

## 3.5 Processors

As you study this section, answer the following questions:

- What are the differences between the four levels of cache memory?
- What is the biggest limitation of using a 32-bit processor?
- What factors should be considered when comparing the speed of computers?
- What are the benefits of using a smaller processor size during CPU manufacture?
- What is the difference between hyper-threading and multithreading?
- Under what circumstances might you choose to use throttling?
- What is virtualization? Which CPU features enable advanced virtualization support?
- Which components are used with a CPU to dissipate heat?

In this section, you will learn to:

- Select and install a processor

Key terms for this section include the following:

Term	Definition
Multi-core	A processor that has multiple processors within a single processor package.
Throttling	The process of modifying the operating characteristics of a processor based on current conditions.
Overclocking	Pushing a CPU beyond its designed specifications.
Virtualization	The ability to install and run multiple operating systems simultaneously on a single physical machine.

This section helps you prepare for the following certification exam objectives:

Exam	Objective
TestOut PC Pro	1.1 Select and install PC components 1.1.3 Install a CPU and CPU fan
CompTIA 220-1001	3.5 Given a scenario, install and configure motherboards, CPUs, and add-on cards. <ul style="list-style-type: none"><li>■ CPU features<ul style="list-style-type: none"><li>■ Single-core</li><li>■ Multicore</li><li>■ Virtual technology</li><li>■ Hyperthreading</li><li>■ Speeds</li><li>■ Overclocking</li><li>■ Integrated GPU</li></ul></li></ul>

	<ul style="list-style-type: none"><li>■ Motherboard connectors types<ul style="list-style-type: none"><li>■ Socket types</li></ul></li><li>■ Compatibility<ul style="list-style-type: none"><li>■ AMD</li><li>■ Intel</li></ul></li></ul>
CompTIA 220-1002	<p>1.1 Compare and contrast common operating system types and their purposes.</p> <ul style="list-style-type: none"><li>■ 32-bit vs. 64-bit<ul style="list-style-type: none"><li>■ RAM limitations</li><li>■ Software compatibility</li></ul></li></ul>

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