Structuring Data Center Leases and Service Level Agreements
Navigating Unique and Complex Legal, Business and Technology Challenges

THURSDAY, OCTOBER 9, 2014
1pm Eastern    |    12pm Central   |   11am Mountain    |    10am Pacific

Today’s faculty features:

David L. Orwick, Partner, Thompson Coburn, St. Louis
Aaron L. Pawlitz, Member, Lewis Rice & Fingersh, St. Louis
Mark Petry, Special Counsel, Cooley, Washington, D.C.

The audio portion of the conference may be accessed via the telephone or by using your computer's speakers. Please refer to the instructions emailed to registrants for additional information. If you have any questions, please contact Customer Service at 1-800-926-7926 ext. 10.
**Tips for Optimal Quality**

**Sound Quality**
If you are listening via your computer speakers, please note that the quality of your sound will vary depending on the speed and quality of your internet connection.

If the sound quality is not satisfactory, you may listen via the phone: dial **1-866-370-2805** and enter your PIN when prompted. Otherwise, please send us a chat or e-mail **sound@straffordpub.com** immediately so we can address the problem.

If you dialed in and have any difficulties during the call, press *0 for assistance.

**Viewing Quality**
To maximize your screen, press the F11 key on your keyboard. To exit full screen, press the F11 key again.
Continuing Education Credits

For CLE purposes, please let us know how many people are listening at your location by completing each of the following steps:

• In the chat box, type (1) your company name and (2) the number of attendees at your location
• Click the word balloon button to send
Structuring Data Center Leases and Service Level Agreements
Trends in Data Center Leasing

Aaron L. Pawlitz
apawlitz@lewisrice.com
INTRODUCTION
Some of the “Basics”

- Become familiar with the language.

- Become familiar with the business needs that drive the differences between leases of data centers (on the one hand) and leases of other real property, such as office or warehouse space (on the other hand).

- Acknowledge the emerging, dynamic environment in which data center leasing is occurring.
What does a data center look like?

- A data center could be located in a re-purposed warehouse building:
What does a data center look like? (Continued)

➢ Or a former missile defense command center/silo:
What are Data Center Leases “All About”?

Among the most prominent unique features found in data centers are these (each of which will be discussed in greater detail throughout this presentation):

- The importance of access to uninterrupted power;
- The importance of the space’s climate (temperature and humidity);
- The importance of the space’s data connectivity and data security;
- The importance of access issues (physical security); and
- The importance of the space’s physical integrity (think: natural disaster).
FIVE TRENDS RELATED TO DATA CENTERS

(Source: Cisco Global Cloud Index: Forecast and Methodology, 2012-2017)
Growth of Global Data Center Relevance and Traffic

- Since 2008, most Internet traffic has originated from or terminated at a data center.

- The increasing use of cloud computing is changing the nature of data center traffic: Although increases in data traffic across the Internet are occurring as might be expected, there has been a sharp increase in traffic among different units with a data center due to cloud-based interaction.

- Multiple factors are driving increased use of “the cloud”.
Continued Global Data Center Virtualization

- Increases in server capacity and virtualization have resulted in a cloud architecture that allows one physical server to handle multiple times the workloads such servers handled in the past.

- This approach results in multiple streams of data traffic within and between data centers.

- As a further illustration of the impact of the cloud, Cisco estimates:
  - That the ratio of workloads to non-virtualized traditional servers will grow from 1.7 in 2012 to 2.3 in 2017, while
  - The ratio of workloads to non-virtualized cloud servers will grow at a greater pace—from 6.5 in 2012 to 16.7 in 2017.
Growth in Demand for Data Storage and Access

- Businesses are increasingly using solutions for data storage and access that are cloud-based.

- Individuals have an increasing expectation to be able to store and access content.
The “Internet of Everything”

The quantity and complexity of communications among people, data, and machines are rapidly increasing.

Cisco estimates:

- That machine-to-machine connections will grow from 2012 to 2022 at a rate that is twenty-two times faster than the increase in the global population over that period, and

- That by 2022, there will be 84 trillion data transmissions per year from machines to other machines.
Increased Expectations Regarding Connectivity

- Consumers of data storage and transmission services will continue to demand improvements, world-wide, in “connectivity”.

- The metrics by which these improvements are measured include:
  - The ubiquity of broadband around the world;
  - Increases in available download speed;
  - Increases in available upload speed; and
  - Improvements in network latency.
Remember “the Basics”?

Prominent, Unique Data Center Features:

- The importance of access to uninterrupted power;
- The importance of the space’s climate (temperature and humidity);
- The importance of the space’s data connectivity and data security;
- The importance of access issues (physical security); and
- The importance of the space’s physical integrity (think: natural disaster).
Types of Equipment in a Data Center:
Power

- Electricity powers servers.
- Electricity powers redundancy equipment.
- Other fuel further powers back-up generators.
- The bottom line is that a lack of power means a server isn’t functioning, which means that applications aren’t running and data can’t be accessed, manipulated, or shared, and that communications can’t occur.
Climate

- Servers function most optimally under controlled temperature and humidity circumstances.

