# Intelligent Playlist System Screenshot

By

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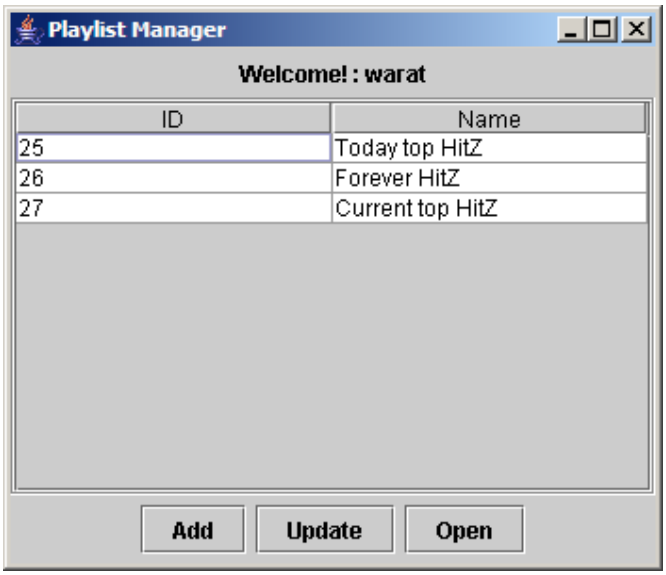
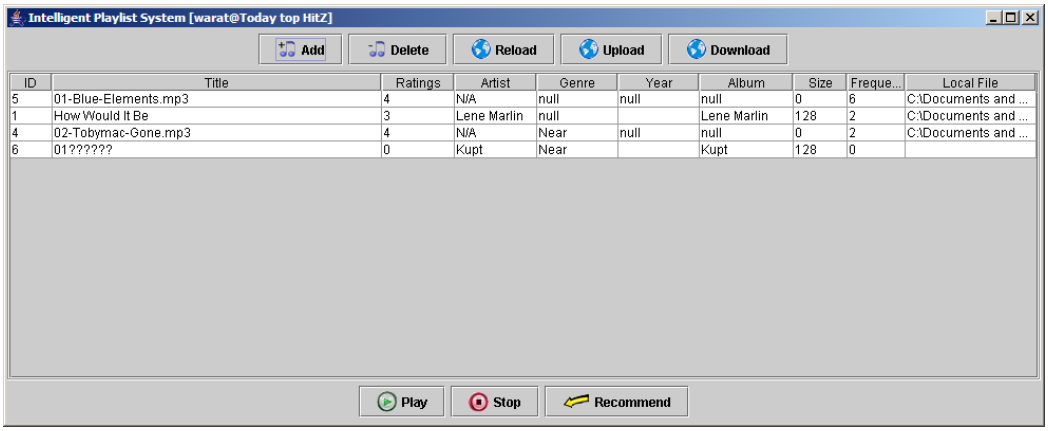
Our system is developed under 3-tier architecture to avoid the scalability problems that might happen and implement using the Web Service standard protocol. The supported format of songs in MP3 format which possibly enhance to support other song format in the future. In this system, we keep the song in one location. The system allows multiple users and multiple play lists. One user can have more than one play lists in the system.

The application automatically create new user if the new login name is provided.

