Mi | MODERN INFRASTRUCTURE DECISIONS
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TechTarget

Converged Infrastructure vs. Commodity Hardware

or “converged or standalone?”
or “do I buy something or build it myself?”

Bob Plankers, Senior Data Center & Virtualization Architect

Who Am I?

What We're Going To Talk About

- Standalone & blade systems.
- Types & methods of convergence.
- What you get with converged systems.
  - Good & bad.
- How you might choose a path forward.

What We’re Not Going To Talk About

- Absolutely every converged system out there.

What We’re Going To Try Not Talking About And Fail

- Clouds.

What Do We Mean By “Convergence?”

Infrastructure

Acquisition

Management

Standalone Systems

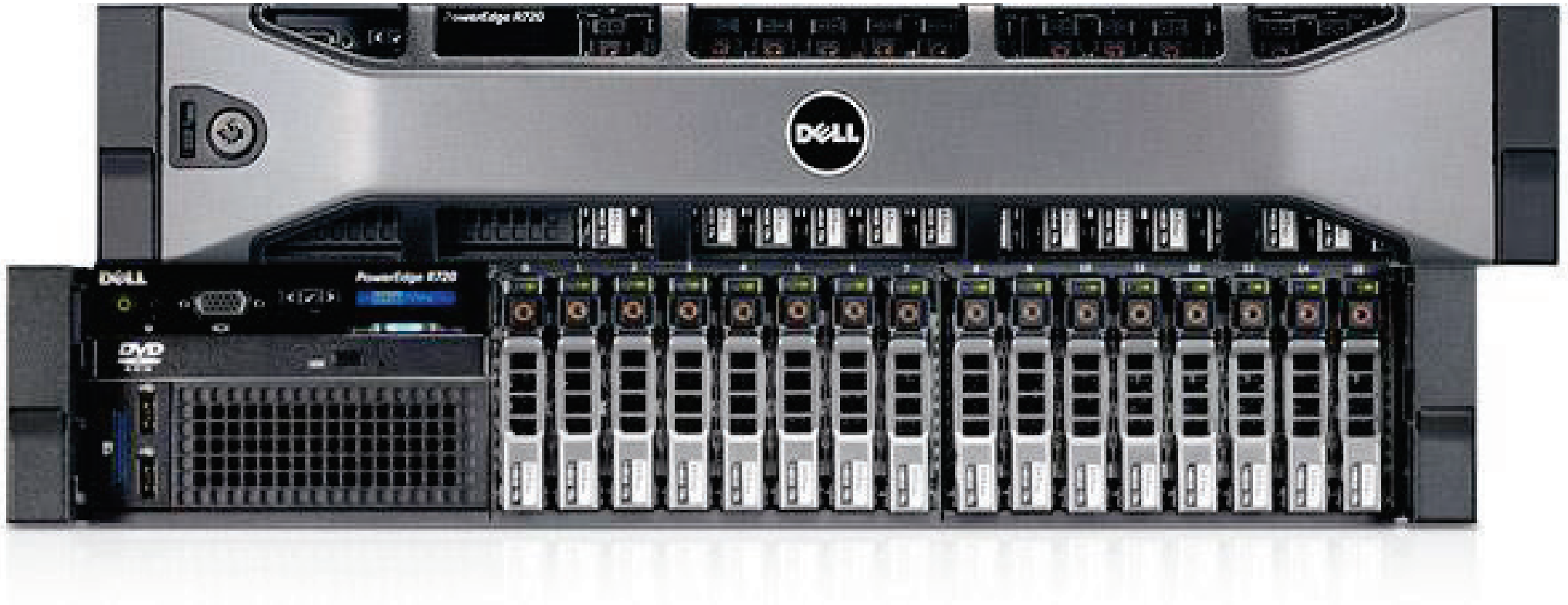


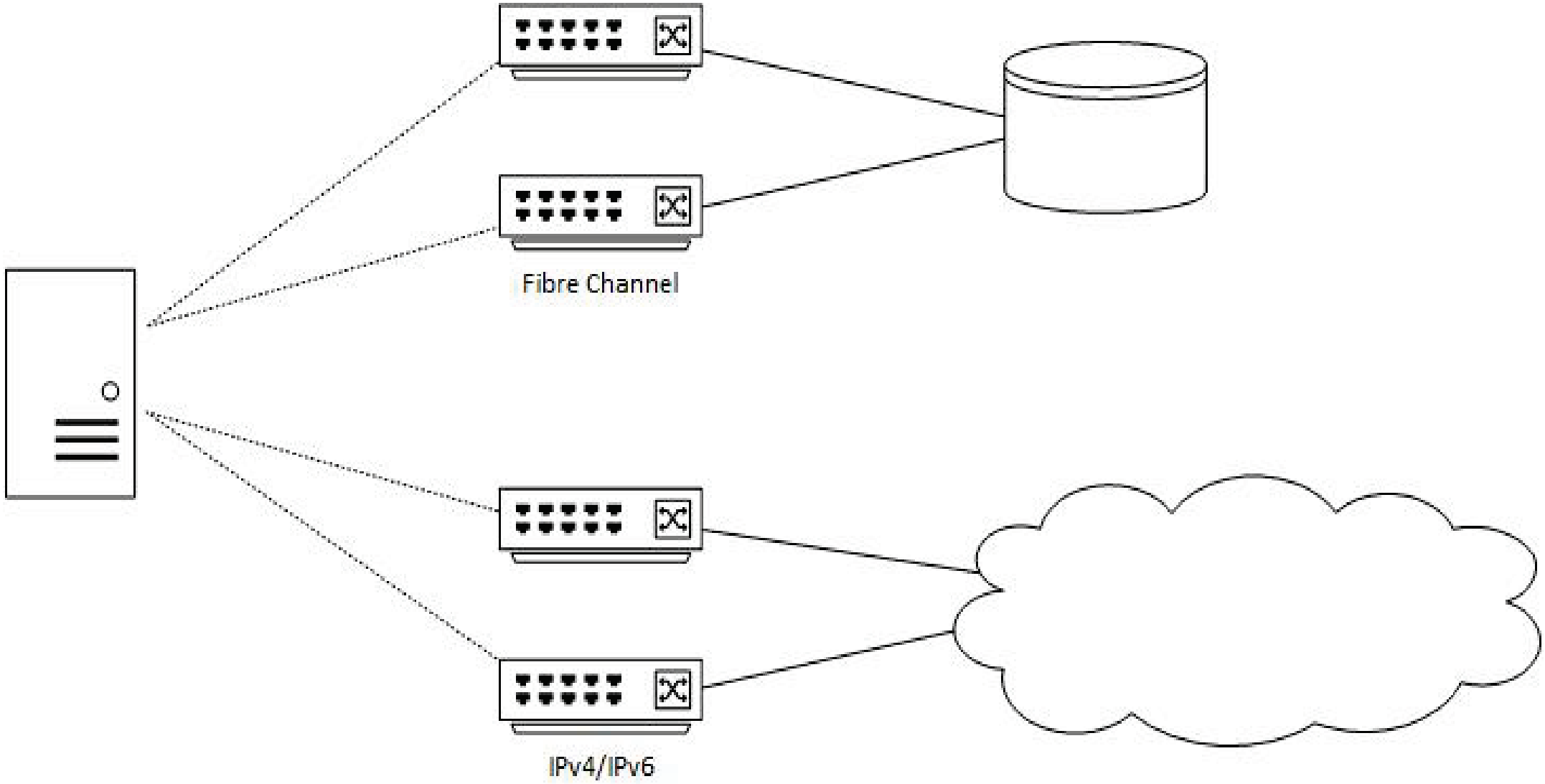
Image: Dell Computer

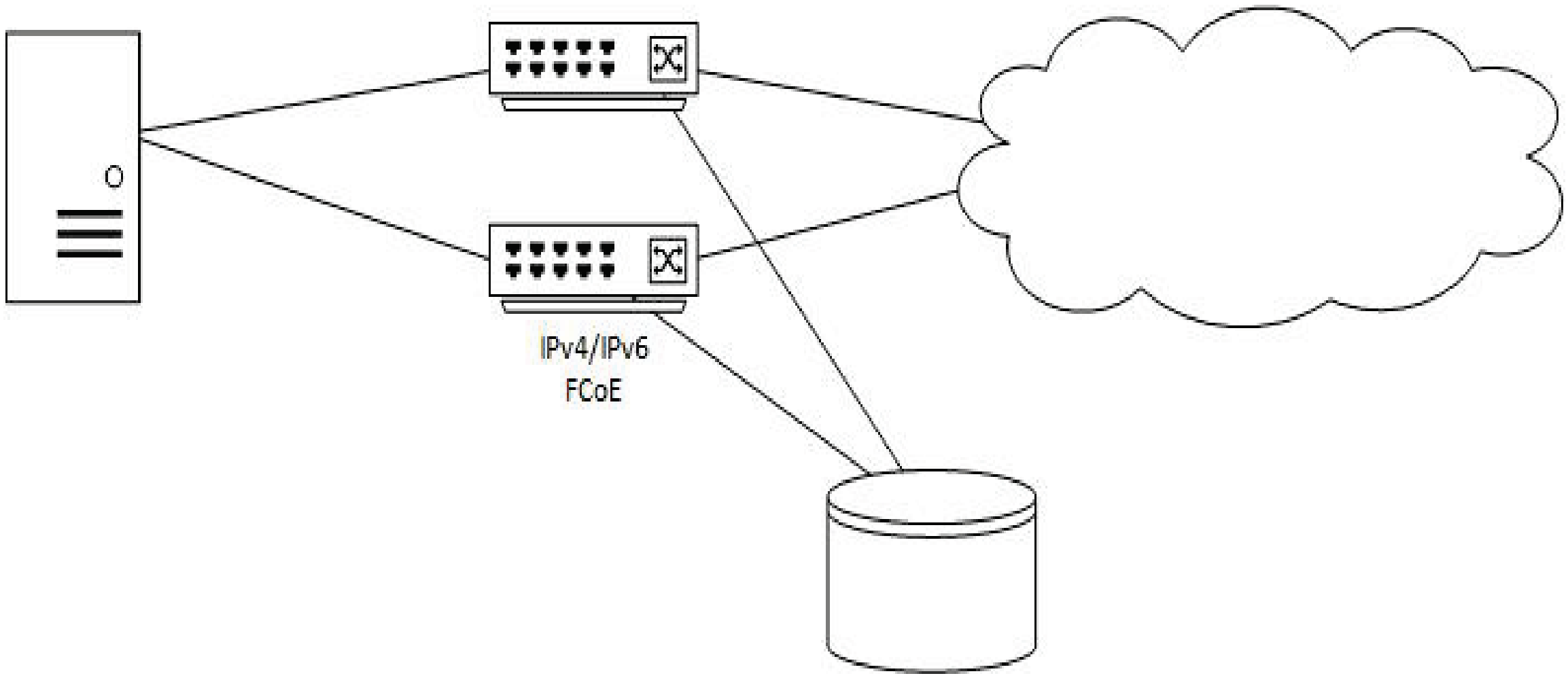
Standalone Systems

- Decades of incremental improvements.
- OEM improvements mainly just management controllers.
- Universal constant: 1 RU, 2 RU, 4 RU.
- Completely external storage & networking.
