Web Architecture Final Project

OSI Model Illustration

Based on what I learnt from OSI model, I will illustrate my understanding by using World of Warcraft - the most population multi-player online game as an example. I will show two parts of in-game interactions.

First of all, player versus server as the table 1 showed, Player 1 wants to log in and play the game. Player 1 will open the World of Warcraft user interface, which is representing Layer 7-Appliation. The user will choose the server then type the user name and password. Once Player 1 click the log-in, the data is generated and translated into the language computer could understand, which is representing Layer 6-Presentation.

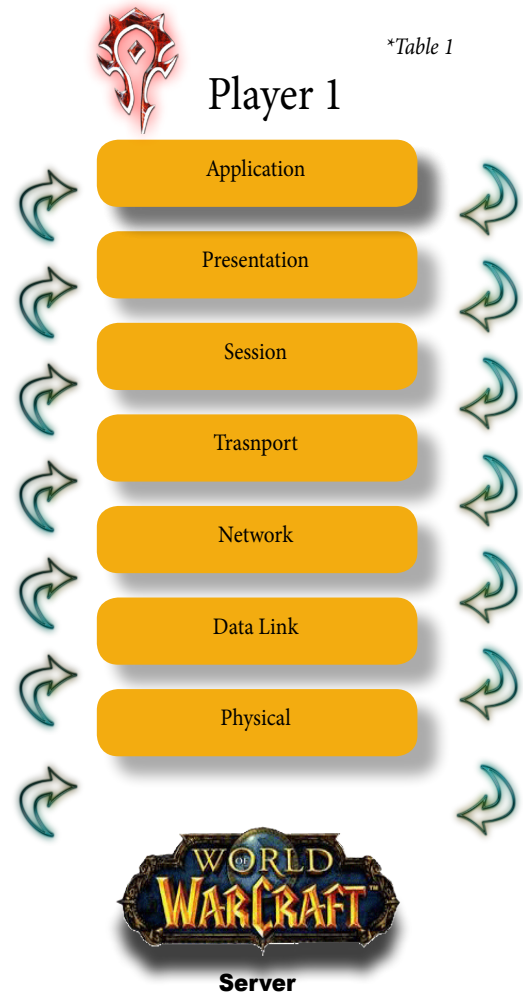
Since the data consist of privacy contents, the packages will be encrypted. The computer will send a request to see if the server is on, which is presenting Lay 5-Session. The log-in information needs to be delivered correctly. Thus, the packages should be sent by using TCP - Lay 4-Transport. Where does it go? Now the computer will put address on the packet - Lay 3 Network. Meanwhile, the computer will put unique signature on the packet saying where it is sending from - Lay 2- Data Link. Then the packages are ready and sent through cable - Layer 1-Physical.

Now, the packages were sent, the server receives data packages - Lay 1-Physical. Then the server will identify the packages and then open the packages to check the contents - Lay 2 Data Link. Once the packages are identified, the server scans the signature to know where the packages are sent from-Lay 3-Network. Then, the server will re-organize the packages to make sure it is correctly received and will inform Player 1 computer that the package has been received - Layer 4-Transport.

After these, the server will keep the session open for further data exchange - Lay 5-Session. Meanwhile, the server will translate the data contained in the packages into a understandable format-Layer 6-Presentation. The server receives the log-in request from Player 1 with user name, password and other identifications-Layer 7 Application. After receiving request, the server responses by going through the 7-layer again to deliver the request approval to Player 1.

Once Play 1 receives the approval, the World of Warcraft user interface will bring Play 1 into the game. Now, there are more ports and sessions open to support the game interaction. In addition, if Play 2 wants to log into the game, it will go through the same process as Player 1.