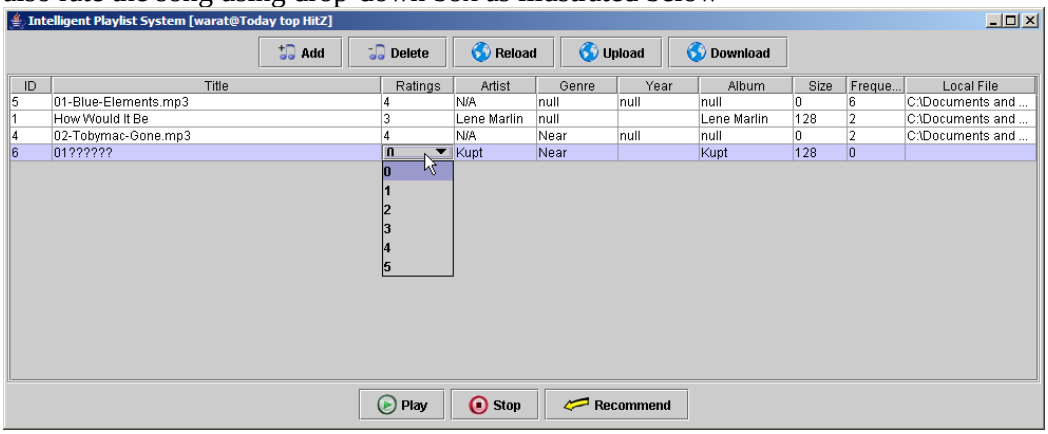

Once the user login to the system the playlist manager window will display user's available playlist, together with the name of the playlist which can be easily added, updated, as shown in the interface below:



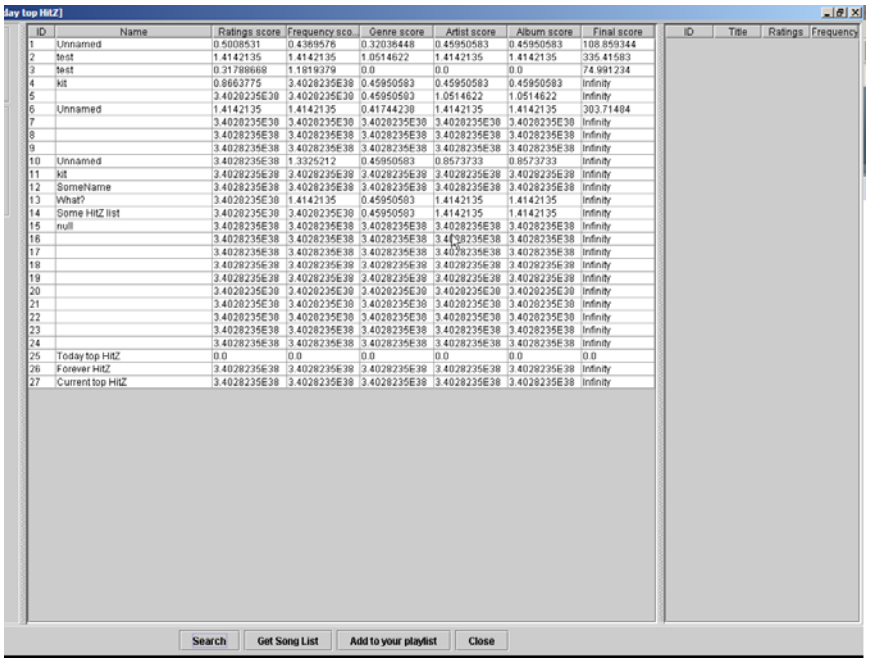

When user opens a playlist, the mp3 player, together with song management window are fired. The list of songs appears in the player window together with the song information. User may add, update additional song using the button provided. Changes to the value usually stored immediately. User may upload and download file from the playlist freely so user does not have to store song in several database. In addition, the song with the same ID will take exactly 1 file, so if you have multiple play list point to the same file you don't have to copy your mp3 to different folder.



