# Data Center Deep Dive: Analyzing Risk and Resilience among Public Companies

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## ABSTRACT

The global data center industry faces unprecedented demand driven by AI adoption, creating significant investment risks. This study analyzes eleven publicly traded data center companies using a five factor framework: power infrastructure, debt levels, customer concentration, geographic exposure, and market competition.

Using SEC filings data from 2022 to 2025, we developed weighted risk scores across business models. Oracle, Equinix, and Digital Realty Trust emerge as lowest risk investments, while Applied Digital, VNET Group, and CoreWeave represent highest risk due to extreme leverage and customer concentration.

Key findings include critical power constraints from AI workloads and rising hyperscaler bargaining power. This framework provides structured methodology for evaluating data center investments beyond traditional financial metrics.

Keywords: *Data center risk assessment, Infrastructure investment analysis, Power risk evaluation, Customer concentration risk, Geographic exposure analysis, Market competition assessment, Debt and leverage analysis.*

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# I. Introduction

### Data Centers: The Foundation of Digital Infrastructure

Data centers are specialized facilities that house computing infrastructure, including servers, storage systems, and networking equipment, designed to store, process, and distribute vast amounts of digital information. These facilities serve as the physical backbone supporting virtually all digital services, from enterprise cloud platforms and e-commerce transactions to social media networks and artificial intelligence applications.

The strategic importance of data centers has intensified dramatically as global digital transformation accelerates. Rising demand for cloud computing, the proliferation of AI workloads, and the expansion of edge computing applications have transformed data centers from basic server farms into sophisticated, capital-intensive infrastructure assets requiring substantial power capacity, advanced cooling systems, and strategic geographic positioning.

### Market Dynamics and Growth Drivers

The data center industry is experiencing unprecedented growth driven by several key factors: enterprise cloud migration, artificial intelligence compute requirements, 5G network deployment, and increasing data generation across all sectors. This demand surge has created both significant investment opportunities and operational challenges, particularly around power availability, regulatory compliance, and capital allocation efficiency.

The framework addresses a critical gap in data center investment analysis by accommodating diverse business models within the ecosystem—from pure-play operators like Equinix to diversified technology companies with substantial data center exposure like Oracle. This research provides investors with a structured methodology for assessing data center companies in an industry where traditional financial metrics alone are insufficient to capture the full risk profile of these infrastructure-intensive, rapidly evolving businesses.

# II. Methodology

### 2.1 Data Collection

To begin our risk evaluation, we collected historical data for the past three years across 11 publicly traded data center companies. We prioritized data reliability, consistency, and comparability to support both quantitative analysis and qualitative assessments across five key risk dimensions.

**Primary Source**

- **SEC EDGAR Fillings**: Form 10-K annual reports and 10-Q quarterly filings provided audited financial statements, detailed operational disclosures, and standardized risk factor discussions
- **Company Communications**: Investor relations materials, earnings call transcripts, and investor presentations offered management guidance and forward-looking insights

**Secondary Sources**

- **Financial Data Platforms**: Yahoo Finance and StockAnalysis.com for market data validation and additional metrics
- **Market Insights**: SeekingAlpha, CNBC for industry context and analyst perspectives

- **Industry Reports**: Supplementary research from reputable sources to contextualize company-specific finding

### 2.2 Risk Assessment Framework

Following data collection and validation, we developed a comprehensive five factor risk assessment framework designed to capture the multifaceted nature of data center investment risks. Our methodology recognizes that traditional financial metrics alone are insufficient for evaluating infrastructure-intensive businesses operating in rapidly evolving technological environments.

**Framework Design Principles**
The framework incorporates both quantitative metrics and qualitative assessments, weighted according to business model differences between owner-operators and leasing-focused companies. Each risk category addresses specific operational and financial vulnerabilities that materially impact long-term investment performance in the data center sector.

#### 2.2.1 Risk Categories and Weighting Structure

Our analysis encompasses five core risk dimensions, with weightings adjusted to reflect business model variations:

| Risk Category | Owner-Operators | Leasing Companies | Rationale |
|---|---|---|---|
| Power Risk | 25% | 0% | Critical for operational companies |
| Debt & Leverage Risk | 25% | 30% | Higher importance for capital-light models |
| Customer Concentration Risk | 20% | 25% | Key revenue stability factor |
| Geographic Exposure Risk | 15% | 20% | Regulatory and infrastructure dependency |
| Market Competition Risk | 15% | 25% | Competitive positioning importance |

#### 2.2.2 Risk Category Definitions

**Power Risk – 25% (Owner-Operators)**
Evaluates a company's exposure to power- and energy-related risks in the operation of its data centers. Power is the single largest operating cost for data center companies especially in the context of the AI boom. Companies operating in power-constrained regions or facing grid uncertainty are at higher risks of supply disruptions and expansion bottlenecks.
**Submetrics**:

- Active Power Capacity (MW)

- % Renewable Energy
- Power Usage Effectiveness (PUE)
- Power Risk Transparency Flag

**Debt & Leverage Risk – 25% (Operators), 30% (Leasing Firms)**
Measures the extent to which a company is financially overextended through its use of debt financing, including its ability to service interest and refinance obligations. Many of our companies are heavily leveraged due to the capital-heavy nature of data center infrastructure and fund growth through debt. If this debt becomes too much or the coverage too weak, the company could easily fall into distressed financing.
**Submetrics:**

- Debt/EBITDA ratio
- Interest Coverage Ratio
- % Debt Maturing within 2 years.

**Customer Concentration Risk – 20% (Operators), 25% (Leasing Firms)**
Measures how reliant a company is on a few key clients for a majority of its revenue. Overconcentration can expose firms to revenue shocks if a major customer churns. Losing major customers in a concentrated revenue model can be extremely costly to overall profitability and investor confidence.
**Submetrics:**

- Single Customer Dependency
- Top 10 Customers Concentration
- Customer Type (e.g., hyperscaler, enterprise, SMB)
- Contract Duration/Stability.

**Geographic Exposure Risk – 15% (Operators), 20% (Leasing Firms)**
Assesses the geographic diversity and political/economic risk surrounding a company's data center footprint. Companies concentrated in unstable or oversaturated markets are at greater risk from regulatory shocks, local disasters, or market saturation.
**Submetrics:**

- Political/Regulatory+Compliance Risk (e.g., geopolitical tension, regulation)
- Market/Economic risk (Market failure, recession, continued market demand)
- Infrastructural/Environmental Risk(e.g., power grid reliability, latency zones)
- Geographic Diversification (% of Revenue by Region)

**Market Competition Risk – 15% (Operators), 25% (Leasing Firms)**
Evaluates a company's competitive positioning relative to peers in the same market. It shows how saturated or defensible a company's markets are, and whether pricing power and margin stability are at risk. Smaller companies in our list like Applied Digital face more pressure from competitors compared to giants like Equinix.
**Submetrics:**

- Market Share (%)
- Average Year-over-Year Revenue Growth (Flag)
- Capex as a % of Rev

- Entry Barriers (Flag)

### 2.2.3 Risk Scoring Methodology

Once all relevant data was collected across the five risk categories, we performed the following steps to produce each company's final risk score:

1. **Normalization:** Raw values for each submetric were normalized to ensure comparability across companies of different sizes and models.
2. **Submetric Scoring:** Each submetric was assigned a score based on its value relative to the peer group or benchmark.
3. **Category Weighting:** The scores for submetrics within each category were aggregated and then weighted according to the pre-defined category weights (e.g., Power Risk = 25%).
4. **Final Score Calculation:** The weighted scores across all five categories were summed to compute a single composite risk score for each company.

