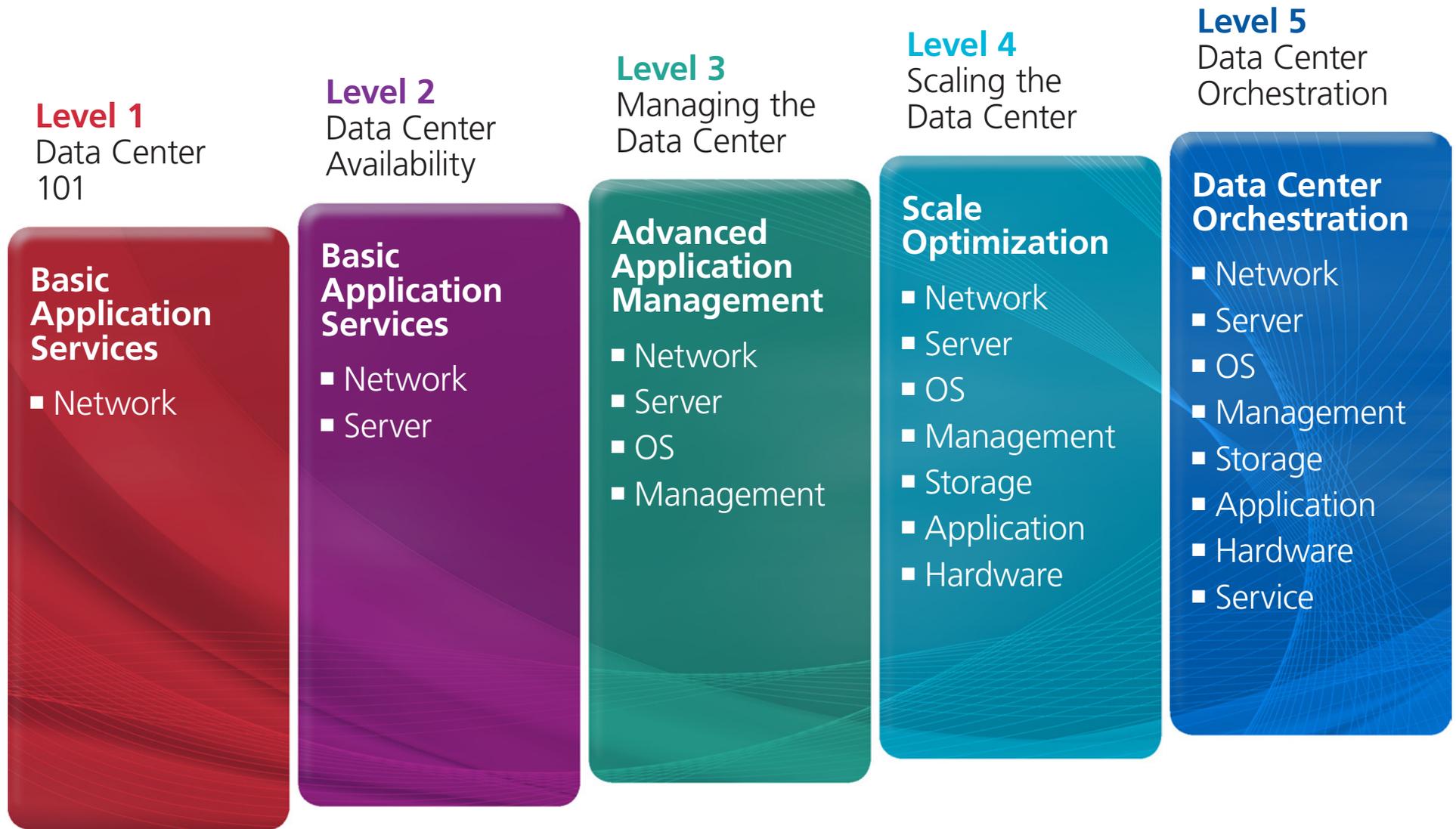


# VDC Maturity Model



Maturity Progression

# VDC Maturity Model Explained



## Level 1: Data Center 101

Level 1 is where all data centers begin. This is literally the first step in building a data center. There is no application availability, optimization, or security. This is a “hands-on” data center, requiring constant attention and full time servicing.

