

Exciting but challenging times in the home network environment

Consumers will have increased responsibilities for providing and managing home networks that can connect entertainment, telecommunications and automation systems, according to a new ACMA report.

Developments in home networks found that the home environment is emerging as the focal point for communications and media services where consumers, devices and service providers interact.

Developments in access networks, service and device convergence, and the evolution of multimedia services are changing the home network environment. It is evolving from simple, dedicated services delivered by a single provider to a more complex shared network that can be integrated and customised to deliver a range of media and entertainment services from multiple providers.

Providing high-speed connectivity, interoperability and portability of services via the last few metres of network in the home is an area of considerable industry innovation and activity.

The future home network environment is expected to comprise a mix of internal user services handled by the customer and those bundled by a provider to manage end-to-end services and devices. Emerging IP-based services such as health monitoring, security, home automation, entertainment and social networking accessible via home networks will reshape the user experience.

Users will be able to customise the access and management of their digital media to better meet usage requirements. For example, a home network could be configured to have all devices store content to a centralised media server that could be accessed by any internal device or remotely via the internet. This single linked information repository would provide more convenient media storage and access to information.

The number of devices in the home is set to increase as services move beyond the end-user to include automated machine-to-machine communications. Devices generally have evolved from analog to digital technology and are now changing to online or networked technologies. Intelligence and functionality is no longer limited to what has been built into a device, but is enhanced by the capabilities of its networked environment. Home-networked devices have become windows to IP-based services that can potentially be offered from anywhere in the world.

However, as consumers are being presented with these attractive new technologies to include in their home environment, they are grappling with networking basics, and how to provide and manage the underlying home network cabling, wireless interfaces and supporting devices. This contrasts with traditional services such as circuit-switched telephony, where service, infrastructure, reliability and security were solely the responsibility of the service provider.





With a growing variety of physical network components, terminal devices and services, there is a need for more coordination between the consumer and the increasing number of industry services and providers. In using and maintaining their home networks, consumers will find the level of in-home support and education to be of increasing importance.

As consumers are being presented with these attractive new technologies to include in their home environment, they are grappling with networking basics.

For industry, the migration to next generation access networks means that service providers will not be constrained by the existing access technology, and will instead be able to deliver multiple applications and services over a single network. Home networks and integrated devices that facilitate connectivity are likely to be the next competitive frontier presenting significant new opportunities for the rollout of innovative services in homes across Australia.

Technical standards will play an important role in the coordination and delivery of end-to-end services in the home network environment. Wide variations are possible, depending on the technology make-up of infrastructure and services. Dwelling construction and occupant density will also determine network requirements.

While there is a continuing need for standards coordination in this area of significant innovation, one of the emerging areas of interest is the shift in responsibility for network reliability and security management from communications and IT companies to individual home network users or consumers.

This is an area where information as well as skills development may be needed to allow consumers to achieve a reliable and secure networking experience. As home networks become increasingly fundamental to the successful delivery of services, both industry and consumers will require education on the common home network ground that they share. 📧

Developments in home networks is available on the ACMA website at www.acma.gov.au (go to About ACMA: Publications & research > Research > Developments in home networks).