**Example – Equinix Final Score Calculation:**

$$\begin{aligned} Total\ Score(EQIX) = {} & 0.25 \times Power\ Score + 0.25 \times Debt\ \&\ Leverage\ Score \\ & + 0.20 \times Customer\ Concentration\ Score \\ & + 0.15 \times Geographic\ Exposure\ Score \\ & + 0.15 \times Market\ Competition\ Score \end{aligned}$$

## III. Company Overview & Business Models

Understanding each company's business model is critical to accurately interpreting its risk profile. The data center sector includes operators with different revenue sources, client bases, and operating strategies. Below we summarize the business models of the companies in our analysis.

**EQUINIX INC (Ticker: EQIX)**

Equinix operates a global network of carrier-neutral colocation facilities, known as International Business Exchanges (IBXs). It differentiates itself through its dense interconnection ecosystems, such as Equinix Fabric, which allow customers to directly and securely connect with partners, cloud providers, and networks.

- **Business Model:** Recurring revenue model based on long-term colocation leases and interconnection services.
- **Revenue Breakdown (data center-related)**:
    - ~78% from colocation
    - ~19% from interconnection
    - ~97% total data center–related revenue
    - *Source: Glucksman & Sanchez, 2018*

**DIGITAL REALTY TRUST, INC. (Ticker: DLR)**

Digital Realty is a leading global provider of data centers, including colocation and interconnection. The company provides colocation services, hyperscale infrastructure, and interconnection solutions, primarily through its PlatformDIGITAL offering. This platform enables hybrid IT deployments and supports enterprise and cloud-scale workloads.

- **Business Model:** REIT structure with a focus on leasing data center capacity to hyperscalers, cloud providers, and enterprise customers.
- **Revenue Breakdown**:
    - ~100% of revenue is tied to its data center assets and services
    - Reflects a stable and focused infrastructure strategy
    - *Source: Digital Realty 4Q24 Earnings presentation*

**CoreWeave, Inc. (Ticker: CRWV)**

CoreWeave specializes in GPU-accelerated, hyperscale data centers optimized for AI, machine learning, and high performance computing workloads. The company builds custom infrastructure and maintains long-term partnerships with enterprise clients.

- **Business Model:** Vertically integrated GPU cloud provider offering dedicated compute infrastructure tailored to modern AI workloads.
- **Revenue Breakdown**:
    - ~100% of revenue comes from data center–based services
    - High client concentration, with major revenue share tied to a small number of platform customers
    - *Source: CoreWeave, Wikimedia Foundation. (2025)*

**VNET Group, Inc. (Ticker: VNET)**

VNET is China's largest carrier-neutral data center operator, providing wholesale and retail colocation services, network connectivity. It also managed cloud infrastructure across major Chinese hubs.

- **Business Model:** Core focus on internet data center (IDC) operations within China.
- **Revenue Breakdown:**
    - ~73%+ from core IDC operations (~1.63 bn RMB IDC vs ~0.62 bn RMB non-IDC)
    - *Source: Futunn News. (2025)*

**GDS Holdings Ltd (Ticker: GDS)**

GDS is a leading colocation and digital infrastructure company in China, serving major domestic cloud and Internet players with high-density facilities in Tier 1 cities. Also expanding regionally in Asia-Pacific.

- **Business Model:** Carrier-neutral colocation and digital infrastructure provider.
- **Revenue Breakdown**
    - Nearly 100% of revenue from data center services
    - *Source: DBS Vickers Securities, DBS Group Research*

**Applied Digital Corp. (Ticker: APLD)**
Although newer to colocation, APLD operates massive AI-focused campuses (via CoreSite) and provides hyperscale power infrastructure for data center tenants. The primary business remains developer and AI-powered rollout.

- **Business Model:** Infrastructure developer focused on hyperscale and AI workloads.
- **Revenue Breakdown**
    - Estimated <10% of total revenue from colocation services
    - Majority of revenue from infrastructure hosting services and transition into REIT model

**DigitalOcean Holdings, Inc. (Ticker: DOCN)**
DigitalOcean delivers cloud infrastructure services to SMBs and developers, offering IaaS, PaaS, Kubernetes, and managed solutions across a global data center footprint.

- **Business Model:** Cloud provider for small and mid-sized enterprises.
- **Revenue Breakdown**
    - >80% derived from cloud and infrastructure services tightly linked to data center operations
    - Global presence (~30% in Europe, ~22% in Asia-Pacific)

**DigitalBridge Group, Inc. (Ticker: DBRG)**
DigitalBridge is a digital infrastructure asset manager with investments in data centers (Vantage, DataBank), towers, fiber, and edge assets. Its operating segment includes direct leasing of data center spaces.

- **Business Model:** Cloud provider for small and mid-sized enterprises.
- **Revenue Breakdown (**data center operating revenue)
    - ~35–40% from digital infrastructure operations (Vantage/DataBank)
    - Remainder from asset management and fees
    - *Source: DigitalBridge Group, Inc. (2025). Investor relations presentation; Caisse de dépôt et placement du Québec. (2024).*

**American Tower Corp (Ticker: AMT)**
AMT is a wireless infrastructure REIT with data center exposure through its CoreSite acquisition, complementing its tower and fiber portfolio.

- **Business Model:** Primarily focused on tower leasing; data center operations through current edgar data centers and CoreSite.
- **Revenue Breakdown (**data center revenue contribution)
    - <10% from CoreSite colocations
    - Majority derived from tower rental and wireless infrastructure leasing. (Estimated from business structure)

**Iron Mountain Inc (IRM)**
Iron Mountain began as a physical records storage provider but is expanding into digital infrastructure, offering colocation and data center services across global markets including U.S., EMEA, MENA.

- **Business Model:** Diversified storage and information management company with a growing digital/data center footprint.
- **Revenue Breakdown** (Share from data centers)
    - ~25% estimated from digital and data center related services
    - Reminder from a broader portfolio including storage, information management, and ALM products
    - *Source: Iron Mountain Inc. (2024, February).*

**Oracle Corp (Ticker: ORCL)**
Oracle provides enterprise software and operates a growing cloud infrastructure platform (OCI), including public cloud data centers and colocation offerings.

