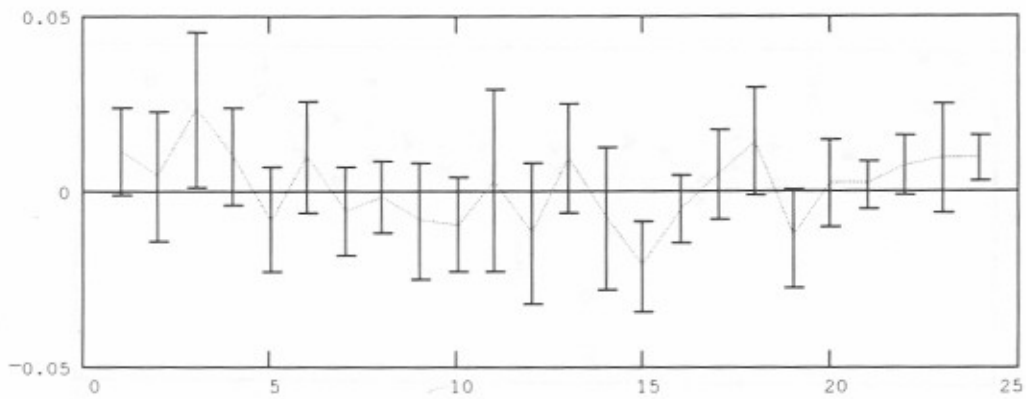
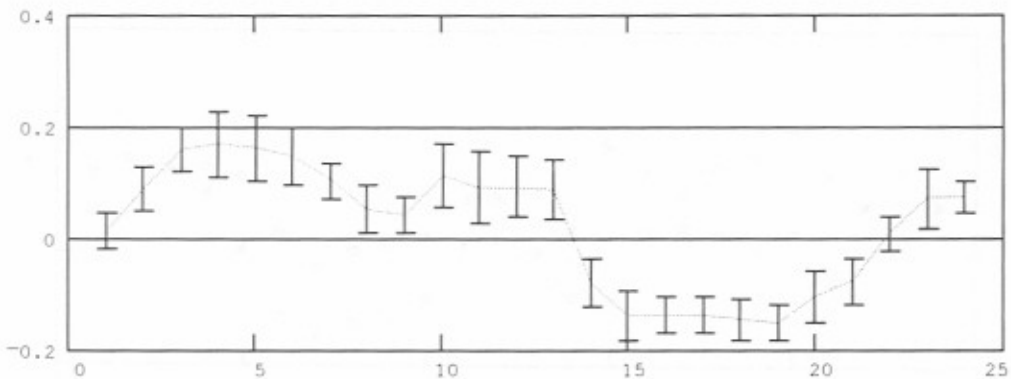


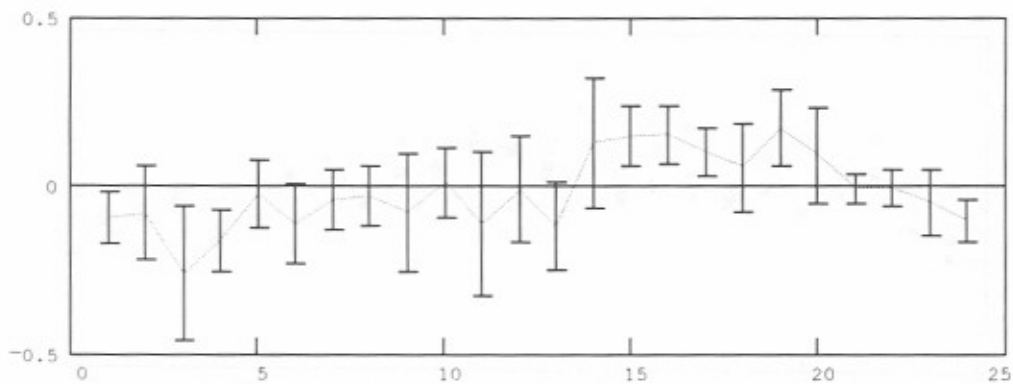
Figure B-27. Simulated network performance by hour-data traces - 15 messages per hour - propagation condition 1 - sounds every 10 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.

Figure B-28. Simulated network performance by hour-confidence - 15 messages per hour - propagation condition 1 - sounds every 10 minutes.

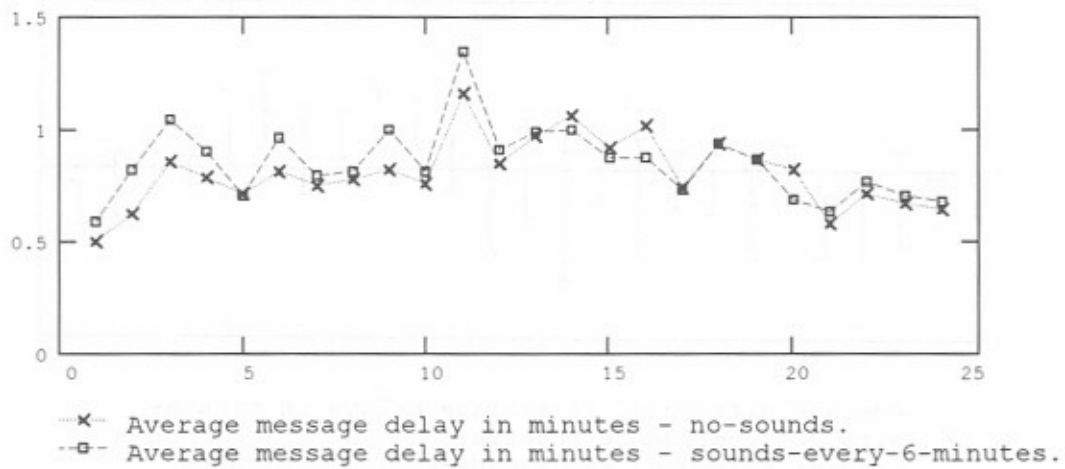
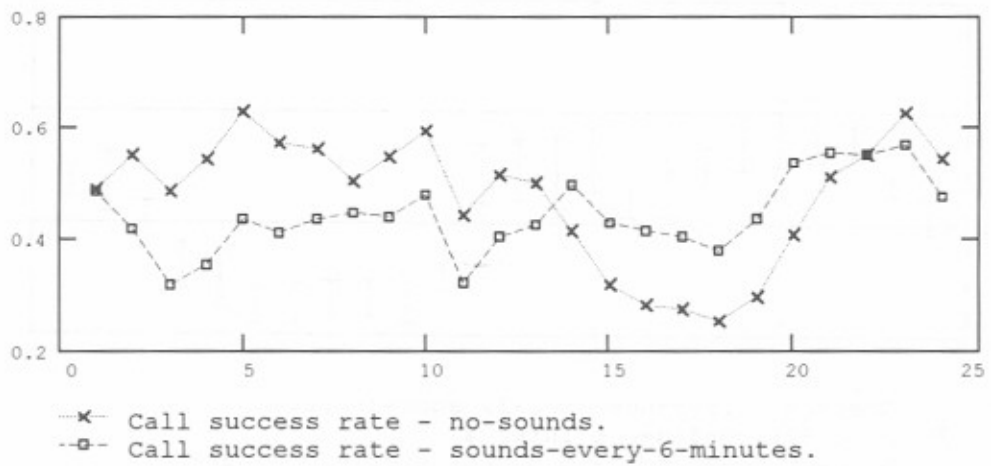
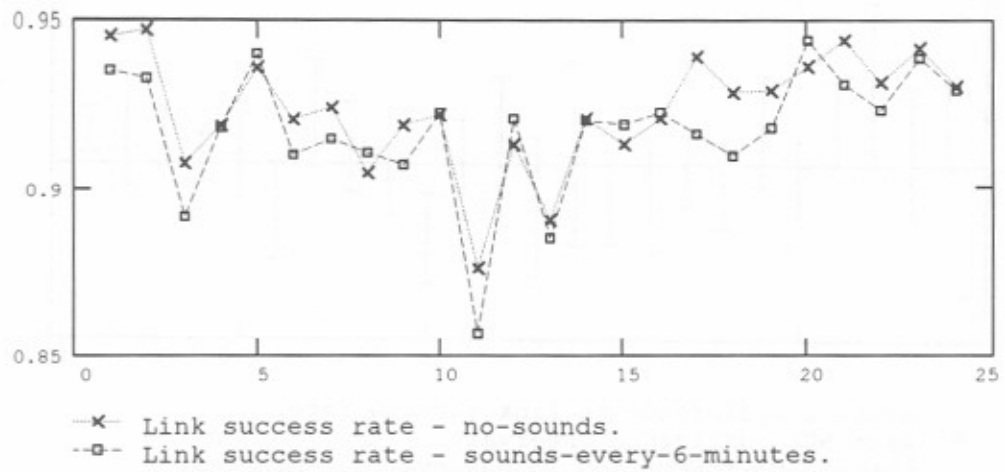
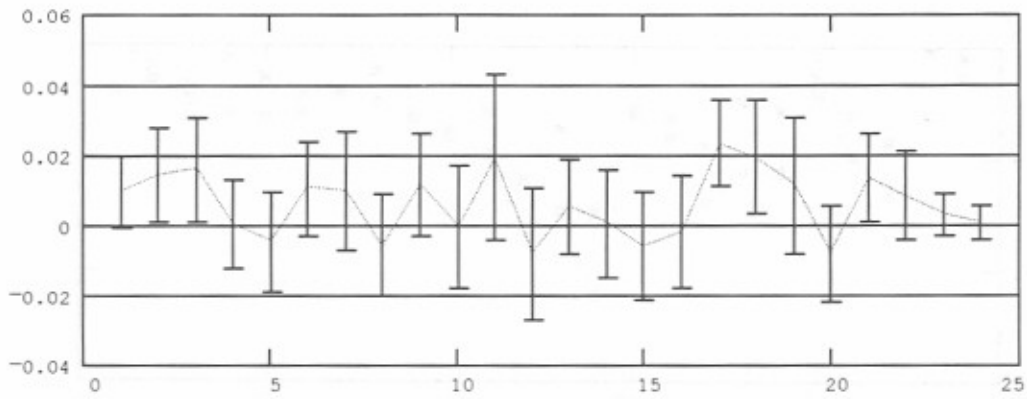
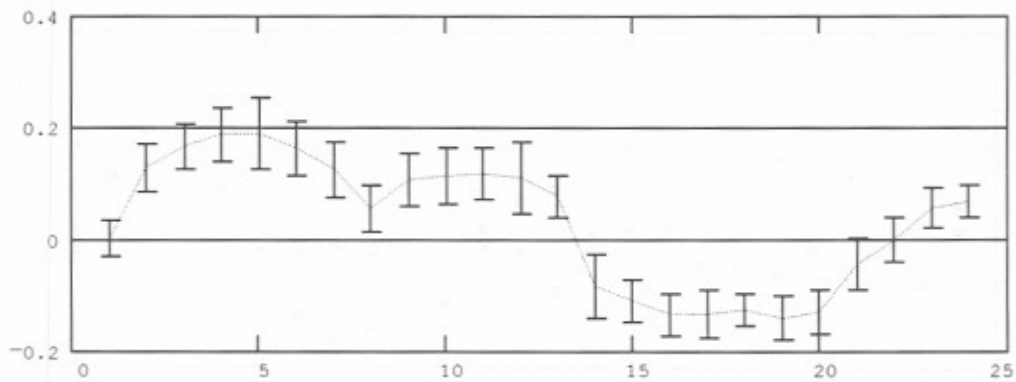


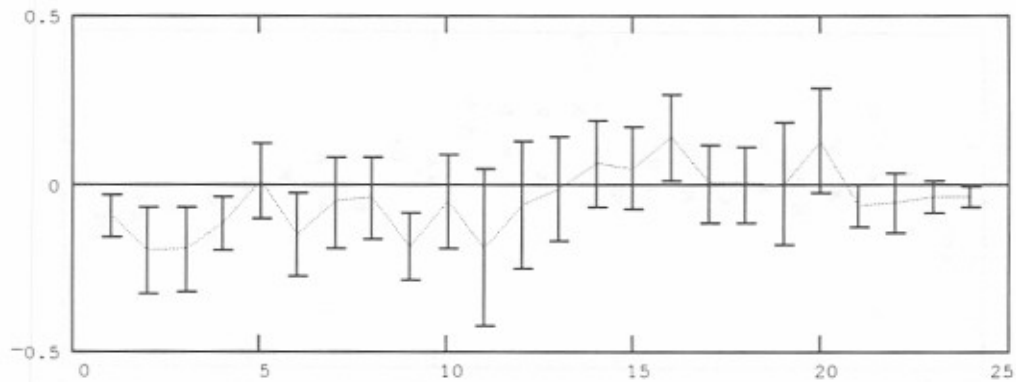
Figure B-29. Simulated network performance by hour-data traces - 15 messages per hour - propagation condition 1 - sounds every 6 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.

Figure B-30. Simulated network performance by hour-confidence - 15 messages per hour - propagation condition 1 - sounds every 6 minutes.



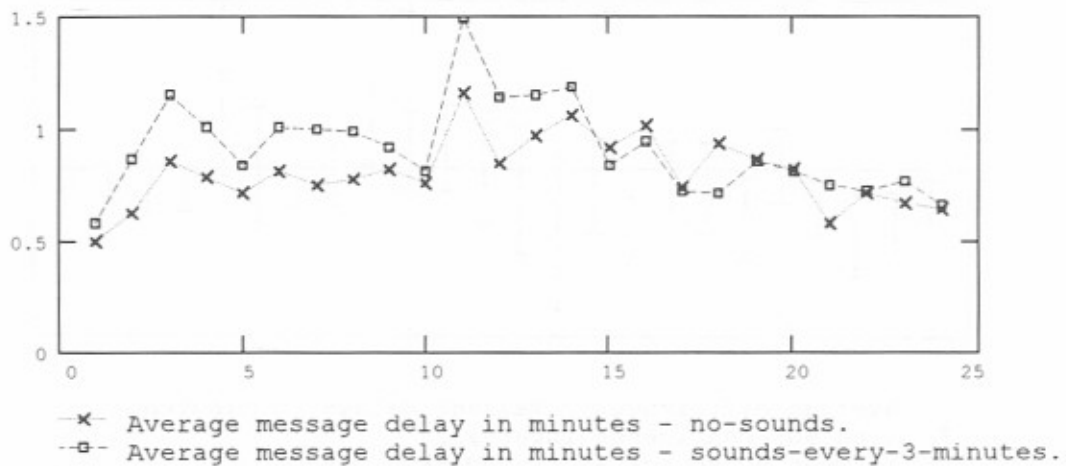
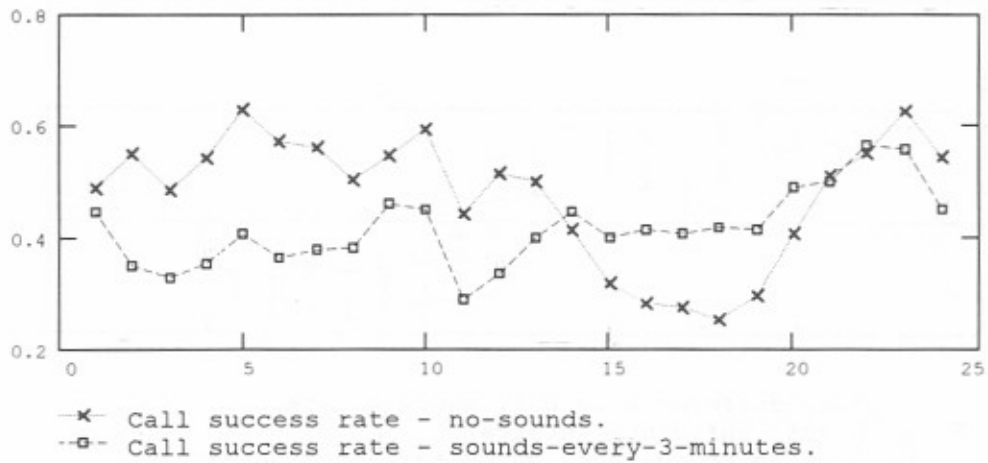
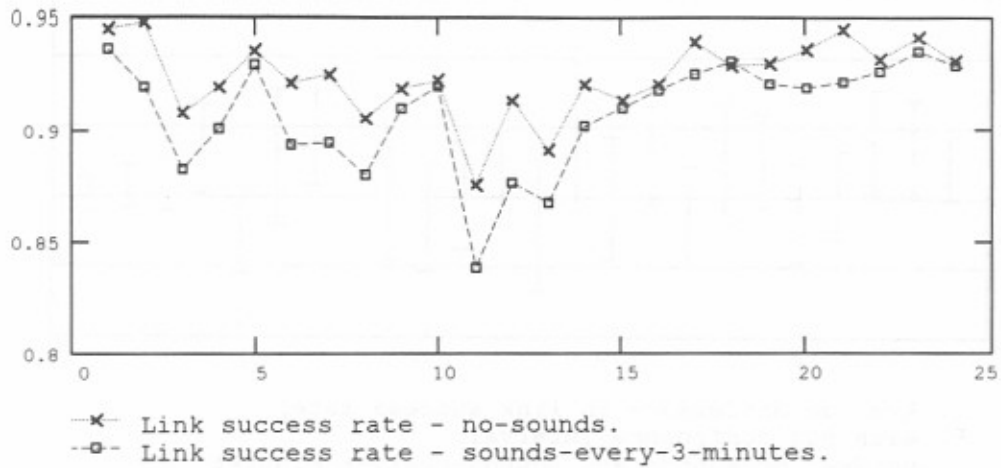
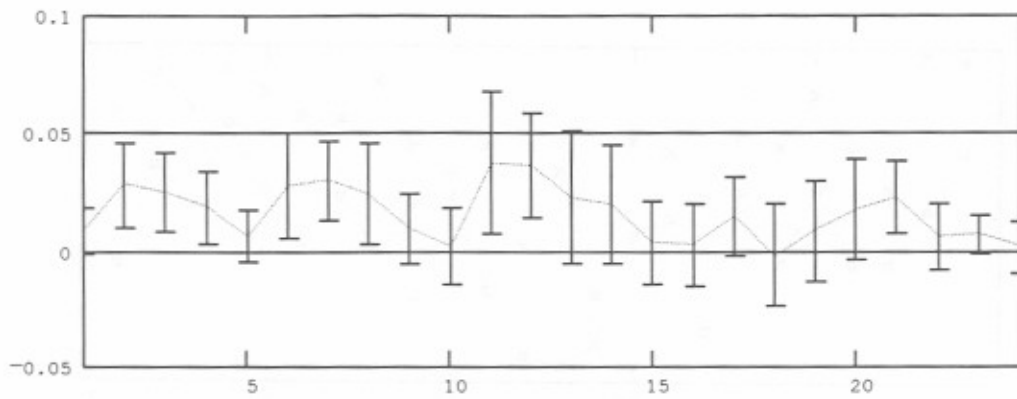
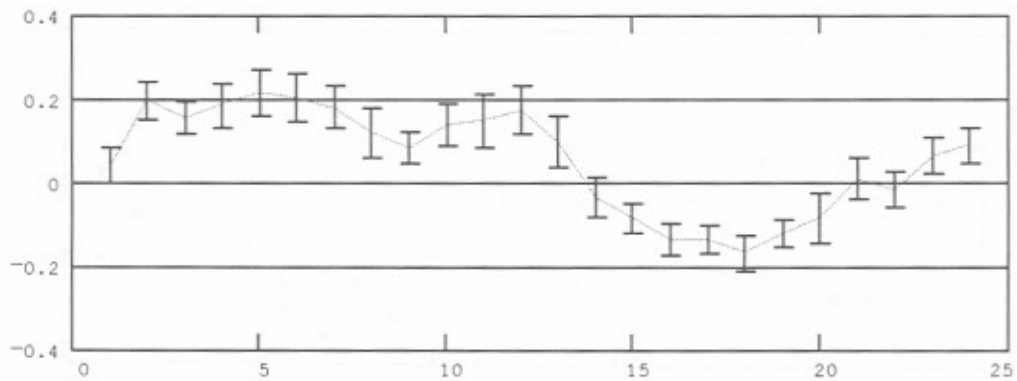


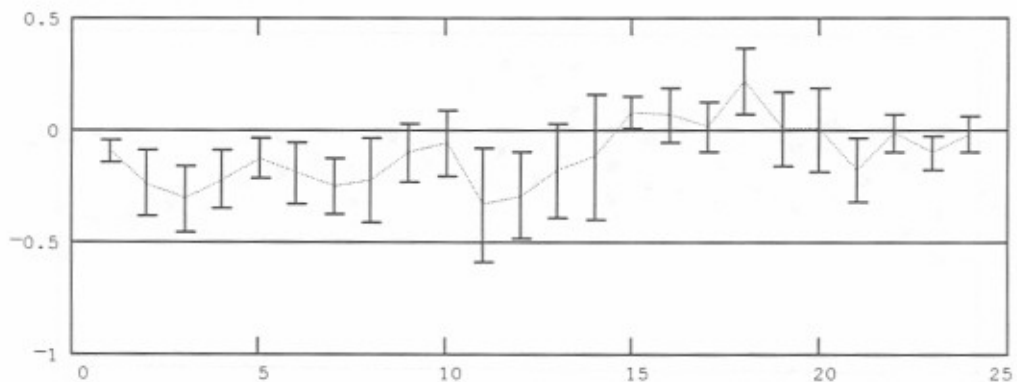
Figure B-31. Simulated network performance by hour-data traces - 15 messages per hour - propagation condition 1 - sounds every 3 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.

