The SA Creation protocol in 06-449r5

T10/07-226r0

ENDL
TEXAS

The Basics

- ☆ **Three steps**
  - ✚ **Get Capabilities** (boring)
  - ✚ **Key Exchange**
  - ✚ **Authentication**

- ☆ **Steps are identified in CDB**
  - ✓ **SECURITY PROTOCOL field**
  - ✓ **SECURITY PROTOCOL SPECIFIC field**

The Basics

(continued)

- **Four commands** (in Key Ex. & Auth.)
  - **SECURITY PROTOCOL OUT** **Key**
  - **SECURITY PROTOCOL IN** **Key**
  - **SECURITY PROTOCOL OUT** **Auth**
  - **SECURITY PROTOCOL IN** **Auth**
- **Always start at:**
  - **SECURITY PROTOCOL OUT** **Key**
- **End after:**
  - **SECURITY PROTOCOL IN** **Key**
  - **SECURITY PROTOCOL IN** **Auth**

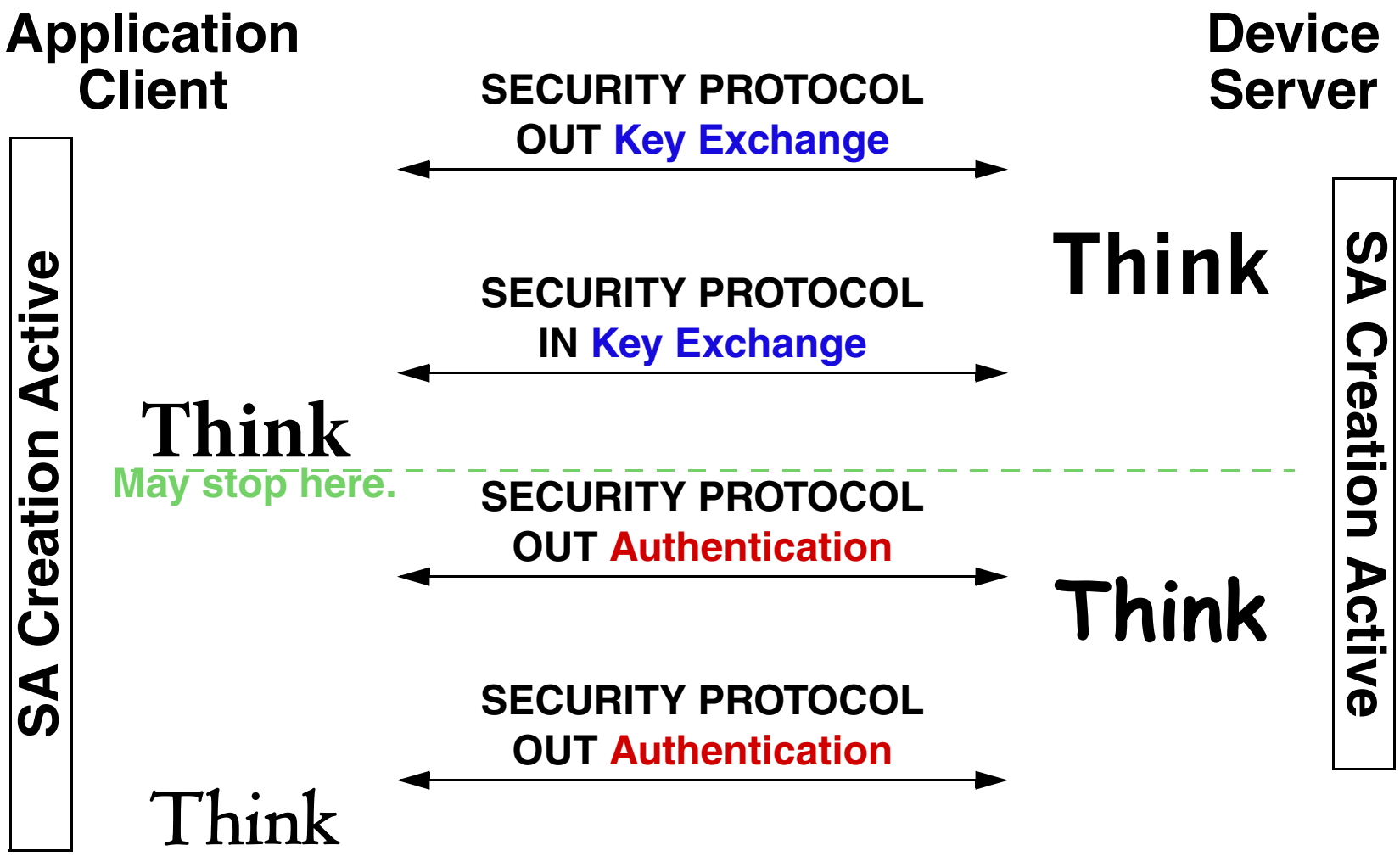
Why Worry?

- 📖 IKE (and 06-449r4) manage protocol steps based on messages transferred (i.e., parameter data content)
- 📖 06-449r5 manages protocol steps based on commands
  - ➔ Error recovery somewhat TBD

- ✓ Sanity check this change in direction

The Basics

(Ladder Diagram)



Limit: 1 SA Creation per I_T_L Nexus

☆ **Needs a special**
***'I'm doing anther one'* ASC**
… but …
✓ **Where to check this?**

📖 **How much can a man-in-the-middle do without giving himself away?**

Limit: 1 SA Creation per I_T_L Nexus

(choices)

- ✓ SECURITY PROTOCOL OUT Key
  - ☆ Normal (non-sick initiator) beginning (r5)
  - ☆ Other *bogus* SECURITY PROTOCOL commands break SA Creation
- ✓ Any SECURITY PROTOCL OUT/IN
  - ☆ More lenient (r4)
  - ☆ If SECURITY PROTOCOL IN repeats are free, this hides man-in-the-middle

Abandoning SA Creation

Initiator needs a way to tell target it does not want to continue SA Creation

- ✗ **Delete created SA (when target thinks SA is okay but initiator doesn't)**
- ✗ **Otherwise:**
  - ✗ **Send bogus SECURITY PROTOCOL OUT command (r4 & r5)**
  - ✗ **Send special SECURITY PROTOCOL OUT command (new TBD function)**