Broadband Network Access

Training Module

Learning Outcomes

The training objectives of this module are to provide information on:

- Definition and methods of Broadband Network Access
- Benefits of Broadband Network Access
- What is the cost of adopting Broadband Network Access?
- Questions relating to Broadband Network Access
- Broadband Network Access Resources

What is Broadband Network Access?

Broadband Network Access can be defined as a permanent high-speed connection and data exchange between internal users of an organisation and link to external users via an Internet Service Provider (ISP) or a telecommunications carrier.

Broadband Network Access should have transmission speed at least 128 kilobits per second phone dial-up connection and can be classified into two areas:

- **Intranet**
  A collection of private computer networks within an organisation, accessible only to members of the same organisation. It sits behind a firewall so computers cannot be reached directly from the public Internet network. An intranet uses all the same tools as the Internet, such as servers to store information, and browser software to let workers view the information.

- **Internet**
  Defined as the network for organisations to communicate with external users via the World Wide Web.

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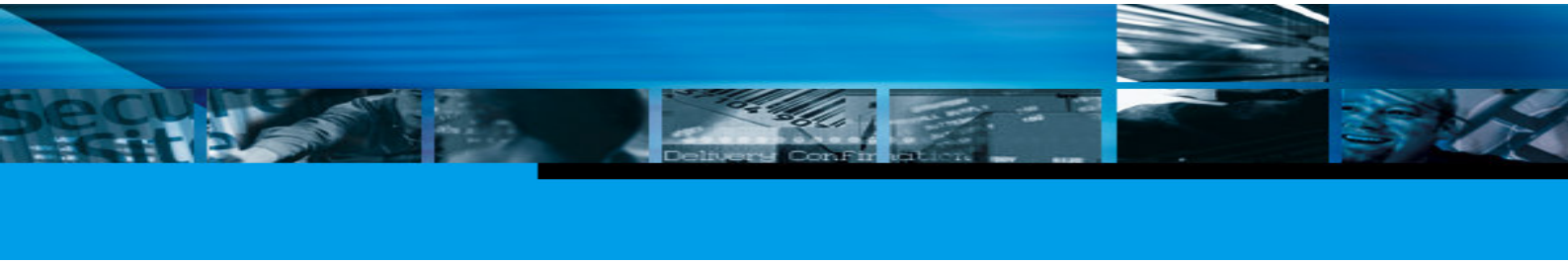
Broadband Network Access technologies can be summarised below.

- **Ethernet**
  Local area network (LAN) designed for internal communication within organisations and with transmission speeds of 10 megabits per second and above. Ethernets combined with a Wireless LAN (WLAN or Wi-Fi) results in the elimination of the need of using coaxial cable connection within an Intranet environment.

- **ADSL**
  Asymmetric Digital Subscriber Line (ADSL) designed for Internet users to directly connect to web services using standard telephone lines. ADSL can provide up to 1.544 megabits per second for data downstream and 160 kilobits per second for data upstream.



- **Cable**
  A coaxial cable or optical fibre link to an Internet Service Provider and connection into an optical network. Cable connections should provide 1.544 megabits per second or above for both uplink and downlink.

- **Satellite**
  Utilising satellite dishes for sending and receiving data to internal networks or computers. Transmission speeds various depending on channel agreement with satellite operator.

- **GPRS and Third Generation (3G)**
  Global Packet Radio Service (GPRS) is built upon existing second generation GSM mobile network and provides data transmission as high as 171.2 kilobits per second to mobile phone users. 3G is the mobile technology utilizing Code Division Multiple Access (CDMA) scheme and aims to provide mobile phone users with data transmission rate above 2.048 megabits per second.

