LEASING DATA CENTER SPACE: AN INTRODUCTION FOR RETAILERS

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For many retailers, the efficient and continuous operation of information technology (IT) infrastructure is mission critical. Online shoppers are expected to spend $327 billion in 2016, up 62 percent from 2011 levels, and one recent study showed that a one-second delay in website performance translates into a 16 percent decrease in customer satisfaction. According to search engine Bing, a page delay of only two seconds means a 4.3 percent revenue loss. And on top of all this, a retailer's store management and accounting depends upon critical IT equipment.

Retailers have developed several strategies for managing their critical IT equipment. Many retailers continue to house their entire IT infrastructure inside their headquarters or other office space. Some larger retailers have built their own stand-alone data centers. However, the growing trend among businesses—including retailers—is to outsource this infrastructure, and in many cases an outsourcing strategy will involve leasing data center space. A data center is a physical place that houses a computer network's most critical systems and related power, cooling and security infrastructure. It can be as small as an "IT closet" and as large as an entire building. The purpose of this article is to describe three common strategies for leasing data center space, highlight some of the advantages and disadvantages of each strategy and describe some of the unique legal issues that may arise.

Strategies for Leasing Data Center Space

Three common strategies for leasing data center space are: wholesale data center space, colocation space and managed hosting. A wholesale data center is one in which the landlord provides the entire "base building" infrastructure similar to the "vanilla box" in the retail world. This infrastructure includes the four most critical "base building" components of any data center: power, space, cooling and security. The power infrastructure will include all the equipment necessary to meet the need for a large amount of uninterrupted power for use by computing equipment, including backup generators, uninterrupted power supplies (UPS) and equipment down to the power distribution units (PDUs) in the raised floor area of the data center.

The cooling infrastructure will be a chilled water loop or other technology for delivering sufficient cold air to the raised floor area to reject the substantial amounts of heat produced by the IT equipment. The space will consist of a vacant raised floor

area into which the tenant will place its IT equipment and distribute power from the PDUs. Finally, the security infrastructure will involve a series of card key access, biometric access, video cameras and other security devices and guards aimed at preventing any unauthorized entry into the data center. Security is of utmost importance, not only because intruders could cause damage that would result in an outage in the IT equipment, but also because a breach of sensitive information, including customer credit card information, could result in millions, or even billions, of dollars of liability.

A colocation lease would offer similar "base-building" infrastructure. One critical difference, however, would be that the colocation "premises" would usually be a "cage" (i.e., a space defined by a heavy-duty chain-link style fence) within a larger room while a wholesale premises would typically be a separately demised suite. Also, a colocation lease would typically offer more "build out" assistance (for a fee) from the landlord, including services to distribute power from the PDUs and to "rack and stack" the tenant's IT equipment inside the cage.

In both a wholesale and colocation lease, the tenant will own the IT equipment and will be responsible for upgrading and refreshing the IT equipment as its needs evolve or the equipment becomes obsolete. The tenant would also be responsible for providing its own IT personnel or vendors to maintain, refresh and operate the IT equipment, although most colocation providers offer many such services for a fee. Thus, a wholesale and, to a somewhat lesser extent, a colocation lease, allow a tenant to maximize its control over its IT equipment. In addition, under both wholesale and colocation leases, the sharing of common data center power and cooling infrastructure as well as the sharing of some services (e.g., security) result in economies of scale that can greatly benefit the tenant.

In contrast, in a managed hosting transaction, the landlord/provider will provide all the data center infrastructure described above as well as all the IT equipment to be located in the data center. Thus, the tenant loses some control over its IT equipment but gains more certainty over the costs of its IT infrastructure. In exchange for flat monthly fees (based on a menu of services) the landlord/provider is responsible for the capital costs for installing, maintaining and periodically refreshing the IT equipment, and for maintaining a staff of security and IT personnel to operate the data center.

In determining its preferred data center strategy, some of the questions that a retailer might consider are: How much control do I need over the facilities that house my IT equipment? How much control do I need over the ownership, operation and replacement of my IT equipment? Am I willing to devote capital to owning, refreshing and operating my IT equipment? Do I have the personnel necessary to operate my IT equipment?

The greater the need for control, the more suitable wholesale and colocation solutions become. The less willing a retailer is to devote capital and personnel to the data center, the more attractive managed hosting becomes.

As a general rule of thumb, if a retailer's data center will exceed 1 megawatt, a wholesale solution is more typical. With smaller power demands (e.g., approximately 500 kW or less), a colocation solution would

be a more likely choice. If the data center is significantly smaller than 500 kilowatts, managed hosting is more typical. This, however, is in the process of changing as providers that have historically focused on either wholesale or colocation have crossed over into offering both wholesale and colocation and, in some cases, managed hosting, for an increasingly larger array of power demands.

