SUMMARY

An aspect of the present disclosure provides an interface for controlling the transfer of electronic transaction messages between a first financial institution and a plurality of switches distributed amongst a plurality of switch sites, wherein the first financial institution and the plurality of switches are connected via a data communications network, the interface comprising communication circuitry, processing circuitry and memory storing the operational status of each switch site, wherein the communication circuitry is operable to transmit a test message to one of the switch sites over the data network if no transaction message has been received from that switch site for a predetermined time, and in response to the test message, the communication circuitry is operable to receive an echo of the test message from the switch site; wherein the processing circuitry is operable such that if the echo is received within a defined time then the operational status of the switch site is set as operational and if the echo is not received within the defined time then the operational status of the switch site is set as not operational; whereby in the event that the operational status of the switch site is set to not operational, the processing circuitry is operable such that no electronic messages are transferred to the switch site; wherein: the memory is operable to store the operational status of a second financial institution connected to the plurality of switches via the data communications network; the communication circuitry is operable to receive information from one or more of the plurality of switches indicating an updated operational status of the second financial institution; and the processing circuitry is operable to update the operational status of the second financial institution stored in the memory on the basis of the information received from the one or more switches, wherein: in the case that the operational status of the second financial institution indicates that the second financial institution is not operational, the processing circuitry is operable to prevent electronic transaction messages instructing a transaction from the first financial institution to the second financial institution from being transmitted to the switches.

Advantageously, this arrangement means that electronic messages are not sent to switch sites which are determined to be unavailable and unable to accept messages. As well as this reducing the risk that messages become corrupted or lost, this also means that processing and network capacity are not wasted with messages which cannot be delivered. Processing and network efficiency are therefore improved.

In an embodiment, the communication circuitry is operable to send a further test message to a non-operational switch site after a specified period.

In an embodiment, the memory is operable to store the operational status of a second financial institution connected to the plurality of switches via the data communications network; the communication circuitry is operable to receive information from one or more of the plurality of switches indicating an updated operational status of the second financial institution; and the processing circuitry is operable to update the operational status of the second financial institution stored in the memory on the basis of the information received from the

one or more switches, wherein: in the case that the operational status of the second financial institution indicates that the second financial institution is not operational, the processing circuitry is operable prevent electronic transaction messages instructing a transaction from the first financial institution to the second financial institution from being transmitted to the switches.

In an embodiment, the information indicating the updated operational status of the second financial institution is generated by one or more of the plurality of switches on the basis of either a lack of a response of a test message transmitted to the second financial institution by each of the switches within a predetermined period of time or an indication to one or more of the plurality of switches by the second financial institution that the second financial institution is to be disconnected from the data communications network.

An aspect of the present disclosure provides a method of controlling the transfer of electronic transaction messages between a first financial institution and a plurality of switches distributed amongst a plurality of switch sites, wherein the first financial institution and the plurality of switches are connected via a data communications network, the method comprising transmitting a test message to one of the switch sites over the data network if no transaction message has been received from that switch site for a predetermined time, and in response to the test message; receiving an echo of the test message from the switch site; wherein if the echo is received within a defined time then the operational status of the switch site is set as operational and if the echo is not received within the defined time then the operational status of the switch site is set as not operational; whereby in the event that the operational status of the switch site is set to not operational, the method comprises transferring no electronic messages to the switch site; wherein the method comprises: storing, in a memory, the operational status of a second financial institution connected to the plurality of switches via the data communications network; receiving information from one or more of the plurality of switches indicating an updated operational status of the second financial institution; and updating the operational status of the second financial institution stored in the memory on the basis of the information received from the one or more switches, wherein: in the case that the operational status of the second financial institution indicates that the second financial institution is not operational, the method comprises preventing electronic transaction messages instructing a transaction from the first financial institution to the second financial institution from being transmitted to the switches.

In an embodiment, the method comprises sending a further test message to a non-operational switch site after a specified period.

In an embodiment, the method comprises storing the operational status of a second financial institution connected to the plurality of switches via the data communications network; receiving information from one or more of the plurality of switches indicating an updated operational status of the second financial institution; and updating the operational status of the second financial institution stored in the memory on the basis of the information received from the one or more switches, wherein: in the case that the operational status of the second financial institution indicates that the second financial institution is not operational, the method comprises preventing electronic transaction messages instructing a transaction from the first financial institution to the second financial institution from being transmitted to the switches.

In an embodiment, the information indicating the updated operational status of the second financial institution is generated by one or more of the plurality of switches on the basis of either a lack of a response of a test message transmitted to the second financial institution by each of the switches within a predetermined period of time or an indication to one or more of the plurality of switches by the second financial institution that the second financial institution is to be disconnected from the data communications network.

An aspect of the present disclosure provides a computer program product comprising a storage medium upon which a computer program is stored, the computer program, when run on a computer, configures the computer to perform the above-mentioned method of the presentdisclosure.

The foregoing paragraphs have been provided by way of general introduction, and are not intended to limit the scope of the following claims. The described embodiments, together with further advantages, will be best understood by reference to the following detailed description taken in conjunction with the accompanying Figures.

4. A method of controlling the transfer of electronic transaction messages between a first financial institution and a plurality of switches distributed amongst a plurality of switch sites, wherein the first financial institution and the plurality of switches are connected via a data communications network, the method comprising transmitting a test message to one of the switch sites over the data network if no transaction message has been received from that switch site for a predetermined time, and in response to the test message; receiving an echo of the test message from the switch site; wherein if the echo is received within a defined time then the operational status of the switch site is set as operational and if the echo is not received within the defined time then the operational status of the switch site is set as not operational; whereby in the event that the operational status of the switch site is set to not operational, the method comprises transferring no electronic messages to the switch site; wherein the method comprises: storing, in a memory, the operational status of a second financial institution connected to the plurality of switches via the data communications network; receiving information from one or more of the plurality of switches indicating an updated operational status of the second financial institution; and updating the operational status of the second financial institution stored in the memory on the basis of the information received from the one or more switches, wherein: in the case that the operational status of the second financial institution indicates that the second financial institution is not operational, the method comprises preventing electronic transaction messages instructing a transaction from the first financial institution to the second financial institution from being transmitted to the switches.

5. A method according to claim 5, comprising sending a further test message to a non-operational switch site after a specified period.

6. A method according to claim 4, wherein the information indicating the updated operational status of the second financial institution is generated by one or more of the plurality of switches on the basis of either a lack of a response of a test message transmitted to the second financial institution by each of the switches within a predetermined period of time or an indication to one or more of the plurality of switches by the second financial institution that the second financial institution is to be disconnected from the data communications network.

7. A computer program product comprising a storage medium upon which a computer program is stored, the computer program, when run on a computer, configures the computer to perform a method according to any one of claims 4, 5 or 6.