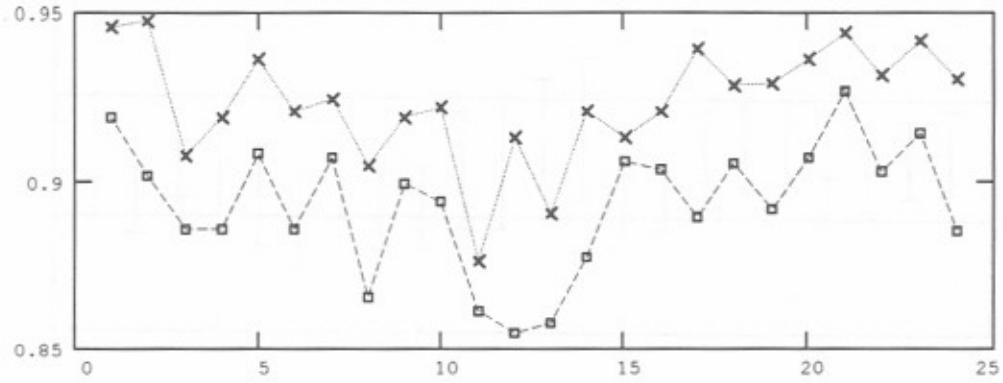


— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.

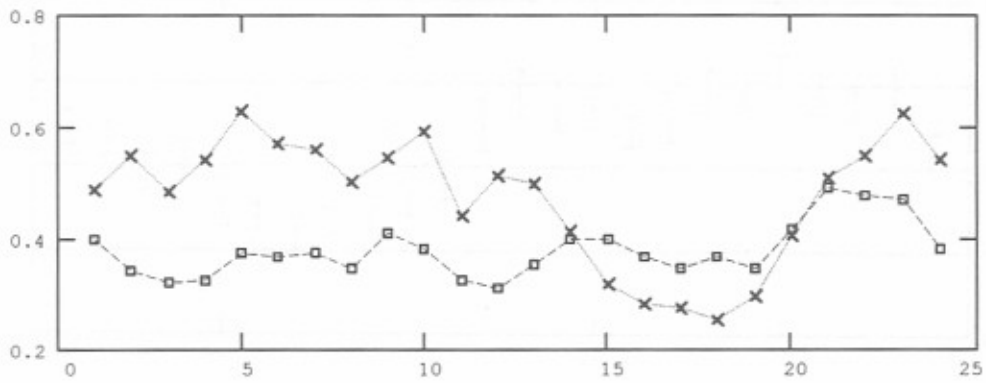


— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.

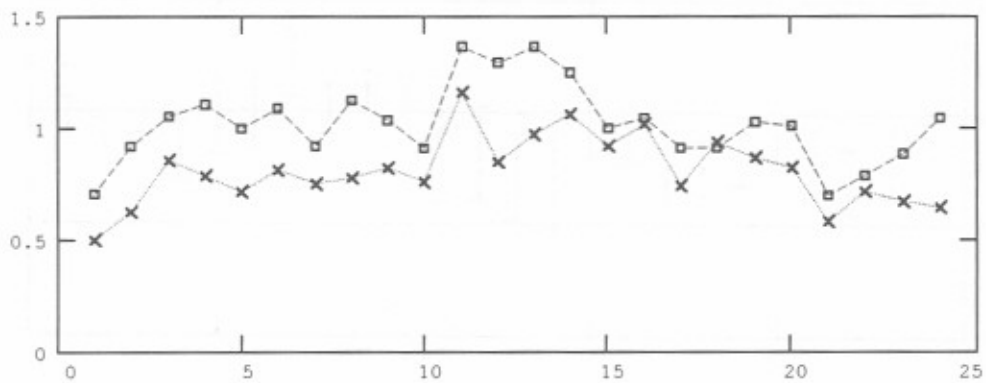
Figure B-32. Simulated network performance by hour-confidence - 15 messages per hour - propagation condition 1 - sounds every 3 minutes.



-x- Link success rate - no-sounds.  
 --□-- Link success rate - sounds-every-2-minutes.

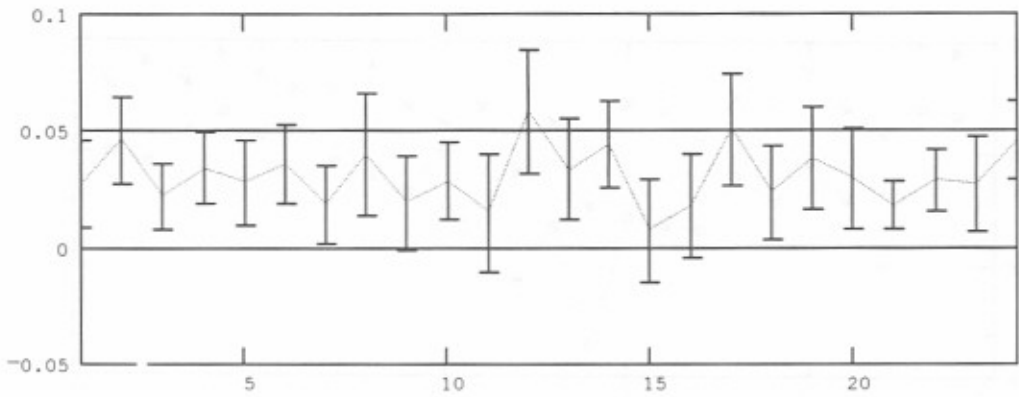


-x- Call success rate - no-sounds.  
 --□-- Call success rate - sounds-every-2-minutes.

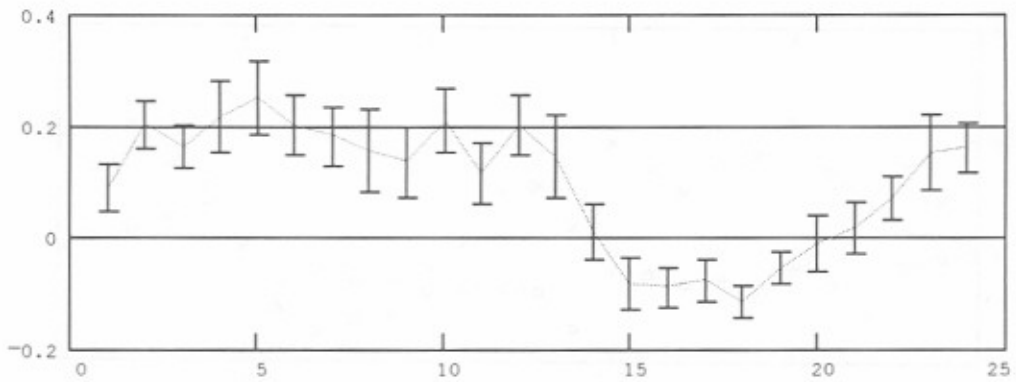


-x- Average message delay in minutes - no-sounds.  
 --□-- Average message delay in minutes - sounds-every-2-minutes.

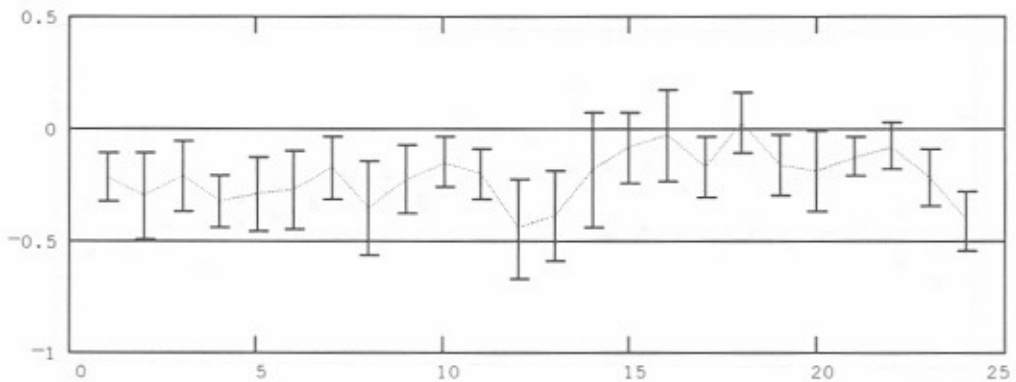
Figure B-33. Simulated network performance by hour-data traces - 15 messages per hour - propagation condition 1 - sounds every 2 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.

Figure B-34. Simulated network performance by hour-confidence - 15 messages per hour - propagation condition 1 - sounds every 2 minutes.

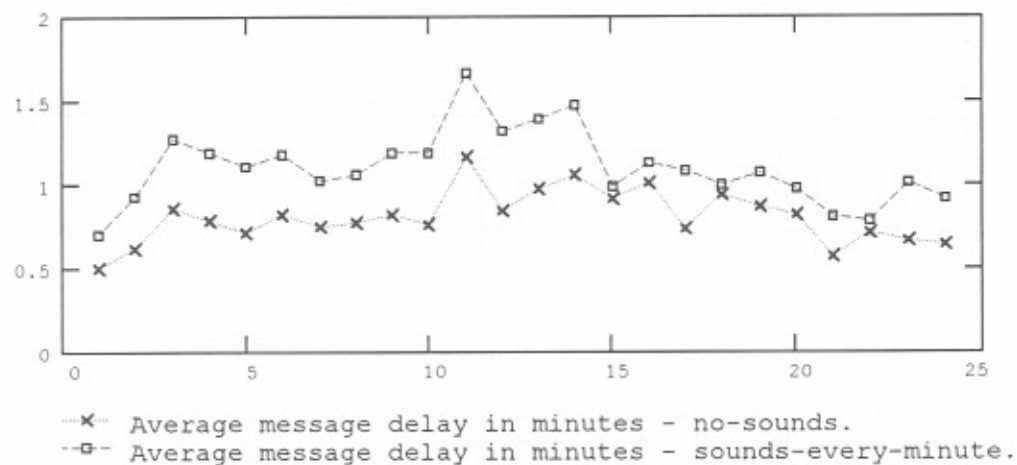
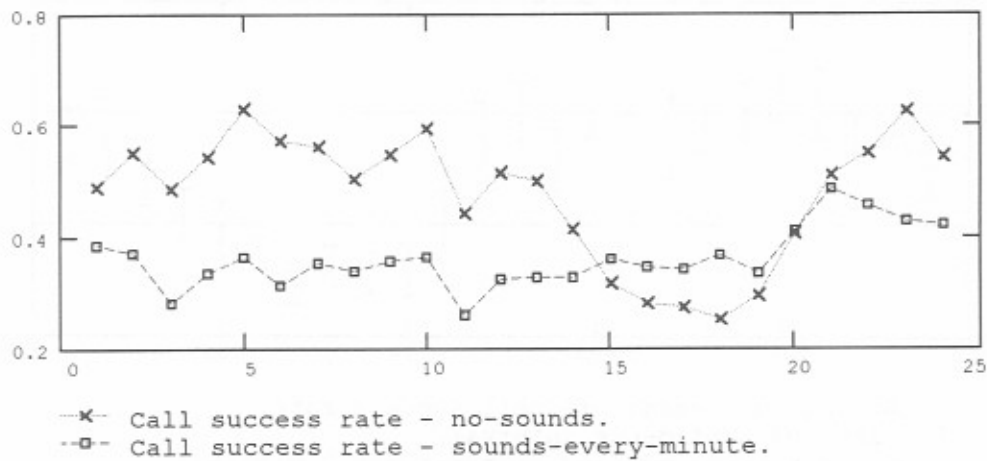
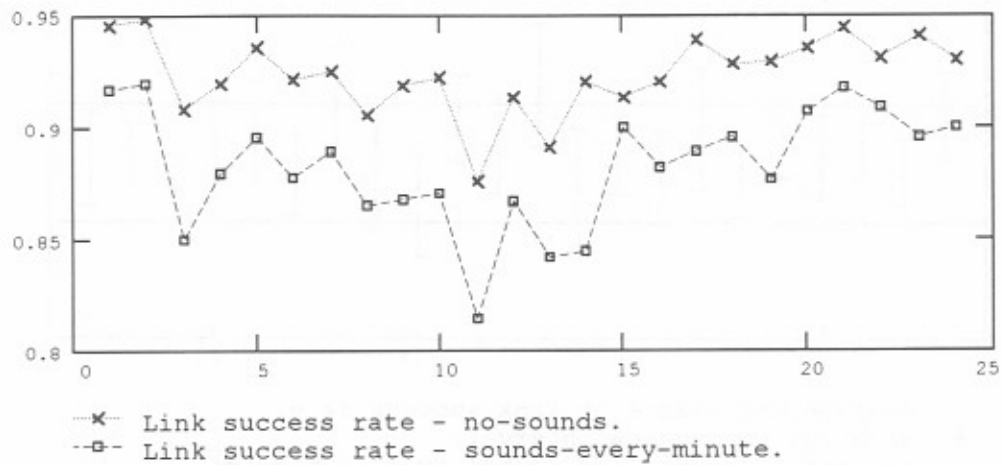
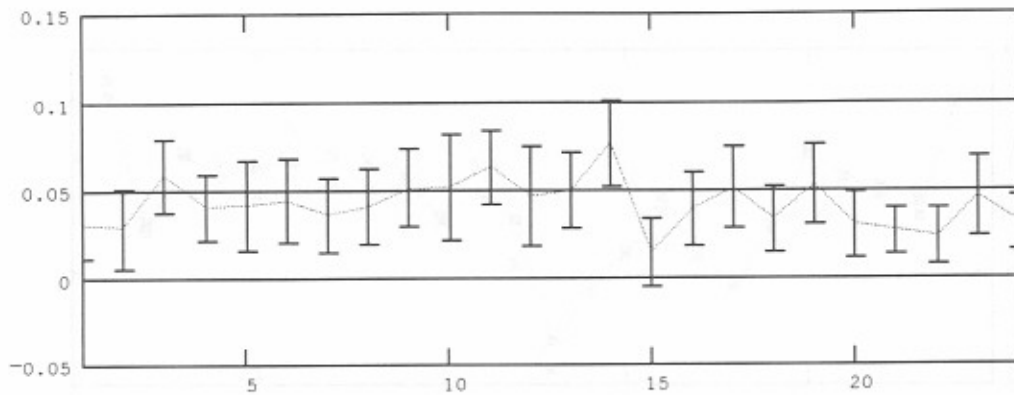
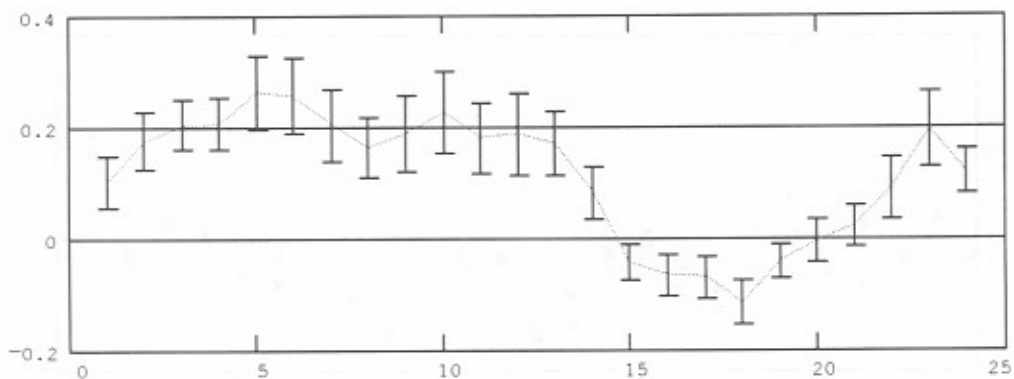


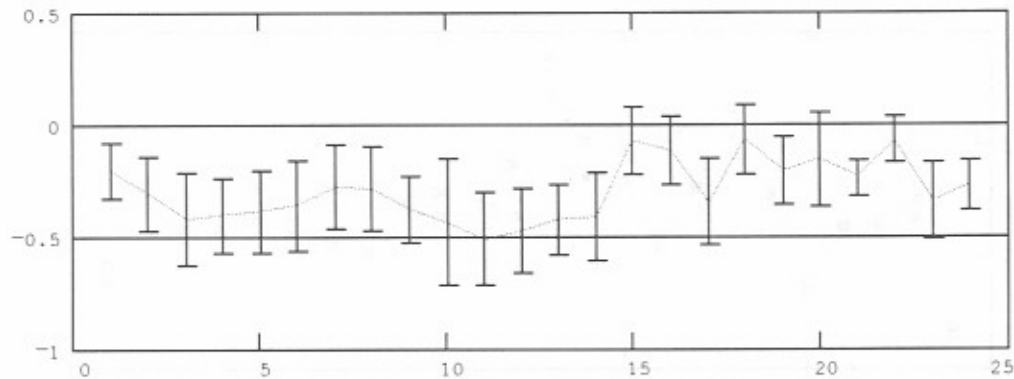
Figure B-35. Simulated network performance by hour-data traces - 15 messages per hour - propagation condition 1 - sounds every minute.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.

Figure B-36. Simulated network performance by hour-confidence - 15 messages per hour - propagation condition 1 - sounds every minute.

