SOS POLITICAL SCIENCE AND PUBLIC ADMINISTRATION

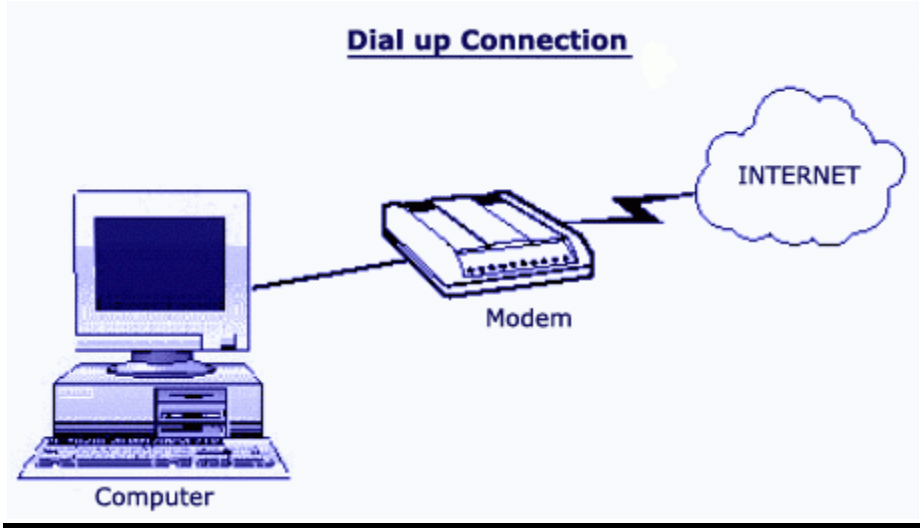
MBA FA 401

SUBJECT NAME: COMPUTER APPLICATIONS IN FINANCIAL ADMINISTRATION

UNIT-V

TOPIC NAME: TYPE OF ACCESS (DIAL UP & DEDICATED)

A. DIAL UP ACCESS:



Dial-up Internet access is a form of Internet access that uses the facilities of the public switched telephone network (PSTN) to establish a connection to an Internet service provider (ISP) by dialing a telephone number on a conventional telephone line. Dial-up connections use modems to decode audio signals into data to send to a router or computer, and to encode signals from the latter two devices to send to another modem.

Dial-up connections to the Internet require no additional infrastructure other than the telephone network and the modems and servers needed to make and answer the calls. Because telephone access is widely available, dial-up is often the only choice available for rural or remote areas, where broadband installations are not prevalent due to low population density and high infrastructure cost. Dial-up access may also be an alternative for users on limited budgets, as it is offered free by some ISPs, though broadband is increasingly available at lower prices in many countries due to market competition.

Dial-up requires time to establish a telephone connection (up to several seconds, depending on the location) and perform configuration for protocol synchronization before data transfers can take place. In locales with telephone connection charges, each connection incurs an incremental cost. If calls are time-metered, the duration of the connection incurs costs.

Dial-up access is a transient connection, because either the user, ISP or phone company terminates the connection. Internet service providers will often set a limit on connection durations to allow sharing of resources, and will disconnect the user requiring reconnection and the costs and delays associated with it. Technically inclined users often find a way to disable the auto-disconnect program such that they can remain connected for more days than one.

A 2008 Pew Research Center study stated that only 10% of US adults still used dial-up Internet access. The study found that the most common reason for retaining dial-up access was high broadband prices. Users cited lack of infrastructure as a reason less often than stating that they would never upgrade to broadband. That number had fallen to 6% by 2010, and to 3% by 2013. The CRTC estimated that there were 336,000 Canadian dial-up users in 2010.

REPLACEMENT BY BROADBAND:

Broadband Internet access via cable, digital subscriber line, satellite and FTTx has replaced dial-up access in many parts of the world. Broadband connections typically offer speeds of 700 Kbit/s or higher for two-thirds more than the price of dial-up on average. In addition broadband connections are always on, thus avoiding the need to connect and disconnect at the start and end of each session. Broadband does not require exclusive use of a phone line, and thus one can access the Internet and at the same time make and receive voice phone calls without having a second phone line.

However, many rural areas remain without high speed Internet despite the eagerness of potential customers. This can be attributed to population, location, or sometimes ISPs' lack of interest due to little chance of profitability and high costs to build the required infrastructure. Some dial-up ISPs have responded to the increased competition by lowering their rates and making dial-up an attractive option for those who merely want email access or basic web browsing.

