E-BOOK

Executive's Guide to Managing Costs in a Hybrid Cloud

Look Before You Leap Into the Cloud

NetApp

1 Financial Management

2 Capacity Management and Analytics

3 Resource Management

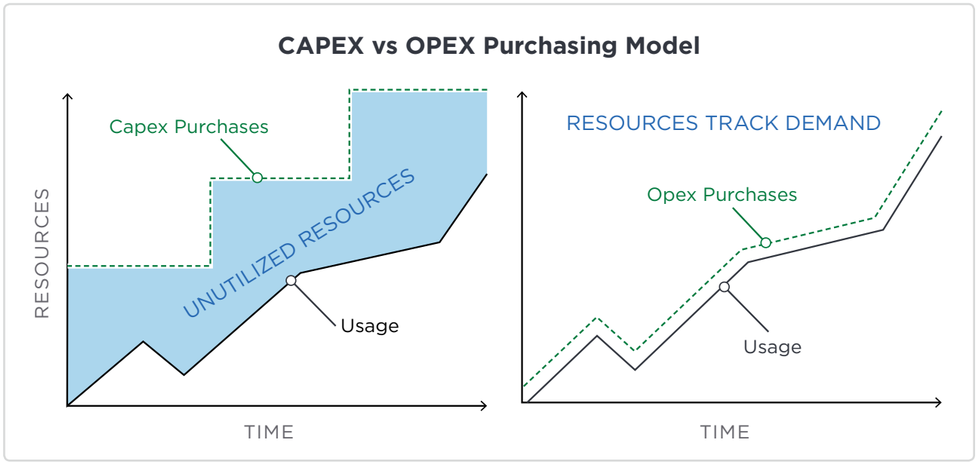
4 Organizational Management

5 Next Steps

1. Financial Management

With the advent of the hybrid cloud, IT leaders are presented with new options for deploying enterprise applications. What used to be a relatively straightforward lease or buy decision for servers, storage, and networking gear has expanded to include the cloud-hosted service model and a subsequent transition from capital expendatures (capex) to operating expendatures (opex).

Figure 1: Traditional IT consumption model



Source: NetApp

The trend toward opex spending is understandable. As shown in Figure 1, although capex spend for approved IT projects is predictable, it does not necessarily align with what is actually consumed by the business over the life of that project, resulting in idle (or wasted) capex spending. By hosting applications in the cloud, organizations can take advantage of the cloud's pay-as-you-go pricing model and eliminate a potentially large budget hit.

However, it's unwise to assume that all enterprise applications are well-suited for cloud hosting. Many applications are a better fit for on-premises infrastructure, especially those with substantial performance needs or those that rely on data that must be closely controlled. Unfortunately, application placement decisions are often made without considering all the consequences, which can lead to user complaints, loss of revenue, and costly re-platforming of enterprise data.

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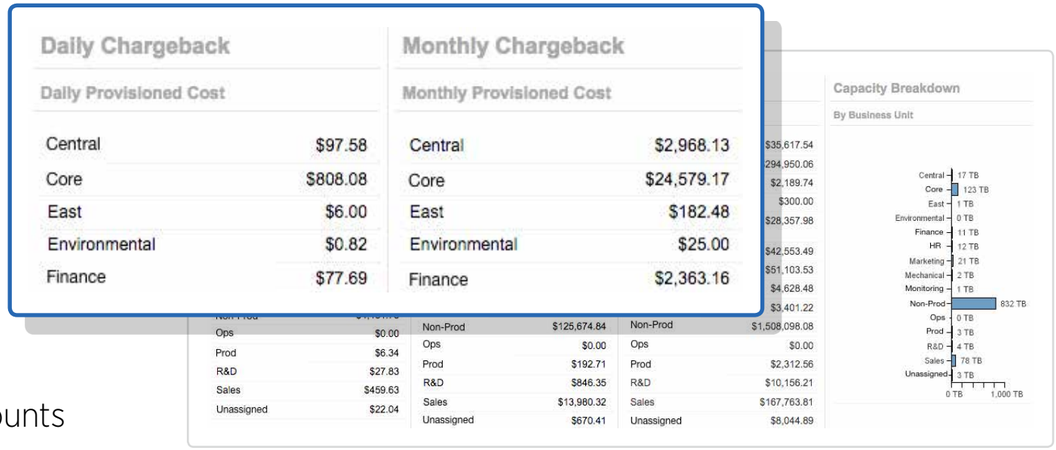
To avoid these problems and make well-informed decisions, it is necessary to gain deeper visibility into your current IT environment using *infrastructure analytics*. One example of how businesses can benefit from infrastructure analytics is chargeback/showback reporting. These reports provide a view into resource utilization and infrastructure costs and enable better business decisions about application placement.