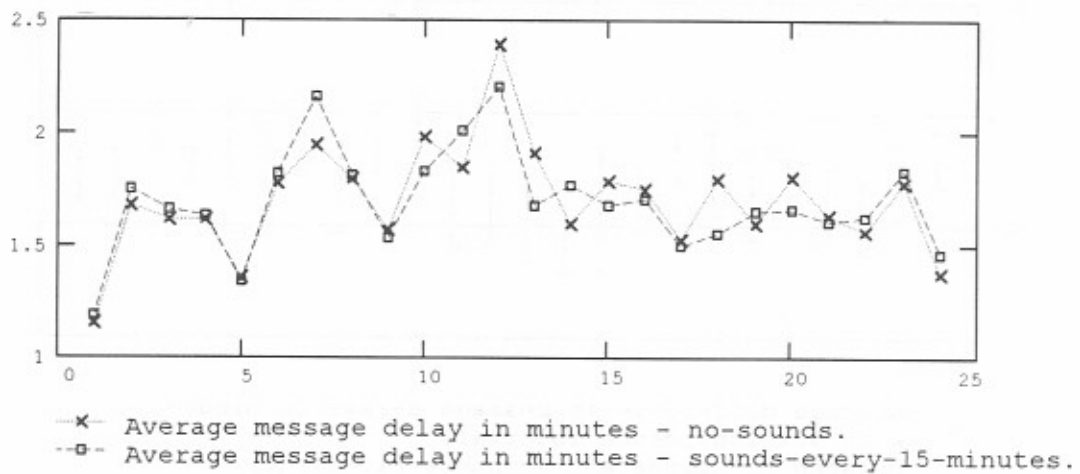
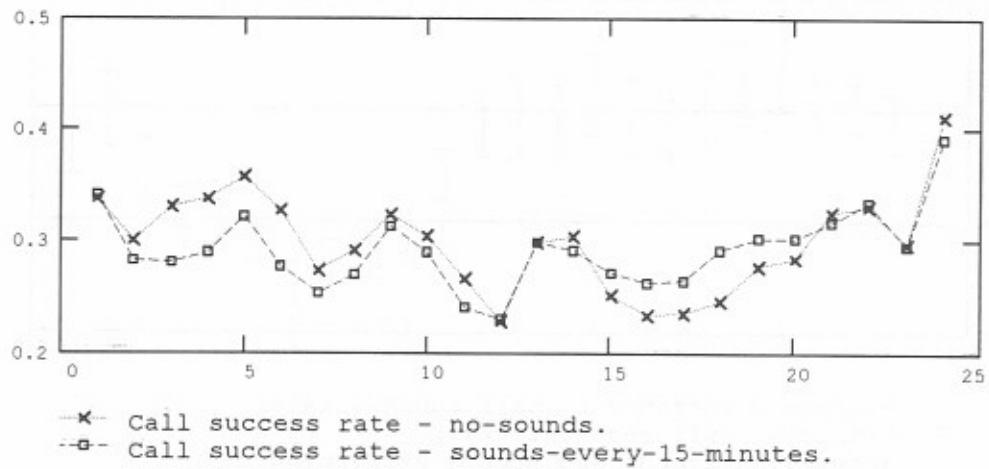
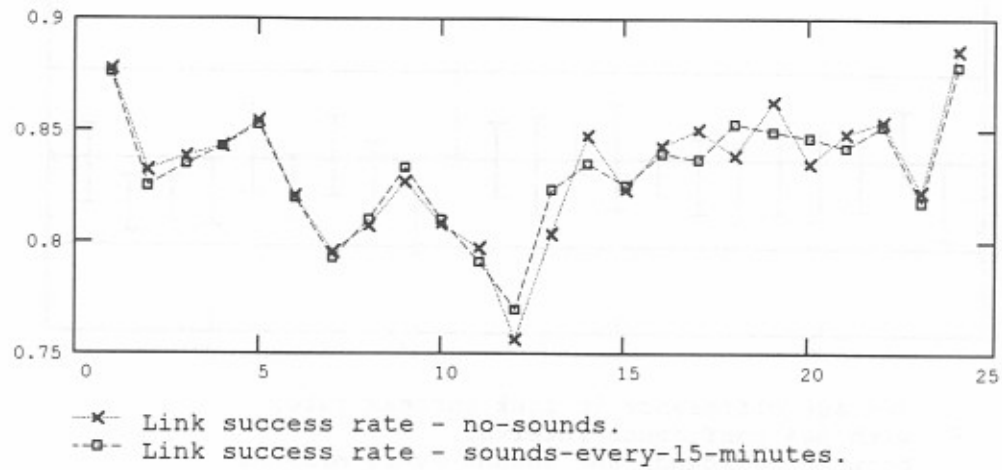
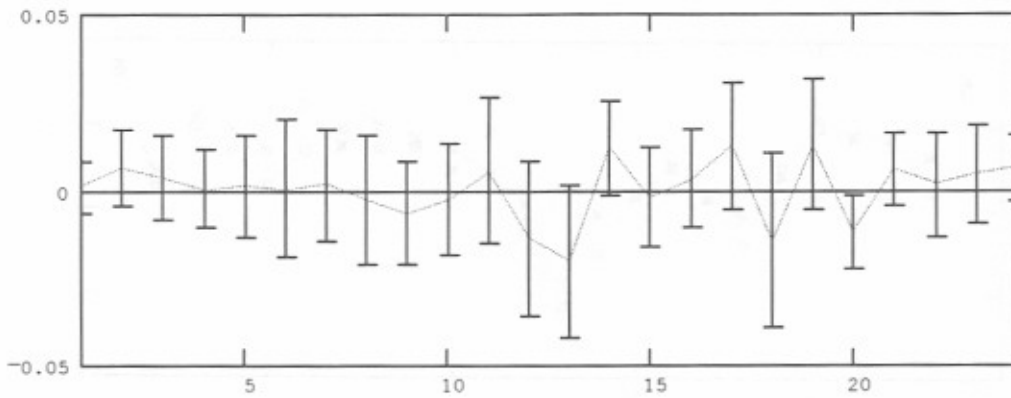
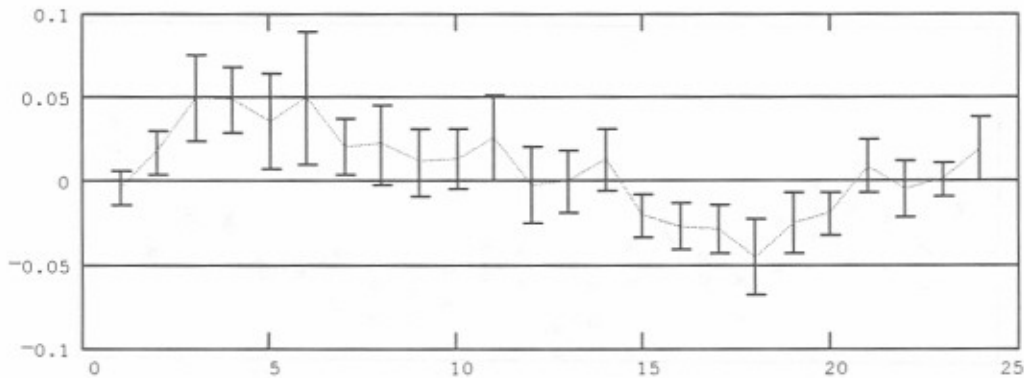


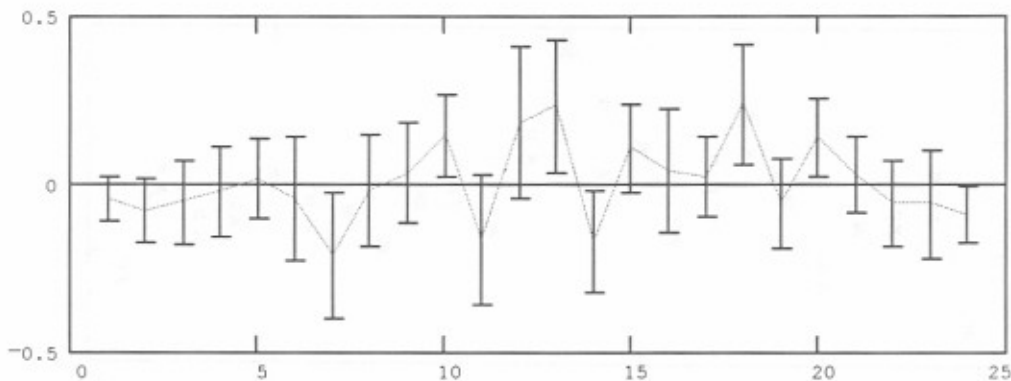
Figure B-37. Simulated network performance by hour-data traces - 30 messages per hour - propagation condition 1 - sounds every 15 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.



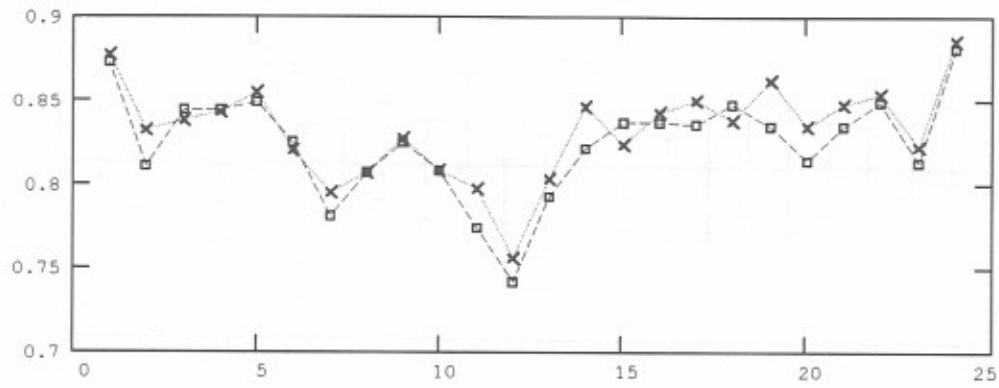
— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.



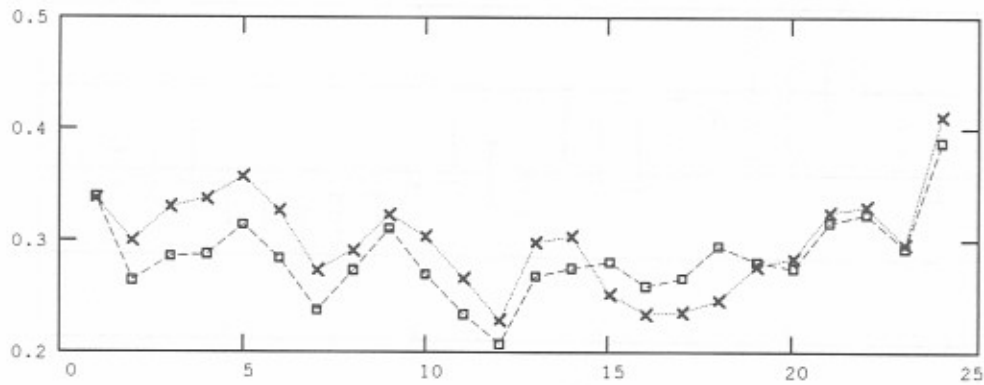
— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.

Figure B-38. Simulated network performance by hour-confidence - 30 messages per hour - propagation condition 1 - sounds every 15 minutes.

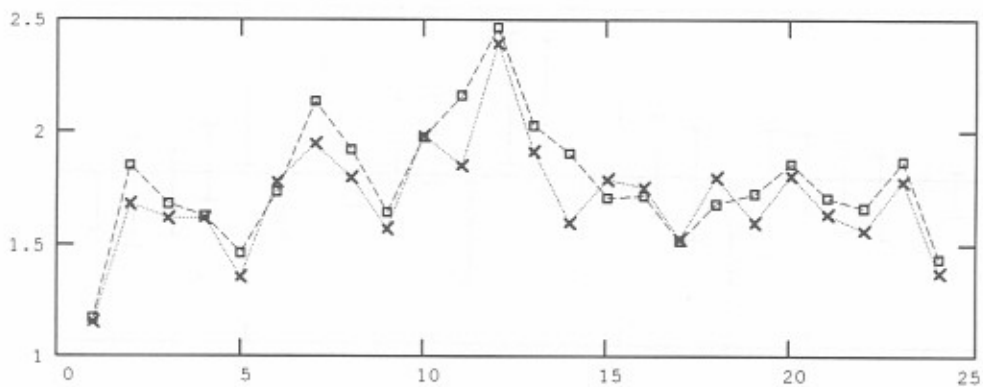




-x- Link success rate - no-sounds.  
 -□- Link success rate - sounds-every-10-minutes.

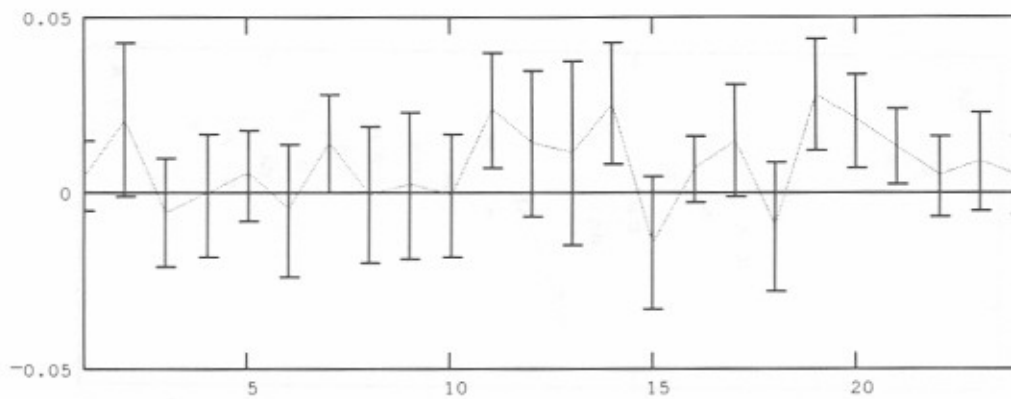


-x- Call success rate - no-sounds.  
 -□- Call success rate - sounds-every-10-minutes.

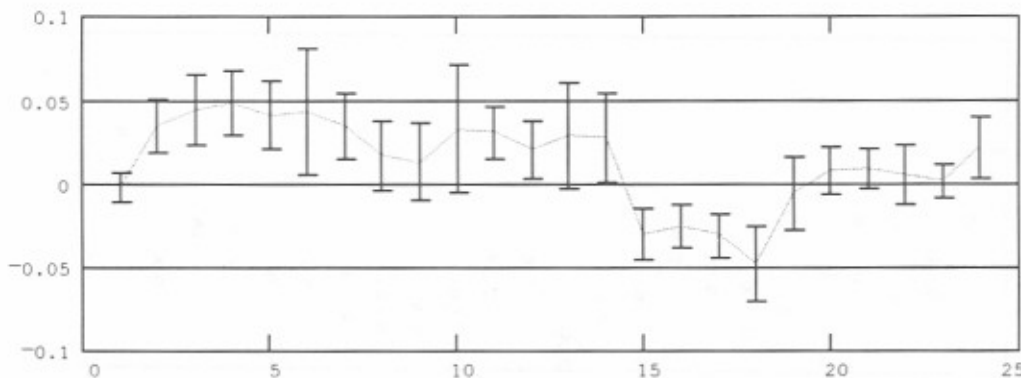


-x- Average message delay in minutes - no-sounds.  
 -□- Average message delay in minutes - sounds-every-10-minutes.

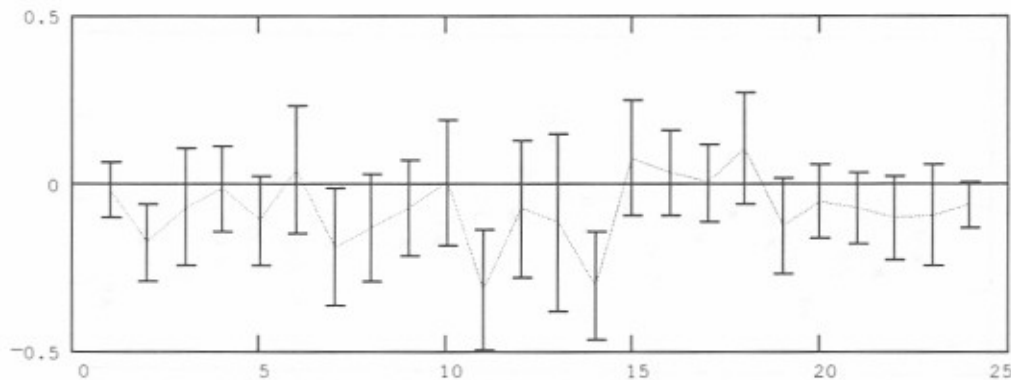
Figure B-39. Simulated network performance by hour-data traces - 30 messages per hour - propagation condition 1 - sounds every 10 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.

Figure B-40. Simulated network performance by hour-confidence - 30 messages per hour - propagation condition 1 - sounds every 10 minutes.

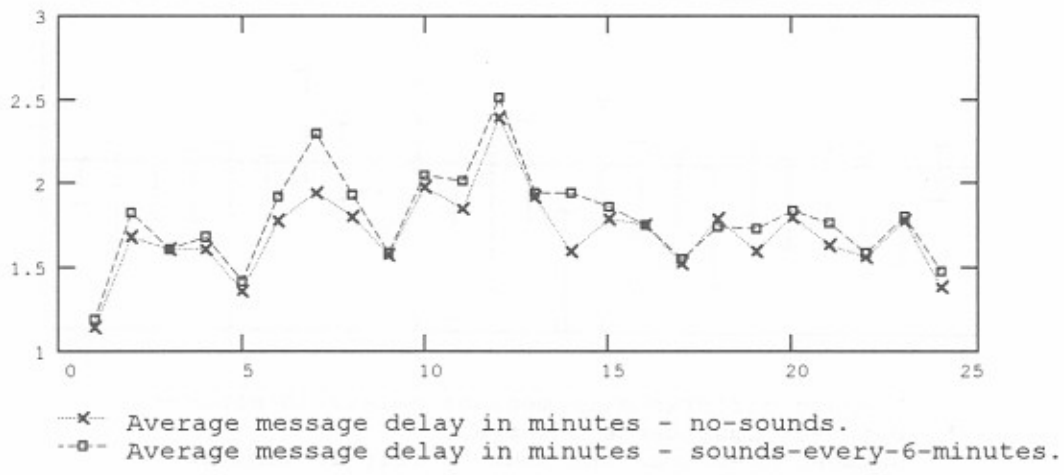
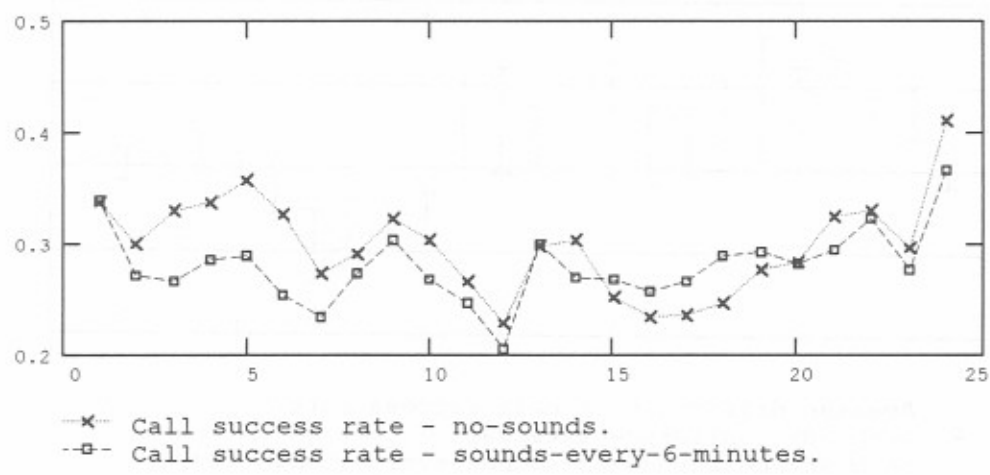
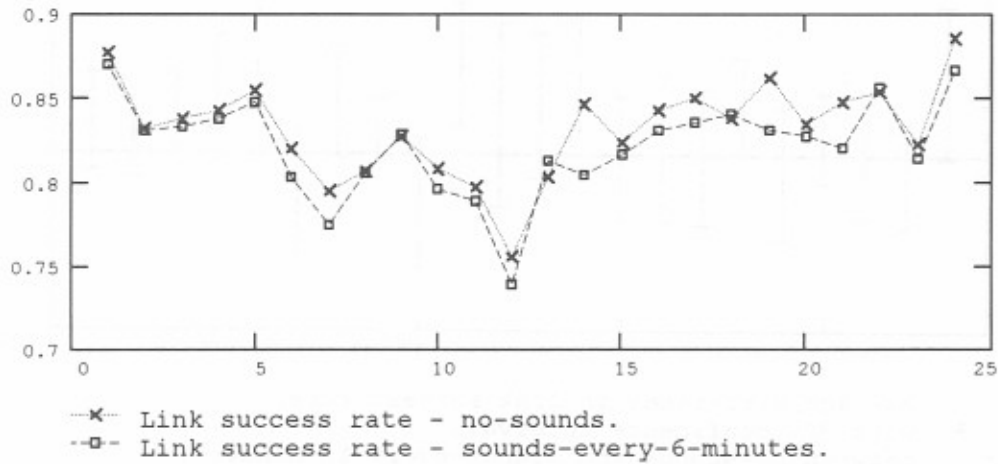
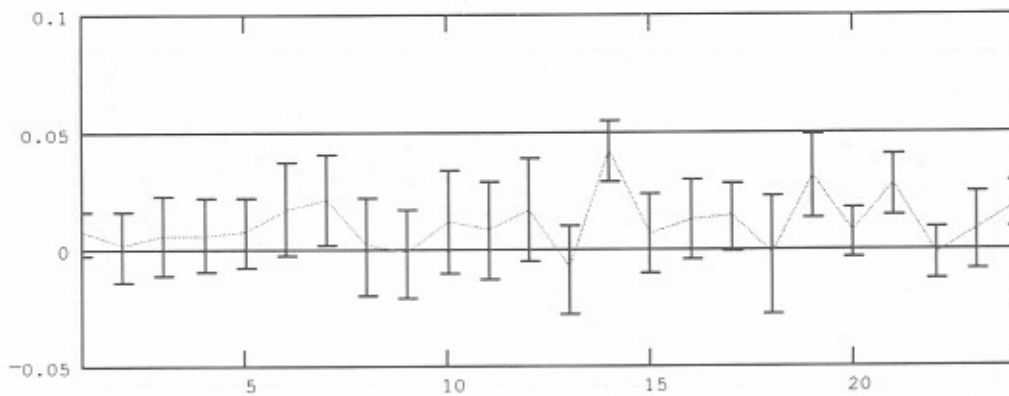
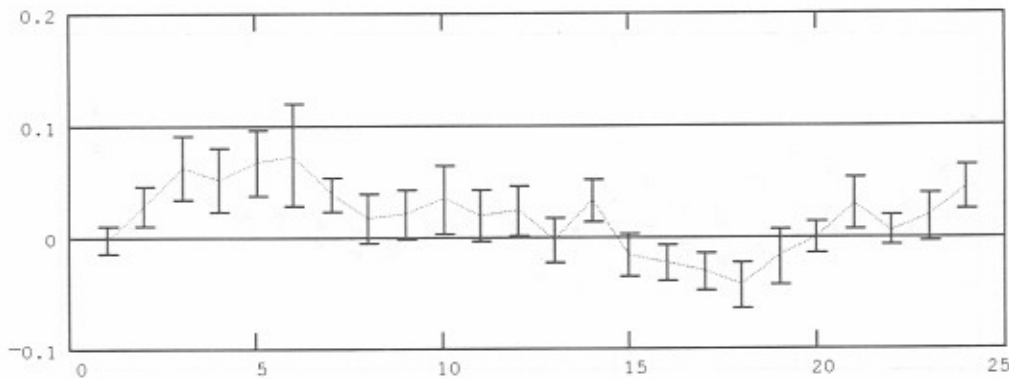


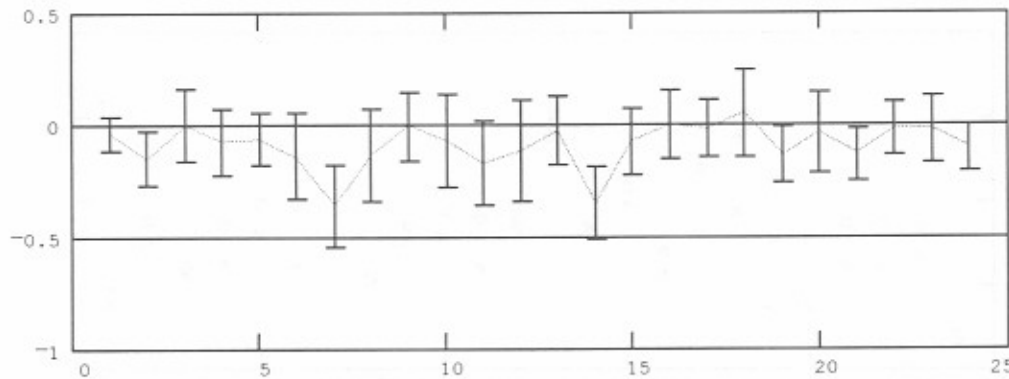
Figure B-41. Simulated network performance by hour-data traces - 30 messages per hour - propagation condition 1 - sounds every 6 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.

