



Five Data Center Trends to Stay Ahead of the Competition

It starts with a strategy.

Five major data center trends that are forcing business and IT executives to rethink their data center strategy. This article is an essential sketch for architects and project managers looking to understand current trends in enterprise data centers. Helpful tips are provided to help design and construction professionals understand their clients' challenges, and determine if further assessment or if a strategic plan is warranted.

- ⚙️ **1. Co-location.** Once a strategy of telecommunications companies to extend their reach out of “co-lo hotels”, enterprises are moving to co-location facilities as an alternative to building and operating their own data centers. Leading edge co-location providers are offering private cloud and managed services.
- ⚙️ **2. The Cloud.** Many small businesses have been taking advantage of cloud applications such as Google Apps for years. Adoption of cloud-computing among large organizations is a hot trend that will continue to gain momentum.
- ⚙️ **3. Lowering Power Demand.** Creative and highly efficient MEP systems continue to enable data center operators to lower their Power Utilization Effectiveness (PUE) and save on energy consumption.
- ⚙️ **4. Location, Location, Location.** The well-known cliché among real estate agents is now a major consideration for companies looking to site their critical facilities. Building data centers in locales with low probability of regional and local natural risk are desirable by avoiding downtime and in some cases, come with the benefit of low-cost and sustainable energy markets to moderate rising energy costs.
- ⚙️ **5. Reliability/Scalability.** Implementation of highly reliable and scalable IT infrastructure such as network acceleration are enabling companies to locate their data centers much further from enterprise operations.



Many industry professionals are aware of major shifts in IT with the mass adoption of cloud computing and changes in terms of how organizations view their data center operations. The majority of these companies are currently grappling with issues based on realizing the most value from their critical facilities and IT infrastructure. This inflection point has organizations evaluating whether to uplift existing sites, build new data centers, or co-locate them in managed facilities.

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In addition to some of the drivers aforementioned, a corporate headquarters relocation or major real-estate initiative can also force companies to evaluate their data center computing environments. Well adopted best practices provide firms with proper guidance for data center configurations such as mitigating regional risks, implementing high efficiency power and cooling technologies, and sourcing facilities management to co-location providers.

Unlike internet companies such as Google, Microsoft, and Amazon, the bulk of enterprises are ill equipped at operating critical environments. This often leads to unplanned outages due to poor planning, design, aging equipment or human error. More than ever, clients rely on their networks and data centers to run their businesses and any interruption in IT services can be financially catastrophic.

Here's where a strategy is advantageous

These and other critical decision-making factors are why clients turn to PlanNet. A comprehensive data center strategy establishes the risks and costs associated with a current state environment, surfaces issues that require mitigation, evaluates viable alternatives to remedy potential problems, and crafts recommendations for a future state that meets enterprise requirements for years to come. This may involve capital improvements or expansion of existing sites, building new data centers in low-risk, low-cost regions, relocating computing services to co-location or some combination of the above.

The rundown

The need for a data center strategy is usually initiated for any or all of the following reasons:

- failures resulting in down-time that are impacting the business;
- growth is expected to exceed power, cooling and/or space capacities;
- risk, whether real or perceived;
- lowering cost of operation;
- improving systems availability and disaster recovery; and/or
- informing a decision to upgrade, build, co-locate or a combination of approaches.



Initiating a data center strategy

To get started, objectives must be clearly defined and can include: business drivers; technology imperatives; and desired outcome. Once the objectives have been clearly thought out, the next step is to assemble a core team with whom to move forward.

A project sponsor to lead the initiative must be appointed and typically comes from Real Estate, Facilities or IT. For consensus, the sponsor should assemble a core team that may include: facilities representation (VP, Director); IT representatives (CIO, IT Infrastructure VP, Network, and/or User Representatives); and business services such as Procurement, Sourcing and Finance.

Identifying stakeholders

A data center has many stakeholders, so it's critical to engage the appropriate stakeholder resources to gain consensus and eliminate surprises.

Omitting even a single key stakeholder in such critical decision-making is analogous to missing a tire on a car—it won't go very far. If all major stakeholders are not on board a team can be focused on the wrong outcomes, only to be halted midway by an executive because key contributors were not engaged.





Moving in the right direction

Once information has been gathered and analyzed; gaps and deficiencies with the current state model are brought to light and the desired future state is then articulated. It's also important to align IT growth with business growth plans so establishing a power demand forecast is essential. This enables proper evaluation of alternatives, with qualitative and financial analysis to provide executive decision-makers with critical data. The best option usually becomes obvious to all stakeholders and the presented business case is green-lighted by executive governance.

QUALITATIVE METRICS TO EVALUATE MARKETS

ENERGY

RATES VS. NATIONAL AVERAGE
SUSTAINABILITY
FREE COOLING
RELIABILITY

TELECOMMUNICATIONS

DIVERSITY
RELATIVE COSTS
LATENCY

LABOR

AVAILABILITY
RELATIVE COSTS

FACILITIES

CONTROL/LEASE TERMS

TRANSPORTATION/ACCESSIBILITY

FLIGHT AVAILABILITY
DOOR-TO-DOOR TIME

VENDOR AND SERVICES SUPPORT

PROXIMITY TO CRITICAL VENDORS

ENVIRONMENTAL RISK

SEISMIC/VOLCANIC
HURRICANE/TIDAL
SEVERE WEATHER

INCENTIVES (VERY DEPENDENT ON PROPERTIES)

ENTERPRISE ZONES
SALES TAX
ENERGY REBATE PROGRAMS

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