Managing VDI performance at scale

Turbonomic Application Resource Management for IBM Cloud® Paks

Common challenges with virtual desktop infrastructure (VDI)

– Virtual desktop end users experience poor performance due to the latency sensitivity of VDI.
– IT administrators often overprovision resources, hoping to address latency and performance issues.
– Existing VDI tools are unable to optimize shared resources in real time.
– VDI platforms have no application awareness or ability to detect infrastructure issues below the virtual desktop.
– Lack of real-time performance assurance limits adoption and leads to a negative experience for VDI users.
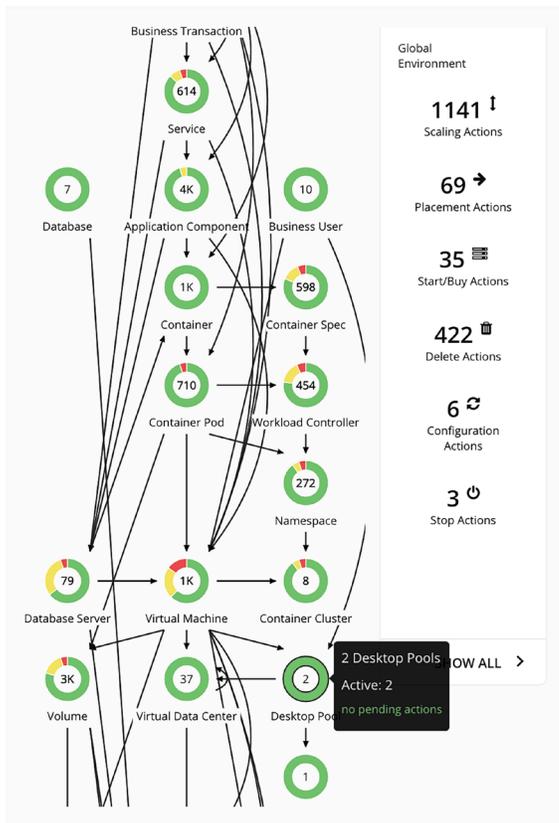
Required capabilities

Figure 1. Easily visualize VDI the user experience and infrastructure health.

Assuring performance for VDI environments requires:

– End-to-end visibility from the app to the infrastructure
– Actionable insights to optimize and improve the VDI experience
– Automatable resource decisions and actions

These requirements are necessary to optimize continuously without unnecessary administrative overhead, helping assure end-user desktop performance.

VDI enables remote workers to stay connected to their work resources anywhere and anytime, while IT teams that manage end-user computing can centralize management, lower operational costs, improve security and deliver flexibility to mobile workers across a range of delivery devices. A key goal when planning and operating a VDI environment is to ensure that end users receive performance comparable to that of a physical desktop. This process requires that the underlying virtual infrastructure always has resources appropriately allocated, including virtual machine (VM) placement, to assure performance to the distributed VDI application and desktop end users.

Common challenges with VDI environments
The fundamental difference between a physical and a virtual desktop is that desktops no longer have dedicated resources and are also much more dynamic. They share the resources across compute, network and storage. While resource sharing provides benefits, it also introduces new performance complications. These performance complications are compounded by the extremely dynamic nature of the virtual desktops themselves. With VDI, the synchronized demand for resources from all the desktops severely impacts the performance of the virtual desktops. Performance must be considered at every stage of the VDI lifecycle because it's fundamental to the success or failure of the VDI rollout.

VDI is one of the most challenging environments to operate since end users are sensitive to latency and performance issues. To address this issue, administrators overprovision virtual resources to build in performance headroom, many times best guessing, which is inefficient and ineffective. Existing VDI tools don't optimize resource pools and clusters, which can lead to VDI silos and underutilized infrastructure. Plus, existing tools don't continuously assure performance as users put demand on their desktops. Too often VDI implementations have underutilized infrastructure and don't deliver on real-time performance as demand fluctuates, leading to negative end-user experiences.

turbonomic
an IBM Company

Required capabilities to manage VDI performance at scale

VDI administrators require visibility, insight and action across every layer and every tier—from desktop users, VMs, desktop pools, hosts, networks and storage. Turbonomic, an IBM company, has full-stack visibility, providing a common understanding across different layers of the VDI stack. The Turbonomic AI engine uses desktop user demand and resource utilization to make accurate and automatable resource decisions. Turbonomic continuously drives the health of VDI environments to a desired state in real time, preventing performance issues and helping administrators identify the root cause of performance issues. Desktop users always get the resources they need when they need them for the best end-user experiences. The end-to-end automated approach optimizes resource utilization at optimal costs. Turbonomic helps customers manage real-time fluctuating demand for persistent and nonpersistent desktop users.

Key benefits

– Assure performance to virtual desktop instances and users through real-time, intelligent resource allocation and workload placement and resizing decisions.
– Minimize storage input/output (I/O) and latency in the virtualization and storage layers, using existing storage investments and helping ensure VDI project success.
– Efficiently use the infrastructure and minimize operational costs, without costly overprovisioning.
– Carefully plan and model VDI deployments and future-proof the VDI service through underlying support of multiple hypervisors and cloud technologies.

Persistent VDI desktops

– Scale up dynamically with real-time size ups and hot-add resources.
– Scale down during off-hours change windows.
– Help ensure zero-disruption performance.
– Obtain the best performance and use of shared resources.
– Reduce risk and wasted infrastructure.
– Increase performance and user satisfaction.

Nonpersistent VDI desktops

– Manage the end-user experience at scale for VMware Horizon so VDI customers get additional performance and density gains.
– Become application aware and user aware by allocating VDI resources based on real-time user utilization and users' resource consumption.
– Deliver better performance more efficiently and help ensure the quality of the user experience by matching VM and user resource demand.
– Help ensure continuous availability by using right-time actions that allow for specific action windows.
– Reduce administrative complexity.

VDI on cloud infrastructure

– Use hosted infrastructure for elastic growth.
– Optimize performance without sacrificing cloud spend.
– Reduce cloud costs without impacting performance.
– Enable truly elastic VDI with an on-demand infrastructure.

Manage, anticipate and understand the demand in VDI spikes and congestion to prevent performance issues. Keep your remote workers productive by providing the best virtual desktop user experiences.

Learn more

Request a personalized demonstration of Turbonomic for your VDI environment.

About Turbonomic, an IBM Company

Turbonomic, an IBM Company, provides application resource management (ARM) software used by clients to help assure application performance and governance by dynamically resourcing applications across hybrid and multicloud environments. Turbonomic network performance management (NPM) provides modern monitoring and analytics solutions to help assure continuous network performance at scale across multivendor networks for enterprises, carriers and managed services providers.

For further information, visit ibm.com/cloud/turbonomic.

turbonomic
an IBM Company