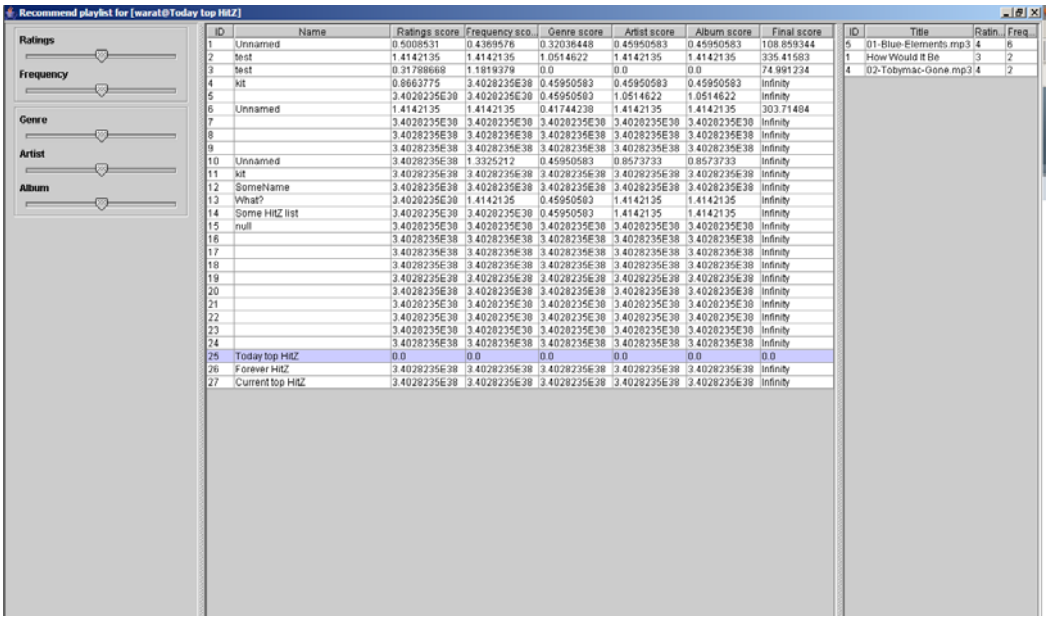

After each song is played, the frequency is automatically increased, user may also rate the song using drop-down box as illustrated below



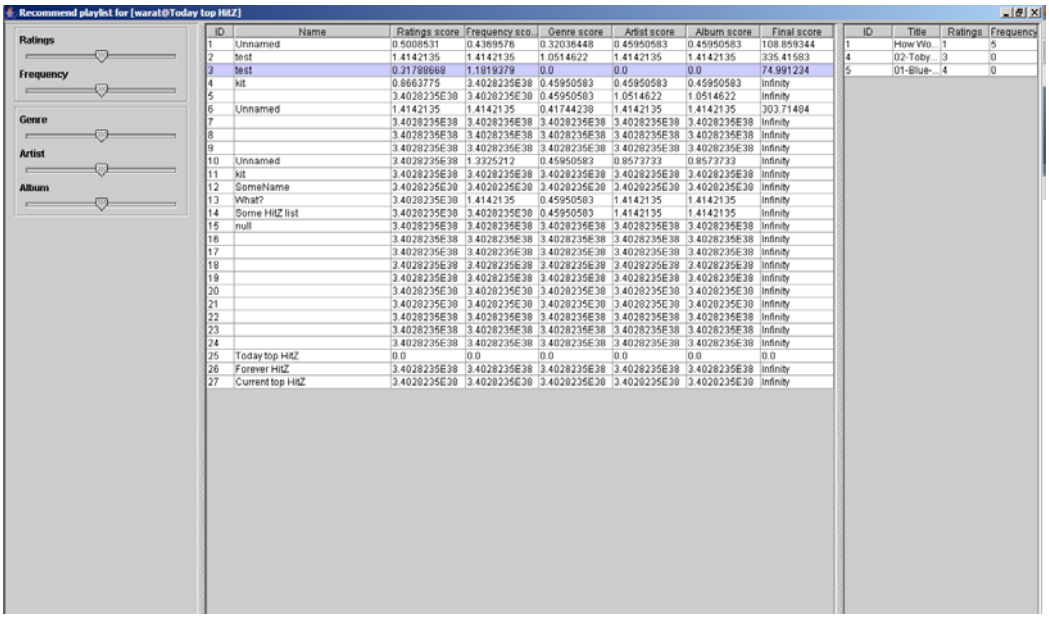

When user wants to get the recommendation list, he/she simply click the recommendation button and the result will be shown in the recommendation list window as:




In the above comparison, the playlist ID 25 is closest (with score 0 – In Euclidean distance, the less value, the closer each play list is), follow by ID 3, 6,2 and 1. The reason why others has Infinity score is because some attribute is impossible to calculate. For example, the playlist which never been listened has frequency equal to 0. So, the Co-Ordinate table contains 0 for every block and calculate the Euclidean distance will result in divided by 0, which is infinity as seen.