- Unit of expansion: relatively small.

Standalone Systems

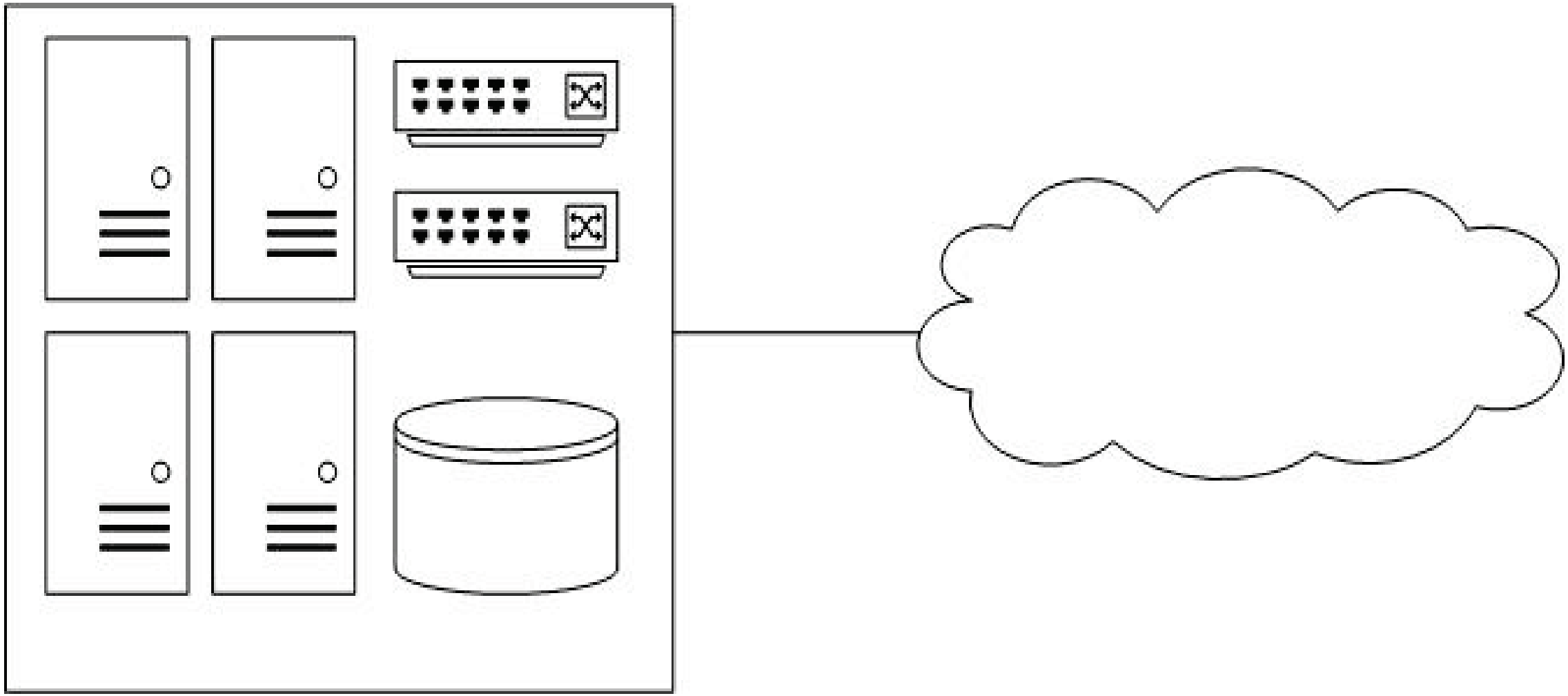
- Well-known political problems.
- Repurpose well.
- Expandable (GPUs, Teradici APEX 2800, etc.)
- Are what they are.


Fibre Channel
IPv4/IPv6


IPv4/IPv6
FCoE

Blade Systems

Image: Raysonho @ Open Grid Scheduler / Grid Engine (via Wikimedia Commons)



Blade Systems

- Higher density.
- Internal KVM.
- Internal storage options.
- Internal networking options.
- Less cabling.
- Theoretically faster deployment.

