Valuation Challenges Emerge for Data Centers

By Alan Schultz, Senior Managing Consultant / Principal, Silicon Valley

Paradigm Tax Group Senior Managing Consultant Alan Schultz, who leads our practice in Silicon Valley, was invited to speak at the January 2014 TFI Asset Valuation Conference in Austin, Texas and discuss the continuing changes in technology, markets and industries in the context of data centers.

Every journey has a beginning. The term “data center” gained recognition in the 1970’s era of water-cooled mainframe computers. These centers were defined by: (i) a dedicated design and use; (ii) the goal of minimizing down time; (iii) creating economies of scale; and (iv) both data and property security.

Changes in technology during the 1990’s were reflected in the development of servers and client-server computing. New standards were created for structured cabling, and networking equipment became affordable. The dot com boom from 1998-2000 gave birth to a new information-based economy. Venture capital fueled the launch of an increasing number of start-up companies tied to the internet. There was a rush of entrepreneurs to build out commercial data centers to meet the anticipated demand. Warehouses and aged R&D buildings were widely converted to data centers with the addition of robust electrical and cooling systems, raised flooring, and leading-edge security equipment.

Following the dot com bust in 2000, the vacancy at many data centers increased dramatically. The excess capacity led to several bankruptcies and industry consolidation. For those that survived, a new beginning emerged by 2005. Commonly referred to as social media, a new industry was founded and carried with it a huge appetite for data storage. Facebook is one of the most recognized of these firms. YouTube epitomized streaming video. A multitude of photo sharing sites and applications appeared. Internet protocol (IP) based phone systems went mainstream. And cloud computing was created – providing storage capacity without investment.

Industry Evolution

The evolutionary process that every industry experiences over time arrived for data centers. Multiple designs and new technologies were developed in the search for operating efficiencies. No singular approach was mandatory. The outsized energy requirements of the industry became more apparent. Some sought sites with lower cost utility power and alternative energy options. From an engineering aspect, operating cost reductions in design/build solutions were incorporated in new construction. Battling the heat created by servers within the data center with cooling technology became a priority. A common point of comparison for data centers is “power usage effectiveness” or “PUE”, which is the ratio of total facility power to IT equipment power requirements. In short, the closer that ratio is to 1.00, the more efficient the data center.

Change extends beyond a traditional rack system within a wire cage in a data center. Containerized modules have been developed for rapid deployment and flexibility of connection. These present a “plug and play” fully functional data center – often with pre-configured multivendor support. Flexibility in use - as temporary or remote data centers to stacked configurations in a building - is an extension of their cooling and electric power efficiencies.

Current trends in demand translate to new construction expenditures of $10-20 billion annually.
Valuation

Returning to valuation – and the issues to be faced – conjures an image of a bell-shaped product life cycle chart. Multiple generations of data centers now exist. They are defined by structural, mechanical and equipment designs which translate into varying degrees of efficiency and reliability. Those firms that need cutting edge technology and fault tolerance for their business model will gravitate to the newest centers – or build their own. Legacy data centers will go down market for customers until economics require the closure and demolition of a center. It is universally accepted that the cost to retrofit an aged center is greater than the cost to rebuild.

Valuation for property tax is challenged by the multitude of designs and disagreement on methodology. There is no singular approach to defining what should be assessed as realty versus personal property. Similarly, as facilities age, what is the most appropriate way to calculate their diminished value? How does the physical life of component equipment and infrastructure compare to market demand? Is a form of physical, functional and/or economic obsolescence present? These are just a few of the valuation challenges that have emerged for data centers.

Paradigm Tax Group’s team of experts is well-versed in the challenges and intricacies of data center valuation. If you would like more information about how Paradigm can help maximize your tax savings, please contact Alan Schultz at (408) 283-1040 or aschultz@paradigmtax.com.