- Thus, electricity is not only critical for the reasons identified on the previous slide, but also because electricity powers the air conditioning units that create and maintain the proper climate.
As the prior discussion about trends illustrated, a significant driver of growth in data center usage will be the world’s expectations regarding access, use and security of data.

A data center must have the physical connections that allow the flow of data in and out of the data center.

A data center must also have the proper hardware, software, and other safeguards necessary to protect the housed data.
Physical Access to a Data Center

- Efforts to digitally protect data would be useless if the data center space could be easily accessed and physically disturbed by trouble-makers.

- Data centers employ a host of safeguards designed to limit physical access to the data center space generally and to certain servers specifically.
Physical Integrity

- Data center operators attempt to avoid building data centers in areas prone to flooding, earthquakes, and/or other natural disasters.

- These matters are less commonly addressed in data center lease documents, but they are certainly important deal considerations for data center users.

- The importance of continuous operation is illustrated by the rigorous terms of service level agreement provisions (which will be discussed later in this presentation).
Types of Data Center Leases

David L. Orwick
dorwick@thompsoncoburn.com
Types of Data Center Leases - Users

- Enterprise/wholesale
- Retail
Enterprise/Wholesale Users

- Historically 1MW and up
- Trend is going downmarket (~250kW)
- Often operate own data center space
- Type of lease depends on capital availability and experience with facility operations
- User often choosing between company-owned data center and leased space (cost of ownership and capital analysis)
Retail Users

- Smaller power and space needs
- Racks or space within racks
- Type of lease depends on power needs and desire and experience with maintaining own IT gear
Types of Data Center Leases

- Triple Net (NNN)
- Powered Core and Shell
- Wholesale Colocation
- Retail Colocation
- Managed Hosting/Cloud/SaaS
NNN

- Sophisticated users
- Lease of building or autonomous suite
- All fiber connections, utilities and maintenance services procured by tenant
- Tenant or landlord may own facility infrastructure (often depends on cost of capital), but tenant maintains
  - If tenant owns, then landlord should require tenant to adhere to a maintenance schedule
Similar to industrial lease, except:
- Long-term (initial term often 10-15 years)
- Renewals
- Purchase options
- Obligations on surrender

- Often build-to-suit
- Base rent can be based upon square footage or power availability
Powered Core and Shell

- Lease of building or autonomous suite
- Landlord provides:
  - Raised floor
  - Fiber connectivity
  - Unconditioned power to premises
    - Need to define demarcation point
- Tenant or landlord may own facility infrastructure, but tenant maintains
Tenant installs and maintains all power and networking distribution, racks and IT gear

- Fiber access is typically direct to fiber providers, but may be through meet-me room
- Landlord provides limited services
  - Typically no SLAs
- Base rent can be based upon square footage or power, but typically power
Wholesale Colocation

- Lease of building or autonomous suite
- Landlord provides:
  - Fiber connectivity
  - Conditioned power (demarcation at PDU or RPP)
  - Environmental controls (cooling, humidity)
  - Facility-level maintenance
- Landlord usually owns facility infrastructure; landlord maintains regardless
Tenant installs and maintains all power distribution downstream from PDU/RPP, networking distribution, racks and IT gear

Fiber access may be direct to fiber providers or through meet-me room

Environmental controls and facility maintenance governed by SLAs

Base rent is usually based upon power
Retail Colocation

- Lease of portion of building or suite
  - Caged space, rack or space within rack
  - Can be lease or license

- Landlord provides:
  - Fiber connectivity; may provide networking/Internet access
  - Conditioned power at server-useable levels
  - Environmental controls
  - Cage; usually racks
  - All maintenance
Tenant installs and maintains IT gear

SLAs for environmental controls; may also cover connectivity

Base rent may be gross, modified gross or NNN.
  - NNN is rare

Power charges may be based upon power capacity (whether or not used) or actual usage
  - Tenant issue: overselling power
Managed Hosting and Cloud Services

- NOT leases
- Managed hosting
  - Provider owns and maintains the IT gear
  - User provides and updates its own software
- Cloud/SaaS
  - Provider provides and updates software
Data Center Leasing

Industry Specific Provisions

Mark Petry, Cooley LLP

mpetry@cooley.com
Overview

- Data Center Types
- Electricity
- Telecom
- Data center access, security and other rules and regulations
- Colocation
- Expansion rights
- Alternative contract structures
Data Center Types

- Uptime Institute’s Tier Standard, TIA 942
  - Tier 1 – Non-Redundant Dedicated DC (better than a standard office)
  - Tier 2 – Basic Redundant Power and Cooling Systems
  - Tier 3 – Concurrently Maintainable
    - No shutdowns for maintenance
  - Tier 4 – Concurrently maintainable and fault tolerant
    - Builds on Tier 3
    - Data center operations that can withstand fire, explosion, leak

- Availability Requirements
  - Cost of downtime to the business
  - Cost of redundancy and other protections
  - Failover to other site?
Electricity