*Table 1



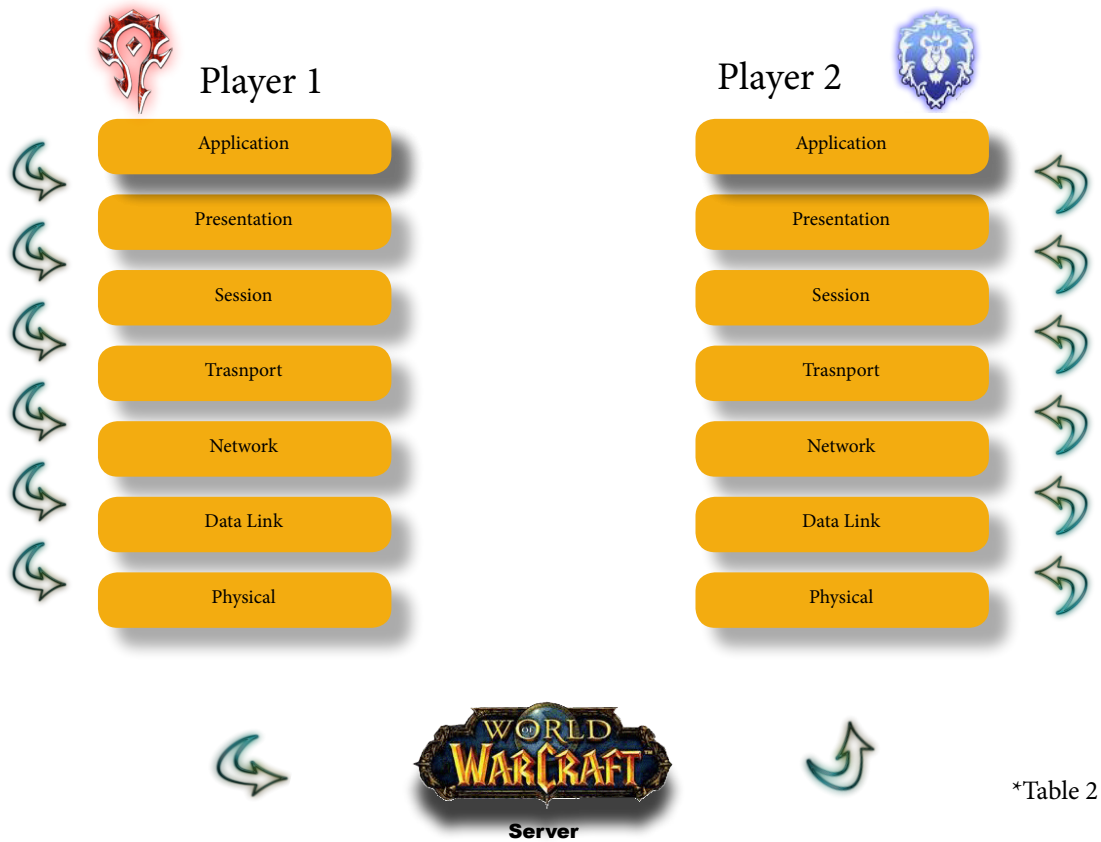


*Table 2

Second, it is player vs player.

When player interacts to another player. There are total 4 sets of 7-layer. For example, in-game messaging, Player 1 initiates a conversation with Player 2. Player will type the content in the application, which is Layer 7 – Application. Then it will follow the layers like Player 1 logging into the game. However, there are more than one address adding into the packages in Layer 3- Network. Since the message is sending to Player 2.

The server receives the packages going through 2nd set 7-layer. Instead of sending response back to Player 1, the server will send out the package to Player 2 going through 3rd set. It works like Post Office forwarding the package to the alternative address.

After then, Player 2 computer will receive packages from the server and process the package going through 4th set 7-layer. Eventually, Player 2 will read the message, which Player 1 sent.

Like Table 2 showed, Player 1→ Layer 7→ Layer 1→ Lay 1→ Lay 7→ the server→ Layer 7→ Layer 1→ Layer 1→ Layer 7→ Player 2

Reference:

1. http://en.wikipedia.org/wiki/OSI_model
2. http://www.9tut.com/osi-model-tutorial
3. http://www.dummies.com/how-to/content/getting-to-know-the-osi-model-for-the-ccna-exam.html
4. http://bdcampbell.net/webarch/