

1. **UNI Header:** This is used within private networks of ATMs for communication between ATM endpoints and ATM switches. It includes the Generic Flow Control (GFC) field.
2. **NNI Header:** is used for communication between ATM switches, and it does not include the Generic Flow Control(GFC) instead it includes a Virtual Path Identifier (VPI) which occupies the first 12 bits.

ATM technology was developed to support a blending of circuit-switching and packet-switching technologies. It is intended to support traffic that requires a fairly constant rate of data delivery, such as voice and video, as well as variable data rate traffic, such as most computer data. ATM is a connection-oriented technology. This means that a fixed path through the network must be established before data can be transmitted. In this respect, ATM is similar to earlier telephone technologies in which physical wires between switching centers were allocated for the duration of each telephone call. Establishing an ATM connection causes a **virtual channel connection (VCC)** or **virtual circuit (VC)** to be created through the ATM network between the end users of the connection.

Virtual channels can be bundled into virtual paths in much the same way that physical wires were bundled into trunk lines. Virtual channels can be either permanent virtual channels (PVCs), established manually and persisting for long periods of time, or switched virtual channels (SVCs), set up dynamically as needed and torn down when the need no longer exists.

Data traveling over a VC are divided into fixed-length packets called cells. Each cell contains forty-eight **bytes** of user data and five bytes of header. Three of the header bytes are used to identify the virtual path (eight **bits**) and virtual channel (sixteen bits). One byte is used for header error checking, and the remaining eight bits are used for flow control (four bits), payload type (three bits), and priority (one bit). The small payload size benefits services such as voice and video, where timely and regular delivery are required.

ATM supports five different classes of service:

- Constant bit rate (CBR) allows the desired bit rate to be set when the virtual circuit is established; it is used for services such as uncompressed voice and video;
- Variable bit rate–non-real time (VBR–NRT) allows statistical techniques to be used to optimize network throughput when the rate at which data is available varies;
- Variable bit rate–real time (VBR-RT) is intended for applications such as compressed speech and video, where data delivery must occur at regular intervals;
- Available bit rate (ABR) is used for non-time-critical operations such as bulk file transfers that can adjust their rate of input to use available network capacity; minimum acceptable rates can be specified to ensure some service at all times.
- Unspecified bit rate (UBR) is the residual class with no guaranteed properties; it is used primarily for TCP/IP data traffic.