- Power is the key cost driver
  - Rent based on SQFT or KWH Capacity
- Reliability and cost of local public utility
  - Cost changes
- Redundancy
- Meters
Access to telecom service providers
Access to common rooms in data center
Cross connections (Tenant systems and telecom carriers)
Security and Access

- Highly secured building
- Secured pod, cage, rack for each tenant
- Rights of access
  - Time
  - Notice
  - Employees vs contractors
  - Escorts
  - Landlord right of access?
- Policies and Procedures
Data Center Rules and Regulations

- Security and Access Policies
- Fire detection and suppression
- Work and maintenance
- Equipment delivery, installation, and clean-up
- Flooring and ceiling tiles, cabling
- Outage notifications and resolutions
- + Others
Colocation, Subleasing

- **Colocation** – third party equipment located in the tenant’s pod, cage, rack along side tenant’s equipment
  - Tenants can earn revenue for this
  - Many leases permit (within reason)

- **Sublease**
  - Typically requires landlord approval
  - Share excess rents
  - Legal fees for consents
Expansion Rights

- Right to expand to nearby pod, cage, other area
  - Keep tenant’s equipment consolidated within the building for telecom, cabling, and other reasons
  - Right of first refusal when available
Alternative Contract Structures

- Classic real-estate lease adopted for data centers
  - Real estate focused
  - Long term
  - Long contract
- Co-location agreement
  - Shorter term and shorter contract
- Service agreement
  - The service is the power, HVAC, etc. and access to the space
  - Not a leasehold interest
  - Typically shortest and simplest contract
  - Increasingly common
Data Center Leasing

Service Levels

Mark Petry, Cooley LLP
Service Level Overview

- Service Levels
  - Power
  - Environmental
  - Others (Staffing, Notice, Security, etc.)
- Monitoring and Measuring
- Remedy
- Exclusions
Service Level: Power

- Power availability
  - Primary
  - Back-up
  - Immediate fail-over

- Number of disruptions (even if 1 second)

- Total length of disruptions
Service Level: Environmental

- Temperature (65 – 80 degrees)
- Humidity (40% - 60% RH)
- Sensor location
  - 5-8 feet above raised floor
  - Back of equipment air intakes
  - Who decides, approves
- Monitoring and Calibration
Service Levels: Other

- Availability and/or response time of on-site technicians
- Security breaches
- Proactive and timely notifications to tenant when there are power, environmental or other issues identified
- Monitoring these Service Levels can require additional labor or procedures
Monitoring, Measuring, Reporting

- Responsibility for procuring and placing sensors and other monitoring tools
  - Approval rights
- Responsibility for maintaining these sensors and other tools
- Accuracy of sensors and tools
- Monitoring period
  - Per day/incident
  - Monthly stat
- Reporting and verifying service level performance
Service Level Remedy

- Abatement or Credit

- Other damages vs. sole and exclusive remedy

- Termination right for chronic failures
  - 3-5 failures over a 90-180 day period
  - 3 months in a row with a failure or any combination of 5 months in a 12 month period
Abatement Examples

- **Abatement**
  - For any power outage in a day, tenant gets 1-4 days credit on base rent
  - For any temp/rh issue lasting longer than 60-90 minutes, tenant gets 1 day credit on base rent
  - Typically more credits for power and less for temp/rh
  - Applied toward next monthly invoice
Service Level Credit Example

Service Level credit off rent based on compliance percentage

<table>
<thead>
<tr>
<th>Power Availability</th>
<th>Service Credit as % of Monthly Rent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;99.999 ; &gt;= 99.95</td>
<td>2%</td>
</tr>
<tr>
<td>&lt;99.95 ; &gt;= 99.90</td>
<td>5%</td>
</tr>
<tr>
<td>&lt;99.90 ; &gt;= 99.75</td>
<td>10%</td>
</tr>
<tr>
<td>&lt;99.75 ; &gt;= 99.50</td>
<td>20%</td>
</tr>
<tr>
<td>&lt;99.50</td>
<td>50%</td>
</tr>
</tbody>
</table>
More relaxed standards for Temp/Humidity

<table>
<thead>
<tr>
<th>Temp/Humidity Within Range</th>
<th>Service Credit as % of Monthly Rent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;99.90 ; &gt;= 99.50</td>
<td>2%</td>
</tr>
<tr>
<td>&lt;99.50 ; &gt;= 99.00</td>
<td>5%</td>
</tr>
<tr>
<td>&lt;99.00 ; &gt;= 97.50</td>
<td>10%</td>
</tr>
<tr>
<td>&lt;97.50 ; &gt;= 95.00</td>
<td>20%</td>
</tr>
<tr>
<td>&lt;95.00</td>
<td>50%</td>
</tr>
</tbody>
</table>
Exclusions

- Force majeure
  - Utility interruption
  - UPS
  - Redundancy

- Scheduled Maintenance
  - Notice, window, off-peak hours

- Tenant or tenant contractor caused problem