Workload placement as a strategic imperative in hybrid environments

The 451 Take

The benefits of shifting applications to cloud are self-evident – ease of deployment, pay-per-use billing, massive scalability, access to new features – but they do not apply equally to all workloads. The growing diversity of IT venues has created increasingly complex environments, with hundreds or thousands of applications spanning on-premises and off-premises locations and encompassing platform, infrastructure and software services. This creates challenges in terms of control, security and expense.

Ongoing Cloud Management Challenges

Source: 451 Research's Voice of the Enterprise: Cloud, Hosting and Managed Services, Budgets and Outlook 2018

Q: Which of the following challenges does your organization face as you implement cloud technology, services, platforms and environments?

- Governance and compliance 58%
- Cloud migration and integration 48%
- Optimizing cloud infrastructure for cost 47%
- Refactoring applications for cloud 40%
- Optimizing cloud infrastructure for performance 39%
- Cloud transformation strategy 33%
- Evaluation of cloud services 29%
- Other 3%
- None 4%

Yet when planned and executed thoughtfully, an enterprise-wide IT modernization and migration strategy can streamline operations and speed development in ways that materially benefit the business. The keys to doing this with confidence are to take inventory of everything that’s in the IT estate, determine the dependencies and requirements of the applications within it, establish the best venue and deployment model from the range of possibilities, and know the effort required to adapt workloads to new environments and vice versa. Getting it wrong can be painful and expensive due to wasted effort, opportunity cost and, in the worst case, transformational paralysis.

Ultimately, the calculation that goes into workload placement must balance technical, financial and business needs. Certain applications and scenarios are ‘low-hanging fruit’ for public cloud deployment, while others will likely need to stay on-premises. But few workloads fall neatly into these buckets, and strategic decisions about whether to modernize or move them need to be continually revisited within the context of the larger enterprise based on existing IT assets, new technologies, transformation initiatives and business needs.
**PLAY THE LONG GAME.** Workload placement can’t happen in a vacuum. Placement decisions – even those that seem obvious – should be made in a broader context with the goal of moving the business forward. The risks of selecting a venue based solely on the needs of the application include a loss of consistency, operational fragmentation, and missed opportunities for cost savings, efficiency and collaboration. Achieving buy-in from stakeholders across the organization is a must.

**PLAN CAREFULLY AND ITERATE.** Modernizing the IT estate requires a comprehensive assessment of the current environment, knowledge of the range of possible destinations, and a realistic idea of the costs and benefits of relocating and/or refactoring applications. With a multitude of apps and data in motion, integration and compliance become more difficult.

**SEQUENCE IS IMPORTANT:** Deciding which workloads need to move, in which order, and to where can make a material difference in the success of a transition. Dependency mapping is a critical early step and must be done iteratively as applications and processes are added, removed and adjusted and the shape of the environment changes.

**KNOW YOUR LEVERS AND BE FUTURE-READY.** Performance, cost and scalability can be improved or restricted by placement choices, and often a decision that favors one priority will be to the detriment of another – trade-offs happen. Factors to consider include sunk costs (in hardware leases, software licenses and other contracts); the availability of cloud platform expertise on staff; tolerance in terms of latency and performance; the volume and type of data processed; and the safeguards required to keep the workload secure while ensuring access for those who need it. Another variable is the changing technology landscape of available machine types, accelerators, storage and networking options that can alter the price/performance equation for both on-premises and off-premises destinations.

**Looking Ahead**

In increasingly complex hybrid IT environments, workload placement is not a ‘set it and forget it’ proposition. Per-application factors such as cost, security and performance are important inputs, but migration decisions made in isolation – without regard to the larger IT context, as well as cultural factors, business priorities and ongoing management needs – can result in wasted expense and inefficient operations. Starting with a holistic view, taking an incremental approach to migration, and measuring outcomes along the way is the best practice for ensuring that IT evolution aligns with business needs.

Hewlett-Packard Enterprise has developed a service to specifically address this space, HPE GreenLake. HPE Application Migration Plan for Cloud finds the right venue for each workload, using the HPE Right Mix Advisor. HPE GreenLake can help manage the hybrid experience for cost, performance, privacy, compliance, utilization. And HPE GreenLake brings true IT consumption to the on-premises environment to drive high utilization and extra capacity for scalability, with usage-based payment and management services.