CLOUD & DATA CENTER > VIRTUALIZATION

Virtualize Everything

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Toolkit

Tips and Tools for Network Monitoring
and Troubleshooting for IT Pros

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Okay, maybe not everything. I would offer that there are only a few reasons left for
some servers to remain as physical devices:

- You want to virtualize more, but you can't afford more hosts/infrastructure yet.

- Some of your servers are turnkey appliances.

- Some of your servers have support contracts that require physical platforms or some other
requirement from the original deployment.

- Some of your administrators believe that virtualization is a fad that will pass soon.

- Some of your administrators do not believe that the I/O performance difference between VMs and
physical servers is negligible.

- Some of your applications require access to hardware that can't be done in a VM, such as a
licensing USB stick, a connection to a tape drive, or other peripheral media.

Yes, there are reasons for some servers to not be virtualized (yet). It wasn't that many
years ago that tier-1 applications could legitimately say that they needed more CPU,
more memory, or better storage performance than what a VM could offer—but most of

those technical limitations have passed. As a data protection specialist, I need everyone to understand that virtualized servers are easier to protect and ensure the availability of than physical ones.

Yes, virtualization can make some aspects of data protection more challenging, *if* you are using a legacy backup solution that really isn't designed for host-centric protection. But if you are using modern, host-based tools, you have much better data protection options:

- If you outgrow the metal, move the VM over—no rebuilding or migrating required. Those are the top sources for planned outages (and outages are outages, planned or otherwise).

- If anything in the metal (host) fails, the VM can restart on a nearby host, at a secondary site, or within a DRaaS cloud.

Modern VM backup solutions enable granular file/object restores from host-based backups, so there isn't the tradeoff in flexibility that solutions of yesteryear forced you to make.

What if my backup solution isn't as modern as I'd like? Then you probably have bigger IT challenges to address, likely including an aging production infrastructure. What you will find is that if you modernize your production infrastructure, you will save CapEx and OpEx faster than you think. But you need to modernize your protection and your production in parallel, or you'll significantly reduce the benefits that IT modernization would have given you.

What if I have a branch office with one server, do I virtualize it? Yes! The only thing on the metal should be a base OS/hypervisor—and then run the exact same single-purpose function within a VM. The I/O is negligible and every Windows Server license includes a VM OS instance as well, so it doesn't cost more. But you can protect the VM easier, within the same box, to the cloud or back to the data center.
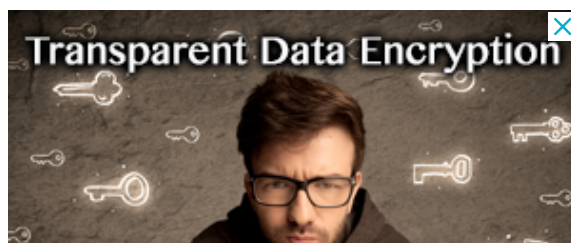
There are probably other exceptions, but the data protection benefits and the lack of operational/technical constraints will hopefully convince you that your default way to provision any server resource is within a VM, with the exceptions being few and driven by specific technical or business-driven criteria based on what a modern IT infrastructure can provide and being reconciled with the reduced availability/agility that physical servers have over their evolved siblings.

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