Whitepaper
Data Centre Migration

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Optimize.
Transform.

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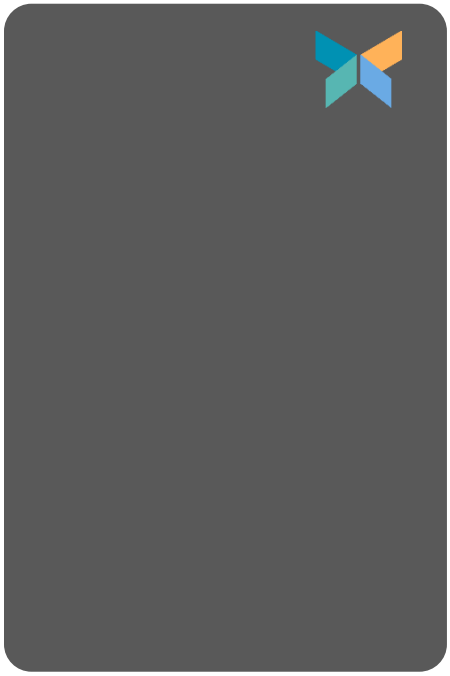
The Evolving Data Center Landscape

The historical view of what was once considered the data center is evolving rapidly. Today a data center can exist in several locations or form factors. A physical data center be hosted by the enterprise in direct proximity to the users as an On-Premises implementation or it can be hosted by a specialized colocation provider where the fundamental activities of facility and equipment management are transferred to a vendor able to offer those services economically at scale. A further physical implementation today is to operate systems 'at the edge' where systems with the need for rapid data transfer rates are situated in a smaller footprint, often as appliances that are self-contained with limited power and cooling needs and can be managed remotely through the core network. Adding to the possible options, a data center no longer needs to be physical at all. The cloud has fundamentally altered the landscape of the data center by offering highly resilient functions and services in a virtual architecture that can be conveniently consumed by end users and, when necessary, quickly eliminated without stranded capital costs.



A data center migration is a complex project that requires a keen understanding of the current technical landscape. A migration can include the physical movement of devices from one location to another to take advantage of economies of scale or to provide greater resiliency or compliance capabilities. With the advent of the public cloud, systems may be migrated in a number of different ways that offer the benefits of consumable cloud services and the flexibility that the modern business needs to remain competitive. Due to the various possibilities offered as cloud services, a migration to the cloud is often a daunting business initiative that can take years as you transition your existing hardware, software, networking, and operations into a brand new environment.

The methodology of transformation

Every data center migration has a reason behind it—something like the desire for cost savings or to become more cloud native. This results in a business objective such as migrating traditional legacy workloads to more flexible cloud services within a given timeline. A common challenge is how to enable a successful data center migration while effectively managing risk.

Skilled advisors try to adhere to a proven migration methodology consisting of four phases: Discovery, Planning, Execution and Optimization. Following this predictable framework can help identify assets, minimize risk using a targeted and phased migration approach, enable deployment and configuration, and finally, optimize the end state.

The Discovery Phase is crucial because it is where you identify the workloads. Identification of the workloads doesn't just create a list of assets and their relative sizing, a thorough identification will include details regarding the composition of the system or systems of which the asset is included. Discovery should analyze the upstream and downstream communication patterns to identify the associated assets that makeup an 'Application Affinity'. By including all affinity relationships, a migration team can avoid disruption or degradation of service by introducing WAN latency when the systems are migrated.

Having the complete profile of the asset and application affinities helps the transformation team to more accurately determine the disposition of the asset and system against the 6 R's of application rationalization which include:

- **Rehosting**- Commonly known as 'lift and shift' where the same system is migrated physically or virtually, over the network to its target environment with no changes other than the hosted location
- **Replatforming**- Where a system is optimized due to some improvement, while keeping the core architecture in place. Optimizations could include an Operating System Upgrade or 'right-sizing' the system resources such as CPU or Memory.
- **Refactoring**- Where a system is fully redesigned to take advantage of the most modern technology.
- **Retiring**- Where the use of an asset or a complete system is terminated to reduce the technology footprint.
- **Retaining**- Where the asset and system remain in their original location and configuration.
- **Replacement**- Where another technology such as a SaaS solution are purchased and the existing asset or application are decommissioned

TFORM is one of the foremost tools for collecting the crucial information about the technical assets and the comprised applications so that customers can make data driven and objective decisions about the application rationalization and migration method of each entity.

Data Agility Group will work side by side with customers to collaboratively architect and enable data center migrations into the multitude of potential target architectures. Through our many client opportunities, we've facilitated multiple successful migrations, and devised a tested and proven approach. Along the way, we've addressed unforeseen complexities and learned a lot of lessons. Our experienced advisors will utilize the rich details collected by TFORM to provide a more detailed view into the engineering and program management migration aspects of a migration