Figure B-42. Simulated network performance by hour-confidence - 30 messages per hour - propagation condition 1 - sounds every 6 minutes.

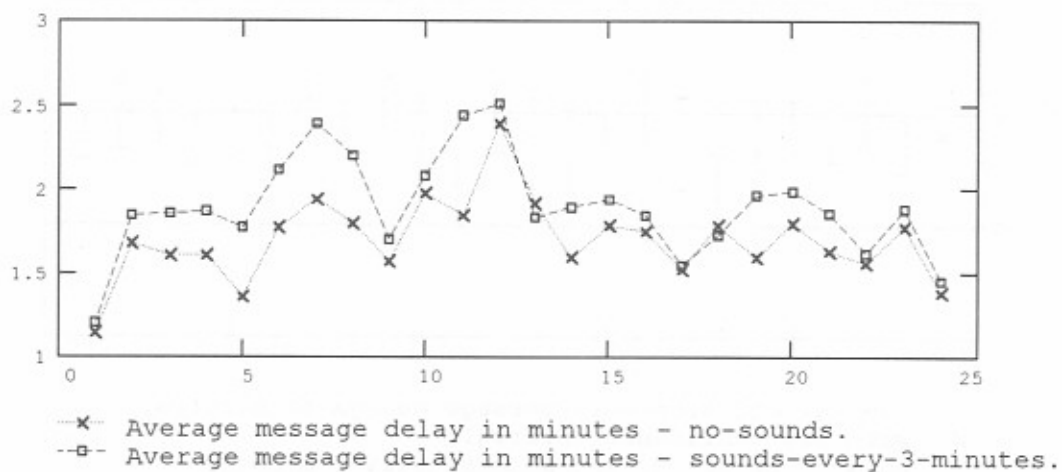
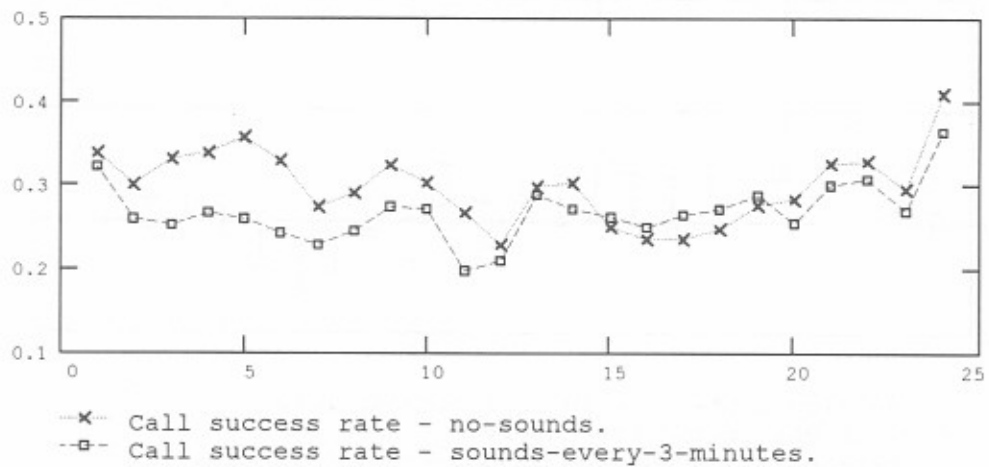
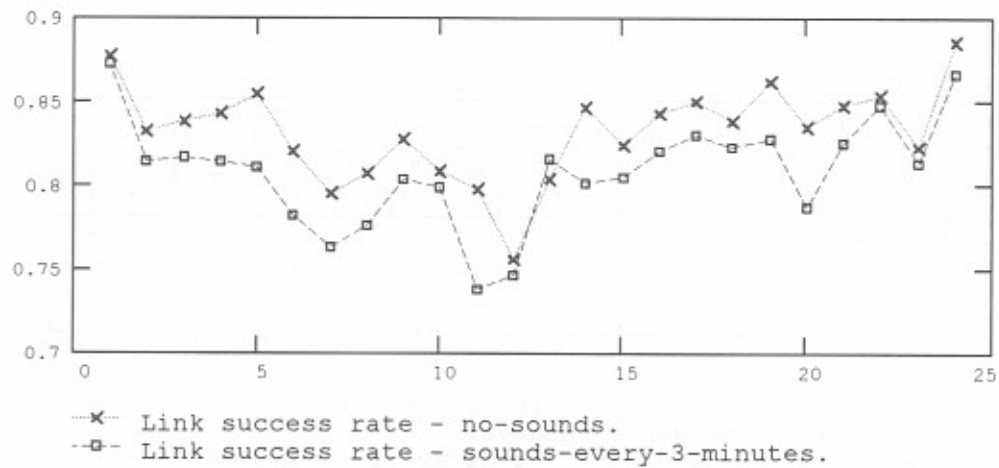
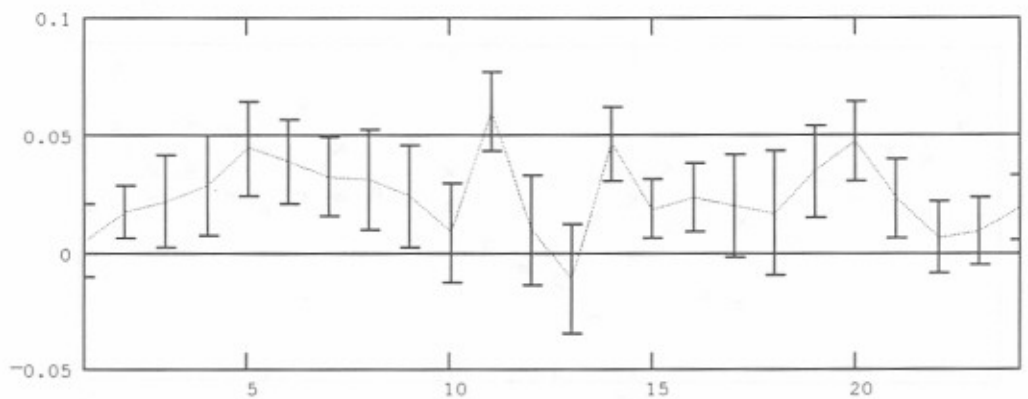
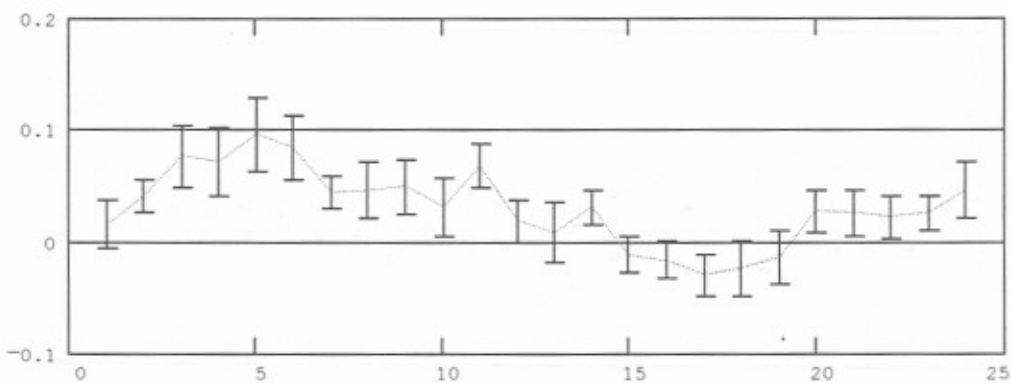


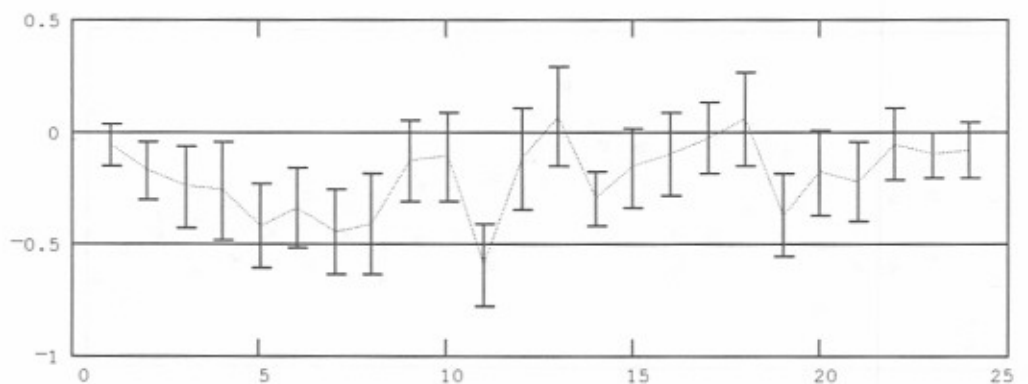
Figure B-43. Simulated network performance by hour-data traces - 30 messages per hour - propagation condition 1 - sounds every 3 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.

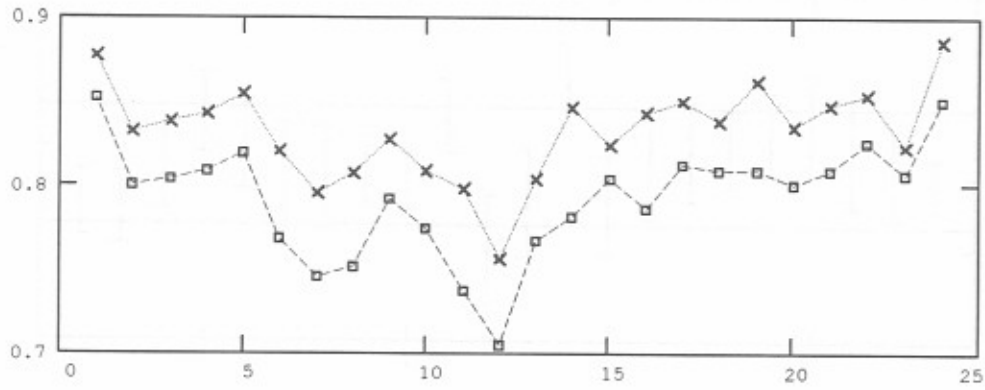


— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.

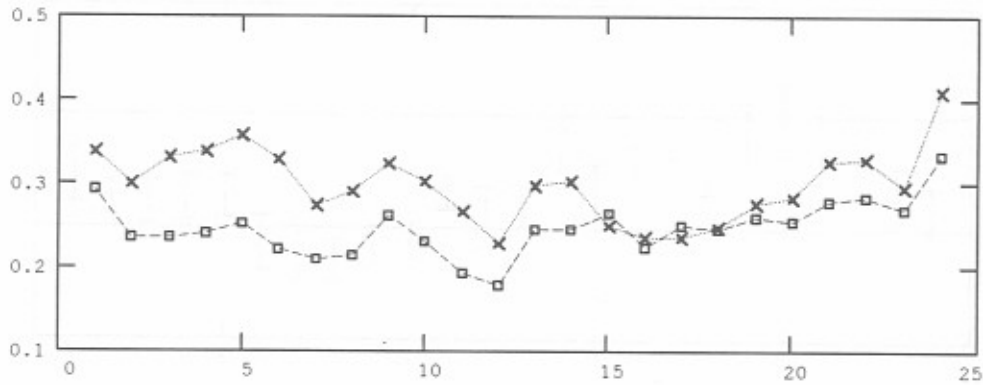


— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.

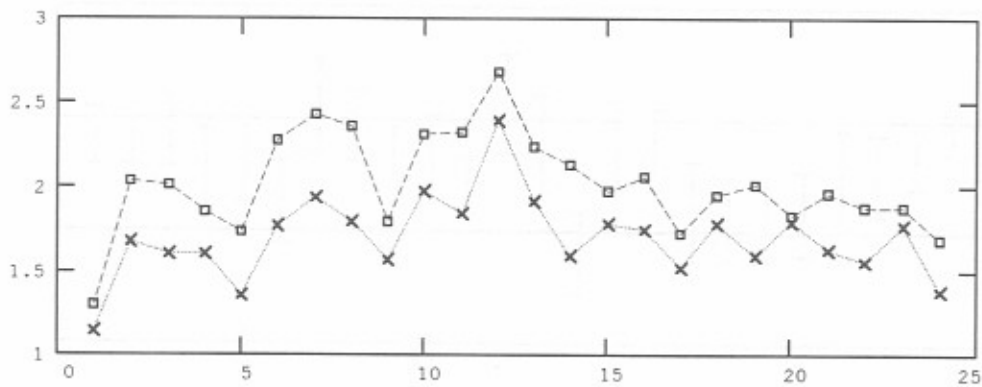
Figure B-44. Simulated network performance by hour-confidence - 30 messages per hour - propagation condition 1 - sounds every 3 minutes.



---x--- Link success rate - no-sounds.  
 ---□--- Link success rate - sounds-every-2-minutes.

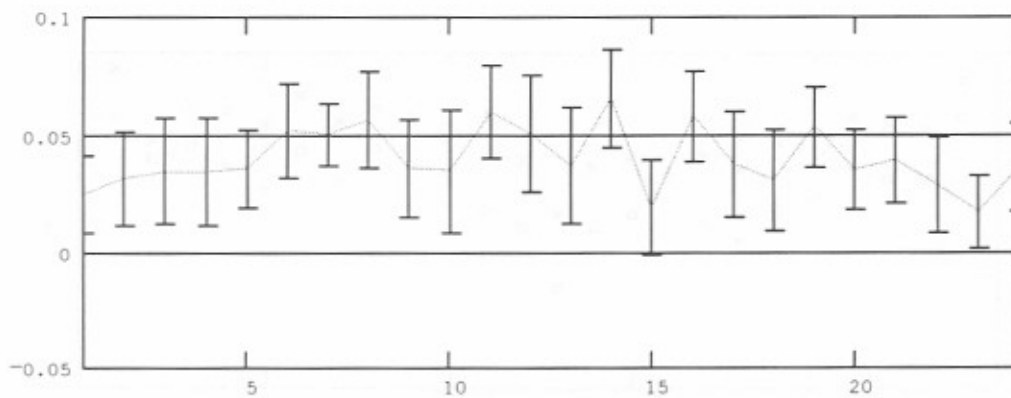


---x--- Call success rate - no-sounds.  
 ---□--- Call success rate - sounds-every-2-minutes.

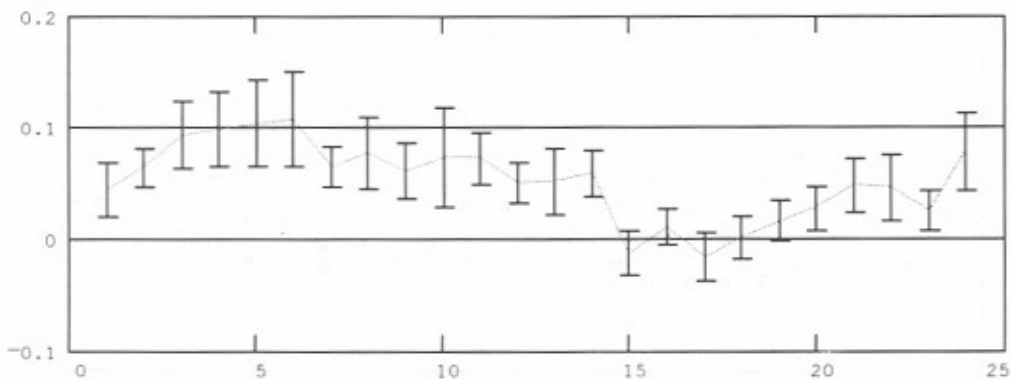


---x--- Average message delay in minutes - no-sounds.  
 ---□--- Average message delay in minutes - sounds-every-2-minutes.

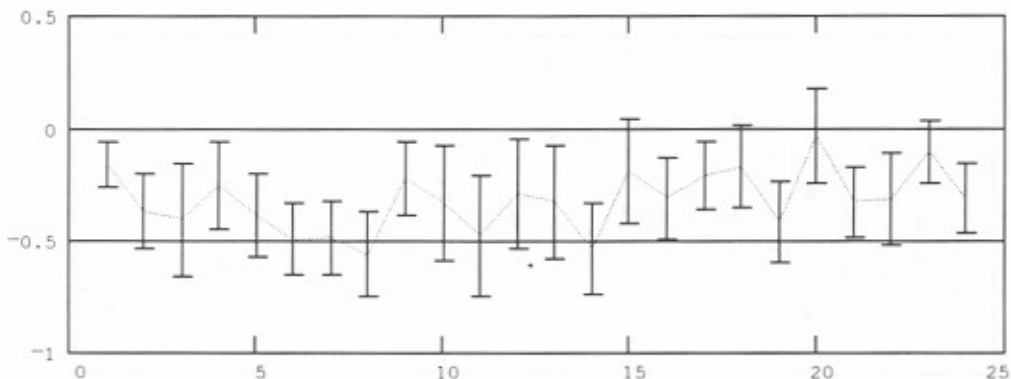
Figure B-45. Simulated network performance by hour-data traces - 30 messages per hour - propagation condition 1 - sounds every 2 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.

Figure B-46. Simulated network performance by hour-confidence - 30 messages per hour - propagation condition 1 - sounds every 2 minutes.