Dial-up Internet access has undergone a precipitous fall in usage, and potentially approaches extinction as modern users turn towards broadband. In contrast to the year 2000 when about 34% of the U.S. population used dial-up, this dropped to 3% in 2013. One contributing factor to the extinction of dial-up is the bandwidth requirements of newer computer programs, like antivirus software, which

automatically download sizable updates in the background when a connection to the Internet is first made. These background downloads can take several minutes or longer and, until all updates are completed, they can severely impact the amount of bandwidth available to other applications like web browsers. Since an "always on" broadband is the norm expected by most newer applications being developed, this automatic upload trend in the background is expected to continue to eat away at dial-up's available bandwidth to the detriment of dial-up users' applications. Many newer websites also now assume broadband speeds as the norm and when confronted with slower dial-up speeds may drop (timeout) these slower connections to free up communication resources. On websites that are designed to be more dial-up friendly, use of a reverse proxy prevents dial-ups from being dropped as often but can introduce long wait periods for dial-up users caused by the buffering used by a reverse proxy to bridge the different data rates.

FEATURES OF DIAL-UP ACCESS:

- No additional equipment as it uses a standard phone line, the modem can fit right into the plug socket.
- Slow speed.
- Limits use and a download on dial up can take hours compared to seconds with broadband with broadband connection.

ADVANTAGES AND DIADVANTAGES OF DIAL-UP ACCESS:

1. **Advantages of Dial-up Internet Access:**

- **Low Cost:**
  Dial-up method has always been and will remain the cheapest method of connecting to the Internet. All kinds of usages are charged according to the telephone call tariff only. No extra money is charged just because it is being used in data transfer, most of the time. Sometimes, the prices go up because of the individual requirements of speed and performance.

- **Safety:**

  A dial-up connection is much safer than any other technology because of the rotation of the IP addresses, assigned to a user. IP address is a set of numbers assigned to you that you use to connect to the Internet. So, wherever you go you leave a trail behind. Using a dial-up connection, every time a person

logs in, he/she does so using a new IP address. This makes hacking an account impossible and saves the user a lot of headache. IP address theft has some serious consequences, like someone can login using your IP address and do 'wrong things' that may actually point back at you.

- **Availability:**

  This is probably the best feature of dial-up Internet access. It provides the user with the convenience of using his/her account wherever the service is available. That means, if you are going on a vacation and the service provider is available at that location, you can very much log in to your account and access the Internet. This is mostly not the case with the broadband connection. And hence the dial-up gets an upper edge when it comes to 'being there', always.

2. Disadvantages of Dial-up Internet Access:

- **Lags Behind in Speed:**

  Speed is one of the biggest disadvantages of a dial-up connection. The maximum speed a dial-up connection can achieve is 56,000 bytes per second, which is way too less compared to all the other technologies available, these days. The page loading speed is so slow that, many times you may want to go and finish other work in between. The low speed of the dial-up can be easily and very conveniently blamed on the technology that it uses. The Internet surfing process on a dial-up connection goes through various levels of conversions, modulations and handshakes (yes, the machines hand shake and agree to a few things, before they start working).

  We are not going into the details of the working of this technology here. For now, it's enough to know that all these processes that actually happen in a few minutes are really tedious. One should really go through the technological concepts at least once. It's guaranteed that you will stop complaining about the speed of your connection and will start admiring it. A computer actually achieves so much in just a few minutes. But yes, there are many technologies that are doing better and hence the less popularity of the dial-up connection.

- **Unstable Dial-up Connection:**

  Watching streaming videos require a large amount of data for which you need a stable connection. Also, with regard to the landline connection, if you have enabled the call waiting option, then it definitely breaks up your connection. Any downloads happening at that time will get cut off as the Internet connection gets disconnected.

- **Demands a Phone Line:**

  A dial-up connection requires a permanent phone line that can be dialed to connect to the Internet. So you cannot always carry your Internet along with you, like with some other technologies. Yes, you can surf it from some other place but only when there is an existing phone line of the same service provider, at that place. In case of a laptop, you cannot make use of the dial-up connection if you are journeying as you would need an alternate landline connection at the place you are going to stay or at least have a wireless card.

- **Phone Route is engaged:**

  Every one of us born in the 80s and the 90s very well know, what it means. Newer generations might not be familiar with it because of the absence of landlines in most places, these days. “Route busy” means that the single line available is being used for a data transfer and hence nothing else can be done at that moment.

  So if the user is using the line for Internet purpose, the line will sound busy for the other people, who may be trying to landline number. Hence, there may be times that you are connecting to the world and feeling liberated and at the same time, your parents (out for a trip) are going mad trying to call you up at home. The vice-versa could also happen if you need to talk to a friend or family member, but can’t as someone is using the dial-up connection for surfing the web.

B. DEDICATED ACCESS:

A Dedicated Internet Access (Internet Leased Line) is a premium internet connectivity product which is dedicated, fully duplex nature of Bandwidth and provides symmetrical speed Internet.

