

CLAIMS:

1. A method for conducting a transaction, the method comprising:
receiving, at a user device from a transaction system, a request for a data element for conducting the transaction;
in response to receiving the request, determining a data map corresponding to the requested data element, the data map including a plurality of pointers for a plurality of data fragments of the data element, each of the data fragments containing a different portion of the data element, each of the pointers pointing to a respective one of the plurality of data fragments located at a respective one of a plurality of different storage locations;
retrieving, using the pointers of the data map, the plurality of data fragments from the plurality of different storage locations;
assembling the requested data element using the retrieved plurality of data fragments; and
providing, by the user device to the transaction system, the requested data element to conduct the transaction.
2. The method of claim 1, wherein the plurality of different storage locations include a plurality of different data storage systems.
3. The method of claim 1, wherein the determining the data map and the retrieving the plurality of fragments are performed by the user device.
4. The method of claim 1, wherein the determining the data map includes:
sending, by the user device to a data service system separate from the user device, a request for the data map; and
receiving, by the user device from the identity service system, the data map.
5. The method of claim 1, wherein the determining the data map and the retrieving the plurality of fragments are performed by a data service system separate from the user device, the method further comprising:
receiving, by the user device from the identity service system, at least one of: the retrieved plurality of data fragments, or the assembled data element.
6. The method of claim 1, further comprising:
for each of the plurality of data fragments, determining from the data map a time-to-live (TTL) attribute, the TTL attribute indicating a time period for which the respective data fragment is valid;

determining whether the TTL attributes for the plurality of data fragments indicate that the plurality of data fragments are currently valid;

wherein the retrieving the plurality of data fragments, the assembling the requested data element, and the providing the requested data element are performed in response to determining that the TTL attributes for the plurality of data fragment indicate that the plurality of data fragments are still valid; and

in response to the TTL attributes for at least one of the plurality of data fragments indicating that the at least one data fragment is not valid, preventing retrieving of that data fragment.

7. The method of claim 1, wherein the data element includes identity data to enable identification of the user, the identity data including at least one of: a name of the user, an mailing address of the user, an email address of the user, a picture of the user, a driver's license number of the user, or a passport number of the user.

8. The method of claim 1, wherein the transaction includes at least one of: an identification of the user, or a security interrogation of the user.

9. The method of claim 1, wherein the data element includes financial data to enable identification of the user, the financial data including at least one account number.

10. The method of claim 1, wherein the transaction is at least one of: a purchase transaction, or a credit approval transaction.

11. The method of claim 1, wherein the user device is a mobile device, and the transaction system is an Internet system.

12. The method of claim 1, further comprising:
fragmenting the data element into the plurality of data fragments, each data fragment representing a different portion of the data element;
storing the plurality of data fragments at the plurality of different data storage locations so that each of the plurality of data fragments is stored on respective different one of the plurality of different data storage systems;
generating the data map including the plurality of pointers for the plurality of data fragments; and
storing the data map on a system separate from the plurality of data storage locations.

13. A method for processing a data map, the method comprising:
 - fragmenting a data element into a plurality of data fragments, each data fragment representing a different portion of the data element;
 - storing each of the plurality of data fragments at a respective different one of a plurality of different data storage locations;
 - generating a data map including a plurality of pointers, each of the pointers pointing for a respective one of the plurality of data fragments located at the respective one of the plurality of different data storage locations; and
 - storing the data map on a device separate from the plurality of data storage locations.
14. The method of claim 13, wherein the plurality of different storage locations include a plurality of different data storage systems.
15. The method of claim 13, further comprising determining a distribution of the plurality of data fragments among the plurality of different data storage systems.
16. The method of claim 13, further comprising at least one of: encrypting the data element before the fragmenting, or encrypting the plurality of data fragments.
17. The method of claim 13, further comprising encrypting the data map before storing the data map on the device.
18. The method of claim 13, further comprising:
 - for each of the plurality of data fragments, assigning a time-to-live (TTL) attribute indicating a predetermined time period for which the data fragment is valid; and
 - adding the time-to-live attributes for the plurality of data fragments to the data map.
19. The method of claim 14, wherein the plurality of different data storage locations are located at a plurality of different physical locations.
20. The method of claim 13, further comprising:
 - receiving, at a user device from a transaction system, a request for the data element for conducting a transaction;
 - in response to receiving the request, determining the data map corresponding to the requested data element;
 - retrieving, using the data map, the plurality of data fragments of the data element from the plurality of different data storage locations;

assembling the data element from the retrieved plurality of data fragments; and
providing, by the user device, the data element to the transaction system to conduct the transaction.

21. A system for conducting a transaction, the system comprising:
at least one non-transitory machine readable storage medium having a data map and program instructions, the data map including a plurality of pointers, each of the plurality of pointers pointing to a respective one of a plurality of different data storage locations storing a respective one of a plurality of different data fragments of a data element; and
at least one processor configured to execute the program instructions to perform a method of conducting a transaction, the method including:
receiving from a transaction system a request for the data element for conducting the transaction;
in response to receiving the request, using the pointers of the data map to retrieve the plurality of data fragments of the data element from the plurality of different data storage locations;
assembling the data element from the retrieved plurality of data fragments;
and
providing the data element to the transaction system to conduct the transaction.

22. The system of claim 21, wherein the plurality of different storage locations include a plurality of different data storage systems.

23. The system of claim 21, wherein the method further includes:
fragmenting the data element into the plurality of data fragments, each of the data fragments representing a different portion of the data element;
storing each of the plurality of data fragments on the respective different one of the plurality of different data storage locations;
generating the data map including the plurality of pointers for the plurality of data fragments; and
storing the data map on a device separate from the plurality of data storage locations.

24. A system for conducting a transaction, the system comprising:

at least one non-transitory machine readable storage medium having program instructions; and

at least one processor configured to execute the program instructions to perform a method of processing a data map, the method including:

fragmenting a data element into a plurality of separate data fragments, each data fragment representing a different portion of the data element;

storing each of the plurality of data fragments on a respective different one of a plurality of different data storage locations;

generating a data map including a plurality of pointers, each of the pointers pointing to a respective one of the plurality of data fragments on the respective one of the plurality of different data storage locations; and

storing the data map on a device separate from the plurality of data storage locations.

25. The system of claim 24, wherein the plurality of different storage locations include a plurality of different data storage systems.

26. The system of claim 24, wherein the method further includes:

receiving from a transaction system a request for the data element for conducting a transaction;

in response to receiving the request, using the data map to retrieve the plurality of data fragments of the data element from the plurality of different data storage locations;

assembling the data element from the retrieved plurality of data fragments; and

providing the data element to the transaction system to conduct the transaction.