For instance, an application that devours large amounts of infrastructure resources but generates little business value might be a good candidate for a cost-effective cloud service. Conversely, an application that consumes sparse resources but is critical to business operations might be better suited on-premises, where it can be operated under tight governance.

NetApp® OnCommand Insight software dashboards and reports offer prefilled templates that can automatically provide detailed chargeback/showback costs. As shown in Figure 2, these reports can display application capacity and associated costs by business unit.

Figure 2: Chargeback Dashboard



By examining current application costs and projecting the cost of new applications, including what-if scenarios with varying performance and capacity growth estimates, rational determinations can be made when looking at the proper application placement.

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2. Capacity Management and Analytics

Unlike server and networking resources, storage resources contain data that is neither transient nor easily moved. As applications consume more and more data storage capacity, either on-premises on in the cloud, their management and analysis becomes paramount.

NetApp OnCommand Insight provides sophisticated tracking of capacity trends. For instance, Figures 3 and 4 show executive dashboards that display global storage capacity as well as overall existing capacity broken down by location, tier, provisioned capacity by application, and provisioned capacity by business unit.

Having accurate storage capacity information and historical capacity growth trends at hand enables future growth forecasts. This enables organizations to accurately identify where and when additional server, network, or storage resources must be allocated and/or purchased. This decision support enables organizations to avoid overprovisioning and to implement just-in-time purchasing, driving down the capital costs associated with infrastructure.

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Figure 3: Capacity Trending Dashboard

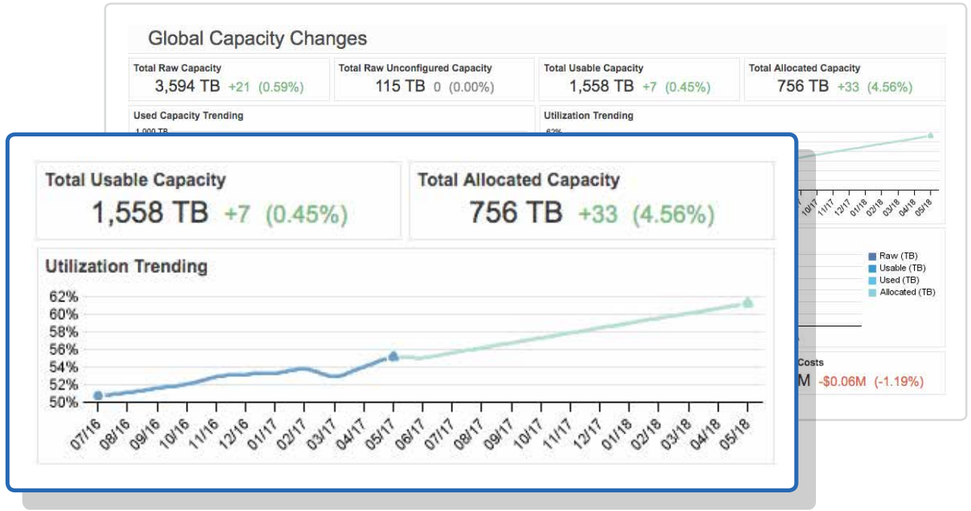
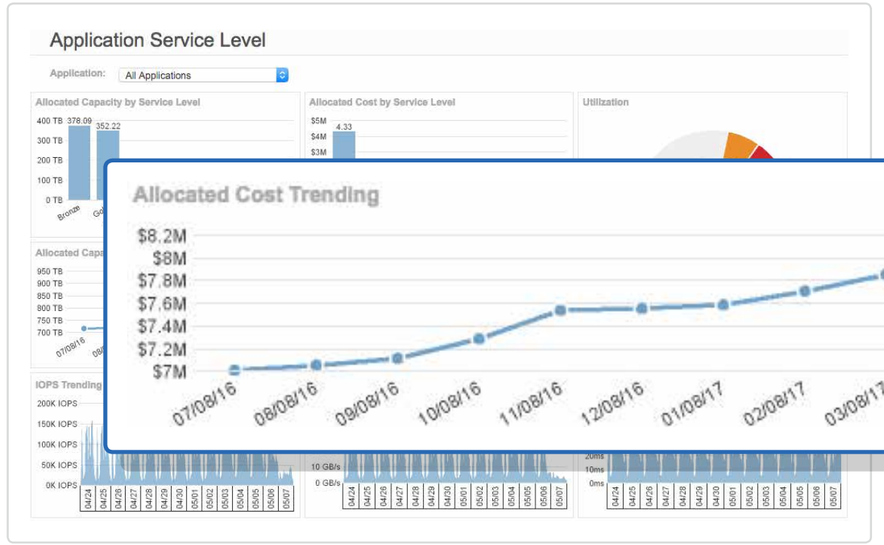