Dedicated Internet Access (Internet Leased Line) is more about the business terms of the Internet connection and not the technology or delivery method (Fiber optic, Copper Cable, Wireless, etc.). Dedicated Internet Access means that the specified amount of bandwidth sold has been carved out and dedicated for your use and it is always active connection which can be used to transfer voice or data or both.

DIA service is sold as a rated speed, not an up to speed or is not shared among users. Dedicated internet access is like having your own personal lane on the Information Super highways opposed to sharing the same traffic lanes as everyone else. All the time (24x7x365) you will be traveling at exactly the speed you have subscribed and you were guaranteed.

And, equally important aspect of Dedicated Internet Access is guaranteed service uptime of 99% and above along with options available for static Public IP addresses which enables customers to host servers/contents on web.

A Dedicated Internet Access (Internet Leased Line) is overall designed to deliver its user, assured bandwidth with high accessibility along with scalability thus known as most reliable connectivity options for Business or users running mission critical applications on web.

FEATURES OF DEDICATED ACCESS:

- Dedicated symmetric internet connectivity for committed upload/download speed.
- Business continuity through committed performance and service uptime.
- High availability of Internet access through network redundancies at various levels.
- Service Level Agreement (SLA) based service provisioning and delivery.
- Bundled static IP addresses.

- 24x7 Technical Support Desks.
- Improved productivity: Faster & Reliable Internet access helps improves the overall productivity of an organization.

PROS AND CONS OF DEDICATED ACCESS:

1. **Pros of Dedicated Internet Access:**

- **Unique:**

  The first, most significant advantage is that this internet connection is unique to you and your business so there are no other businesses or homes using this connection. Unlike home connections and shared business lines, the only way to connect is via the links into your building. Once received into your building, it's up to your IT team to make the connectivity accessible to users and applications.

- **Bandwidth:**

  With a private connection, you have the ability to allocate bandwidth as you see fit. Once you have identified which apps consume the most bandwidth, or are most heavily used, you can assign more bandwidth to them as required. For example, it's a well known fact that Unified Comms traffic only needs 100kbps per user. That equates to 10mb per 100 users. However, once you know how many concurrent calls there will be at any one time, this bandwidth requirement is reduced. If only 20 people are ever on a call at the same time, you only need allocate 2MBps.

- **Consumption:**

  Unlike traditional internet connections, dedicated internet doesn't come prepackaged. With ADSL and FTTC connections, you are subscribing to packages of 20MBps or 80MBps download speed. A major pro of dedicated internet is that you can request as much or as little bandwidth as you require. A line will be installed and you simply subscribe to the amount of bandwidth you genuinely need reducing your over-payments for internet you don't need.

2. **Cons of Dedicated Internet:**

- **Premium Service:**

This is a premium service, therefore is more expensive that traditional internet access. This may be a shock for first time buyers, but when you fully understand the benefits, the total cost of ownership and tangible return on investment becomes easier to understand.

- **Under-utilization:**

  Once the bearer for your line has been installed, you may feel that you aren't using your connection for optimum performance. For example, if you subscribe to a 50MBps connection, this requires a 100MBps bearer to be installed. Bearers typically come in 10MBps, 100MBps, 1GBps or 10GBps. So using 50MBps on a line with 100MBps potential can seem underwhelming. Talk to your provider about have best to utilize the line you purchase.

DIFFERENCE BETWEEN DIAL-UP AND DEDICATED ACCESS

DIAL UP ACCESS	DEDICATED ACCESS
A dial-up line is a temporary connection that uses one or more analog telephone lines for communications. A dial-up connection is not permanent. Using a dial-up line to connect computers costs no more than making a regular telephone call. **Dial-up Modem** A dial-up modem is a communications device that can convert digital signals to analog signals and analog signals to digital signals, so that data can travel along an analog telephone line. An analog signal consists of a continuous electrical wave, and a digital signal consists of individual electrical pulses that represent bits grouped together into bytes. A dial-up modem usually is in the form	A dedicated line is a type of always-on connection that is established between two communications devices (unlike a dial-up line where the connection is reestablished each time it is used). The quality and consistency of the connection on a dedicated line are better than a dial-up line because dedicated lines provide a constant connection. Businesses often use dedicated lines to connect geographically distant offices. Dedicated lines can be either analog or digital. Digital lines increasingly are connecting home and business users to networks around the globe because they transmit data and information at faster rates than analog lines. Five types of digital dedicated lines are:

of an adapter card that you insert in an expansion slot on a computer's motherboard. One end of a standard telephone cord attaches to a port on the modem card and the other end plugs into a telephone outlet.	• ISDN lines • DSL • FTTP • T-carrier lines • ATM