

WHAT IS CLAIMED IS:

- 1 1. A computer-implemented method comprising:
2 receiving, by an access control server via a directory server from an
3 authentication requestor, an authentication request comprising an account identifier,
4 and information regarding a prior authentication method on the account identifier and a
5 current authentication method for the account identifier associated with a transaction;
6 performing, by the access control server, a risk analysis for the transaction
7 based at least in part on the information and a threshold;
8 authenticating, by the access control server, a user of the account
9 identifier using the information, the account identifier, and a result of the risk analysis;
10 modifying, by the access control server, an authentication response to
11 include an authentication indicator; and
12 transmitting, by the access control server, the authentication response to
13 the authentication requestor.
- 1 2. The computer-implemented method of claim 1, wherein the
2 information further includes transaction data for the transaction and personal
3 information for the user associated with the transaction.
- 1 3. The computer-implemented method of claim 1 further comprising
2 generating, by a service provider application associated with the account identifier, a set
3 intent message that includes a user identifier, a service provider payment account
4 identifier, and transaction data for the transaction.
- 1 4. The computer-implemented method of claim 3, further comprising
2 generating, by the service provider application, an attestation signature for the
3 transaction based at least in part on input provided by the user associated with the
4 transaction.
- 1 5. The computer-implemented method of claim 1, wherein the
2 information regarding the prior authentication method on the account identifier and the
3 current authentication method for the account identifier are represented by one or more
4 values that are appended to a message associated with the authentication request.

1 6. The computer-implemented method of claim 5, wherein a value of
2 the one or more value represents a unique type of authentication provided by a
3 processing network.

4 7. The computer-implemented method of claim 1, wherein modifying
5 the authentication response to include the authentication indicator comprises setting a
6 value in the authentication response that represents a strength of a verification result for
7 the transaction based at least in part on the prior authentication method on the account
8 identifier and the current authentication method for the account identifier.

1 8. The computer-implemented method of claim 1, wherein the current
2 authentication method for the account identifier associated with the transaction is
3 performed by a service provider application associated with the account identifier and
4 the transaction.

5 9. The computer-implemented method of claim 1, wherein the current
6 authentication method includes at least one of a first login to an account using an
7 authorizing entity authentication process, a second login to the account through a
8 service provider application authentication process, or a third login to the account using
9 a third party authentication process.

1 10. The computer-implemented method of claim 1, wherein the prior
2 authentication method includes at least one of a billing address verification process, a
3 online authentication process risk based analysis using device information from a user
4 device associated with the transaction process, a online authentication process
5 challenge process that includes a username and password login provisioning, a
6 tokenization process, or an issuer inline provisioning process.

7 11. The computer-implemented method of claim 1, wherein the result of
8 the risk analysis includes a negative verification of the transaction in response to a
9 determination that the risk analysis for the transaction is less than the threshold, or a
10 positive verification of the transaction in response to a determination that the risk
11 analysis for the transaction is greater than the threshold.

1 12. An access control server comprising:
2 a processor; and

3 a computer readable medium coupled to the processor, the computer
4 readable medium comprising code, executable by the processor, to implement a
5 method comprising:
6 receiving, by an access control server via a directory server from an
7 authentication requestor, an authentication request comprising an account identifier,
8 and information regarding a prior authentication method on the account identifier and a
9 current authentication method for the account identifier associated with a transaction;
10 performing, by the access control server, a risk analysis for the transaction
11 based at least in part on the information and a threshold;
12 authenticating, by the access control server, the user of the account
13 identifier using the information, the account identifier, and a result of the risk analysis;
14 modifying, by the access control server, an authentication response to
15 include an authentication indicator; and
16 transmitting, by the access control server, the authentication response to
17 the authentication requestor.

1 13. The access control server of claim 12, wherein the information
2 further includes transaction data for the transaction and personal information for a user
3 associated with the transaction.

1 14. The access control server of claim 12, wherein the method further
2 comprises generating, by a service provider application associated with the account
3 identifier, a set intent message that includes a user identifier, a service provider
4 payment account identifier, and transaction data for the transaction.

1 15. The access control server of claim 14, wherein the method further
2 comprises generating, by the service provider application, an attestation signature for
3 the transaction based at least in part on input provided by a user associated with the
4 transaction.

1 16. The access control server of claim 12, wherein the information
2 regarding the prior authentication method on the account identifier and the current
3 authentication method for the account identifier are represented by one or more values
4 that are appended to a message associated with the authentication request.

1 17. The access control server of claim 12, wherein a value of the one
2 or more value represents a unique type of authentication provided by a payment
3 processing network.

1 18. The access control server of claim 12, wherein modifying the
2 authentication response to include the authentication indicator comprises setting a value
3 in the authentication response that represents a strength of a verification result for the
4 transaction based at least in part on the prior authentication method on the account
5 identifier and the current authentication method for the account identifier.

1 19. The access control server of claim 12, wherein the result of the risk
2 analysis includes a negative verification of the transaction in response to a
3 determination that the risk analysis for the transaction is less than the threshold, or a
4 positive verification of the transaction in response to a determination that the risk
5 analysis for the transaction is greater than the threshold.

1 20. A directory server comprising:
2 a processor; and
3 a computer readable medium coupled to the processor, the computer
4 readable medium comprising code, executable by the processor, to implement a
5 method comprising:
6 receiving, by the directory server from an authentication requestor, an
7 authentication request comprising an account identifier, and information regarding a
8 prior authentication method on the account identifier and a current authentication
9 method for the account identifier associated with a transaction, the current
10 authentication method for the account identifier including a signature for the transaction;
11 verifying, by the directory server, the signature of the information;
12 modifying, by the directory server, an authentication response to include
13 the verification of the signature; and
14 transmitting, by the directory server, the authentication response to the
15 authentication requestor thereby bypassing an access control server for the transaction.

1 21. A method comprising:
2 receiving, by a directory server from an authentication requestor, an
3 authentication request comprising an account identifier, and information regarding a
4 prior authentication method on the account identifier and a current authentication

- 5 method for the account identifier associated with a transaction, the current
- 6 authentication method for the account identifier including a signature for the transaction;
- 7 verifying, by the directory server, the signature of the information;
- 8 modifying, by the directory server, an authentication response to include
- 9 the verification of the signature; and
- 10 transmitting, by the directory server, the authentication response to the
- 11 authentication requestor thereby bypassing an access control server for the transaction