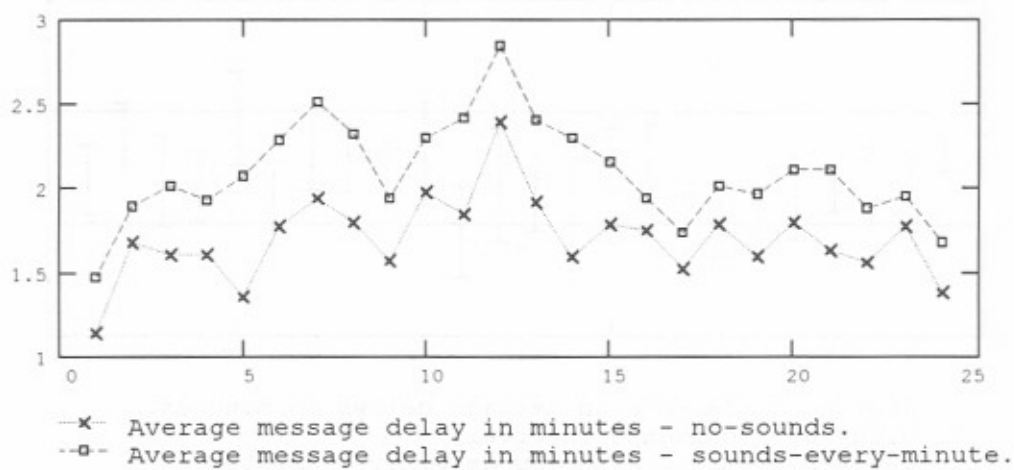
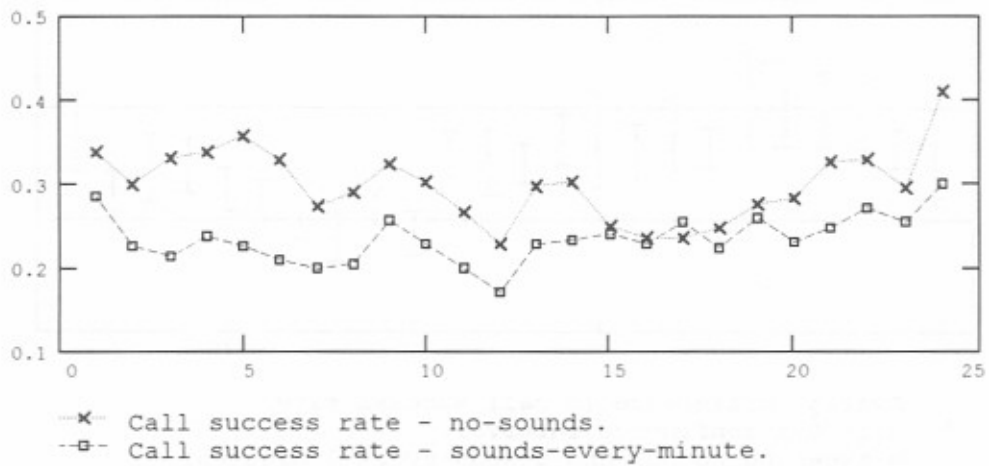
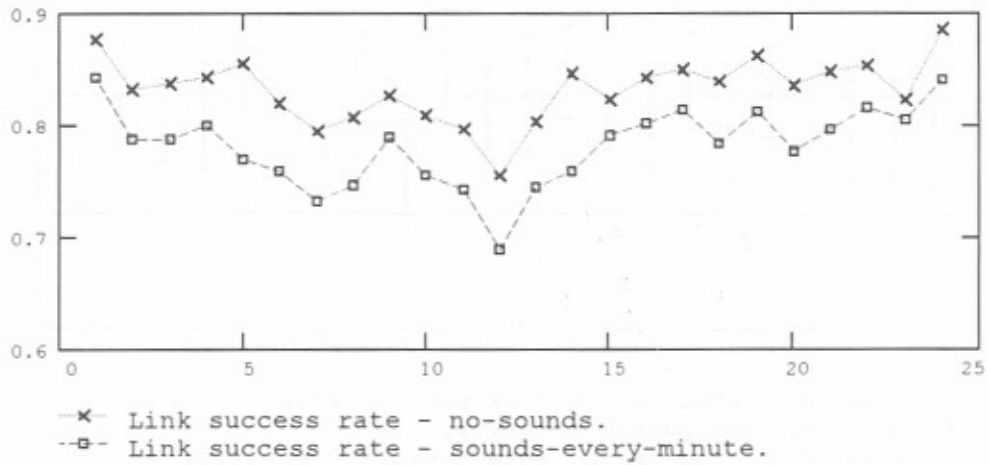
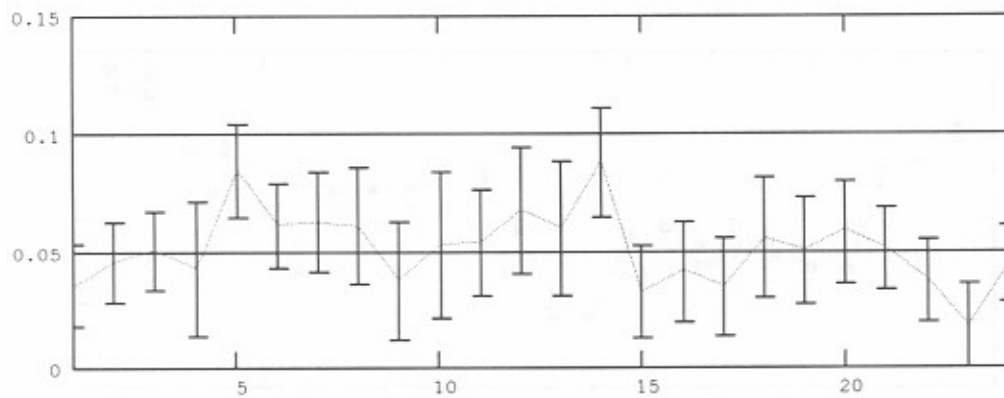
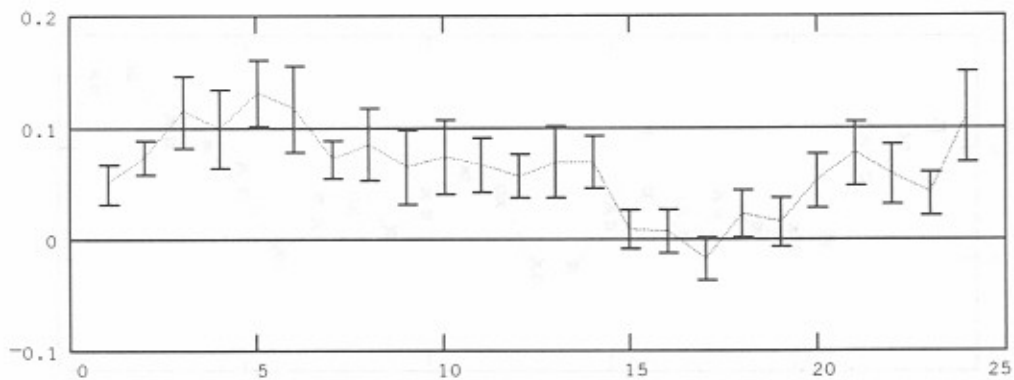


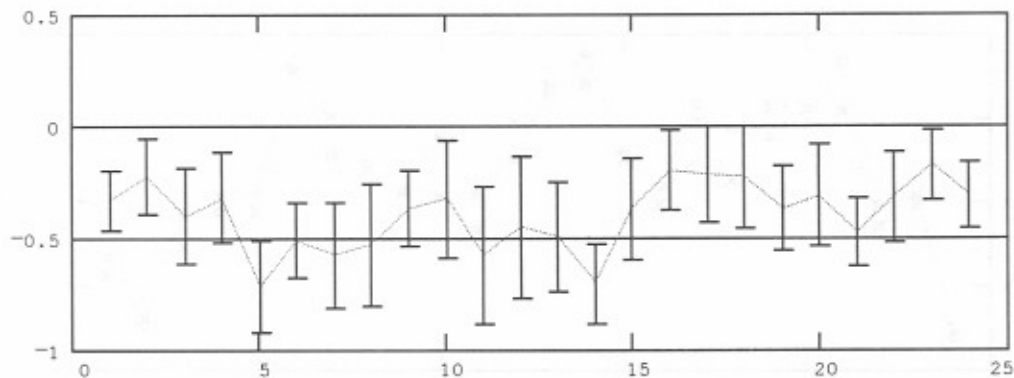
Figure B-47. Simulated network performance by hour-data traces - 30 messages per hour - propagation condition 1 - sounds every minute.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.

Figure B-48. Simulated network performance by hour-confidence - 30 messages per hour - propagation condition 1 - sounds every minute.

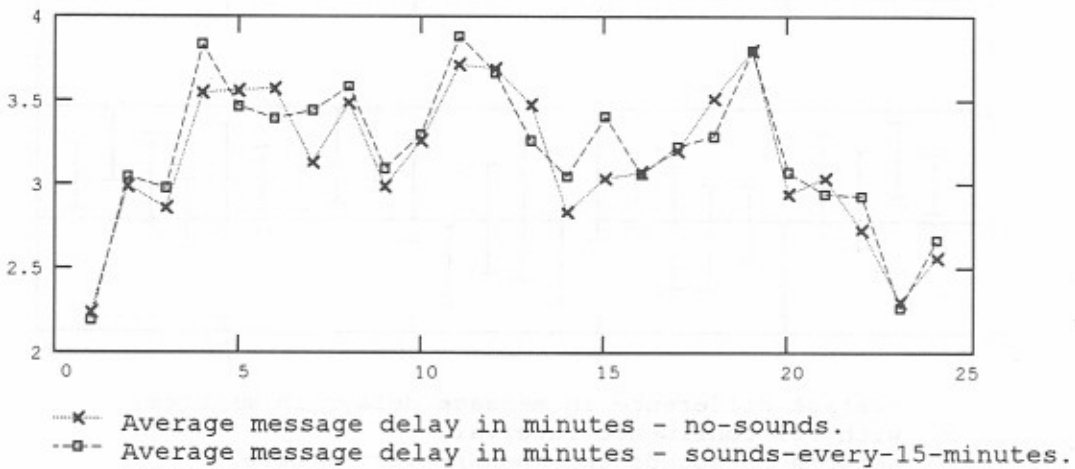
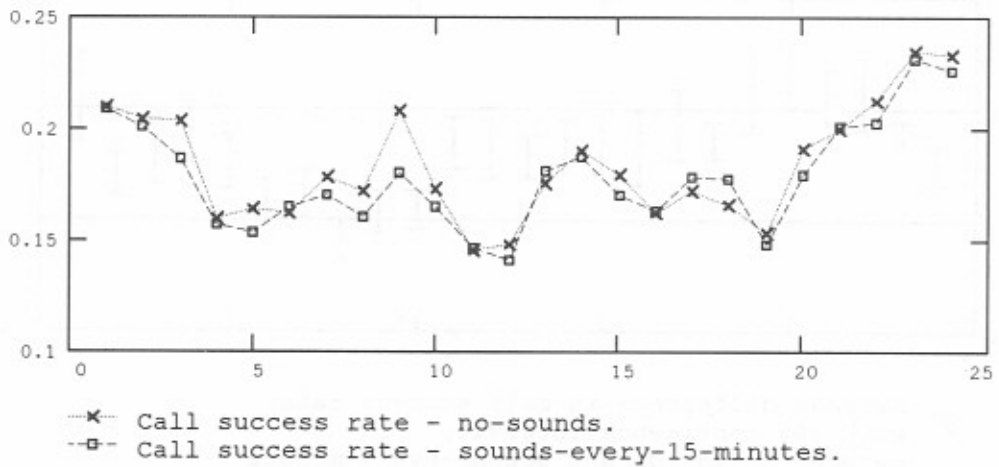
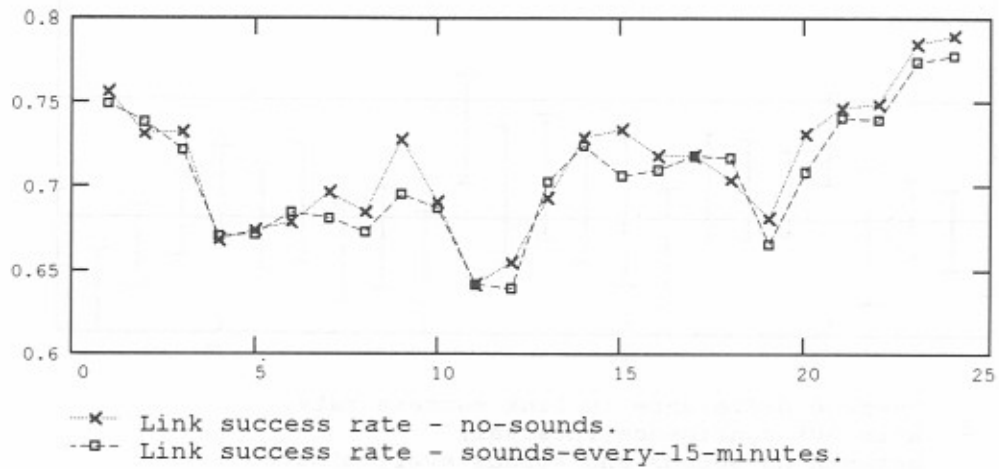
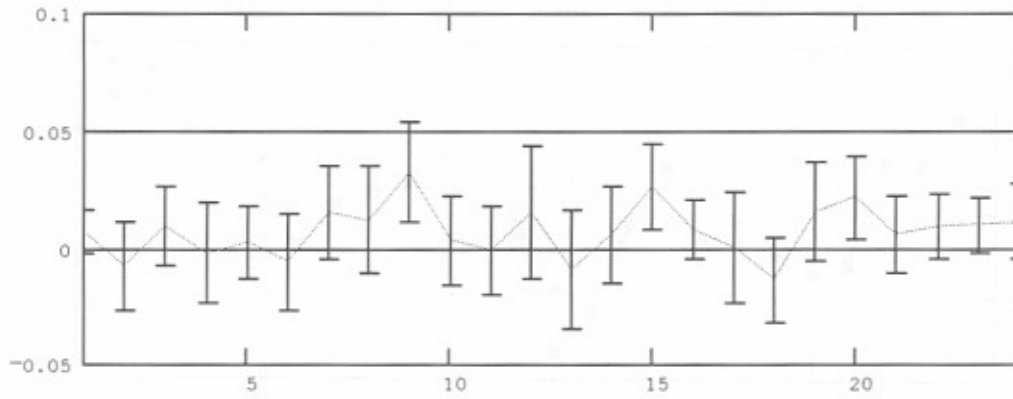
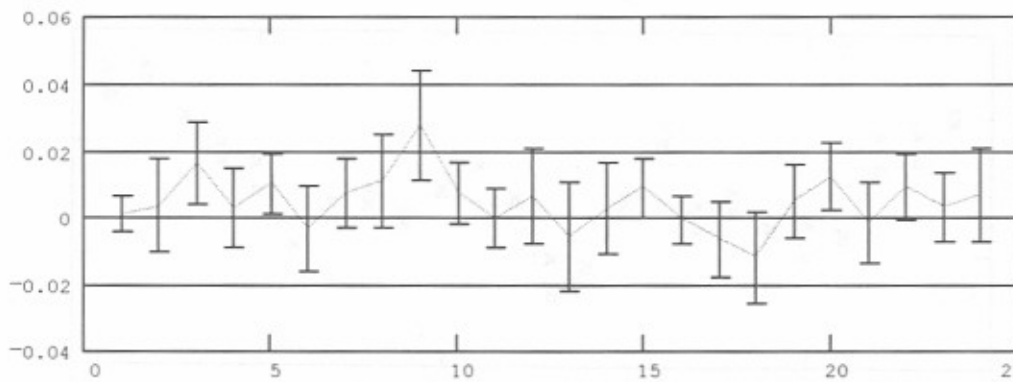


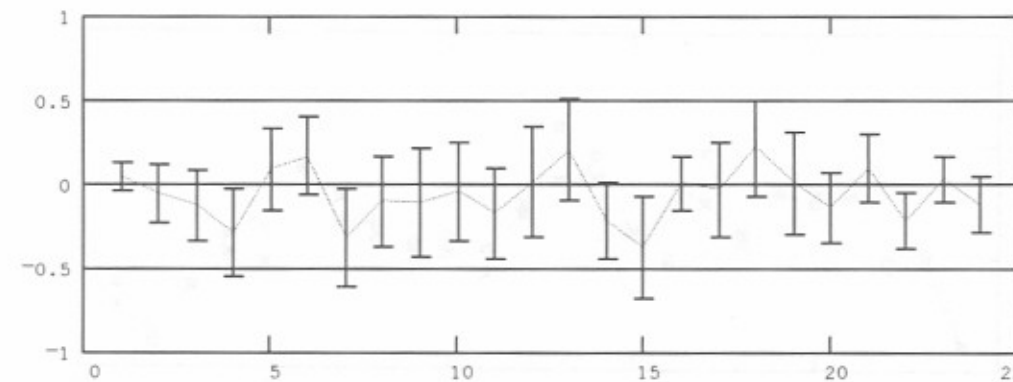
Figure B-49. Simulated network performance by hour-data traces - 45 messages per hour - propagation condition 1 - sounds every 15 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.

Figure B-50. Simulated network performance by hour-confidence - 45 messages per hour - propagation condition 1 - sounds every 15 minutes.

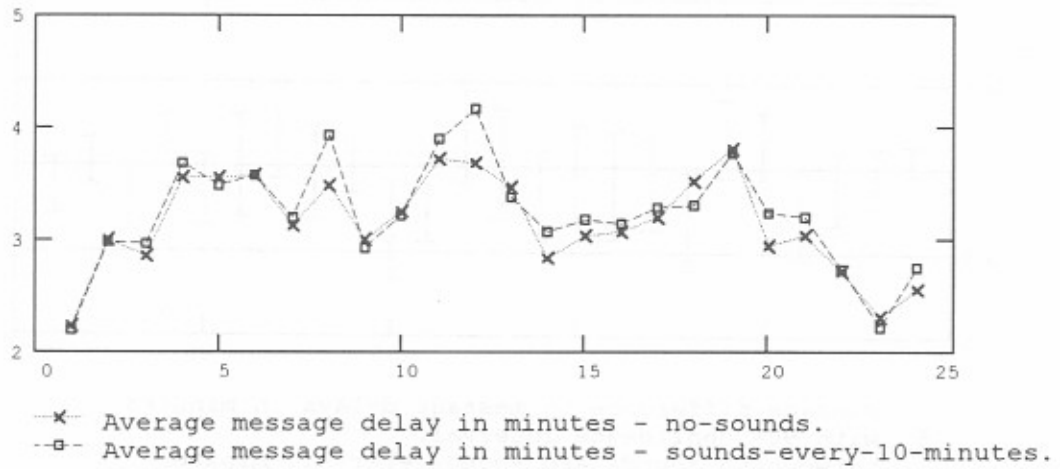
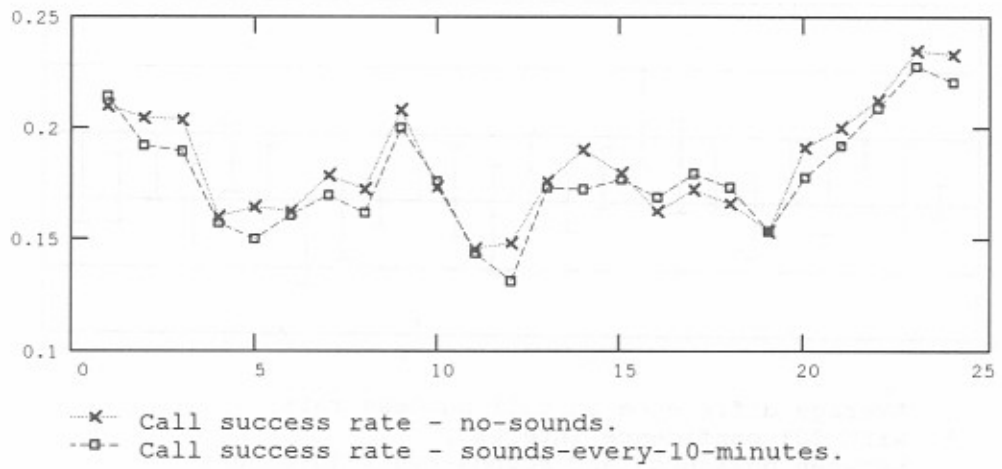
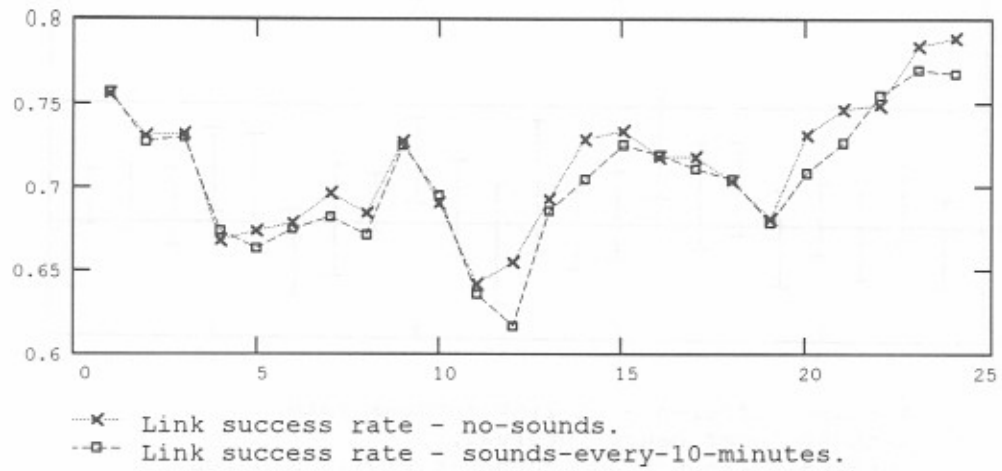
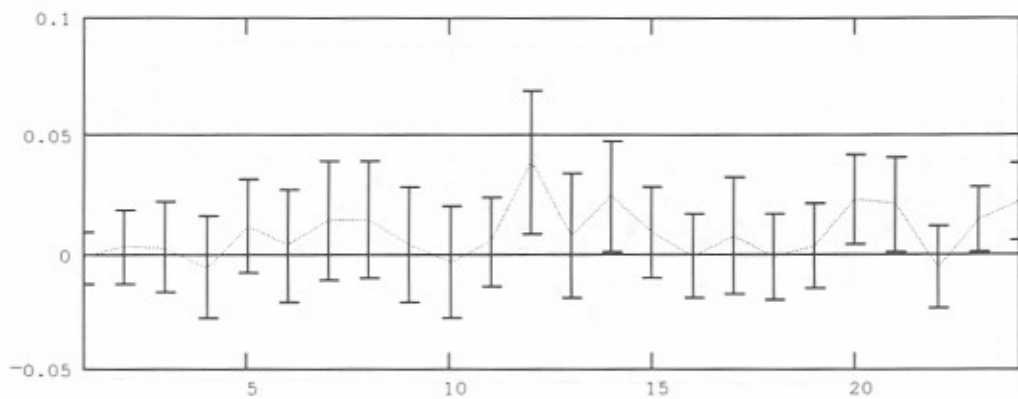
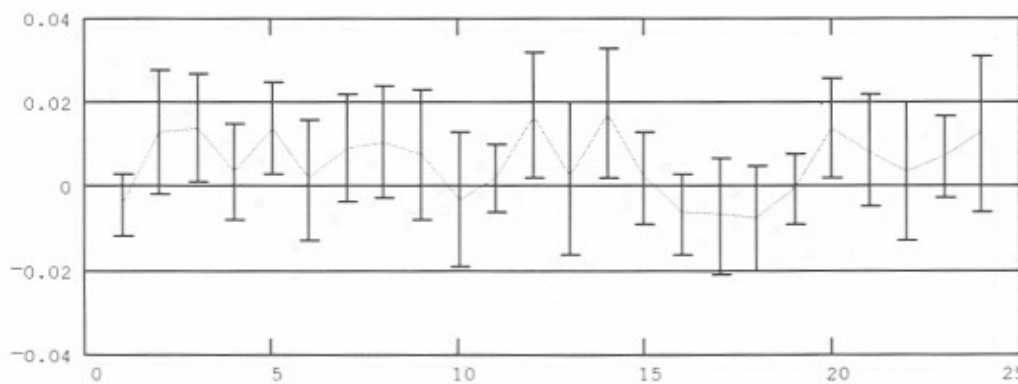


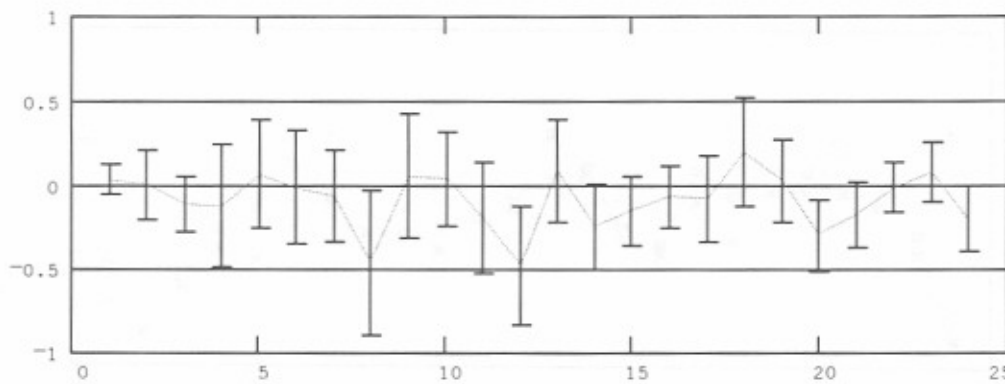
Figure B-51. Simulated network performance by hour-data traces - 45 messages per hour - propagation condition 1 - sounds every 10 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-10-minutes.

