

**Table 15.1 Security Threats and Assets**

	<b>Availability</b>	<b>Secrecy</b>	<b>Integrity/Authenticity</b>
<b>Hardware</b>	Equipment is stolen or disabled, thus denying service.		
<b>Software</b>	Programs are deleted, denying access to users.	An unauthorized copy of software is made.	A working program is modified, either to cause it to fail during execution or to cause it to do some unintended task.
<b>Data</b>	Files are deleted, denying access to users.	An unauthorized read of data is performed. An analysis of statistical data reveals underlying data.	Existing files are modified or new files are fabricated.
<b>Communication Lines</b>	Messages are destroyed or deleted. Communication lines or networks are rendered unavailable.	Messages are read. The traffic pattern of messages is observed.	Messages are modified, delayed, reordered, or duplicated. False messages are fabricated.

**Table 15.5 Average Time Required for Exhaustive Key Search**

<b>Key Size (bits)</b>	<b>Number of Alternative Keys</b>	<b>Time required at 1 decryption/<math>\mu</math>s</b>	<b>Time required at <math>10^6</math> decryptions/<math>\mu</math>s</b>
32	$2^{32} = 4.3 \times 10^9$	$2^{31} \mu\text{s} = 35.8$ minutes	2.15 milliseconds
56	$2^{56} = 7.2 \times 10^{16}$	$2^{55} \mu\text{s} = 1142$ years	10 hours
128	$2^{128} = 3.4 \times 10^{38}$	$2^{127} \mu\text{s} = 5.4 \times 10^{24}$ years	$5.4 \times 10^{18}$ years
168	$2^{168} = 3.7 \times 10^{50}$	$2^{167} \mu\text{s} = 5.9 \times 10^{36}$ years	$5.9 \times 10^{30}$ years