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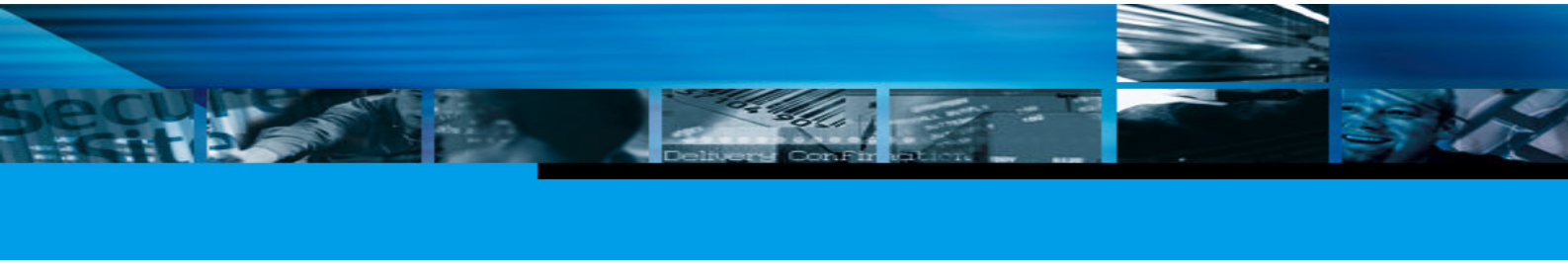
What are the benefits of Broadband Network Access?

The major attraction of Broadband Network Access is the characteristic of **high-speed data transmission**. This improves business process efficiencies and performance in the following fields:

- **Business automation**
  One of the key benefits for Supply Chain Management (SCM) and Enterprise Resource Planning (ERP) is to allow business automation and minimise manual work once the system is installed. However, in order for SCM and ERP to run smoothly and error free, there is a need to keep system data up-to-date by constantly checking and exchanging data within the organisation and with external interest parties. Therefore, Broadband Network Access provides the high-speed data access for such purposes.

- **Remote management**
  When operating multiple business points across various geographical locations without proper networking, there is often a delay in information exchange. This inevitably leads to errors or inefficiency in coordination and decision-making. Therefore, Broadband Network Access provides management an efficient channel to monitor and track updated information across their business network, thus enabling them to make informative decisions and manage from remote business points.

- **Communication and education**
  Education and staff training are critical elements for business competitiveness. Ensuring fluent communication among staff in different locations or departments is critical for business goals to be met. Broadband Network Access acts as a high-speed network freeway for business training and communication.



- **Marketing online**
  Electronic Customer Relationship Management (CRM) and Content Management Systems (CMS) provide effective means to achieve business goals of maintaining complete and dynamic business information online. In order to upload and manage business data online and maintain rapid communications, Broadband Network Access provides the necessary information highway for high-speed data communication.

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What is the cost of Broadband Network Access?

The cost of Broadband Network Access depends on the type of access technology chosen, data speed requirements and the services offered by Internet Service Providers. Therefore, prices could vary greatly for different business organisations.

The cost of general cable access could range from $50 to $300 per month with set up fee ranging from $200 to $450. Wireless links such as satellites start from $40 per month and set up fee can range from $300 to $2,000 depending on the location.

Actual cases are illustrated below to show the benefit and cost of adopting Broadband Network Access:

- **AUR Food Right Supermarket (70 staff)**

  Technology: ADSL connection for remote management.

  Benefits: Due to administration through technology, an operational saving of $93,600 was produced.

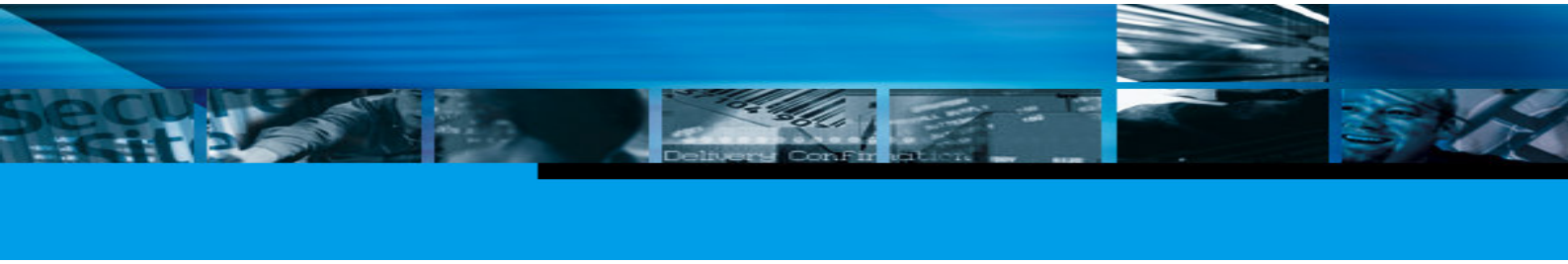
  Costs: Overall network cost for installation was $10,166.

