
**Abstract**

An Experimental Integrated Switched Network (EISN) has been developed to provide a system-level testbed for the evaluation of advanced communications networking techniques, including survivable network routing algorithms using a mix of transmission media, for application in the Defense Switched Network (DSN). EISN includes five CONUS sites linked by a wideband demand-assigned satellite channel and by dialed-up terrestrial trunks for alternate satellite/terrestrial routing experiments. Experiments to date have validated techniques for integration of circuit-switched terrestrial systems with the demand-assigned satellite system, and for the establishment of alternate routes over satellite and terrestrial paths. Currently, candidate routing algorithms for application in the DSN are being implemented and tested using external routing/controller processors attached to digital circuit switches at EISN sites. In addition, EISN is also being used to support data communication experiments using DoD standard data protocols in a combined satellite/terrestrial network environment. Work is ongoing both in system experiments and in testbed developments to include additional capabilities. This paper represents a description and status report on both the testbed and the experimental efforts.