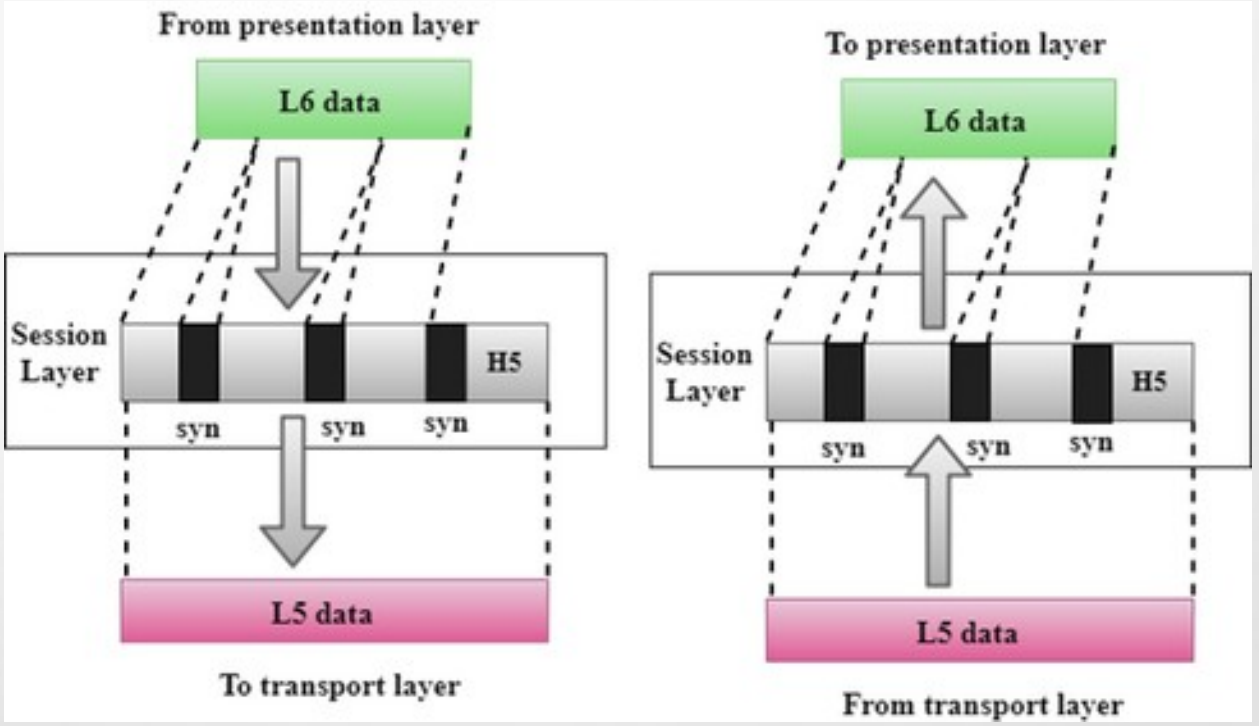
OSI Model – Session Layer

- The main function of Session layer is to **establish, maintain and synchronize the interaction between two communicating hosts**.
- For example, suppose user wants to send a very big document consists of 1000 pages to another user on a different computer .
- Suppose first 105 pages have been sent and the connection between two computer is broken for some reason.



OSI Model – Session Layer

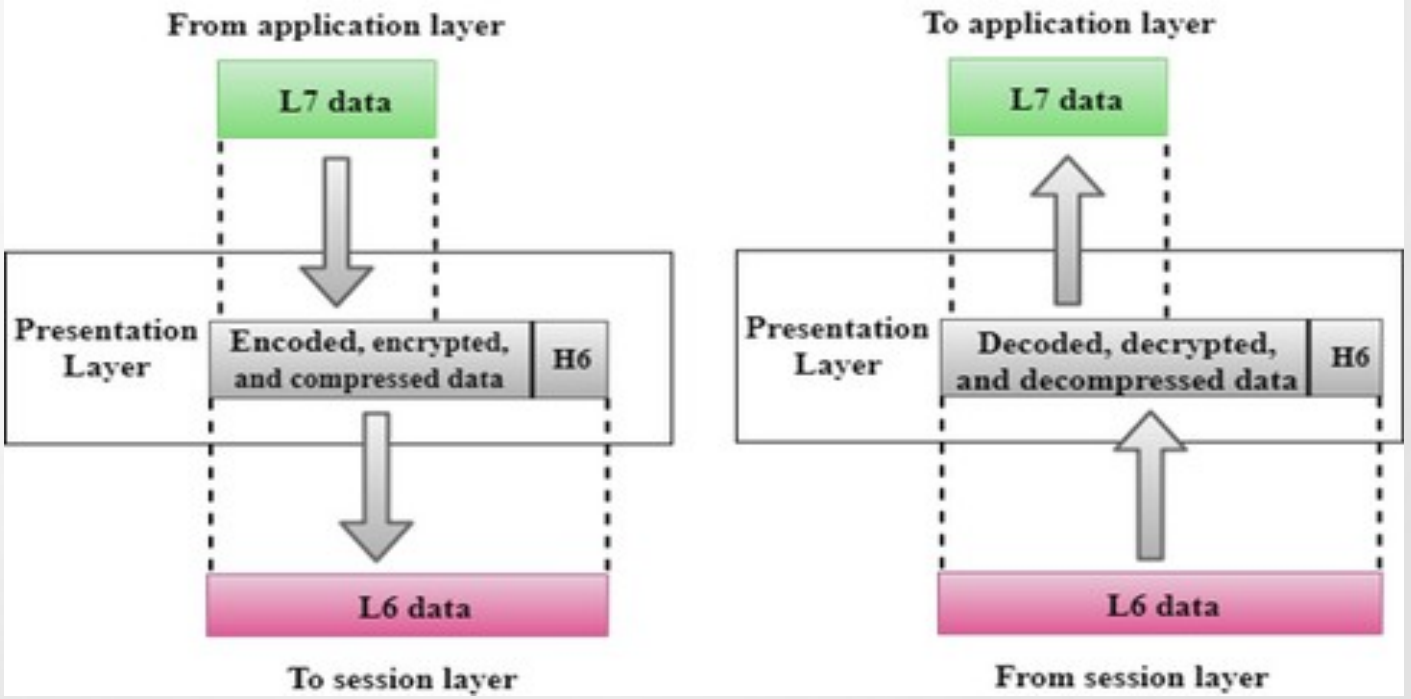
- A question comes now is how two hosts connection is reesatblish? Whether it starts from page 1 or page 106?
- To avoid complete retransmission from the first page the session layer between the two hosts could create subsessions. After each subsession is over, a checkpoint is taken.
- For instance, the session layer at the two hosts decide that after a succesful transmission of a set of every 10 pages, they would take a checkpoint.
- The resposibilities of session layer as follow:
  - **Sessions and subsessions:**
  - **Synchronization:** decides the order in which data will be sent.
  - **Session closure:** ensures that the session between hosts is closed.