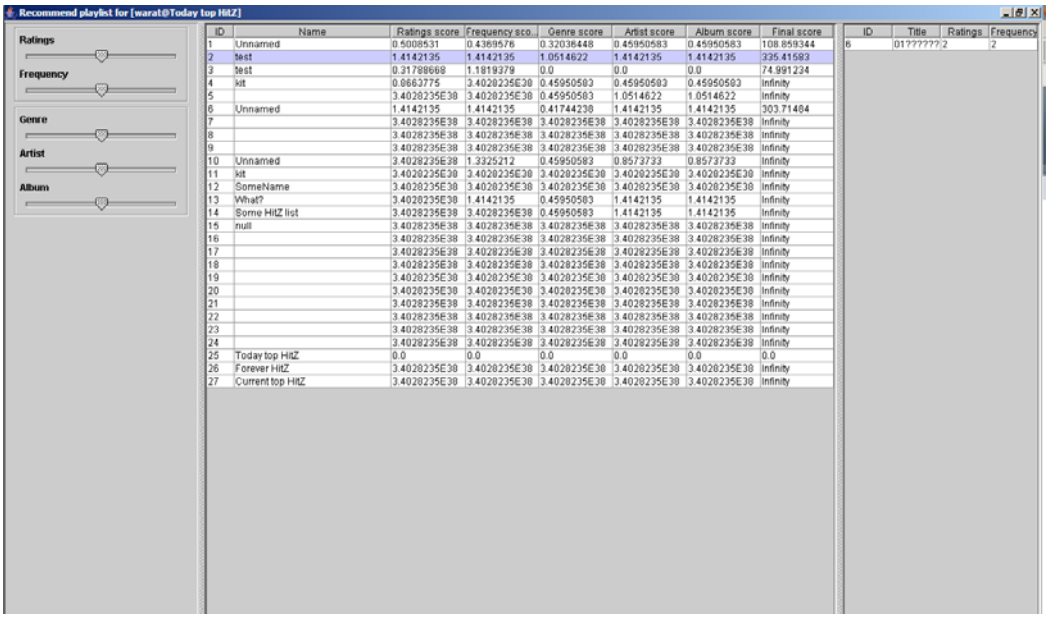

User May click “Get song list” button to get information about the particular playlist, the play list is shown on the rightmost window. In this case, the distance is 0 because it compare the same playlist! (ID 25 with ID 25)




| ID | Name | Ratings score | Frequency sco... | Genre score | Artist score | Album score | Final score |
|---|---|---|---|---|---|---|---|
| 1 | Unnamed | 0.5008531 | 0.4369576 | 0.32036448 | 0.45950583 | 0.45950583 | 108.859344 |
| 2 | test | 1.4142135 | 1.4142135 | 1.0514622 | 1.4142135 | 1.4142135 | 335.41583 |
| 3 | test | 0.31788668 | 1.1819379 | 0.0 | 0.0 | 0.0 | 74.991234 |
| 4 | kit | 0.8663775 | 3.4028235E38 | 0.45950583 | 0.45950583 | 0.45950583 | Infinity |
| 5 | | 3.4028235E38 | 3.4028235E38 | 0.45950583 | 1.0514622 | 1.0514622 | Infinity |
| 6 | Unnamed | 1.4142135 | 1.4142135 | 0.41744238 | 1.4142135 | 1.4142135 | 303.71484 |
| 7 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 8 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 9 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 10 | Unnamed | 3.4028235E38 | 1.3325212 | 0.45950583 | 0.8573733 | 0.8573733 | Infinity |
| 11 | kit | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 12 | SomeName | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 13 | What? | 3.4028235E38 | 1.4142135 | 0.45950583 | 1.4142135 | 1.4142135 | Infinity |
| 14 | Some HitZ list | 3.4028235E38 | 3.4028235E38 | 0.45950583 | 1.4142135 | 1.4142135 | Infinity |
| 15 | null | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 16 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 17 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 18 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 19 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 20 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 21 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 22 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 23 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 24 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 25 | Today top HitZ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 26 | Forever HitZ | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 27 | Current top HitZ | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |

| ID | Title | Ratings | Frequency |
|---|---|---|---|
| 1 | How Wo... | 1 | 5 |
| 4 | 02-Toby... | 3 | 0 |
| 5 | 01-Blue-... | 4 | 0 |

In the picture above, the score is 74.9, so it must have some similarity, look closer and you will see that both playlist has songID 1 and 4.