- **Business Model:** Integrated software and infrastructure cloud provider.
- **Revenue Breakdown (**data center operations share)
    - Oracle doesn't break out explicitly, but a substantial portion of its revenue is tied to OCI infrastructure services, increasingly core to its growth and differentiated from software licensing.
    - Estimated 40–50%of total revenue linked to data center operations via OCI
    - OCI growth increasingly drives Oracle's revenue and strategic positioning

# IV. Risk Sector Deep Analysis

## Risk Data Scaling and Normalization

To enable meaningful comparison across companies of different sizes, business models, and reporting practices, we applied comprehensive **scaling** and **normalization** techniques to all submetric values prior to risk scoring. Our methodology combines statistical rigor with business relevance through multiple approaches.

### a. Scaling for Skewed Data

For submetrics with highly skewed distributions (e.g., Power Capacity, Revenue), we applied **logarithmic scaling** to reduce the dominance of outliers and allow mid-range values to be meaningfully differentiated. This transformation is especially important when a few companies report orders of magnitude larger figures than others.

- **Logarithmic Scaling Formula:**

$$x_{scaled} = log(1 + x)$$

    - This ensures non-negative values and avoids undefined values for $x = 0$.

### b. Normalization Methods

After scaling (if applicable), submetric values were normalized to a **0–100 scale**, where 0 represents lowest risk and 100 represents highest risk. We employed three distinct normalization approaches:

- **Min Max Normalization:**

$$Score(x) = \left(\frac{x - min(X)}{max(X) - min(X)}\right) \times 100$$

    - Used when higher values imply higher risk (e.g., PUE, Debt/EBITDA).

- **Inverse Min Max Normalization**

$$Score(x) = [1 - (\frac{x - min(X)}{max(X) - min(X)})] \times 100$$

  - Used when higher values imply lower risk (e.g., % Renewable Energy, Power Capacity)
  - Inverts the relationship to maintain consistent risk interpretation

**c. Threshold-Based Scoring with Linear Interpolation**

For **qualitative metrics** or **metrics requiring industry-specific business logic** (e.g., Debt/EBITDA ratios, Interest Coverage ratios, Revenue Growth rates), we applied a **threshold system with linear interpolation** to ensure scores reflect established risk frameworks rather than purely statistical distributions.

- **Linear Interpolation Formula:**

$$Single\ Customer\ Dependency\ Score = (x - x_1) \times \frac{(y_2 - y_1)}{(x_2 - x_1)}$$

  Where:
  - $x$ = input value (customer revenue %)
  - $x_1$, $x_2$ = lower and upper bounds of input range for the risk bracket
  - $y_1$, $y_2$ = corresponding lower and upper score bounds of the bracket.

## 4.1 Power Risk Analysis

### 4.1.1 Why Power Matters?

Power is the single largest operational cost in data centers. As demand for AI and high-density computing surges, companies with inadequate power supply or lack of visibility into their power plans face significant scalability issues and serious limitations to growth. Furthermore, transparency in power sourcing and efficiency has become a key factor in evaluating environmental sustainability and long-term competitiveness. Power risk also reflects a firm's alignment with ESG standards, which increasingly influence capital allocation and stakeholder trust.

### 4.1.2 Submetrics and Data Sources

**Power Capacity (MW)**

- ***Purpose***: Indicates a company's scalability and infrastructure strength. A higher total power capacity reflects greater ability to support customer demand and expand services—particularly important during AI-driven surges in compute workloads.
- ***Data Sources:*** Primarily collected from investor relations (IR) materials, including company presentations, earnings calls, and public filings. In cases where data was unavailable, estimates were made using secondary sources, such as for ORCL's involvement in the Stargate Project.

**Renewable Energy (%)**

- ***Purpose:*** A higher percentage of renewable energy usage reflects better environmental sustainability and regulatory alignment. It also serves as a proxy for ESG maturity and resilience against future carbon pricing or emissions penalties.
- ***Data Sources:*** Renewable energy percentages were primarily sourced from investor relations materials, including ESG reports and investor presentations.
    - For CRWV, which publicly states that many of its data centers operate on 100% renewable energy, we conservatively assumed full coverage at 100%.
    - For APLD, available information was limited; one source indicated ~70% renewable energy usage at the Ellendale Data Center. Since this figure does not represent the entire company's operations, we estimated its total renewable share at 50% to remain cautious.
- ***Note***: In cases where companies did not disclose full renewable usage, estimates were derived based on disclosed operating capacity and supporting context from ESG reports.

**Power Usage Effectiveness (PUE)**

- ***Purpose:*** A lower PUE indicates that a greater proportion of energy is directed toward IT workloads rather than non-IT operations like cooling. This translates to better energy efficiency, lower operating costs, and stronger environmental performance.
- ***Data Sources:***
    - Direct PUE disclosures were limited–only EQIX and AMT publicly reported exact figures.
    - For others, estimates were required. For instance, a case study on DLR's Santa Clara facility reported a PUE of ~1.6. In DLR's 2024 impact report, the company noted 5% and 3% PUE improvements in North America and Europe, respectively.
    - DLR was estimated at 1.5 PUE.

**Power Transparency Risk Flag**

- ***Purpose:*** Transparent disclosure of power sourcing, expansion plans, and renewable initiatives enhances investor confidence and reduces operational uncertainty. A lack of clarity in these areas can signal execution risk or hidden constraints on scalability.
- ***Data Sources***: Scored based on disclosures from earnings calls and IR presentations, with two subcomponents:
    - Renewable Strategy (Clear / Partial / None → 0 / 15 / 30)
    - MW Expansion Plan (Yes / Partial / No → 0 / 10 / 20)
- ***Note:*** The final score ranges from **0 (low risk)** to **50 (high risk)**.

### 4.1.3 Submetrics Weighting and Scoring Method

Power Risk contributes **25% of the total score** for operator companies. Each submetric is normalized and weighted to reflect its relative importance in evaluating power-related risk.

| SUB-METRIC | SUB-METRIC WEIGHT (%) | SCORING METHOD | RATIONALE |
|---|---|---|---|
| Power Capacity (MW) | 35 | Log Scale + Inverse Min Max Normalization | Raw MW values were log-transformed to reduce right skew, then normalized. Higher capacity implies stronger scalability, so lower scores indicate lower risk. |
| Renewable Energy (%) | 30 | Inverse Min Max Normalization | Higher renewable usage reflects lower environmental and regulatory risk. The inverse normalization assigns lower scores to more sustainable firms. |
| Power Usage Effectiveness | 25 | Min Max Normalization | Lower PUE indicates better efficiency. We used **1.58 (industry average)** as the upper bound for normalization. Lower values = better = lower risk. |
| Power Transparency Risk Flag | 10 | 0: Lowest Risk<br>15: Highest | Two-part flag system. Lower scores = more transparency = lower risk. |