Blade Systems

- We now have a chassis to worry about.
- Unit of expansion larger.
- Interconnectivity an issue.
- Less flexible than rack servers.
- Political problems.

Theoretically Faster Deployment

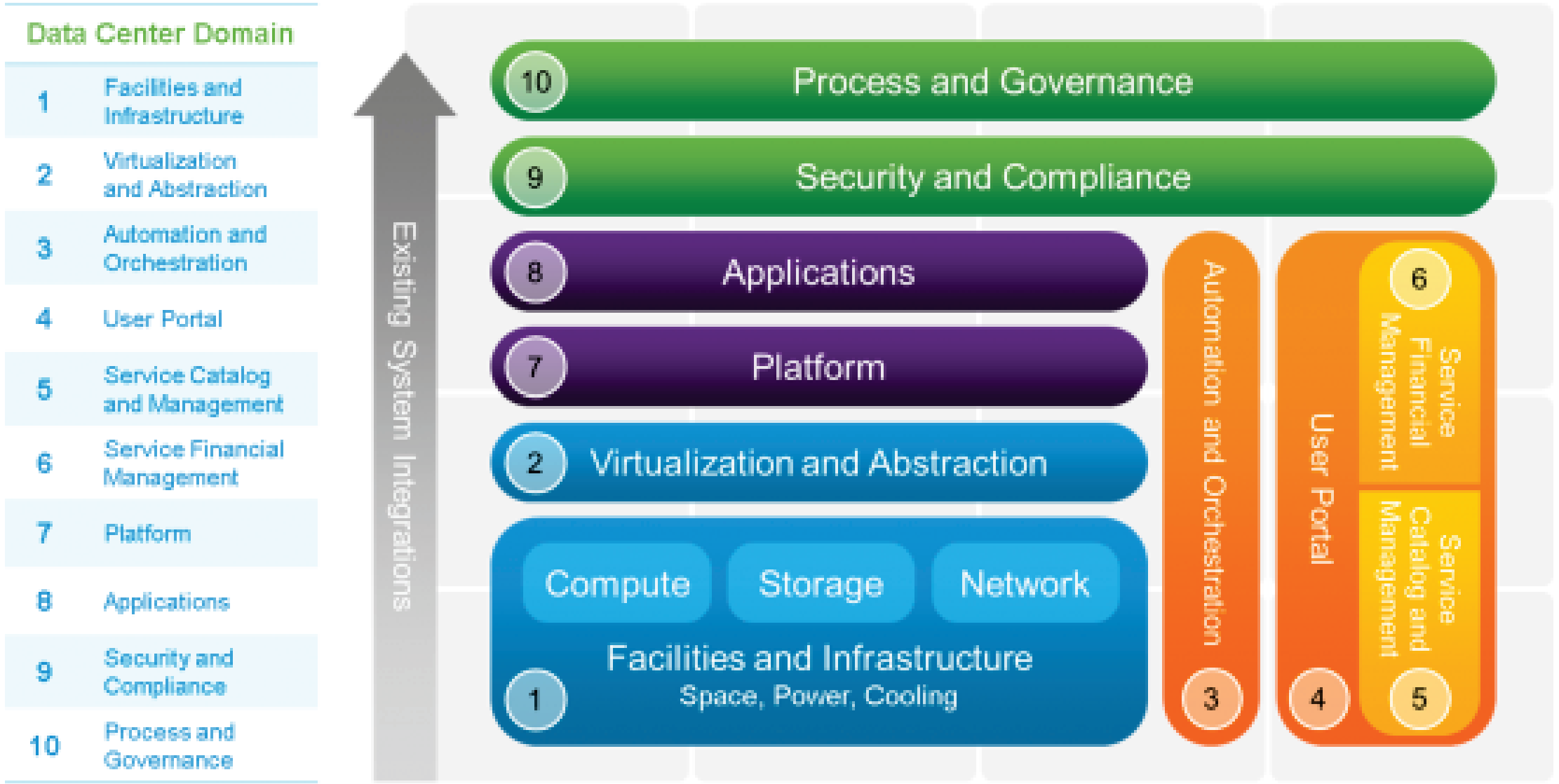


Image: Cisco's "Domain Ten"

Converged Management

- “SKU”
  - purchasing convergence
- “Single Pane of Glass”
  - administration convergence
- “Complete”
  - convergence of infrastructure & management

Purchasing Convergence

- SKU-based, order one “part.”
- Support often from one VAR.
- Validated designs.
- Converged infrastructure.
- Flexible.

Purchasing Convergence

- No management integration.
- No help with politics.

NetApp FlexPod

Administration Convergence

- Single management interface for everything.
- Single support vendor.
- Validated & certified designs.
- Plug it in, turn it on.
- Automation & cloud options.

Administration Convergence

- Fixed units of capacity.
- Fixed ratios of resources.
- Can be pricey.
- Doesn’t manage “foreign” infrastructure.

VCE Vblock
Dell Active System

Complete Convergence

- Smaller building blocks.
- Scale-out performance.
- Deep automation.