- **HD Chauffeur Rides (35 contract chauffeurs)**

  Technology: Utilising broadband connectivity for Content Management System and usage of Extranet.

  Benefits: Sales revenue of $65,000 generated and with operation cost saving of $28,700.

  Costs: $2,670 for implementing e-commerce initiative and $7,490 for broadband connectivity.



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Common Questions about Broadband Network Access

What is the security feature of Broadband Network Access?
Broadband is basically a concept for high bandwidth transmission mechanism. Some data protocol transmitting over broadband technology may carry some security features to protect the data transport, such as IPV6. Internet Service Providers may also provide some filtering and firewall mechanisms to prevent network attacks. However, with the current prevalence of virus and hackers, it is still strongly suggested for organisation to install their own firewall and anti-virus software.

What technology should I choose for Broadband Network Access?
Wired or wireless, cable or ADSL depends on various tradeoffs, such as installation and operation cost, performance requirement and user convenience. For example, satellite may provide communication to remote areas that could not be reached by wired solutions. However, the associated cost of satellite communication is typically higher.

Is there any hidden cost associated with Broadband Network Access?
Normally, there should be a legal agreement or contract with the Internet Service Provider stating the quality of connection. Therefore, if there is unusual network failure, there are terms in place to protect your business from any loss associated with broadband connectivity.

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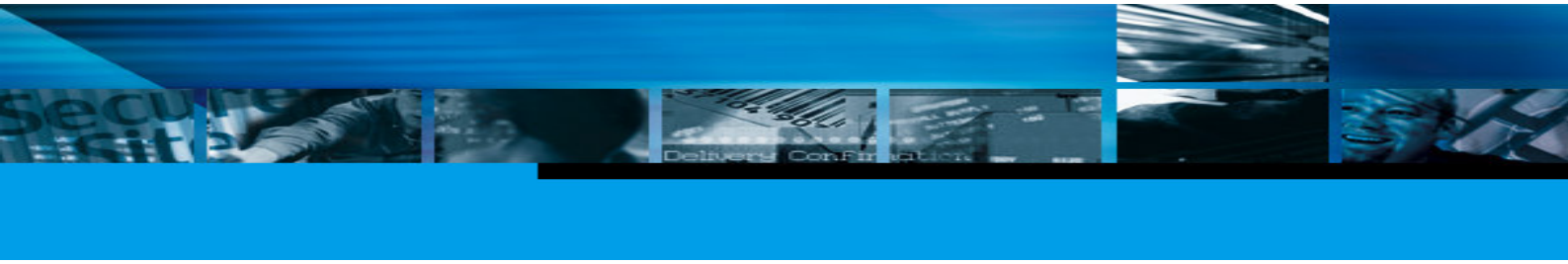

References for Broadband Network Access

Case Studies

- AUR Food Right Supermarket
- HD Chauffeur Rides - www.harleyrides.com.au
- Further case studies are available at www.mmv.vic.gov.au/casestudies

Broadband Information References

- www.ispchoice.com.au
- www.whirlpool.net.au
- www.australianispdirectory.com
- www.mmv.vic.gov.au/info_discovery

Activities

Time allocation: 10 to 15 minutes per group

1. Discuss how Broadband Network Access could benefit your business?

2. Discuss your choice of Broadband Network Access for your business and why? Please consider both security and cost.

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