### 4.1.4 Power Risk Raw Metrics by Company

Below is the comprehensive Power Risk raw data for all companies in our analysis:

| Company | Active Power Capacity (MW) | Renewable Energy (%) | PUE | Power Flag |
|---|---|---|---|---|
| EQIX | 1289 | 96 | 1.39 | 0 |
| DLR | 2760 | 75 | 1.5 | 0 |
| CRWV | 420 | ~100 | 1.32 | 15 |
| VNET | 573 | 18 | 1.27 | 0 |
| GDS | 1682 | 40 | 1.24 | 0 |
| APLD | 286 | ~50 | 1.18 | 15 |
| AMT | 304.5 | 44 | 1.36 | 0 |
| IRM | 424 | 100 | 1.41 | 0 |
| ORCL | 4100 | 86 | 1.37 | 0 |
| DOCN | n/a, leasing firms | | | |
| DBRG | n/a, Investments Manager | | | |

**Data After Applying Submetric Scoring Weights and Methodology:**

| Company | Active Power Capacity (MW) | Renewable Energy (%) | PUE | Power Flag |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| EQIX | 43.4889 | 2.4187 | 52.5 | 0 |
| DLR | 14.8764 | 17.0222 | 80 | 0 |
| CRWV | 85.5932 | 0.0000 | 35 | 15 |
| VNET | 73.9370 | 100.0000 | 22.5 | 0 |
| GDS | 33.4894 | 53.9629 | 15 | 0 |
| APLD | 100.0000 | 40.8992 | 0 | 15 |
| AMT | 97.6512 | 48.3909 | 45 | 0 |
| IRM | 85.2376 | 0.0000 | 57.5 | 0 |
| ORCL | 0.0000 | 8.9312 | 47.5 | 0 |

### 4.1.5 Power Risk Scores by Company

Below are the Power Risk scores for every company, from lowest risk (EQIX) highest risk (AMT)

| Rank | Company | Power Risk Score |
|---|---|---|
| 1 | **ORCL** | 3.639 |
| 2 | **EQIX** | 7.268 |
| 3 | DLR | 7.578 |
| 4 | GDS | 7.915 |
| 5 | CRWV | 10.052 |
| 6 | IRM | 11.052 |
| 7 | APLD | 12.192 |
| 8 | AMT | 14.986 |
| 9 | VNET | 15.376 |
| — | DOCN | n/a |
| — | DBRG | n/a |

### 4.1.6 Insights and Key Findings

**Low Risk Leader:** Larger operators like ORCL, EQIX and DLR exhibit the lowest power risk scores, driven by their substantial operational power capacity, high levels of renewable

energy usage, consistently reported PUE, and transparent disclosures with mature infrastructure.

**High Risk Outlier:** VNET, despite being a sizable operator, received the highest risk score. The elevated risk is majorly attributed to extremely low renewable energy usage.

**Mid Risk Firms:** CRWV and IRM fall in the mid risk tier, as both have growing footprints but lack full transparency around power sourcing, efficiency metrics, or renewable plans, which impacts their scoring through investor trust.

**Startup Mismatch Risk:** Startups like CRWV and APLD often scale faster than power infrastructure, introducing possible mismatch risk: capacity may be committed before reliable power provisioning is secured.

## 4.2 Debt & Leverage Risk Analysis

### 4.2.1 Why Does It Matter?

High levels of debt relative to earnings (e.g., a high debt/EBITDA ratio or large near term maturities) expose data center operators to refinancing and liquidity risk, especially in rising interest rate environments or during periods of cash flow volatility.
When too much borrowing comes due in the short term, companies may scramble for financing at unfavorable terms or be forced to sell assets, undermining operational stability. Likewise, a weak interest coverage ratio signals that routine operating income may not comfortably cover financing costs, leaving little cushion for unexpected expenses or downturns.
In contrast, firms with lower leverage enjoy more financial flexibility, allowing them to invest in growth initiatives and better withstand market shocks.

### 4.2.2 Submetrics and Data Sources

**Debt/EBITDA Ratio**

- ***Purpose:*** The most critical submetric in this risk category, it directly signals company's leverage and potential solvency risk. High ratios suggest elevated financial pressure, particularly concerning capital-intensive infrastructure firms.
- ***Calculation Method:***
  We use the following formula for compute the ratio:

$$Debt/EBITDA = \frac{Total\ Debt}{Annualized\ EBITDA}$$

  - ***Annualized EBITDA*** was calculated using the company's Q1 2025 EBITDA:

$$Annualized\ EBITDA = Q1\ EBITDA \times 4$$

  This forward-looking approach better reflects 2025 expansion activities and avoids relying on outdated 2024 data.
- ***Scoring Method:*** To maintain both statistical rigor and business relevance, we employed a threshold system and interpolation to scale Debt/EBITDA ratios into risk scores from 0 to 100 (where 0 = lowest risk) using industry benchmarks (6.65).
  - **Threshold System**

| Risk Level | Interest Coverage Ratio | Score |
|---|---|---|
| Excellent | ≤ 3.33x | 0 |
| Good | 3.33 - 4.99x | 0 - 20 |
| Average | 4.99 - 6.65x | 20 - 40 |
| Poor | 6.65 - 9.98x | 40 - 70 |
| Dangerous | 9.98 - 13.30x | 70 - 90 |
| Critical | > 13.30x | 90 - 100 |

- ***Data Sources:***
    - Q1 2025 EBITDA and Total Debt values were obtained from company financial statements and supplemental filings.
    - Companies such as CRWV, DLR, APLD, and VNET were observed to be undergoing aggressive investment in early 2025, further justifying the use of annualized Q1 data.

**Interest Coverage Ratio**

- ***Purpose***: This ratio measures a company's ability to cover its interest expenses using operating cash flow. A low interest coverage ratio implies financial strain, suggesting the company may struggle to meet debt obligations, especially during downturns or rising interest rate environments. A higher ratio provides a buffer and signals financial resilience.
- ***Calculation Method:***
  We calculated the Interest Coverage Ratio using:
  $$Interest\ Coverage\ Ratio\ = \frac{Adjusted\ EBITDA}{Interest\ Expense}$$
    - Adjusted EBITDA is preferred over EBIT to avoid distortion from non-cash items like depreciation and amortization, which might cloud a company's actual cash flow.
    - This method provides a clearer picture of the company's actual capacity to meet financing costs.
- ***Scoring Method:*** To maintain both statistical rigor and business relevant, we employed a Hybrid Piecewise Risk Scoring approach that transforms Interest Coverage Ratios into risk scores from 0 to 100 (where 0 = lowest risk)
    - **Threshold System**

| Risk Level | Interest Coverage Ratio | Score |
|---|---|---|
| Excellent | ≥ 8.0x | 0 - 5 |
| Good | 4.0 - 8.0x | 5 - 15 |
| Moderate | 2.5 - 4.0x | 15 - 40 |

| | | |
|---|---|---|
| High | 1.5 - 2.5x | 40 - 70 |
| Critical | < 1.5x | 70 - 100 |

- **Scaling Method:**
  - **High Values ( ≥ 8.0x ):** Apply Logarithmic compression to handle outliers. Using Formula:
    $Score = max(0, 5 - log(1 + (ICR - 8.0))$
  - **Normal Range (1.5 - 8.0x)**: Linear interpolation within each threshold segment
  - **Critical values (<1.0x):** Assigned maximum score of 100

- ***Data Sources:***
  - Adjusted EBITDA and Interest Expense were obtained from each company's quarterly filings and historical financial data.
  - In cases like CRWV and APLD, using EBIT instead of Adjusted EBITDA would have yielded misleading or negative ratios due to large depreciation charges.

