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(54) **SECURE COMMUNICATION METHOD AND APPARATUS IN PASSIVE OPTICAL NETWORK**

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(57) **ABSTRACT**

The present disclosure provides methods for secure communication. In an example method, an optical line terminal (OLT) sends a first message to an optical network unit (ONU), where the first message includes a first key algorithm, a certificate of the OLT, and a public key of the OLT, and the first key algorithm is a key algorithm supported by both the OLT and the ONU. The ONU verifies the certificate of the OLT, and after the verification succeeds, the ONU determines a shared key based on the first key algorithm and the public key of the OLT. The ONU sends a second message to the OLT, where the second message includes a certificate of the ONU and a public key of the ONU. The OLT verifies the certificate of the ONU. After the verification succeeds, the OLT determines the shared key based on the first key algorithm and the public key of the ONU.