Figure B-52. Simulated network performance by hour-confidence - 45 messages per hour - propagation condition 1 - sounds every 10 minutes.

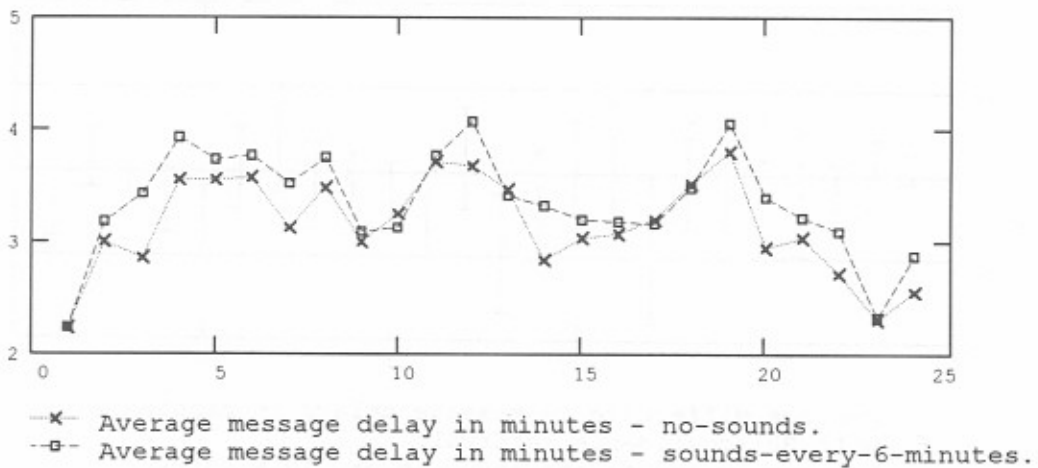
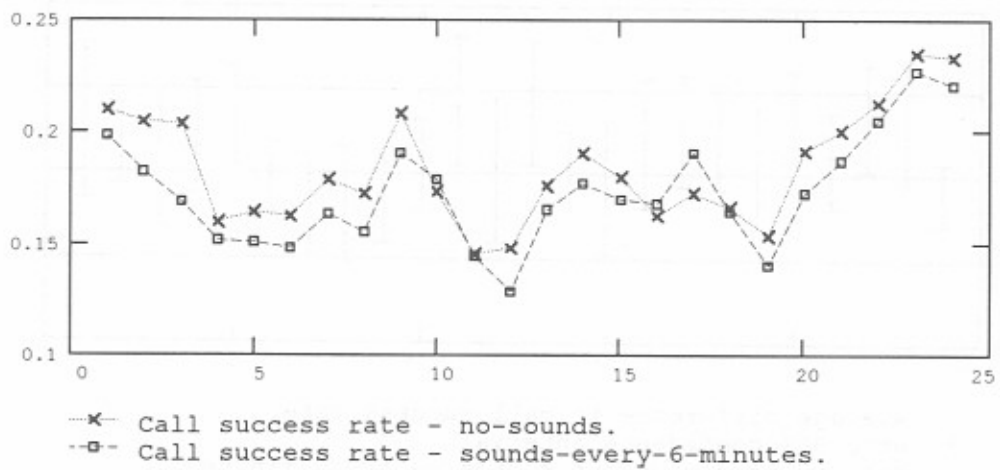
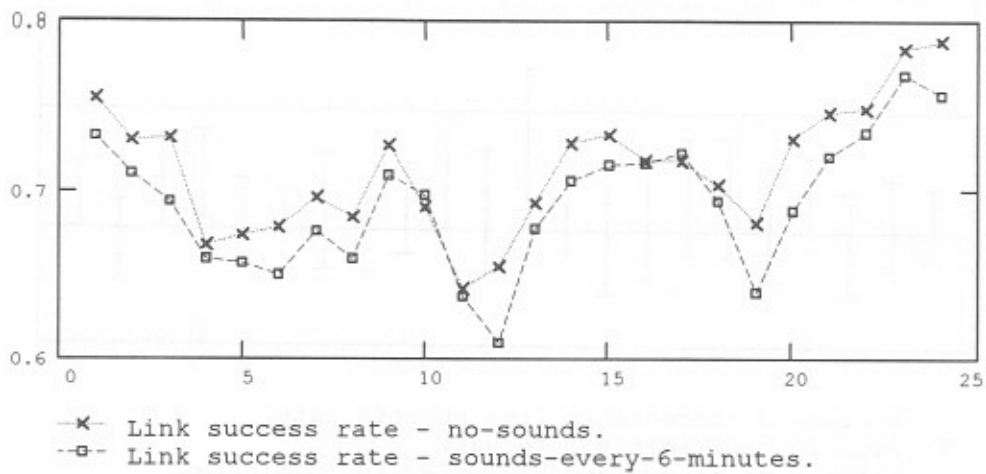
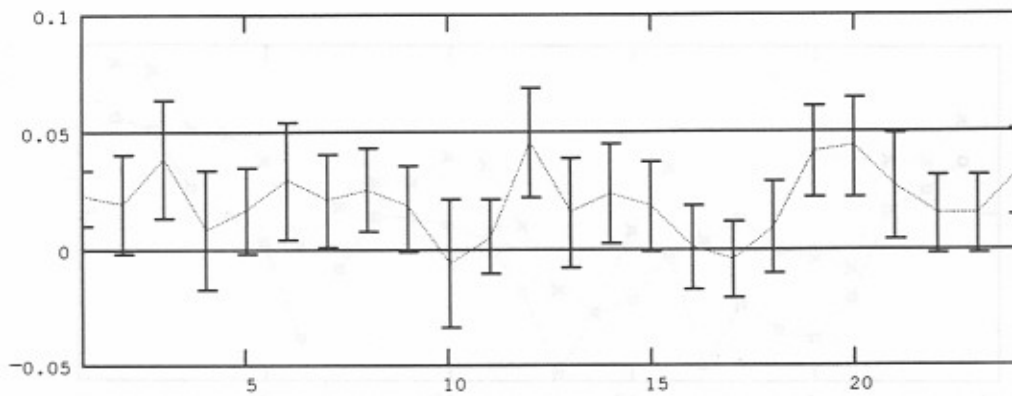
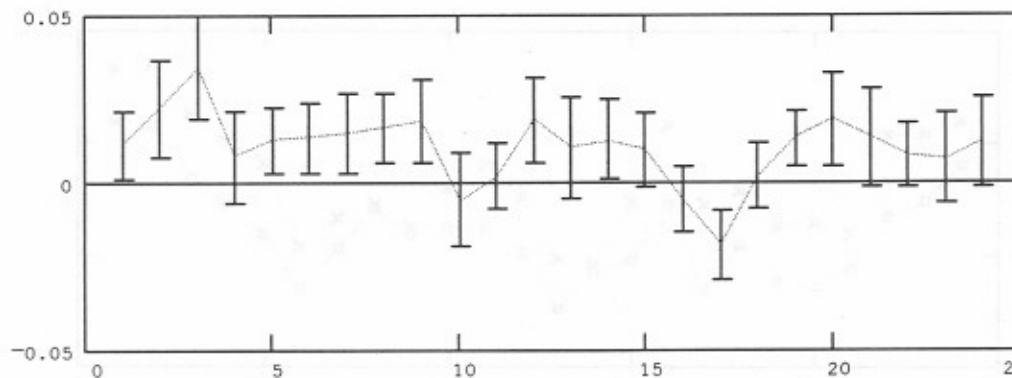


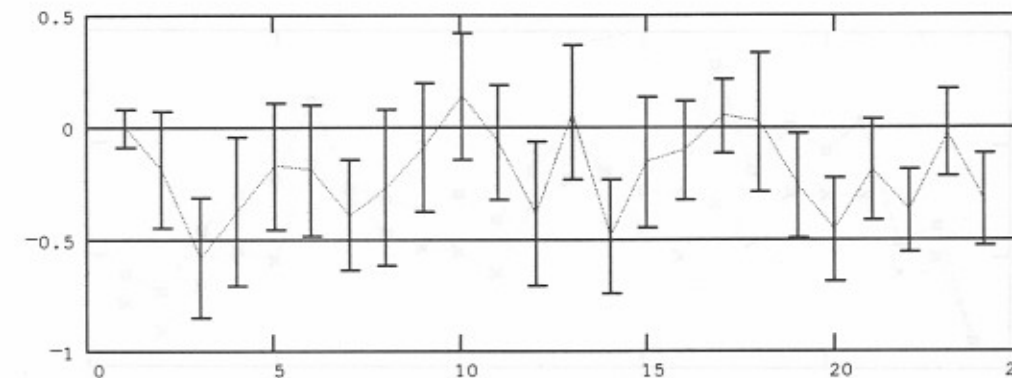
Figure B-53. Simulated network performance by hour-data traces - 45 messages per hour - propagation condition 1 - sounds every 6 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.



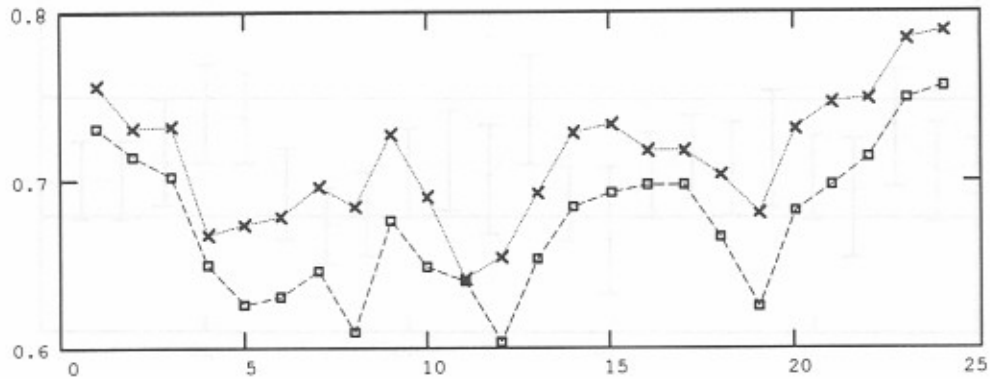
— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.



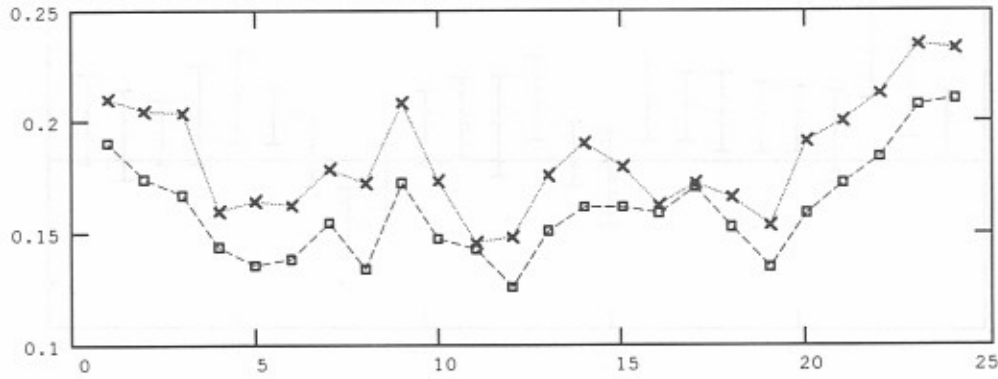
— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-6-minutes.

Figure B-54. Simulated network performance by hour-confidence - 45 messages per hour - propagation condition 1 - sounds every 6 minutes.

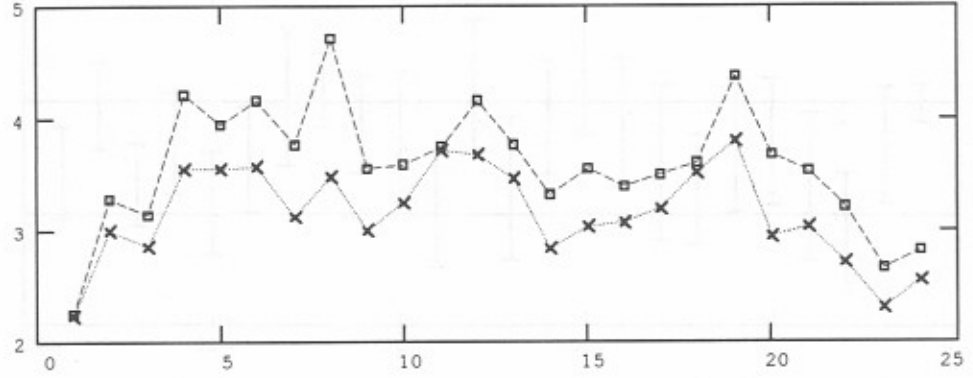




---x--- Link success rate - no-sounds.  
 ---□--- Link success rate - sounds-every-3-minutes.

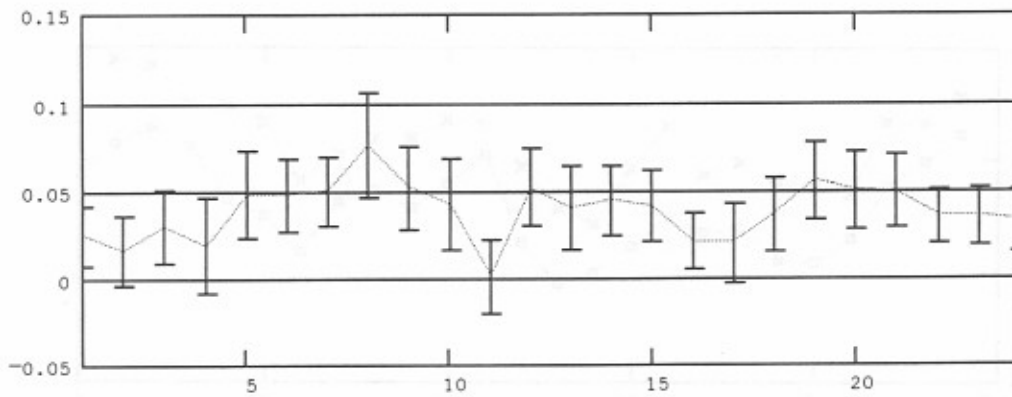


---x--- Call success rate - no-sounds.  
 ---□--- Call success rate - sounds-every-3-minutes.

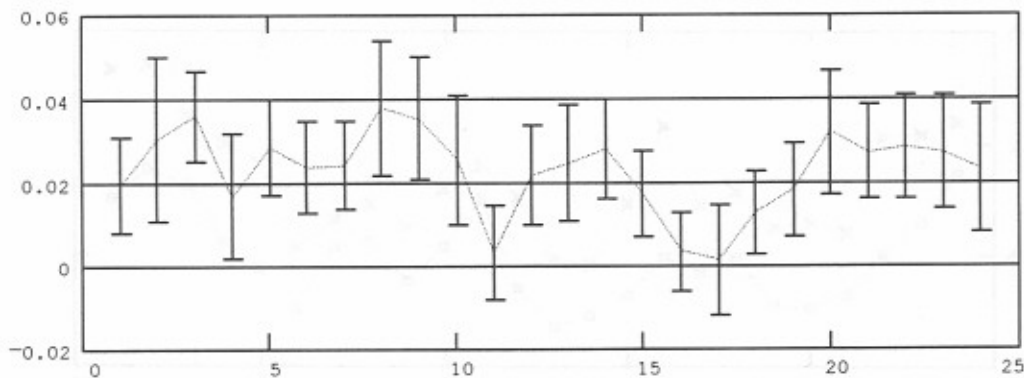


---x--- Average message delay in minutes - no-sounds.  
 ---□--- Average message delay in minutes - sounds-every-3-minutes.

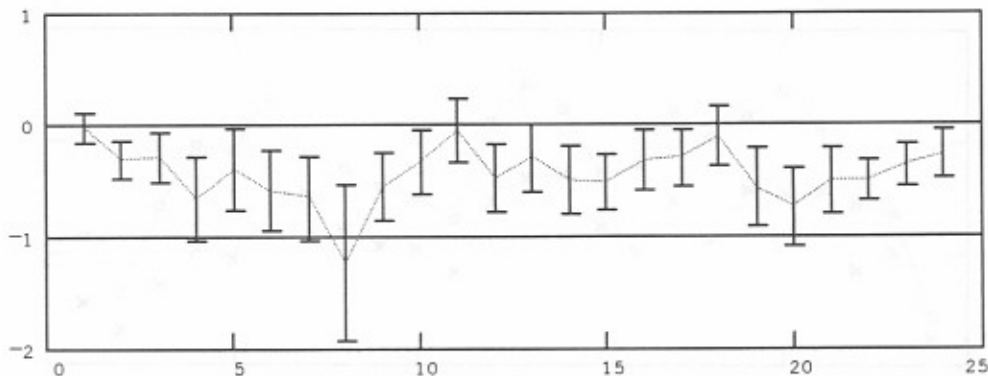
Figure B-55. Simulated network performance by hour-data traces - 45 messages per hour - propagation condition 1 - sounds every 3 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.

Figure B-56. Simulated network performance by hour-confidence - 45 messages per hour - propagation condition 1 - sounds every 3 minutes.