**Debt Maturing < 2 years (%)**

- ***Purpose:*** This submetric assesses a company's short term capability to pay back debt. A higher percentage of debt maturing within two years suggests increased liquidity pressure and a greater need for near term refinancing, which could lead to unfavorable borrowing terms or forced asset sales, especially during adverse market conditions. Conversely, a lower percentage indicates stronger liquidity planning and lower short-term financial risk.
- ***Calculation Method:***

$$Debt\ Maturing\ <\ 2\ Years\ (\%)\ =\ \frac{Debt\ Due\ in < 2\ Years}{Total\ Debt} \times 100$$

- ***Scoring Method:*** To maintain both statistical rigor and business relevant, we employed a threshold system and interpolation to scale Debt Maturing percentage into risk scores from 0 to 100 (where 0 = lowest risk)
  - **Risk threshold:**

| Risk Level | Interest Coverage Ratio | Score |
|---|---|---|
| Low | ≤10% maturing | 0 - 15 |
| Low - Moderate | ≤10% maturing | 15-35 |
| Moderate | 25-50% maturing | 35 - 60 |
| Moderate - High | 50-75% maturing | 60 - 85 |
| High | >75% maturing | 85 - 100 |

- ***Data Sources:***
    - Calculated using maturities tables found in the Notes to Financial Statements section of each company's 10-K filings.
    - Special Cases:
        - APLD has a substantial principal payment of $386.129 million scheduled for 2027, which was excluded from the 1.4027% calculation of debt maturing in less than two years.
        - DOCN has convertible notes maturing on December 1, 2026, with a principal amount of $1,500 million.
        - DBRG has $300 million in Class A-2 Notes maturing in September 2026.
        - Both DOCN and DBRG utilize bullet repayment structures, where the full principal is repaid at maturity rather than through staggered (laddered) payments. While this approach can simplify interim cash outflows, it also increases liquidity pressure and refinancing risk at maturity.
        - AMT has $4,731 million of debt maturing in 2027 and approximately $12,384 million maturing in 2028, comprised of $5,250 million in senior notes, $1,750 million in U.S. secured debt, $1,800 million in drawn bank debt, and $4,334 million in revolving credit facility availability. These maturities are predominantly senior notes and revolving credit facility commitments. The concentration of large maturities in 2027 and especially in 2028 implies that AMT will face significant refinancing needs and potential liquidity pressures during these years, making proactive capital management and access to credit markets critical.

### 4.2.3 Submetrics Weighting and Scoring Method

Debt & Leverage Risk contributes **25% of the total score** for operator companies and **30% of the total score for leasing companies**.
Each submetric is normalized to a 0–100 scale and weighted based on its significance in evaluating debt-related financial risk.

| SUB-METRIC | SUB-METRIC WEIGHT (%) | SCORING METHOD | RATIONALE |
|---|---|---|---|
| Debt/EBITDA | 70 | Industry Benchmarking + Threshold System+ Linear Interpolation | High ratios imply high leverage risk. APLD was excluded due to outlier (-25.9423) |
| Interest Coverage Ratio | 15 | Threshold System + Linear Interpolation | Low ratios imply difficulty in covering interest. DOCN excluded due to outlier (39.08) |

| | | | |
|---|---|---|---|
| Debt Maturing ≤ 2 years (%) | 15 | Threshold System + Linear Interpolation | A higher percentage implies greater short-term refinancing pressure. APLD, with a low outlier of 1.485%, was omitted from normalization and assigned the minimum risk score (0). DOCN and DBRG, both with 100% of debt maturing within two years, were also omitted and assigned the maximum risk score (100). |

### 4.2.4 Debt & Leverage Risk Raw Data By Company

Below is the comprehensive Debt & Leverage Risk raw data for all companies in our analysis:

| Company | Debt/Ebitda Ratio | Interest Coverage Ratio | Debt Maturing ≤ 2 years (%) |
|---|---|---|---|
| EQIX | 5.2427 | 8.3630 | 11.4411 |
| DLR | 2.9281 | 7.5269 | 15.925 |
| CRWV | 4.9642 | 0.9998 | 65.707 |
| VNET | 12.2472 | 6.7800 | 24.2002 |
| GDS | 4.7600 | 2.9987 | 15.2689 |
| APLD | -25.9423 | 1.1257 | 1.5027 |
| DOCN | 4.8417 | 39.9576 | 100 |
| DBRG | 2.4133 | 11.8849 | 100 |
| AMT | 6.9364 | 5.1133 | 10.3750 |
| IRM | 9.0885 | 3.0644 | 7.3480 |
| ORCL | 3.3903 | 8.9489 | 11.1367 |

**Data After Applying Submetric Scoring Weights and Methodology:**

| Company | Debt/Ebitda Ratio | Interest Coverage Ratio | Debt Maturing ≤ 2 years (%) | Total |
|---|---|---|---|---|
| EQIX | 16.17 | 0.705 | 2.535 | 19.41 |
| DLR | 0 | 0.93 | 3.435 | 4.365 |
| CRWV | 13.79 | 13.5 | 11.355 | 38.645 |
| VNET | 58.59 | 1.2 | 5.085 | 64.875 |
| GDS | 12.11 | 4.755 | 3.3 | 20.165 |

| | | | | |
|---|---|---|---|---|
| APLD | 70 | 12.75 | 0.345 | 83.095 |
| DOCN | 12.74 | 10.225 | 15 | 37.965 |
| DBRG | 0 | 0.51 | 15 | 15.51 |
| AMT | 29.82 | 1.83 | 2.325 | 33.975 |
| IRM | 43.4 | 4.59 | 1.65 | 49.64 |
| ORCL | 0.56 | 0.645 | 2.475 | 3.68 |

### 4.2.5 Debt & Leverage Risk Scores By Company

The table below presents the Debt & Leverage Risk scores for each company, ranked from lowest risk (DBRG) to highest risk (GDS). Scores are rounded to the nearest thousandth.

