AzTE Arizona Technology Enterprises

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Wireless Storage and Support Network

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Intellectual Property Status

Patent Pending

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Background

There is increasing need for better methods of data storage and sharing between computers. Likewise, in order to accommodate the growing use of mobile computing devices, there is increasing need to make consistent the data to which these devices have access. It is impractical and inconvenient to increase storage space on individual machines, as needed. Instead, wireless storage central to all networked computers provides a more sensible option. Conventional computer networks and systems connect via a hierarchy and communicate through a hub or switch architecture; however, hubs and switches suffer from bandwidth degradation resulting from the back plane speed of these architectures.

Invention Description

Researchers at Arizona State University have invented a novel architecture consisting of a wireless storage system and a supporting agile network. The architecture allows for digital communication between servers, storage devices and other devices. It offers a high availability redundant mesh network capable of high-speed communication and agile reconfiguration adaptable to existing network conditions. Meanwhile, redundant paths and the ability to switch paths in milliseconds increase the reliability of the mesh network and deliver bandwidth in excess of 1Gbps.

Potential Applications

Wireless Storage and Support Network is scalable and flexible to allow use in various applications:

- General Data Communications Networks – general higher data networks using storage frequently (i.e. multimedia processing clusters)
- Office/Corporate Networks – relieve the conventional server systems with increased data speed
- Home Networks – managed storage despite changes in personal computers

Benefits and Advantages

- Higher speed data retrieval - data delivery bandwidth in excess of 1Gbps
- Flexible – soft assignment of disks or disk slices to users (server computers)
- High Performance – performance improvement by response to some SCSI communication from the local router rather than end-to-end; end-to-end response only required for data delivery from server to disk or from disk to server
- Low Cost – implementation with a low initial cost using a scalable architecture
- Reliability