**The difference between cloud computing and virtualization**

**Cloud computing** and **virtualization** are related but distinct concepts in the realm of IT infrastructure.

**Virtualization** is the process of creating a virtual version of something, such as an Operating system, server, storage device, or network resources. It is like creating multiple compartments within a single physical box. Imagine the virtualization of a magician’s hat that can hold multiple smaller hats inside it. Each smaller hat represents a virtual instance of a physical resource. These virtual instances operate independently of one another. Think of it as running several different computers on a single physical server, each with its own operating system and applications (i.e.) you can magically create multiple copies of the same hat, each with its unique properties and purpose.

**Cloud computing,** on the other hand, is a broader concept that encompasses the delivery of computing services-including servers, storage, database, networking, software, and analytics over the internet (the “cloud”) (i.e.) like accessing a vast library where you can borrow books instead of buying and storing them at home. It eliminates the need for the organization to own and maintain physical infrastructure, instead allowing them to access resources on-demand and pay only for what they use. Cloud providers like **Amazon Web Services (AWS), Microsoft Azure, or Google Cloud Platform,** offer these resources from their vast data centers. It allows businesses to scale up or down quickly, access resources from anywhere, and avoid the hassle and cost of managing physical infrastructure.

In simpler words, **virtualization** divides physical resources into smaller, independent units, while **cloud computing** provides access to these virtualized resources over the internet as a service, allowing for greater **flexibility**, **scalability**, and **cost-effectiveness** in IT infrastructure management