| Rank | Company | Debt & Leverage Risk Score |
|---|---|---|
| 1 | **ORCL** | 0.92 |
| 2 | **DLR** | 1.09125 |
| 3 | **DBRG** | 4.653 |
| 4 | EQIX | 4.8525 |
| 5 | GDS | 5.04125 |
| 6 | AMT | 8.49375 |
| 7 | CRWV | 9.66125 |
| 8 | DOCN | 11.3895 |
| 9 | **IRM** | 12.41 |
| 10 | **VNET** | 16.21875 |
| 11 | **APLD** | 20.77375 |

### 4.2.6 Insights and Key Findings

**Top Performers (Low Risk):**

- **ORCL (0.92)**: Exceptional debt management with low leverage (3.39x), strong interest coverage (8.95x), and manageable maturities (11.1%)
- **DLR (1.09)**: Conservative financial profile with excellent leverage (2.93x) and adequate liquidity planning

- **DBRG (4.65)**: Strong fundamentals despite 100% near term maturities, offset by low leverage and excellent interest coverage

**High Risk Concerns:**

- **APLD (20.77)**: Critical financial distress with negative EBITDA (-25.94x), poor interest coverage (1.13x), indicating potential solvency issues
- **VNET (16.22)**: Excessive leverage (12.25x) poses significant refinancing risk despite adequate interest coverage
- **IRM (12.41)**: Above average leverage (9.09x) with moderate interest coverage suggests elevated financial pressure

**Refinancing Risk Analysis:**

- **Immediate Concern**: DOCN and DBRG face 100% debt maturity within 2 years, requiring proactive refinancing
- **CRWV**: 65.7% near term maturities combined with weak interest coverage (1.0x) creates compounded liquidity pressure
- **Best Positioned**: APLD and IRM have minimal near term maturities, providing refinancing flexibility

## 4.3 Customer Concentration Risk Analysis

### 4.3.1 Why Does It Matter?

Customer concentration risk refers to the reliance on a small number of clients for a significant portion of a company's revenue. In the data center industry, where contracts are often large, multi-year, and infrastructure-intensive, this dependency can expose companies to revenue disruption.

If one or two major customers account for a large share of revenue, their departure can result in substantial financial disruption. Companies with a diversified client portfolio are more resilient, with stabler cash flows and greater pricing flexibility, while those with concentrated exposure are more sensitive to client churn. Furthermore, contract length is affected by company type and can influence business partnerships between client and provider (longer contracts means stronger relationship and therefore deinfluences clients from switching to competitors.)

### 4.3.2 Submetrics and Data Sources

**Data Sources**: Customer concentration metrics were derived from multiple sources to ensure comprehensive coverage:

- Q1 2025 10-Q and 10-K annual filings, particularly customer concentration disclosures and revenue reports
- Q1 2025 investor presentations containing top client information and revenue contribution percentages
- Supplementary data from earnings calls and client portfolio reports

- When direct values were unavailable, logical estimations were made based on SEC footnotes, historical revenue distribution, client counts, and industry reports

**Note:** Detailed raw data, estimation methodologies, and source documentation for each submetric are provided in **Appendices 3.1 to 3.4.**

**Single Customer Dependency**

- ***Purpose:***
    - **Financial Health:** Evaluates reliance on a single tenant within data center corporations for its revenue presents a risk of sensitivity to financial health. Sudden downsizing or withdrawal of a large client directly affects a large portion of revenue.
    - **Customer Bargaining Power:** When a single client contributes significantly to revenue, they gain leverage in negotiations—potentially demanding favorable pricing, custom facility builds, or contract terms that reduce the operator's profit margins.
- ***Data Source:*** Detailed methodology and source breakdown provided in Appendix 3.1: Raw Data and Estimation for Single Customer Dependency.
- ***Calculation Method:*** Scores are calculated using linear interpolation within predefined risk brackets based on the largest customer's revenue percentage.
- ***Scoring Method:*** Companies are categorized based on their top customer's revenue contribution using the following threshold based system:

| Risk Level | Revenue From Top Customer | Score Range |
|---|---|---|
| Low | < 5% | 0 - 10 |
| Low - Moderate | 5-10% | 10 - 20 |
| Moderate | 10-20% | 20 - 40 |
| Moderate - High | 20-50% | 40 - 70 |
| High | > 50% | 70 - 100 |
| Unknown | Insufficient Disclosure | n/a |

**Top 10 Customer Concentration**

- ***Purpose:*** This submetric evaluates the extent to which a company's revenue is concentrated among its top 10 customers. While slightly less severe than single-customer dependency, high top-10 concentration still indicates vulnerability to revenue volatility if multiple key clients scale back or exit. A diversified customer base reduces this risk, enhancing financial resilience and pricing power.
- ***Data Source:*** Detailed methodology and source breakdown provided in Appendix 3.2: Raw Data and Estimation for Top 10 Customer Concentration.
- ***Scoring Method:*** Threshold based:

| Risk Level | Revenue From Top Customer | Score |
|---|---|---|
| Very Low | < 10% | 0 - 10 |
| Low | 10 - 25% | 10 - 20 |
| Low - Moderate | 25 - 40% | 20 - 35 |
| | | |
| Moderate | 40 - 60% | 35 - 55 |
| Model - High | 60 - 80% | 55 - 75 |
| High | > 80% | 75-100 |
| Unknown | Insufficient Disclosure | n/a |

**Customer Type**

- ***Purpose:*** Assesses the composition of a company's customer base by client type—e.g., hyperscalers, enterprises, small tech firms, or government entities. Different customer types carry varying levels of revenue stability, bargaining power, and operational risk:
    - **Hyperscalers** (e.g., AWS, Microsoft, Google): Typically sign large, long-term contracts, providing significant revenue. However, losing such a customer is devastating to the company due to high dependency. In contrast, they also provide a strong steady stream of income.
    - **Enterprises:** Provide a more stable but lower revenue stream across many clients. They reduce dependency risk but require more contracts to maintain revenue scale.
    - **Small tech businesses:** Revenue is often fragmented and clients may be financially unstable or churn frequently, increasing management complexity and volatility.
    - **Government:** Highly reliable and creditworthy, but usually come with strict compliance rules, limited contract lengths, and complex technical requirements.
- ***Calculation Method:*** Scores are calculated using linear interpolation within predefined risk brackets based on the largest customer's revenue percentage.
- ***Scoring Method:*** Threshold based:

| Risk Level | Primary Customer Composition | Score |
|---|---|---|
| Low (Favorable Mix) | Mostly enterprises | 0 - 15 |
| Moderate | Balanced | 15 - 45 |
| High | Mostly Hyperscalers | 45 - 70 |

| | | |
|---|---|---|
| Unknown | Insufficient Disclosure | n/a |

**Contract Length**

- ***Purpose***: Evaluates the typical duration of customer contracts to assess revenue stability and renewal risk. In the data center industry, longer contract lengths provide predictable, recurring income and reduce churn risk, while shorter contracts increase financial volatility.
    - **Long term contracts (4 to 10 years):** Promote stability, customer retention, and long-term planning. These deals often include embedded service or upgrade terms, creating stickiness and defensibility.
    - **Medium-Term Contracts (2 to 3 years):** Offer moderate predictability but still expose the company to relatively frequent renewal cycles and renegotiations.
    - **Short-Term (<1 year) or Month-to-Month Contracts :** Increase customer churn risk and revenue unpredictability, making financial planning and expansion efforts more difficult.
- ***Scoring Method:*** Threshold based:

| Risk Level | Typical Contract Duration | Score |
|---|---|---|
| Strong | > 4 years | 0 -35 |
| Moderate | 2-3 years | 35-50 |
| Weak | < 1 year or month-to-month | 50-70 |
| Unknown | Insufficient Disclosure | n/a |

