

Claims

1. A communications server apparatus for routing Payment Service Providers (PSP), comprising:

a communications server; and

a communications network equipment operable to establish communication between the communications server, at least one driver communications device, and at least one user communications device;

wherein the driver communications device comprises a first processor and a first memory, the driver communications device being configured, under control of the first processor, to execute first instructions stored in the first memory to:

send data regarding a completed trip to the communications server;

wherein the communications server comprises a second processor and a second memory, the communications server being configured, under control of the second processor, to execute second instructions stored in the second memory to:

initiate a transaction based on the completed trip data,

determine based on a plurality of pre-determined rules which of a plurality of stored PSPs are applicable for the transaction,

determine the health of the applicable PSPs,

determine if the health of a given PSP is below a threshold and if so, temporarily prohibit transactions to that PSP,

select a PSP for the transaction ~~based on the health of~~ from the applicable PSPs, excluding any prohibited PSPs, and based on predetermined criteria,

process the transaction using the selected PSP,

after a predetermined period re-determine the health of the prohibited PSP with a plurality of test transactions, and

determine if the re-determined health of the prohibited PSP is above a second threshold and if so, ending the prohibition of transactions, and if

the health is below the second threshold continue to prohibit transactions to the prohibited PSP;

wherein the user communications device comprises a third processor and a third memory; the user communications device being configured, under control of the third processor, to execute third instructions stored in the third memory to:

receive data from the communications server confirming the transaction has been successfully processed.

2. The communications server apparatus of claim 1 wherein a plurality of transactions are processed using respective selected PSPs concurrently.
3. The communications server apparatus of claim 1 or 2 wherein the plurality of pre-determined rules may include which of the plurality of stored PSPs can be used for one or more corresponding transaction types.
4. The communications server apparatus of any preceding claim wherein the plurality of pre-determined rules may further include blackout periods for one or more of the plurality of stored PSPs.
5. The communications server apparatus of any preceding claim wherein the health of the applicable PSPs is determined using a rolling average of a success rate, and/or a failure rate.
6. The communications server apparatus of claim 5 wherein the rolling average is determined using a sliding-window bucket approach.
- ~~7. The communications server apparatus of any preceding claim wherein the pre-determined criteria include determining if the health of a given PSP is below a first threshold and if so, prohibit transactions to that PSP.~~

~~8. The communications server apparatus of claim 7 wherein the pre-determined criteria further include determining if the health of the failed PSP have recovered above a second threshold and if so, allowing transactions to that PSP.~~

79. The communications server apparatus of any preceding claim wherein the pre-determined criteria include determining a success rate, and/or failure rate of a given PSP, and limiting the maximum transactions or proportion of transactions to that PSP based on the success rate, and/or failure rate.

~~108.~~ A method, performed in a PSP router, the method comprising, under control of processors ~~for one or more server instances:~~

determining based on a plurality of pre-determined rules which of a plurality of stored PSPs are applicable for a given transaction;

determining the health of the applicable PSPs;

determining if the health of a given PSP is below a threshold and if so, temporarily prohibit transactions to that PSP;

after a predetermined period re-determining the health of the prohibited PSP with a plurality of test transactions; and

determining if the re-determined health of the prohibited PSP is above a second threshold and if so, ending the prohibition of transactions, and if the health is below the second threshold continuing to prohibit transactions to the prohibited PSP.

~~119.~~ A computer program or computer program product comprising instructions for implementing the method of claim ~~108.~~

120. A non-transitory storage medium storing instructions, which when executed by a processor, cause the processor to perform the method of claim ~~108.~~