Complete Convergence

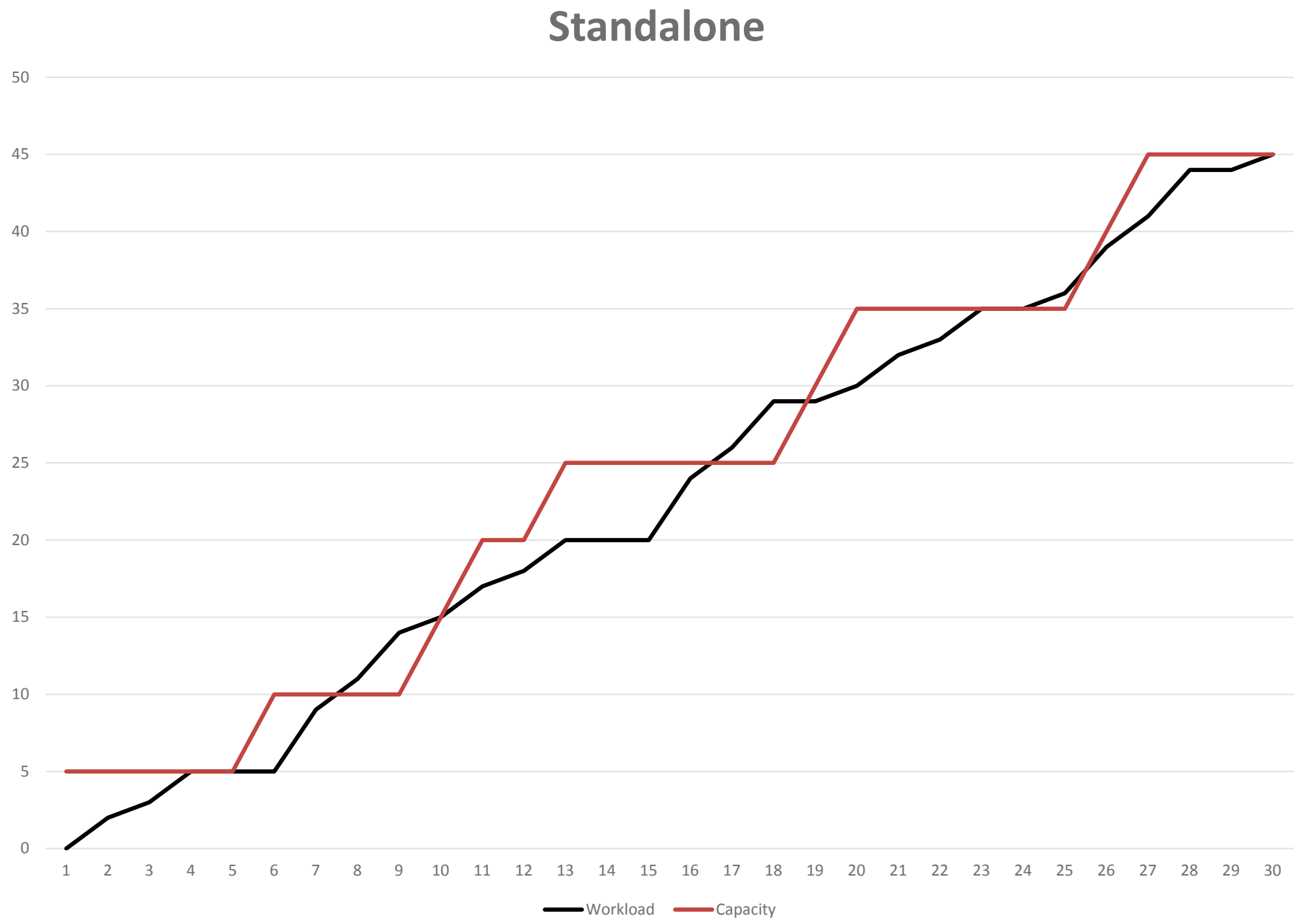
- Smaller building blocks.
- 100% hypervisor-based.
- 100% proprietary, a black box.
- Doesn’t manage “foreign” infrastructure.

Nutanix
Scale Computing

What to choose?

What problems are you solving?