### 4.3.3 Submetric Weighting and Scoring Method

The Customer Concentration Risk category contribute**s 20% of the total risk score for operator companies and 25% for leasing companies**.
Each submetric is evaluated using a threshold based scoring system and weighted according to its relevance in capturing different dimensions of concentration risk. Submetric scores are then aggregated using a weighted average to form the final Customer Concentration Risk score for each company.

| SUB-METRIC | SUB-METRIC WEIGHT (%) | SCORING METHOD |
|---|---|---|
| Single Customer Dependency | 45 | Threshold Scoring |
| Top Customer Concentration | 25 | |
| Customer Type | 20 | |
| Contract Duration/Stability | 10 | |

### 4.3.4 Customer Concentration Risk Raw Data by Company

Below is the Customer Concentration risk data, scoring structure, and an explanation for each sub metric in the category.

| Company | Single Customer Dependency | Top 10 Customer Concentration | Customer Type | Contract Duration /Customer Stability |
|---|---|---|---|---|
| EQIX | 5.6 | 14.7 | 15 | 15 |
| DLR | 24 | 29.9 | 20 | 20 |
| CRWV | 83.2 | 97.5 | 25 | 10 |
| VNET | 30 | 18.3 | 30 | 25 |
| GDS | 49.9 | 66.7 | 35 | 25 |
| APLD | 95.8 | 100 | 55 | 13 |
| DOCN | 10 | 5 | 5 | 40 |
| DBRG | 42.2 | 70 | 30 | 42 |
| AMT | 21.8 | 29.3 | 25 | 15 |
| IRM | 1 | 3 | 8 | 20 |
| ORCL | 19 | 27.4 | 15 | 45 |

### 4.3.5 Customer Concentration Risk Scores by Company

Below are the Customer Concentration Risk scores for every company, from lowest risk (IRM) highest risk (APLD)

| Rank | Company | Customer Concentration Risk Score (unweighted) | CC Risk Score (weighted) |
|---|---|---|---|
| 1 | **IRM** | 4.35 | 0.87 |
| 2 | **DOCN** | 10.75 | 2.6875 |
| 3 | **EQIX** | 11.69 | 2.338 |
| 4 | ORCL | 18.34 | 3.668 |
| 5 | DLR | 23.25 | 4.65 |
| 6 | AMT | 23.88 | 4.776 |
| 7 | VNET | 25.75 | 5.15 |
| 8 | GDS | 36.18 | 7.236 |
| 9 | **DBRG** | 50.69 | 12.6725 |

| | | | |
|---|---|---|---|
| 10 | **CRWV** | 63.81 | 12.762 |
| 11 | **APLD** | 95.41 | 19.082 |

#### 4.3.6 Insights and Key Findings

- **Diversified Service Providers Excel:** Companies with broad customer bases across multiple industries (IRM, DOCN, EQIX) demonstrate the lowest concentration risk. Iron Mountain's 240,000+ customers with no single client exceeding 1% of revenue exemplifies optimal diversification.
- **Infrastructure Specialists Face Trade-offs:** Purpose-built infrastructure providers (APLD, CRWV) accept high concentration risk in exchange for large, long-term hyperscaler contracts. Applied Digital's 93% dependency on a single customer reflects this strategic choice for rapid AI infrastructure deployment.
- **Hybrid Strategic Positioning:** Mid-tier companies (DLR, AMT, VNET) are developing hybrid approaches, maintaining diversified enterprise bases while selectively pursuing large hyperscaler opportunities. This balanced strategy offers controlled growth while preserving diversification benefits.

## 4.4 Geographic Exposure Risk Analysis

#### 4.4.1 Why Does It Matter?

Companies with significant concentrations of data centers in a limited number of geographic regions face elevated exposure to location-specific risks. These include regulatory and political instability, infrastructure deficiencies, and increasingly severe environmental and climate-related hazards. In the data center industry, where uptime and operational continuity are critical, geographic risk is a core determinant of both scalability and resilience.
As geopolitical tensions rise and climate volatility intensifies, a diversified geographic footprint mitigates vulnerability to regional shocks, ensures compliance with evolving ESG standards, and enhances adaptability to shifting global demand patterns. Investors view transparency in geographic distribution and risk exposure as indicators of sophisticated risk management and operational maturity.

#### 4.4.2 Submetrics and Data Sources, our 127 region model

Our geographic risk framework leverages detailed risk scoring across **127 regions worldwide**, reflecting granular regulatory, economic, and environmental factors relevant to data center siting and operations. This region-based approach replaces prior continent-level weighting for greater precision and specificity. Refer to **Appendix 1 and Appendix 2** for more detailed data breakdown.

**Regulatory/Compliance Risk Exposure**

- ***Purpose:*** Exposure to regions with complex or unstable regulatory environments increases compliance costs and risks of abrupt policy changes, such as permitting delays or data sovereignty laws.

- ***Scoring Method***: Each of the 127 regions is assigned a regulatory risk score on a 0–100 scale based on local permitting complexity, data/localization requirements, and governance stability. (The scoring logic and regional divisions can be found **here** The overall regulatory risk for the portfolio is computed as a weighted average by multiplying each region's risk score by the number of DBRG data centers located there, then dividing by the total number of data centers.

**Economic Risk Exposure**

- ***Purpose:*** Economic risks reflect local market stability, infrastructure robustness, and macroeconomic volatility that can impact operational costs and growth potential.
- ***Scoring Method:*** Similar to regulatory risk, each region has an economic risk score based on market size, volatility, infrastructure quality, and economic governance. The portfolio-level economic risk is calculated as the weighted average of regional scores by data center count.

**Environmental (Geographic/Natural Disaster) Risk Exposure**

- ***Purpose*:** Physical risks from natural disasters and climate stress—such as hurricanes, floods, wildfires, drought, seismic activity, heat stress, and water scarcity—pose significant operational continuity challenges.
- ***Scoring Method*:** Regions receive environmental risk scores reflecting hazard frequency, severity, and resilience requirements. The portfolio's environmental risk is the weighted average of these regional scores by data center count.