**Virtual Components:** Network.

**Benefit:** Basic application availability.

**How to get here:** Basic server “closet” in the corporate office.

## Level 2: Data Center Availability

The next step towards a mature data center, Level 2 introduces the idea of basic application availability, using more sophisticated Application Delivery Controllers (ADC) to provide web and application server virtualization, although typically these ADCs only provide basic load balancing at this level. Basic security is also introduced in this level with the use of VLANs on the network.

**Virtual Components:** Network, Application Server.

**Benefit:** Ability to begin managing different parts of the data center for different tasks and purposes.

**How to get here:** Begin looking into higher-end Application Delivery Controllers and segmenting applications by need.

## Level 3: Managing the Data Center

The Level 3 data center is a new way of thinking. Rather than focusing on the individual components of what makes up the DC, Level 3 starts to look at the data center from the point of view of the applications. More advanced application management, availability, optimization, and security is introduced. Basic user management is also introduced at this level, factoring in how and where users are coming in and applying Authentication, Authorization, and Auditing (AAA) of user transactions. End-user experience also becomes a factor at this level; application service offloading, such as SSL and caching, appear at Level 3.

**Virtual Components:** Network, Application Server, Operating System, Management.

**Benefit:** Begin to move the data center away from “speeds and feeds” to managing it with the goal of outbound application access.

**How to get here:** Enable advanced features in the ADC, such as SSL offloading and content caching. Add user-based application security policies for application access. Begin looking into single-point management solutions.

## Level 4: Scaling the Data Center

Level 4 addresses the need to scale the data center to support business needs. This is where larger concepts like Disaster Recovery and Application Security begin to appear. Advanced ADC features and branch-to-branch transport and management systems are introduced as optimization becomes more a part of the business need and overall ROI issues. Data storage virtualization and optimization become critical issues for the applications in the data center, and managing those new storage solutions become as important as moving to de-centralized storage.

Data center and automated system management tools become a necessity, although their use may be limited (such as basic server configuration management, patch management, automated user AAA tasks, etc).

**Virtual Components:** Network, Application Server, Operating System, Management, Storage, Application, Hardware.

**Benefit:** Scale and flexibility. Independent components of the data center can be managed discretely and together by solution-oriented task. Applications take primary focus, not individual technologies that support applications.

**How to get here:** Build out a fully virtual infrastructure, beginning with Operating System virtualization platforms and VDI solutions. Move from a reactive to a pro-active design pattern.

## Level 5: Data Center Orchestration

A Level 5 data center is the future, the Virtual Data Center, where the data center has moved from individual components to a fully orchestrated “service” that uses each virtual category together to seamlessly provide application delivery in and out of the of the DC. Data center tasks become workloads (a clustering of multiple tasks in sequence to achieve a single goal); as workload demands increase, a fully configured management system allocates the necessary resources to support the business needs. Resource and workload management includes all forms of virtualization, from operating system to network to storage, culminating in service virtualization.

Service Virtualization is synonymous with a Level 5 data center. All parts of the data center are managed together to provide application availability, optimization, and security. A Level 5 data center is a completely dynamic, self-provisioning, orchestrated data center.

**Virtual Components:** Network, Application Server, Operating System, Management, Storage, Application, Hardware, Service.

**Benefit:** A fully orchestrated data center that support dynamic application provisioning for growth, not repair.

**How to get here:** Today, this architecture requires a build from the ground up approach, and typically is a completely custom-designed data center built on internal solutions rather than off-the-shelf products. The VDC of tomorrow begins to bring standard components into a Level 5 data center.