Figure 4: Allocated Resource Trends



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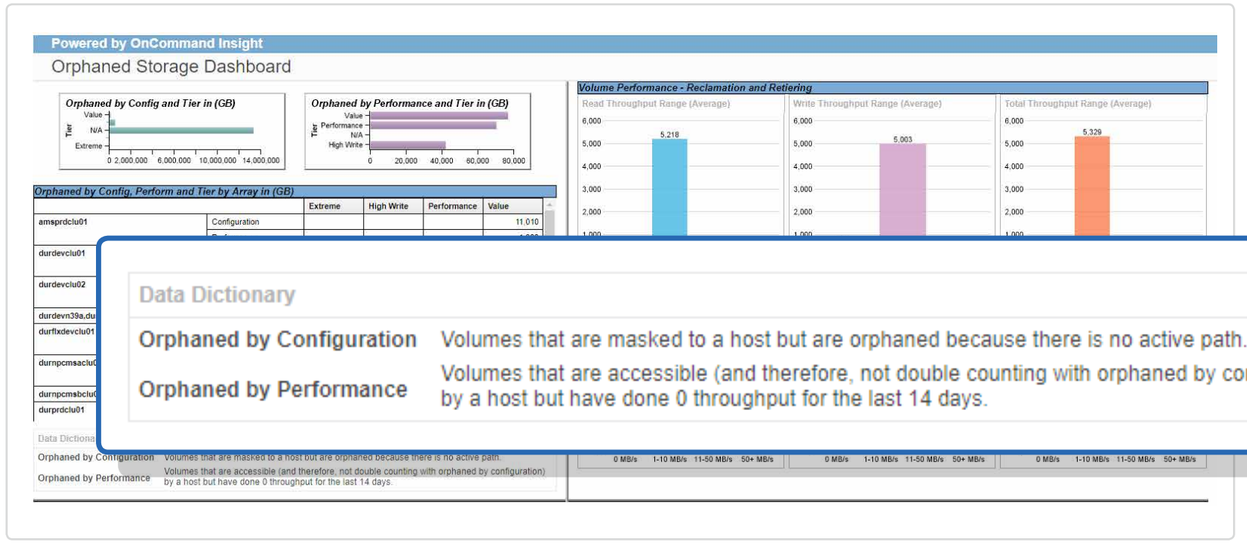
3. Resource Management

IT managers are typically asked to increase utilization while decreasing costs. This seemingly impossible task can be accomplished given the proper analytics. For example, inefficient utilization of on-premises storage capacity is a traditional waste of resources within IT and a primary motivator for moving applications to the cloud.

Over time, resources in any infrastructure become "orphaned": that is, allocated but not in use. Infrastructure takes various routes to enter this condition; typical examples include incomplete decommissioning processes or project cancelation after provisioning has occurred. The bottom line: orphaned storage is a needless waste of IT resources and, often, an impediment for investments in other areas.

NetApp OnCommand Insight provides the tools to identify, recover, and resolve "orphaned" storage. As shown in Figure 5, reports include information about powered-off VMs, as well as switch ports and data volumes that are allocated but are not participating in an end-to-end service path. Reclaiming this infrastructure can free significant resources and delay future purchases until they are actually needed.

Figure 5: Orphaned Storage Dashboard



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4. Organizational Management

Modern IT infrastructures consist of hybrid cloud architectures that span traditional on-premises data centers and cloud services providers. As IT infrastructures grow more complex, they become more difficult to aggregate, monitor, and manage. This is exacerbated by the fact that traditional infrastructure management tools are based on horizontal domains, performed via vendor-specific element managers that are operated by disparate technology teams.

Infrastructure services delivered to the customer, however, are not domain specific. These services depend on the coordination of physical and logical configurations across technology domains to deliver access to information. Effective infrastructure analytics improves customer service levels and is also a key mechanism for driving down infrastructure costs.

To support their customers, IT organizations need modern tools to analyze the disparate infrastructure and cloud elements which support key applications and services.

Aligning operational resources with customer consumption enables IT organizations to deliver more reliable, more effective services, at a lower overall cost. Infrastructure analytics tools such as NetApp OnCommand Insight include configuration management, performance management, and capacity management reports that identify trends in resource allocation and capacity consumption by application, business unit, individual, or other groupings.

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NetApp OnCommand Insight provides powerful analytics that enable IT organizations to gain insights and control of the services provided by their infrastructure. This infrastructure analytics tool drives up service quality through standardization and service monitoring, while reducing costs through administrator productivity and more effective utilization of capital assets.

"A single data management tier across on-premise and multiple clouds is critical to making hybrid cloud and multicloud environments effective and creating a powerful foundation for digital transformation (DX) success."

—IDC, *Managing Your Data in a Hybrid and Multicloud World is Critical to Digital Success*, Doc # EMEA43153917, September 2017

Get started with an online, hands-on demonstration.

HANDS-ON DEMO

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