- **Capacity or performance issues?**
- Space issues?
- Personnel issues?
- Cabling nightmares?
- Rapid provisioning?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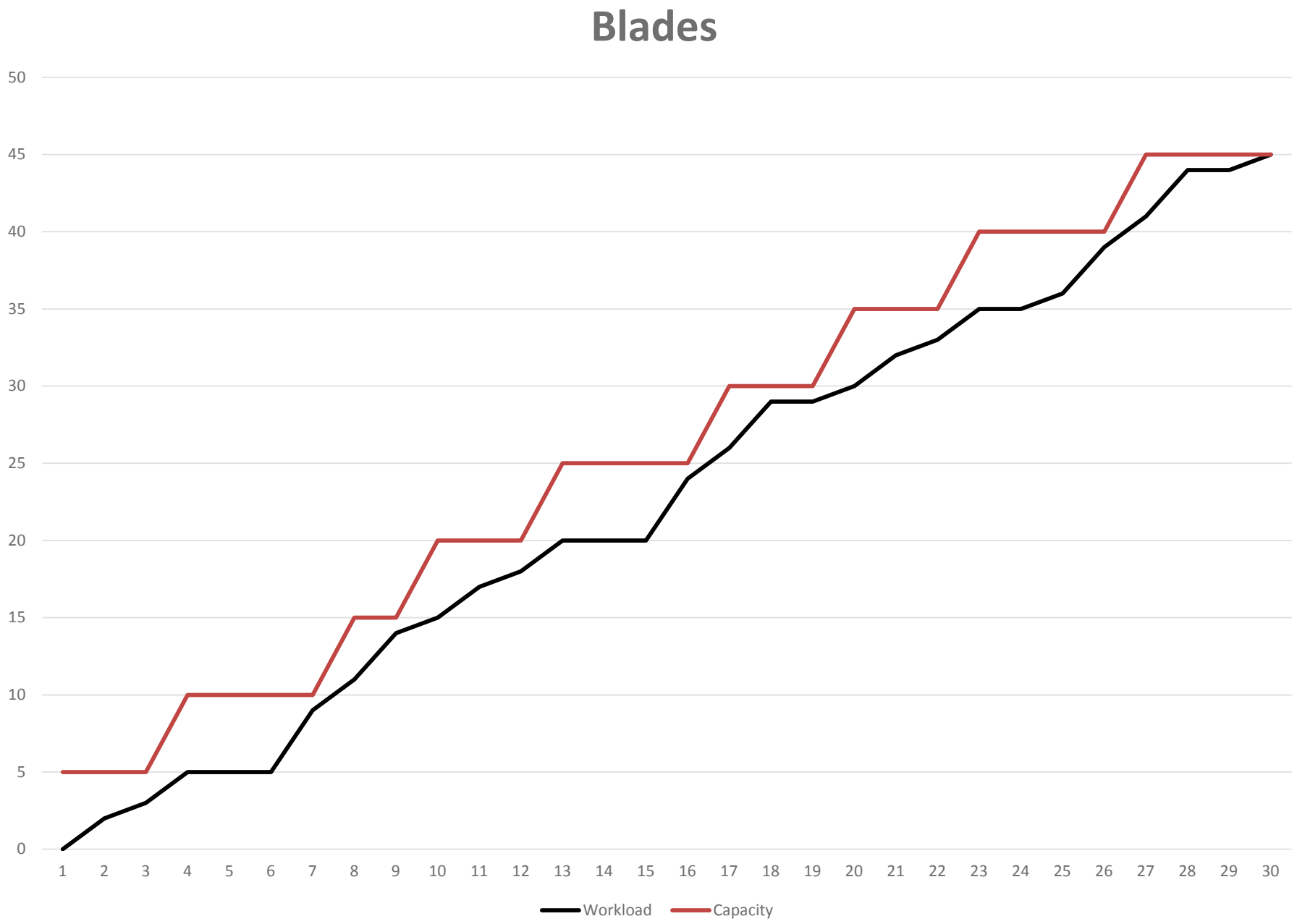
Workload
Capacity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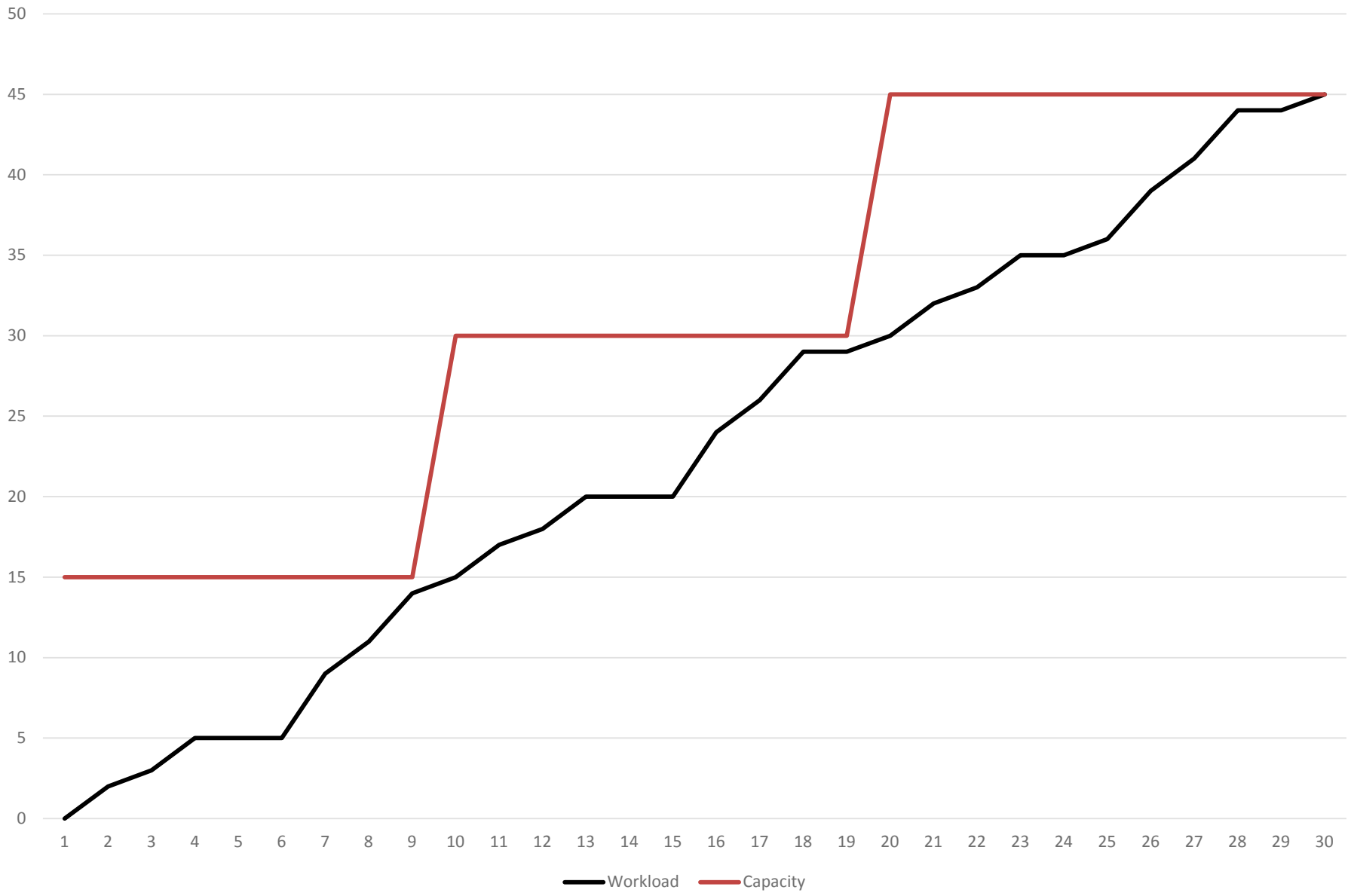
Workload
Capacity