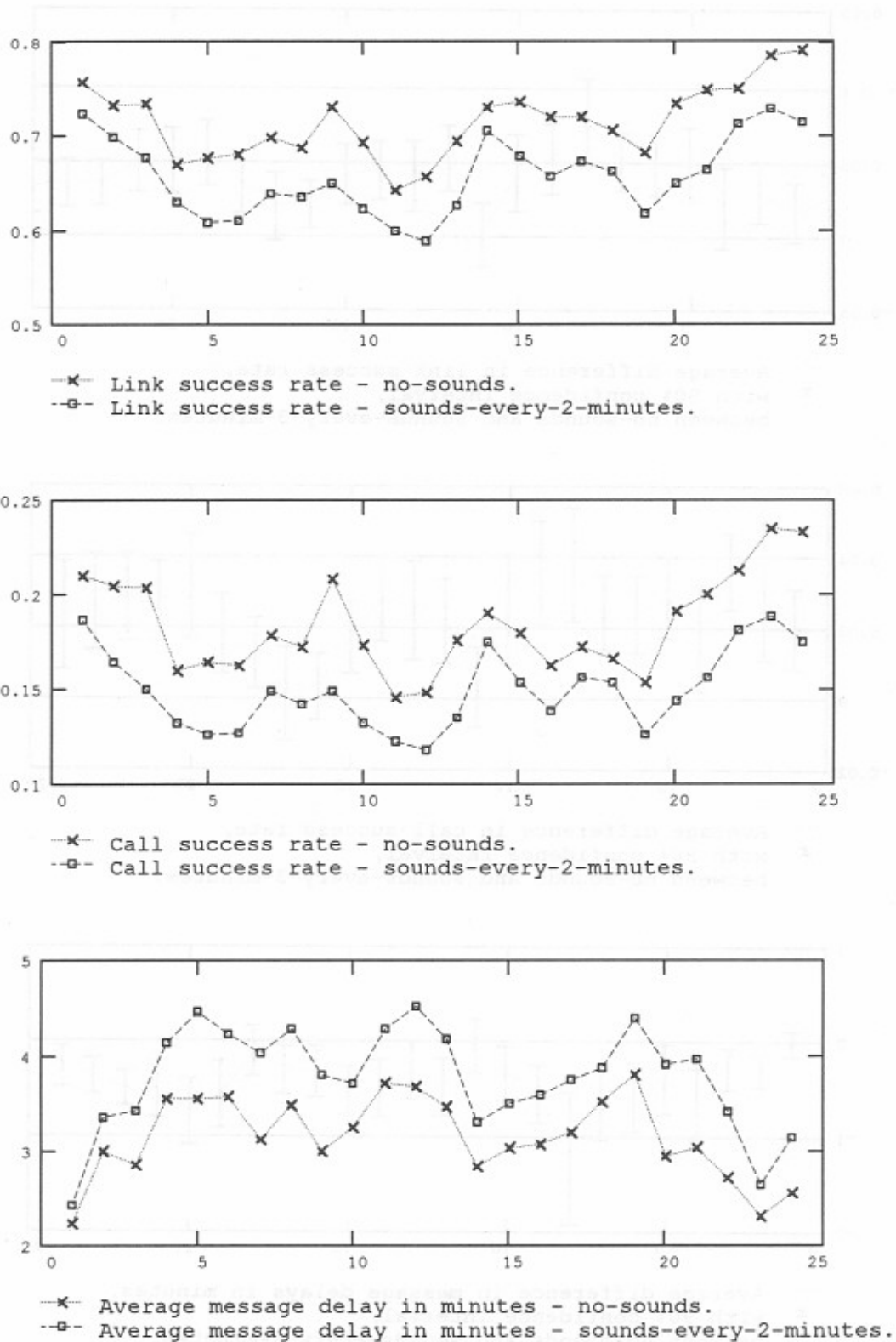
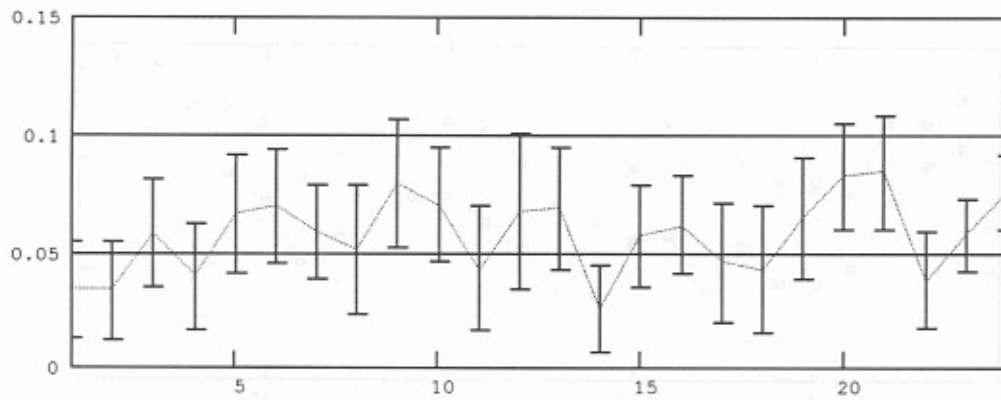
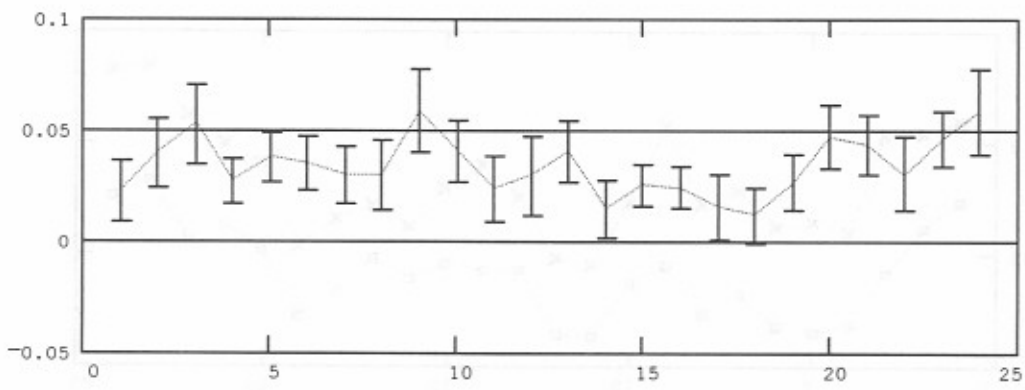


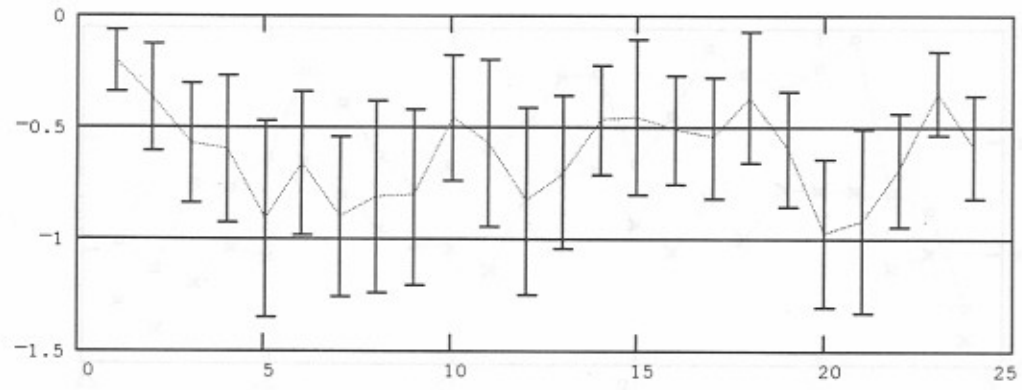
Figure B-57. Simulated network performance by hour-data traces - 45 messages per hour - propagation condition 1 - sounds every 2 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-2-minutes.

Figure B-58. Simulated network performance by hour-confidence - 45 messages per hour - propagation condition 1 - sounds every 2 minutes.

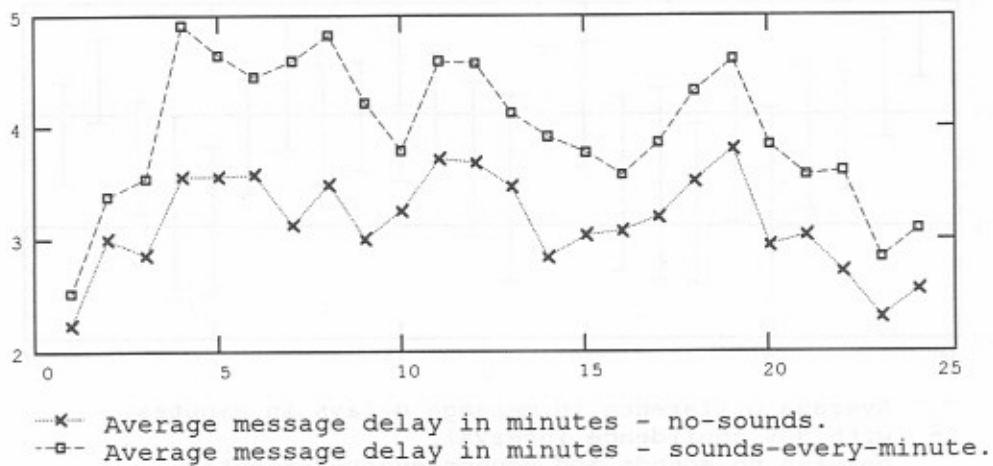
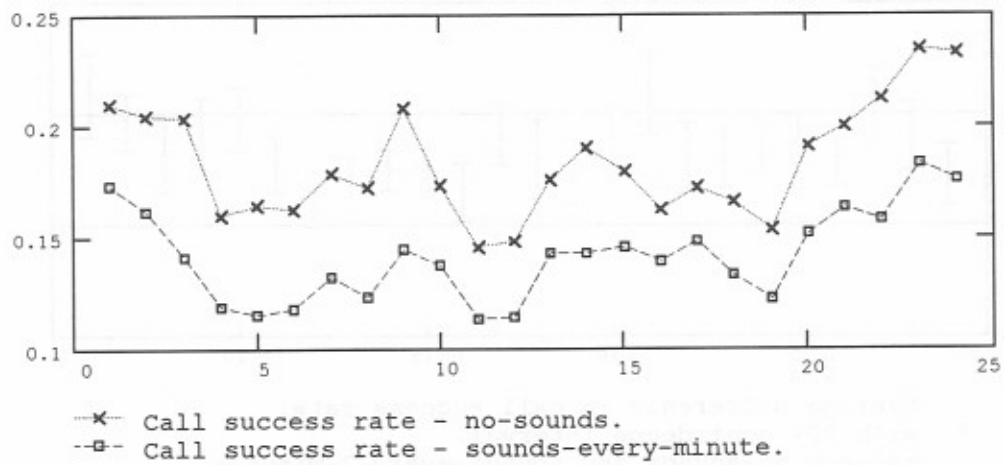
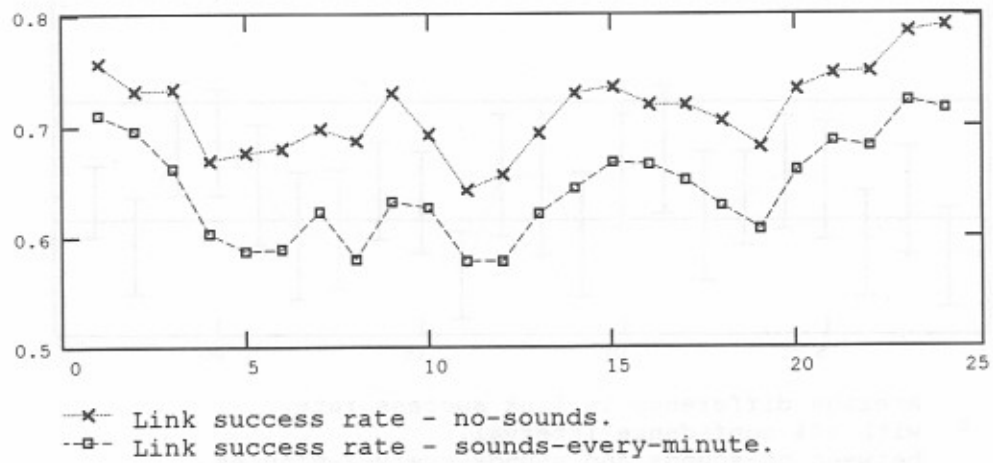
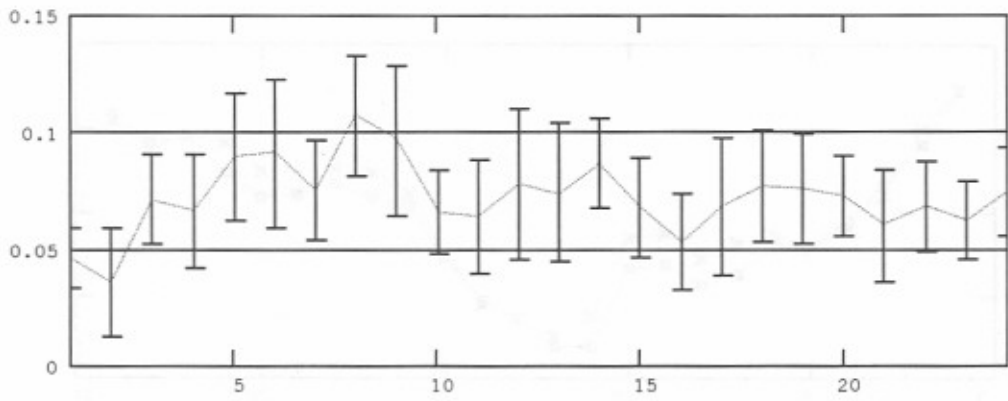
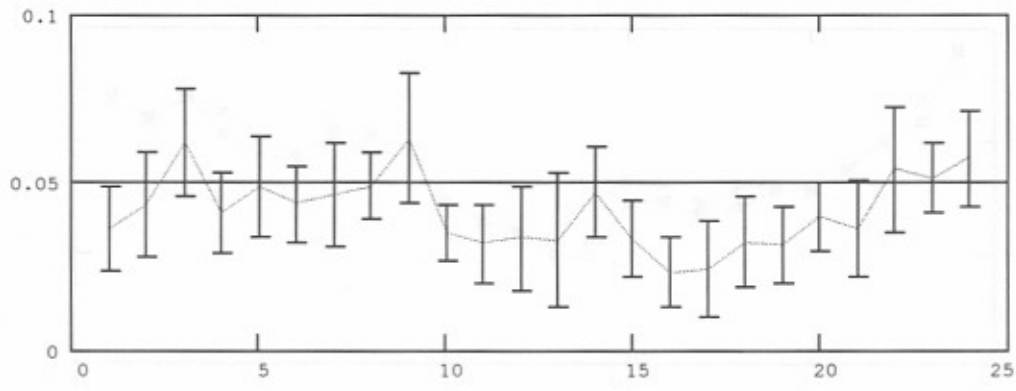


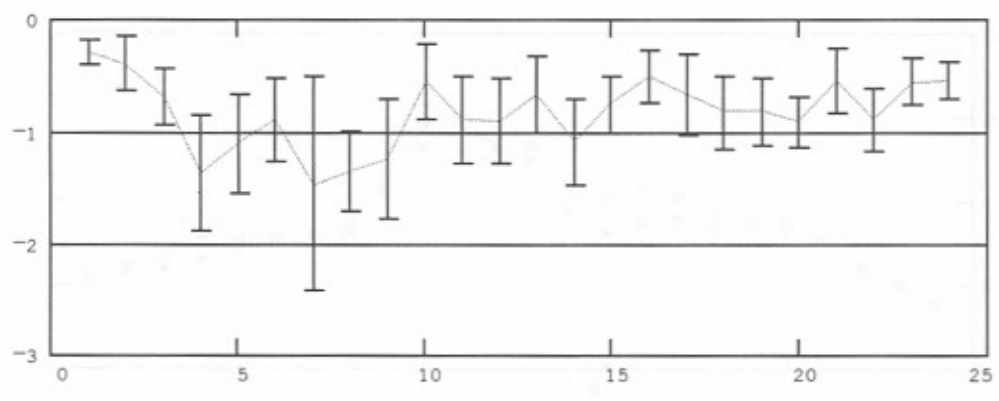
Figure B-59. Simulated network performance by hour-data traces - 45 messages per hour - propagation condition 1 - sounds every minute.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-minute.

Figure B-60. Simulated network performance by hour-confidence - 45 messages per hour - propagation condition 1 - sounds every minute.

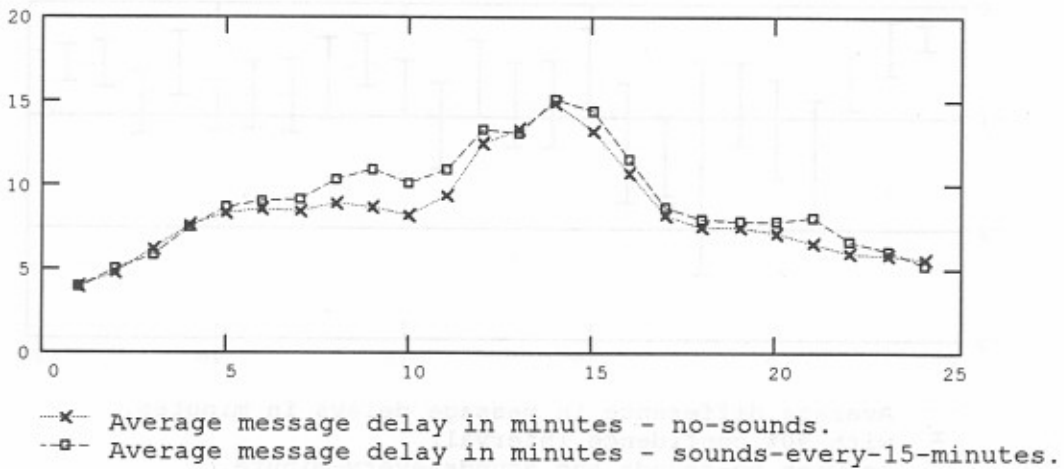
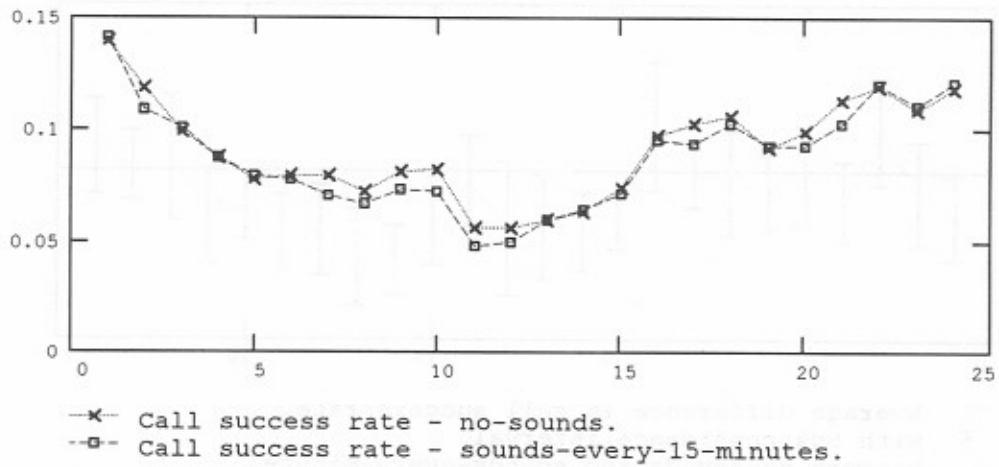
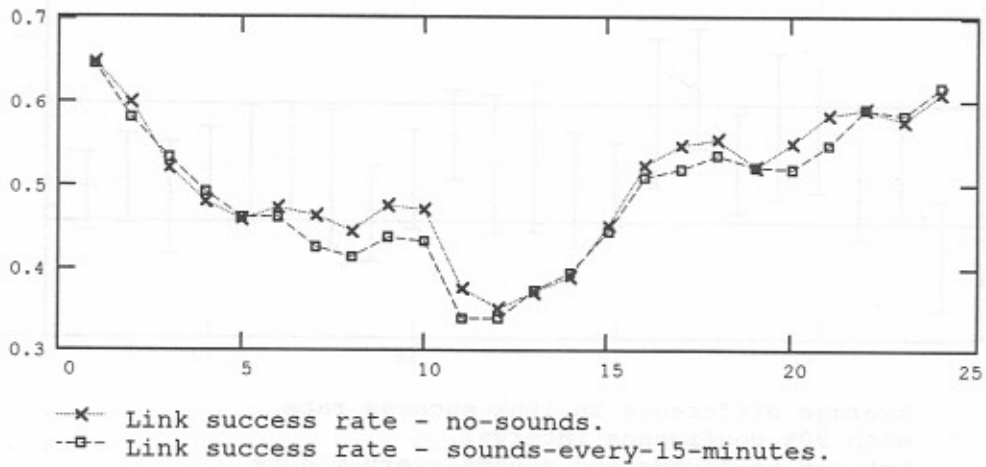
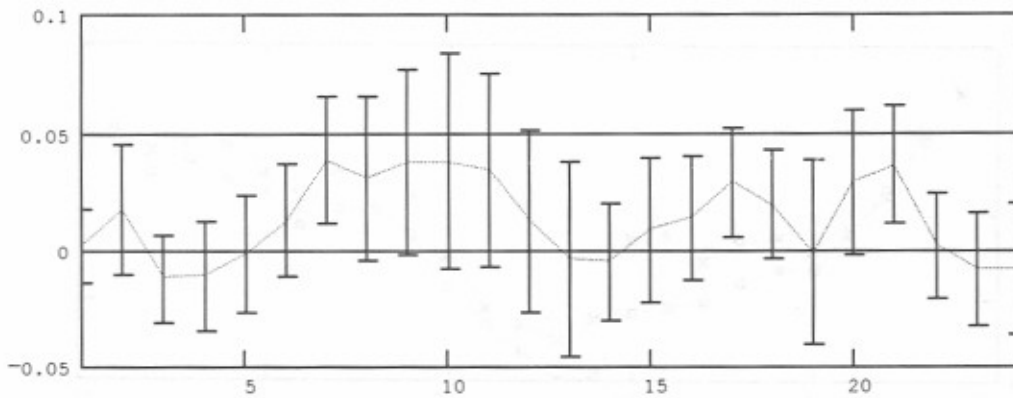
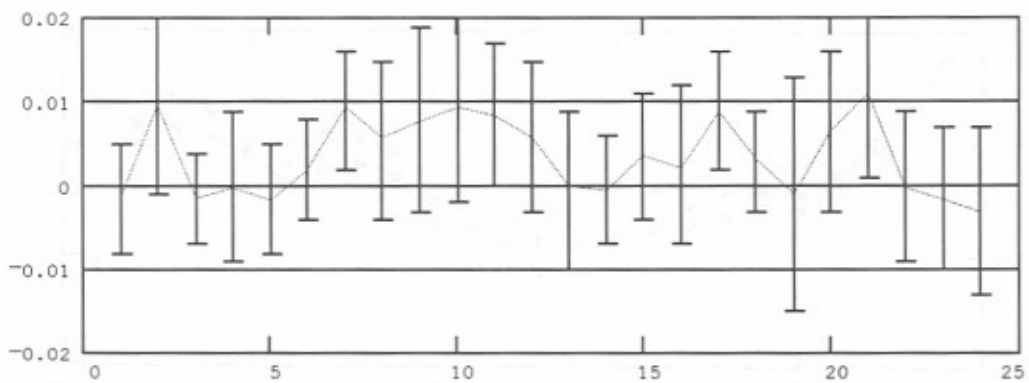


