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in this issue

Advanced Thin Film Recording Media for Ultra High Density

C-RAM Chalcogenide Random Access Memory

Organisation Updates and Events

The heart of your future home

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We are progressing towards an environment of connectivity where many different devices are interconnected either wirelessly or through traditional wired means. But while the technologies that allow devices to talk to one another are very well established, a major component of this connected world is still missing – the information storage aspect, vital in any home network system. Today's technologies allow us to connect data (eg Wireless LAN), communicate data (eg TCP/IP) and even exchange data (eg XML), but where is all this information and data passing through the system being kept?

This question is important because devices need information – and plenty of it – to communicate intelligently. This information covers events in the past, present and future as well as information about, other devices and its users. For example, information is a large and integral component of home gateways, audio/video devices and the like. It may be quite tempting to think that such information isn't much and simple non-volatile flash memory storage technologies will suffice. However, these technologies are unlikely to satisfy the needs of the home user, and other home network storage solutions will be required.

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DSI SINGAPORE

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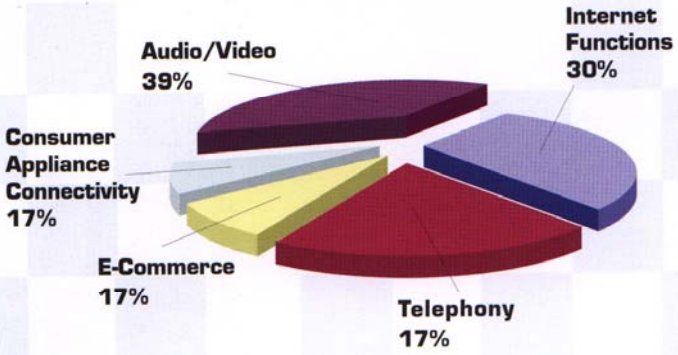
In May 2001, the Data Storage Institute (DSI) conducted a survey in the United States, asking people what they would use a home network storage device for. The two key functions cited were audio/video recording and playback, followed closely by Internet access, both big guzzlers of storage space through caching, file downloads and digital audio and video. Telephony, coming hot on the heels of the first two preferred uses cited, is yet another important storage consumer with faxes and voice mail. Undoubtedly, home network storage solutions require a large storage capacity if these functions are to be fulfilled.

Preferred Uses for a Home Storage Device



N+I Survey May 2001 , Data Storage Institute

Even the least significant function – consumer appliance connectivity – has large storage requirements. For example, an intelligent refrigerator would require imaging technologies to recognize and understand images about its contents. Such image information needs to be stored, at least for a short period of time if not longer, for audit and tracking purposes. We must remember that not everything has a bar code on it. And if one wants synergy, the intelligent refrigerator should be able to tell the personal digital assistant (PDA) what groceries the owner has consumed so that the PDA will update the owner's shopping list. This means that the refrigerator and PDA need to have a way to share information. Do we really want each and every device in the home to have its own hard disk? If so, issues such as data backup, information security and other such issues applied across many different devices would complicate the matter greatly. For these reasons, there is a strong case for a single consolidated information-storage device for the intelligent networked home.

Based on the results of the survey, DSI is working on home networked storage technologies which will enable data and information to be stored centrally within the home, and yet be accessible everywhere. You can watch movies from a central movie server in your home closet from anywhere, or on two TV screens at once! Not only that, all faxes can be stored in and accessed from this one central box. Other appliances like your home security system can also keep detailed information about the safety and security of your home, and you can access this information from the Internet (like when you are away on holiday). This would allow people to manage and back up all their information from different sources and in different formats from one single central location.

The cost of such a high-speed, high-capacity network storage device is likely to be very high. Ideally, manufacturing and technology processes must be able to bring the price down to an affordable level for the average consumer, while still maintaining connectivity and performance requirements. This is not an easy task.

So, when are we going to see home network storage devices on the shelves? Soon, we hope. Research organizations like the Data Storage Institute are already hard at work developing the technologies that will one day power such devices in the home. Early prototypes show great promise and have already opened the way to an intelligent networked future. With such results, the future we are dreaming of will become a reality sooner than we think.