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| 7 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 8 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 9 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
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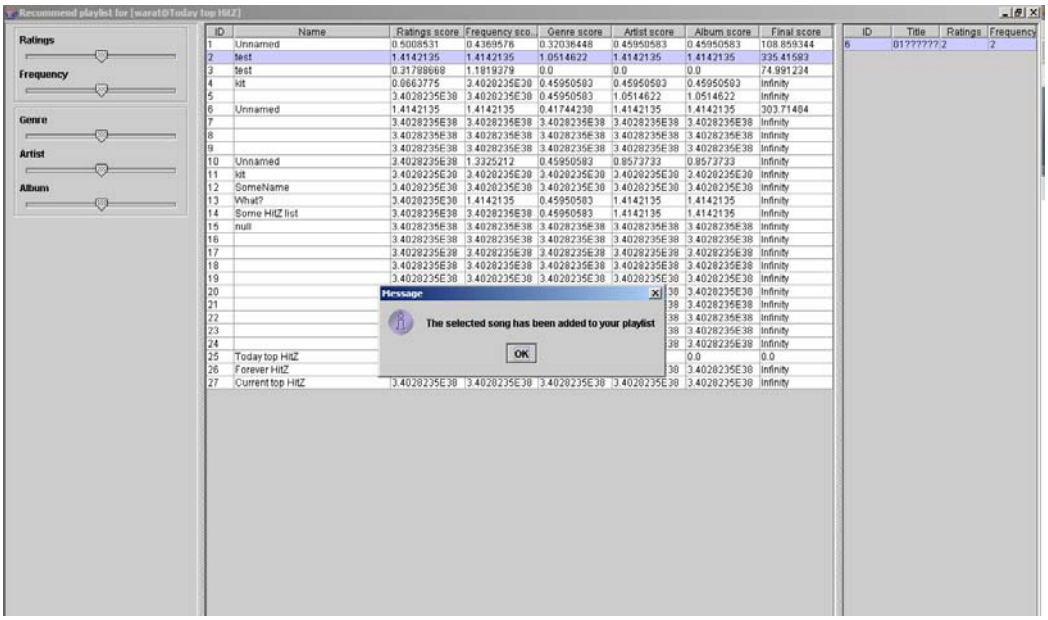
| 11 | kit | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 12 | SomeName | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 13 | What? | 3.4028235E38 | 1.4142135 | 0.45950583 | 1.4142135 | 1.4142135 | Infinity |
| 14 | Some HitZ list | 3.4028235E38 | 3.4028235E38 | 0.45950583 | 1.4142135 | 1.4142135 | Infinity |
| 15 | null | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 16 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 17 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 18 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 19 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 20 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 21 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 22 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 23 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 24 | | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 25 | Today top HitZ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 26 | Forever HitZ | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |
| 27 | Current top HitZ | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | 3.4028235E38 | Infinity |

| ID | Title | Ratings | Frequency |
|---|---|---|---|
| 6 | 01??????... | 2 | 2 |

This playlist above has score 335, which is very far. The only score comes from closing in Genre (Look at the table)




At last, user may add the song in their playlist easily by clicking “Add to your playlist” button in the form

## *Issue and log on our application*

1 File transfer (Download and upload) sometimes freeze up the PC
1.1 Problem seems to be from Application server.
1.2 When freezing, the application server always takes up 100% of CPU time.
1.3 Restarting App Server seems to help a little bit.
1.4 Sometimes I got "SocketTimeout" exception
1.5 Changing from String to byte[] seems to dramatically help speed up the transfer.
1.6 Changing from String to byte[], DRAMATICALLY reduce freezing up the server.
2 Recommending function
2.1 The recommending function takes VERY LONG time even not using Web Services.
2.2 Recommending function will ALWAYS freeze the client application
2.3 When the client application freeze, the CPU utilization is very low (2-3%)
2.4 Actually the application is not freezing, it is just very very SLOW.
2.5 When freezing, playing with Application Server Web Interface dramatically helps speed up the (up to 100x, from 2hrs to 3 min in my worst case)
2.6 Changing application server may help speed this up.