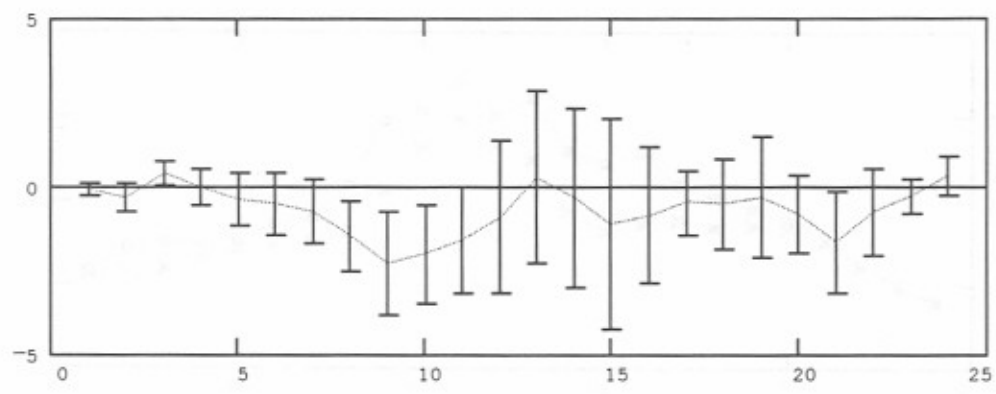
Figure B-61. Simulated network performance by hour-data traces - 60 messages per hour - propagation condition 1 - sounds every 15 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-15-minutes.

Figure B-62. Simulated network performance by hour-confidence - 60 messages per hour - propagation condition 1 - sounds every 15 minutes.



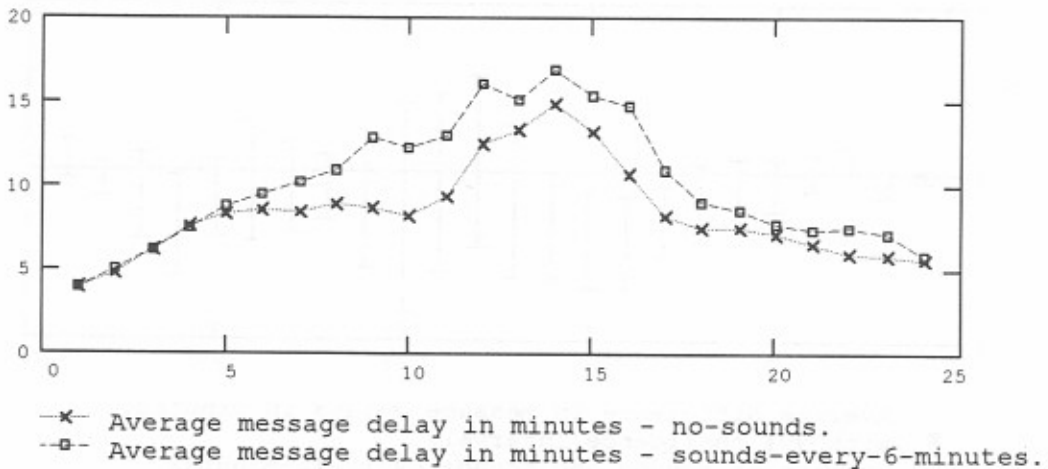
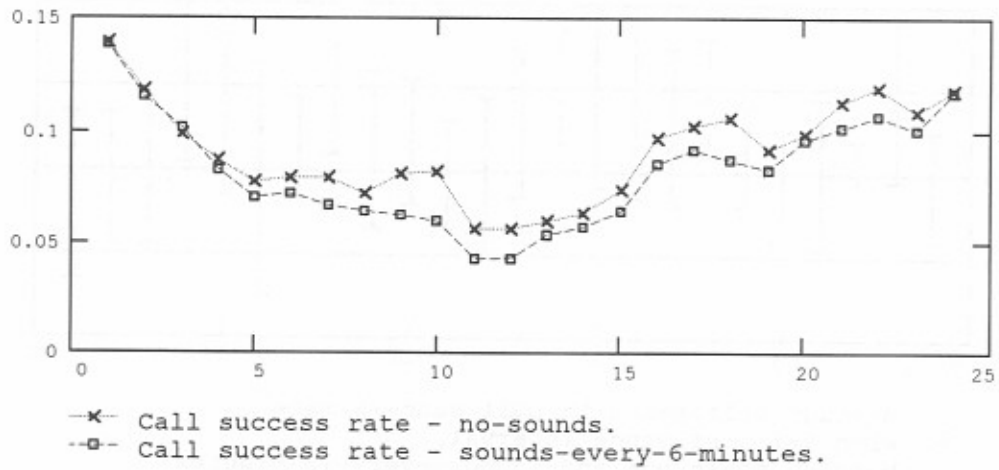
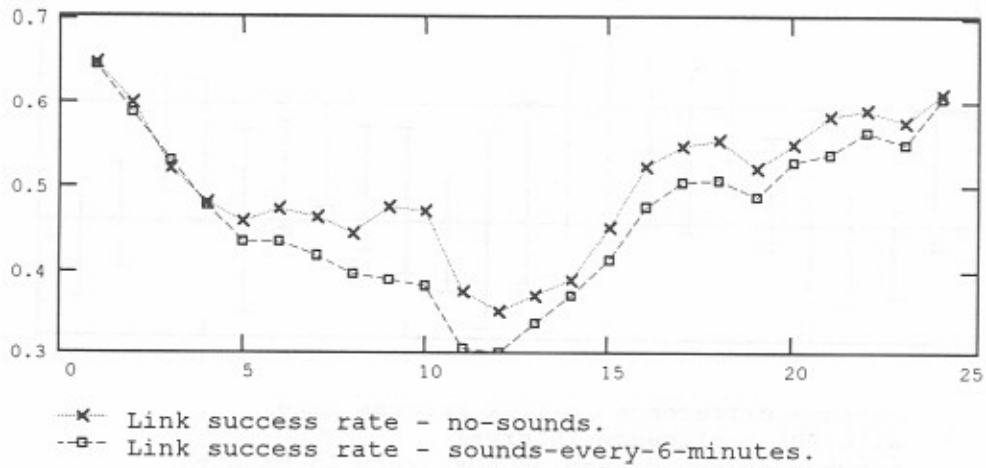


Figure B-63. Simulated network performance by hour-data traces - 60 messages per hour - propagation condition 1 - sounds every 6 minutes.

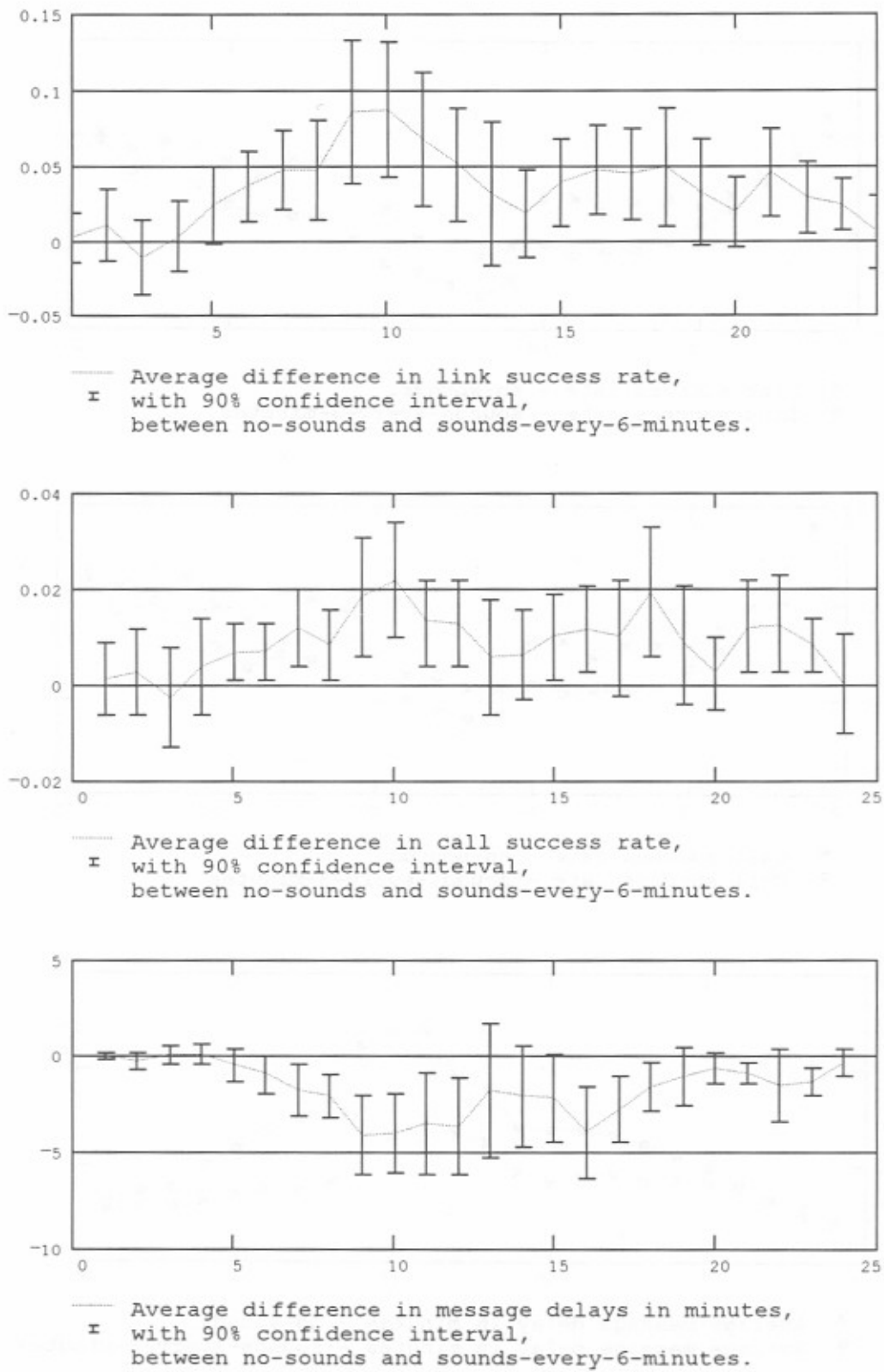


Figure B-64. Simulated network performance by hour-confidence - 60 messages per hour - propagation condition 1 - sounds every 6 minutes.

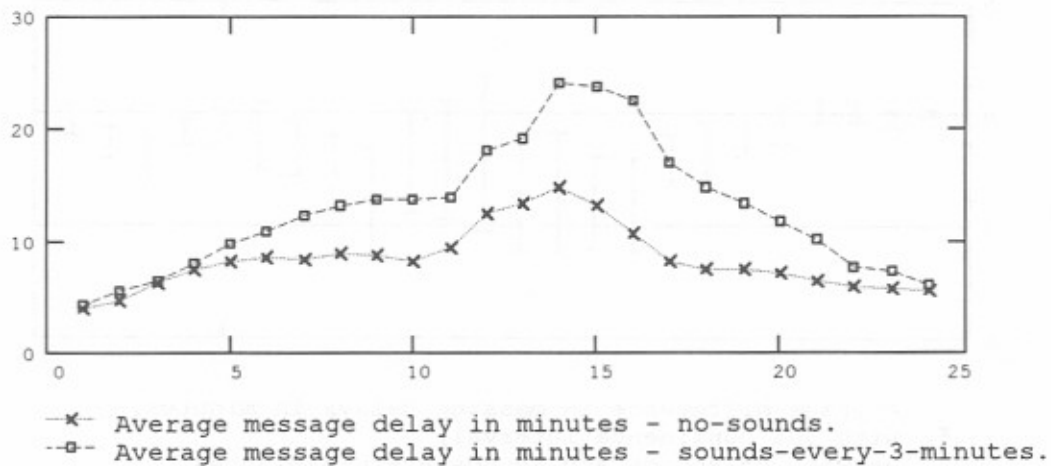
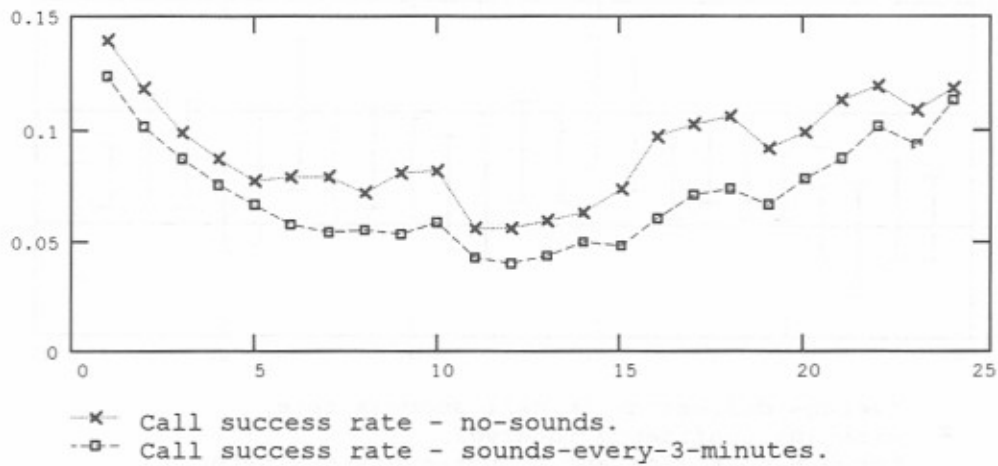
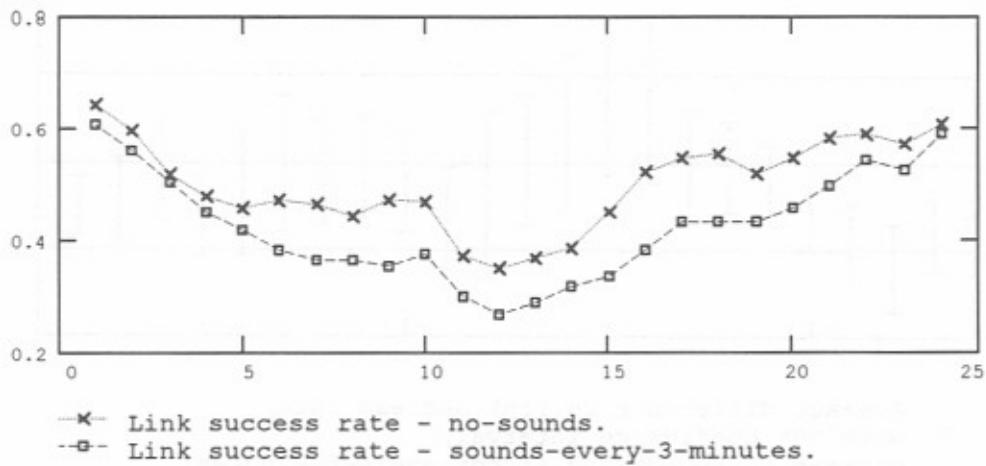
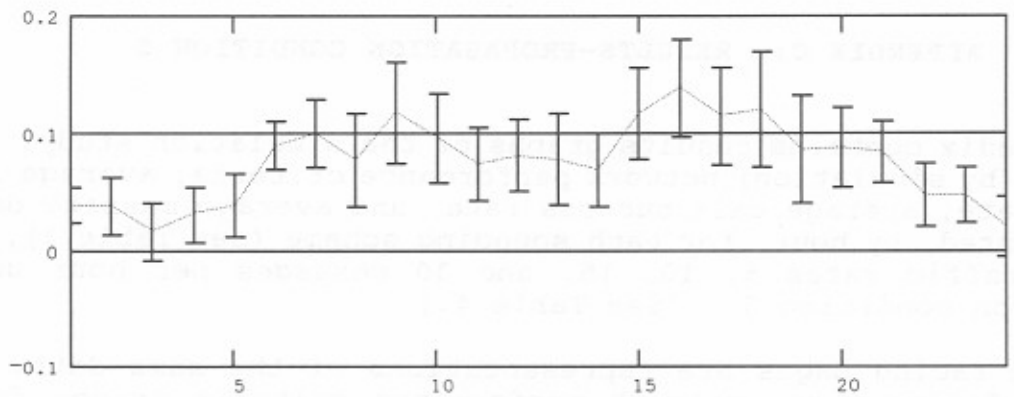
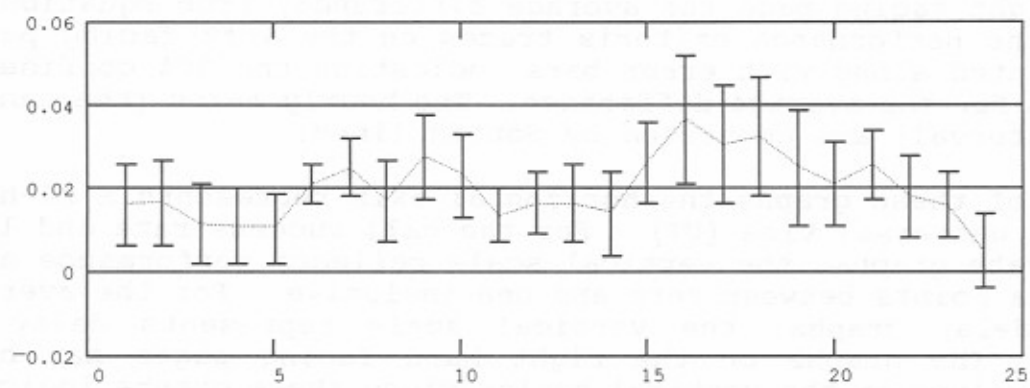


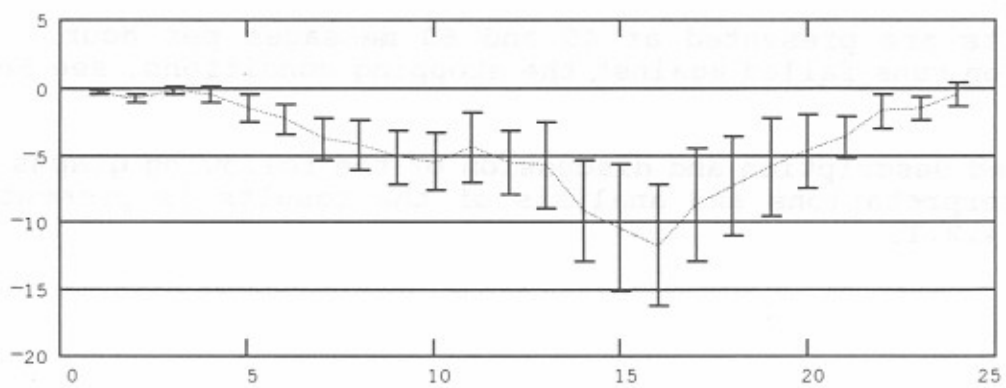
Figure B-65. Simulated network performance by hour-data traces - 60 messages per hour - propagation condition 1 - sounds every 3 minutes.



— Average difference in link success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.



— Average difference in call success rate,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.



— Average difference in message delays in minutes,  
 ± with 90% confidence interval,  
 between no-sounds and sounds-every-3-minutes.

Figure B-66. Simulated network performance by hour-confidence - 60 messages per hour - propagation condition 1 - sounds every 3 minutes.