Solving the Black Hole of Availability

CAPACITY PLANNING IS THE WAY

By Jon Hill

Throwing money at an availability problem – particularly buying more hardware – typically worsens utilization rates, decreases efficiency and increases complexity. And complexity leads to downtime.

According to a report from Contingency Planning Research, server downtime is a costly proposition. Here are a few examples:

- $108,000 a minute in lost brokerage operations
- $43,000 a minute in lost credit card operations
- $1,500 a minute in lost airline reservation operations
- $1,200 a minute in lost telephone ticket sales operations

Despite the huge potential losses, however, too many companies fail to implement the time-honored solution – capacity planning. A recent Forrester Research survey discovered that more than one-third of IT decision-makers do not even set capacity utilization targets and another third don't know their actual rate of server utilization.

Yet forecasting future resource requirements is the best guarantee that business units will be able to execute their strategies successfully. Capacity planning is the answer. It can deliver an accurate resource forecast that can be easily understood in business as well as IT terms.

Capacity planning, after all, is the proactive process of determining the optimal resource configuration for meeting service levels while accommodating current and future business workloads. This is quite different from performance monitoring, which is more reactionary, checking to see that the end user experience is acceptable. Performance monitoring is concerned with measuring services to end users whereas capacity planning determines the optimal resources required to deliver those services.

With its roots in mainframes, capacity planning principles haven't changed all that much over time. However, adapting those principles to new technologies – distributed environments, blade servers, various virtualization technologies, grid computing, etc – has posed interesting challenges. As business has increased its dependency on IT over time, technological complexity has made performing capacity planning more difficult.

Several capacity planning techniques are used in different situations:

- Trend analysis
- Simulation modeling
- Analytic modeling

Through continuous use of techniques such as these, IT organizations are better prepared for the future. They can avoid over-provisioning while at the same time assuring adequate service. In this way, capacity planning can be the cornerstone of a company's IT optimization efforts.

Indeed, capacity planning is playing a larger role in strategic discussions as IT and business leaders discuss their organization's objectives, the services they will need, and how IT can deliver those services at an acceptable level.

Bottom line: a well-oiled, smooth-running data center isn't possible without capacity planning.

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