

Frame Relay and ISDN

Frame Relay

A packet-switching protocol for connecting devices on a Wide Area Network (WAN). The Frame Relay header contains the user-specified DLCI field, which is the destination address of the frame. It also contains congestion and status signals which the network sends to the user. The Frame Relay frame is transmitted to its destination by way of virtual circuits to a destination point. Frame Relay networks in the U.S. support data transfer rates at T-1 (1.544 Mbps) and T-3 (45 Mbps) speeds. In fact, you can think of Frame Relay as a way of utilizing existing T-1 and T-3 lines owned by a service provider

There are following two reasons major advantages of the frame relay

- More virtual circuits are available : Because virtual circuits consume bandwidth only when they transport data, many virtual circuits can exist simultaneously across a given transmission line. In addition, each device can use more of the bandwidth as necessary, and thus operate at higher speeds
- Error- handling : The improved reliability of communication lines and increased error-handling sophistication at end stations allows the Frame Relay protocol to discard erroneous frames and thus eliminate time-consuming error-handling processing

ISDN (Integrated Services Digital Network)

ISDN internet service is basically a telephone-based network system that operates by a circuit switch, or dedicated line. It can transmit data and phone conversations digitally over normal telephone wires. This makes it both faster and of higher quality than dial-up internet service

There are two different types, or lines, of ISDN internet service

- Basic Rate Interface (BRI)

- Primary Rate Interface (PRI)

The advantage of the ISDN is that internet serviced also allows for multiple data transmission.

The disadvantages, however, is that the digital clarity of ISDN voice communication and its speedy data transmission come at an extra cost.

Comparison between frame relay and ISDN

Frame Relay	ISDN
<p>Frame relay is the high performance wan protocol that operate at physical and data link layer of the osi reference model</p>	<p>ISDN stand for integrated service digital network. It support digital transfer of both voice and data simultaneously</p>
<p>frame relay uses packet switched technology</p>	<p>ISDN uses circuit switched technology</p>
<p>Frame-Relay is a "shared bandwidth" type connection</p>	<p>ISDN is more of a dedicated bandwidth connection</p>
<p>can increase bandwidth as needed, scalable to full T-1 (1.54 Mbps)</p>	<p>only 64k or 128k</p>
<p>easy to manage and configure</p>	<p>fairly complex to manage and configure</p>
<p>Frame Relay might be a bit cheaper in the long run at 56 kbps</p>	<p>ISDN is cheaper to set up, and much cheaper at 128 kbps</p>

expand our connection beyond 128 kbps, Frame Relay has the advantage	connection from 56 kbps to 128 kbps, ISDN has a great advantage
Frame relay is more reliable than the ISDN	The ISDN is less reliable than the frame relay

Video conferencing

Video conferencing in its most basic form is the transmission of image (video) and speech (audio) back and forth between two or more physically separate locations

Two types of video conferencing :

Point-to-point Conferences

- Point-to-point – A video conference that connects two locations.
- Each site sees and hears the other sites at all times

Multipoint Conferences

- Point-to-multipoint – A video conference that connects to more than two sites through the use of a multi-point control unit, or MCU.
- Participants at all sites can hear one another at all times and see the site that is currently speaking

Uses of video conferencing

- Presentations
- Virtual meetings
- Videoconference-based learning
- JIT (just in time) events
- Recruitment/search committees
- General meetings
- Project coordination
- Informal work sessions
- Alumni relations
- Question and answer sessions

Limitations of Videoconferencing

- If visuals, like handwritten or copied materials, are not properly prepared, students may have a difficult time reading them
- If the “pipe” that carries the transmission among sites is not large enough, the students may observe “ghost images” when rapid movement occurs in “real time”
- If the system is not properly configured, class members may observe an audio “echo” effect. The result is audio interference that detracts from the learning environment
- The absence of QOS (Quality of Service) provides virtually no guarantee of a satisfying and successful experience

Bibliography

/frame.htm . (n.d.). Retrieved 11 26, 2012, from /www.protocols.com:
<http://www.protocols.com/pbook/frame.htm>

/paper01.txt. (1997, 5 1). Retrieved 11 26, 2012, from www.cs.washington.edu:
<http://www.cs.washington.edu/education/courses/csep561/97sp/paper1/paper01.txt>

78370.html. (n.d.). Retrieved 11 26, 2012, from www.allinterview.com:
<http://www.allinterview.com/showanswers/78370.html>

Bluetooth-Technology-PPT.php. (n.d.). Retrieved 11 26, 2012, from www.seminaronly.com:
<http://www.seminaronly.com/Labels/Bluetooth-Technology-PPT.php>