Management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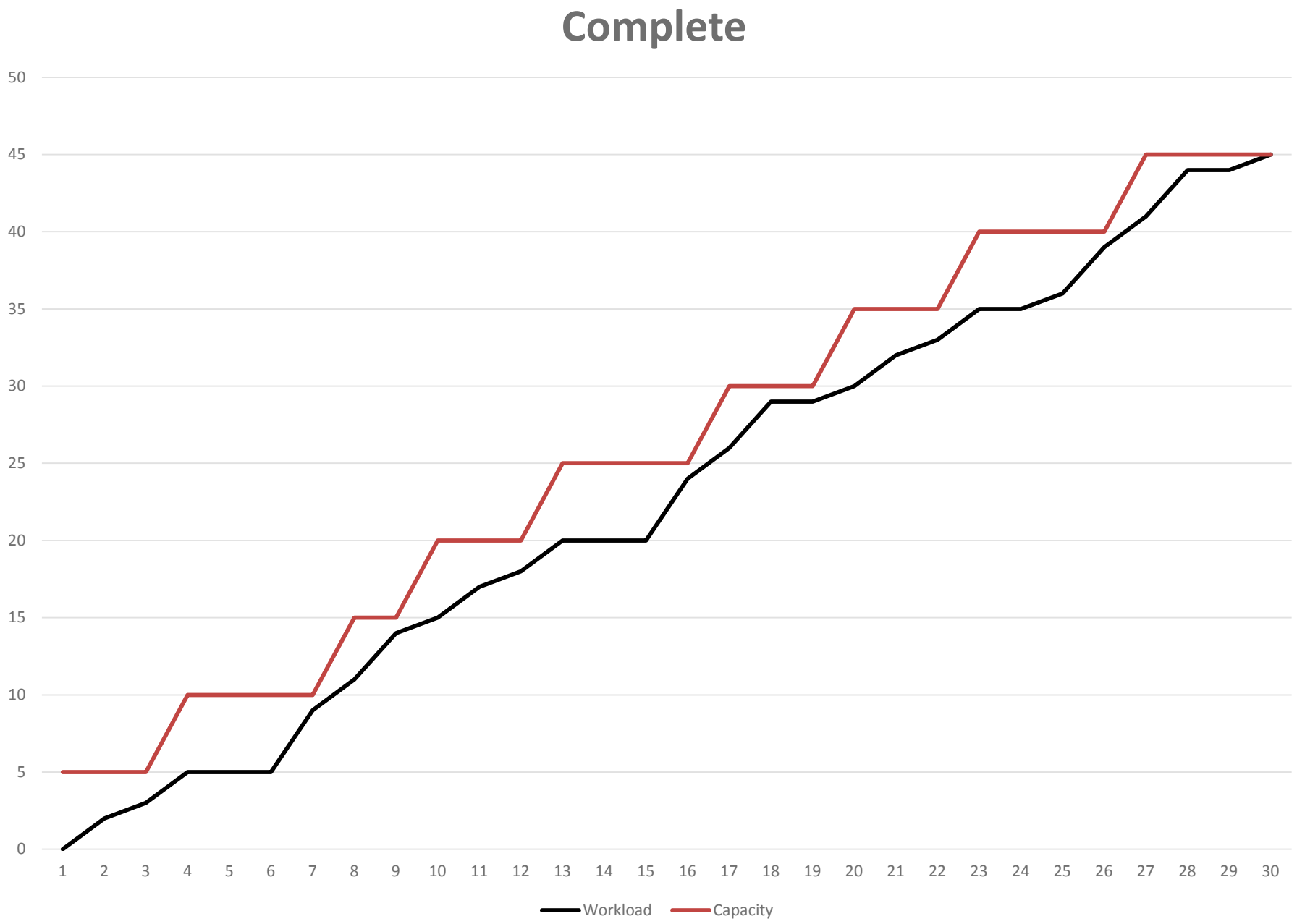
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Workload
Capacity

What Problems Are You Solving?