OSI Model – Presentation Layer

- When two hosts are communicating with each other, they might be using different coding standards to represent data internally.
- For example, one host vould be using **ASCII** code for character representation whereas the other host could be using **EBCDIC**.
- The presentation layer is resposible for taking care of such differences.
- It is also resposible for **data encryption and decryption** for security.
- Also for **data compression and decompression** for more efficiency.
- The Presentation layer is also known as the **syntax layer.**
- This layer is a part of the operating system that converts the data from one presentation format to another format.

OSI Model – Presentation Layer

- The resposibilities of presentation layer as follow:
  - **Translation**: It converts the data from sender-dependent format into a common format and changes the common format into receiver-dependent format at the receiving end.
  - **Encryption**: Performs data encryption and decryption.
  - **Compression:** Performs data compression before sending and decompression at the destination.



OSI Model – Application Layer

- The Application layer, the topmost layer in the OSI model, enables user to access the network.
- This layer provides user interface for network applications such as remote log in(TELNET), World Wide Web(WWW), File Transfer Protocol(FTP), electronic mail(email), etc.
- It handles issues such as network transparency, resource allocation, etc.
- This layer provides the network services to the end-users.

OSI Model – Application Layer

- The resposibilities of application layer as follow:
  - **Network** Abstraction: Provides network to an end user and an application.
  - **Mail Services:**
  - **Remote log in:**
  - **WWW:**
  - **File access and transfer:** allows user to access, download, upload file from a remote server.

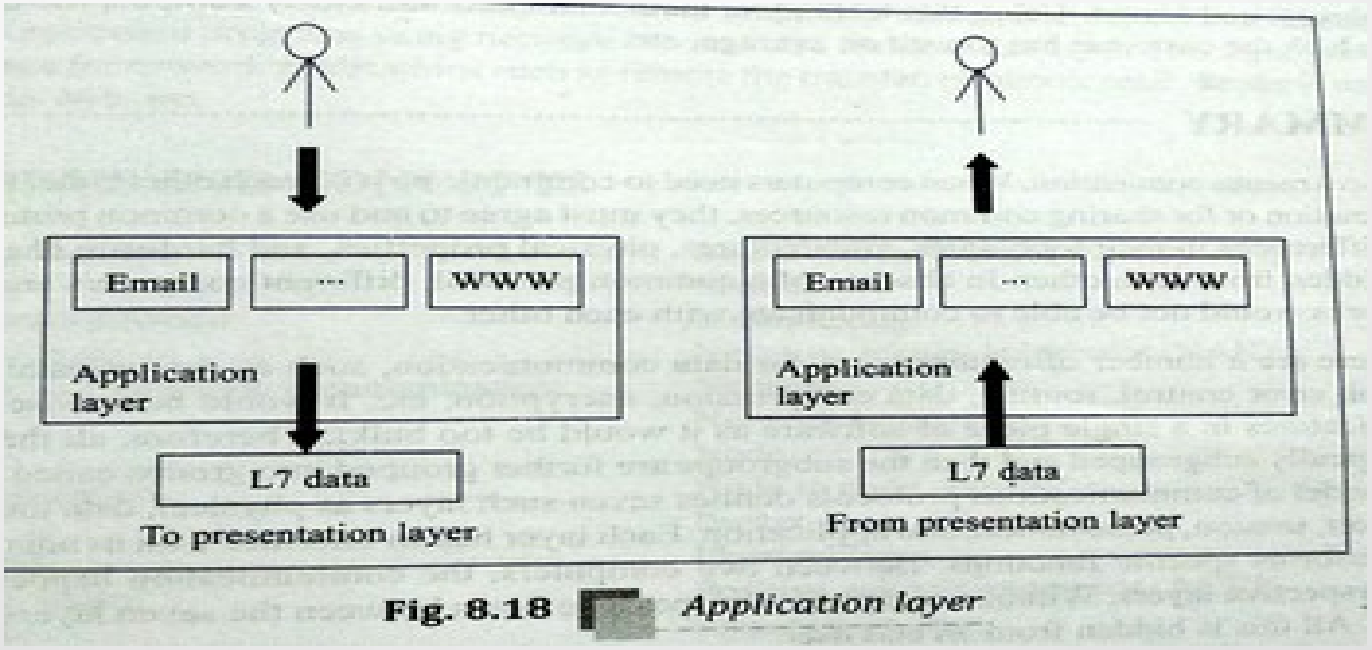


Fig. 8.18 *Application layer*