Service Levels

Many of the same legal issues arise in wholesale, colocation and managed hosting transactions. Of utmost importance is the service level agreement (SLA). The SLA will establish numerous service levels pertaining to, among other items, the uninterrupted supply of power, temperature and humidity controls, security and, in some colocation and managed hosting transactions, connectivity. Typically, power availability will be expressed in terms of a number of "nines" of availability. For example, five nines of availability (99.999 percent) would equate to approximately 26 seconds of outage per month. Three nines of availability (99.9 percent) would equate to approximately 43 minutes of outage per month. Depending on the type and quality of the power infrastructure that the landlord is offering, the landlord would offer the tenant rent credits based on the amount of power outages occurring in a month. A landlord offering very robust infrastructure might offer service level credits based on 100 percent uptime, while one providing less robust infrastructure might offer credits based upon 99.9 percent uptime. As with any service, increased reliability (e.g., an infrastructure that results in a 100 percent uptime guaranty) comes at additional cost that a landlord would seek to pass on to the tenant.

Service levels based on temperature and humidity are established based upon ranges of temperature and humidity within which IT equipment functions efficiently. Extreme temperature increases can cause servers to shut down; however, even less extreme temperatures can result in malfunctioning equipment and data errors. Too much humidity (e.g., condensation) can cause server failures, while too little humidity can create conditions for harmful static electricity to build. Accordingly, service level credits are typically based on the degree and duration in which temperature and humidity are out of range.

Service levels based on connectivity (e.g., providing Internet access) are not typically found in wholesale leases. They are, however, often found in managing hosting agreements and are sometimes found in colocation leases. The critical issue is whether the landlord is providing connectivity (in a wholesale lease, the tenant obtains connectivity on its own through its own vendors). Service level credits will be based on "latency," which is the time that elapses between a request for data and its delivery. Latency will, in part, determine the speed at which websites load and transactions are processed. The other common connectivity metric is "packet loss" (i.e., data does not arrive at the destination). In leases where the landlord is providing connectivity, service-level credits will accrue for both latency beyond established limits and packet loss.

Finally, security service levels establish a system of rent credits for any unauthorized entry into any critical IT area. Occasionally, service level credits are established for other

malfunctions of key components of the security system. The data center lease should clearly establish the procedures that a tenant is willing to accept for entry into the critical IT areas. Typically, this will involve strict compliance with a "permitted access list," a schedule of any access for preventative maintenance and other entry procedures.

Legal Issues

One of the important legal issues relating to service levels and credits is negotiating the circumstances in which credits will not be available when an outage occurs. Typically, this would be force majeure, planned outages (e.g., for planned maintenance) and outages caused by the tenant. Further, the parties will negotiate whether there is any cap on the number of service credits available in any month. As with offset rights in a typical retail lease, the tenant will want to offset against all rent and the lender will want to limit the offset to a percentage of base rent.

A second unique legal issue that arises in data center leases involves regulatory compliance. Some regulatory structures are industry-specific. For example, the Payment Card Industry Data Security Standard (PCI DSS) is an information security standard for organizations that handle credit cardholder information. A more widely applicable standard is the Statement on Standards for Attestation Engagements (SSAE) No. 16, which establishes standards for accounting firms in attesting certain aspects of a data center that relate to a company's financial reporting or nonfinancial objectives (e.g., security). The applicability of various regulatory structures, including the type of SSAE 16 report, if any, to a particular lease depends upon the services offered by the landlord and should be the subject of discussion with individuals that specialize in regulatory compliance. The data center lease should impose any relevant obligation on the landlord to provide information and cooperate with audits (in some cases audits performed by governmental entities) aimed at determining compliance and determining remedies if deficiencies are discovered.

A final unique legal issue is data breach. Because the data stored and processed on the IT equipment in a data center will often involve personally identifiable information (e.g., social security numbers, credit card information) and other confidential information, retailers face significant liability if these data are breached. Claims resulting from a 2007 data breach at one major retailer's data center were settled for payments totaling several million dollars and damages from other data breaches are reported to have been in the billions of dollars. Accordingly, data center leases—particularly those in which the landlord or its contractors have access to data—will contain extensive covenants and indemnities relating to data breach. Types of data breaches to be considered are malfeasance by landlord employees and contractors and hacking—in leases where the landlord is providing connectivity. Since the main damages that will result from a data breach are consequential, care should be taken to exclude from any waiver of consequential damages claims for default under the data breach provisions.

Conclusion

As the business of retailers becomes increasingly more dependent on sophisticated and highly reliable IT infrastructure, demand for

data center space will increase and more data center leases will be negotiated. Even those with significant experience negotiating retail leases will find many of the concepts in data center leases to be new and complex. Negotiation of the lease will involve a careful partnership among engineers and IT professionals who understand the technical aspects of the data center, and attorneys who can navigate the legal aspects of the lease.

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