license. With virtualization, things get tricky — and Microsoft doesn't make it easier by trying to simplify things.

Windows Server 2019 comes in three editions. These editions are as follows:

>> **Standard Edition:** Ideal for customers who aren't virtualized or who are virtualized but have a relatively small number of servers (approximately 12 per host). Standard Edition costs $972 per license. Each license entitles you run two virtual machines, which seems like a heck of a deal. However, a major drawback is that the license is also limited to hosts that have a maximum of 8 cores per processor and two processors, for a total of 16 cores. If your host has more than 8 cores per processor or more than two processors, you'll need additional licenses.

>> **Datacenter Edition:** Ideal for customers who are virtualized and have a large number of servers. Datacenter Edition costs $6,155 per license. Each license lets you run an unlimited number of virtual machines on a single host. Again, each license is limited to 8 cores per processor and two processors, for a total of 16 cores. If your host has more than 8 cores per processor or more than two processors, you'll need additional licenses.

>> **Essentials Edition:** Designed for small businesses setting up their first server. It's limited to just 25 users. I won't consider this edition further here.

So, you've got to do some real math to figure out which licenses you'll need. Let's say you need to run a total of 16 servers on two hosts. Here are two licensing scenarios that would be permissible:

>> Purchase eight Standard Edition licenses, for a total of $7,776. That works out to just $486 per server. These licenses will allow you to run 16 virtual machines (two per license), as long as your hosts have fewer than 8 processors per core and two processors per host. If your hosts have more than that — say, 12 processors per core, you'll need to purchase 16 Standard Edition licenses, for a total of $15,552, or $972 per server.

>> Purchase two Datacenter Edition licenses, for a total of $12,310. That works out to about $769 per server. This is more than the Standard Edition licenses would cost, but it allows you to run an unlimited number of servers. In contrast, additional Standard Edition servers will require additional licenses. As with Standard Edition, if your hosts have more than 8 cores per processor or two processors per host, you'll have to purchase an additional license for each host, bringing the total to $24,620. That works out to about $1,539 per server.