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Configuring crypto engines

About crypto engines

Crypto engines encrypt and decrypt data for service modules.

Crypto engine types

Crypto engines include the following types:

- **Hardware crypto engines**—A hardware crypto engine is a coprocessor integrated on a CPU or hardware crypto card. Hardware crypto engines can accelerate encryption/decryption speed, which improves device processing efficiency. You can enable or disable hardware crypto engines globally as needed. By default, hardware crypto engines are enabled.
- **Software crypto engines**—A software crypto engine is a set of software encryption algorithms. The device uses software crypto engines to encrypt and decrypt data for service modules. They are always enabled. You cannot enable or disable software crypto engines.

Crypto engine processing mechanism

If you disable hardware crypto engines, the device uses only software crypto engines for data encryption/decryption. If you enable hardware crypto engines, the device preferentially uses hardware crypto engines. If the device does not support hardware crypto engines, or if the hardware crypto engines do not support the required encryption algorithm, the device uses software crypto engines for data encryption/decryption.

Crypto engines provide encryption/decryption services for service modules, for example, the IPsec module. When a service module requires data encryption/decryption, it sends the desired data to a crypto engine. After the crypto engine completes data encryption/decryption, it sends the data back to the service module.

Display and maintenance commands for crypto engines

Execute **display** commands in any view and **reset** commands in user view.

Task	Command
Display crypto engine information.	display crypto-engine
Display crypto engine statistics.	In standalone mode: display crypto-engine statistics [engine-id <i>engine-id</i> slot <i>slot-number</i> [cpu <i>cpu-number</i>]] In IRF mode: display crypto-engine statistics [engine-id <i>engine-id</i> chassis <i>chassis-number</i> slot <i>slot-number</i> [cpu <i>cpu-number</i>]]

Task	Command
Clear crypto engine statistics.	In standalone mode: <pre>reset crypto-engine statistics [engine-id <i>engine-id</i> slot <i>slot-number</i> [cpu <i>cpu-number</i>]]</pre> In IRF mode: <pre>reset crypto-engine statistics [engine-id <i>engine-id</i> chassis <i>chassis-number</i> slot <i>slot-number</i> [cpu <i>cpu-number</i>]]</pre>