



## To understand today's data center market...

...it is important to recognize how data centers have been developed and subsequently traded as real estate investments.



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**Phase I: 1999-2001.** New internet business models, combined with inexpensive equity and debt, enabled users and speculative developers to develop large, over-improved industrial buildings as data centers. The goal was to secure market share in lieu of profitability with time-to-market as a critical driver. When equity markets collapsed in March 2001, inventory excess significantly impacted pricing. Robust users of data center space such as hosting companies and financial institutions also cut costs and focused on integrating surplus capacity.

**Phase II: 2001-2004.** Excess data center inventory and over-improved buildings with little perceived value flooded an already weak real estate market. Opportunistic real estate investors and select users acquired standalone assets and portfolios for as low as \$0.15 on the dollar. Investors and users discovered that data centers built to accommodate an average power density of 50W per square foot were insufficient to meet the updated projected power demands of users. The increase in power density created a demand for quality data center assets which did not significantly affect pricing. Users who sold owned assets did so under distressed circumstances and landlords predominantly sold over-improvements from previous tenants who no longer needed the space, or who had defaulted.

Any premium landlords received for improvements was seen as an extraordinary gain, and existing tenants often negotiated deeply discounted asset sales as a part of a sublease or assignment. Landlord sales with existing tenants were priced as investment assets with often questionable credit that dramatically understated the value of the in-place improvements.

**Phase III: 2004-2005.** The data center market rebounded but still exhibited a great deal of price elasticity due to the limited number of quality assets and somewhat limited number of users. Investment groups with mission-critical specialization purchased strategically located assets largely for the value of the in-place improvements in a waxing market. Core yield investors competed for income-producing assets, with net lease investors often competing in the final round of bidding.

**Phase IV: 2006-2007.** Demand for data center space was far greater than supply, which resulted in a large number of enterprise level data center projects and colocation projects by 365 Main, CRG West, DuPont Fabros, Digital Realty Trust, Equinix and Savvis, among others.

Pricing structures for new construction required rent constants in the 9.5% to 10.0% range on cost. Above-market yields allowed owners to manage residual value risk by amortizing cost basis over 15 years. As older first- and second-generation colocation assets were retrofitted to compete with new product, overall industry rents grew rapidly, driven by the “faster, denser, hotter” paradigm.

Demand was – and continues to be – driven by requirements such as disaster recovery failover, document storage for corporate compliance, and online video, gaming and social networking sites. While credit markets seized for Class A office and other products, many established data center builders report that their pipelines were fully funded and, in many cases, front-loaded with credit tenants. In contrast, inexperienced rivals faced high development costs, poor prospects for financing and a steep learning curve.

**Phase IV: 2007 to present.** Tight credit markets have affected speculative data center development that had relied heavily upon securitised debt as a source of funding due to its ability to distribute risk among a broad investor base. The definition of credit also has changed with many industries being redlined due to transparency issues. An S&P “A” credit in the financial services sector is treated differently than in the health care industry, as investors demand wider risk premiums and attractive escalations.

The liquidity crisis and general deterioration in business conditions has caused users to forego capital-intensive projects on their balance sheets in favour of leasing space on an incremental basis. This additional demand will put additional pressure on an already constrained supply environment. Underutilised “shadow space” cannot be repurposed and leased to third parties due to the reluctance of companies to operate in a multi-tenant environment due to the criticality of their existing operations.

Whereas the surplus in 2000 to 2002 was largely financed by corporate equity, the current capital markets environment and focus on corporate cash preservation has virtually eliminated the possibility that this same degree of over-building could take place in this cycle. Tier 1 Research reports that global utilisation of existing data centers now stands at 65%; while 70% is considered full occupancy and extreme price elasticity occurs at 85% utilisation.

Demand may increase sharply in 2010 due to outsourcing and deferred business decisions. New supply is mainly limited to projects initiated before the credit crunch and by inexpensive expansion projects. With new data center construction typically taking 18-24 months, ground-up projects may not be delivered until late 2011. Renovation projects are potentially shorter in duration but still may not be delivered until mid 2011. This disconnect between supply and demand will provide for a healthy data center pricing climate. Data center providers who can raise capital by leveraging balance sheets rather than mortgage financing have a competitive advantage over undercapitalized operators through the next one to two years. ■

Originally published in DatacenterDynamics *FOCUS*, Issue 10, June/July 2010 | [www.datacenterdynamics.com](http://www.datacenterdynamics.com)