- Capacity or performance issues?
- **Space issues?**
- Personnel issues?
- Cabling nightmares?
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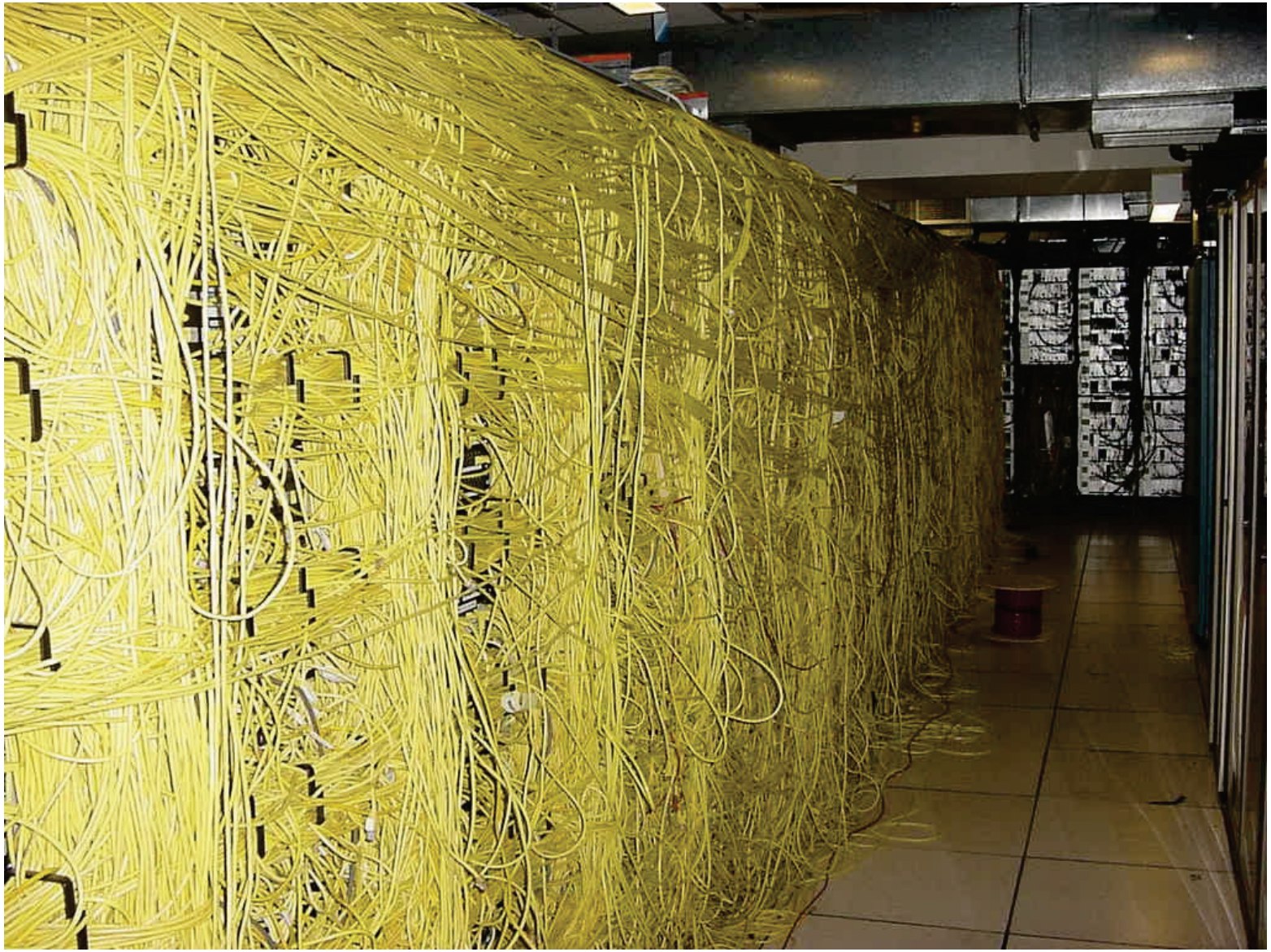

Image: Author & Source Unknown

What Problems Are You Solving?

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- Space issues?
- Personnel issues?
- Cabling nightmares?
- **Rapid provisioning?**

“It depends.”

Thank You! Questions?

- Keep in Touch:
  - bob@plankers.com
  - @plankers
  - lonesysadmin.net
  - Modern Infrastructure & TechTarget