**Geographic Diversification Risk Flag**

- ***Purpose***: Companies with highly concentrated geographic footprints are more vulnerable to localized disruptions. A diversified footprint mitigates this risk and reflects more robust strategic positioning. In this analysis, geographic diversification emerged as the most influential long-term risk within this category.
- ***Scoring method***:
    1. Scores are calculated using Shannon Entropy from information theory to quantify the diversity of each company's revenue distribution across three global regions. The formula is:

$$Shannon\ Entropy\ (H) = -\sum_{i=1}^{3} p_i \cdot log_2(p_i)$$

        - Where $p_i$ is the proportion of revenue from region $i$
    2. To normalize the score, we divide the calculated Shannon Entropy by the maximum possible entropy for three categories, which is $log_2(3)$.
    3. Finally, the geographic concentration risk score is calculated as

$$Risk\ Score = (1 - \frac{H}{log_2(3)}) \times 100$$

       This transformation ensures that companies with highly concentrated revenue receive scores closer to 100 (highest risk), while those with balanced global footprints receive lower scores (approaching 1).

To ensure consistent and objective measurement of operational exposure across all companies in our universe, we established a granular, region-based risk framework covering 127 distinct geographic regions worldwide. This approach was designed to overcome the limitations of continent-level or country-only scoring, allowing us to capture localized variations in political stability, economic/infrastructure quality, and environmental/natural disaster vulnerability. [Appendix 2]

By assigning each company's facilities to these 127 regions, applying standardized sub-metric risk scores per region, and then weighting these scores by facility count or operational footprint, we generated company-specific composite scores for:

- **Political Risk** (regulatory and governance stability)
- **Economic/Market Risk** (infrastructure, power, and connectivity quality)
- **Environmental Risk** (climate change, natural disaster, and environmental degradation exposure)
- **Geographic Diversification Risk** (concentration of footprint)

The outcome is a comparative risk profile for each company that reflects both location-specific conditions and portfolio distribution.

### 4.4.3 Facility Mapping Process

For each company, we:

1. **Compiled an exhaustive facility list** (data centers, colocation hubs, edge sites, hyperscale campuses).
2. **Mapped each facility to one of the 127 regions** based on precise city/metro location.
3. **Counted the number of facilities** in each region to determine that region's **portfolio weight** within the company.

**Example:**

If Company A had 10 facilities:

- 4 in **Northern Virginia**
- 3 in **Amsterdam**
- 3 in **Singapore**

Then the weights would be:

- Northern Virginia: 40%
- Amsterdam: 30%
- Singapore: 30%

### 4.4.4 Regional Risk Weighting and Company Score Calculation

**Step 1: Region-Level Risk Scores**

Each of the 127 regions has:

- **Political Risk Score** – reflects governance, policy stability, and regulatory predictability (scale: 1 = low risk, 100 = high risk).
- **Economic/Market Risk Score** – reflects infrastructure quality, connectivity, power stability, and cost environment. (scale: 1 = low risk, 100 = high risk).

- **Environmental Risk Score** – reflects exposure to extreme weather, seismic events, flooding, heat stress, and climate change projections. (scale: 1 = low risk, 100 = high risk).

**Step 2: Weighting by Facility Share**
For each company, the **weighted average** for each risk type was calculated:

$$Company\ Risk\ Score\ (Political)\ =\ \sum\ (Region\ Political\ Risk\ \times\ Facility\ Share\ in\ Region)$$

$$Company\ Risk\ Score\ (Economic)\ =\ \sum\ (Region\ Economic\ Risk\ \times\ Facility\ Share\ in\ Region)$$

$$Company\ Risk\ Score(Environmental)\ =\sum(Region\ Environmental\ Risk\ \times\ Facility\ Share\ in\ Region)$$

**Step 3: Normalization**
All scores are normalized to a **0–100 scale** for comparability.
Lower scores = lower risk, higher scores = higher risk.

### 4.4.5 Submetric Weighting and Scoring Method

The geographic exposure risk profile for DBRG's global data center portfolio is derived by aggregating the three risk categories via weighted averages:

| SUB-METRIC | SUB-METRIC WEIGHT (%) | SCORING METHOD |
|---|---|---|
| Regulatory Risk | 25% | Weighted average by data center count |
| Economic Risk | 15% | |
| Environmental risk | 25% | |
| Geographic Diversification | 35% | |

### 4.4.6 Geographic Risk Raw Data by Company

The Geographic Exposure Risk category contribute**s 15% of the total risk score for operator companies and 20% for leasing companies.**

| Company | Regulatory Risk Score | Economic/Market Risk Score | Environmental risk score | Diversification Score/ Revenue |
|---|---|---|---|---|
| EQIX | 22.65 | 22.82 | 26.97 | 3.5 |
| DLR | 22.80 (est.) | 29.5 | 29.4 | 18.27 |
| CRWV | 21.76 | 23.94 | 21.45 | 81.9 |
| VNET | 86.91 | 41.13 | 62.87 | 100 |
| GDS | 63.02 | 68.27 | 78.28 | 70.42 |

| | | | | |
|---|---|---|---|---|
| APLD | 20 | 25 | 40 | 100 |
| DOCN | 29.29 | 30.29 | 28.29 | 0.7 |
| AMT | 22.13 | 25 | 45.33 | 54.39 |
| IRM | 22.3 | 23.3 | 29.4 | 48.8 |
| ORCL | 30.2 | 31.7 | 29.4 | 19.18 |
| DBRG | 44.5 | 33.8 | 53.7 | 70.41 |

More detailed data can be found in the **Appendix 1**.

### 4.4.7 Geographic Risk Score by Company

Below are the final cumulative Geographic Exposure risk scores, from lowest risk (EQIX) to highest risk (VNET).

| Rank | Company | Geographic Risk Score |
|---|---|---|
| 1 | **EQIX** | 2.55795 |
| 2 | **DLR** | 3.5804 |
| 3 | DOCN | 3.8367 |
| 4 | ORCL | 3.9552 |
| 5 | IRM | 5.025 |
| 6 | AMT | 5.947725 |
| 7 | CRWV | 6.458775 |
| 8 | APLD | 7.5375 |
| 9 | GDS | 10.53188 |
| 10 | **DBRG** | 10.8527 |
| 11 | **VNET** | 11.79218 |

### 4.4.8 Insights and Key Findings

- Equinix once again carries the lowest geographic exposure risk, mainly thanks to its exceptionally diverse footprint across more than 70 metros on five continents.
- DOCN, DLR, and ORCL also maintain geographically balanced operations, with significant exposure across the U.S., Europe, and emerging markets. Their % revenue generation in each region is fairly balanced as well.
- IRM and AMT have higher risk because they rely primarily on US soil to conduct data center operations despite having global footprints.

- CRWV is still scaling rapidly, but with most of its operations within the US. As it continues to grow, it might face regional bottlenecks and power constraints.
- DBRG and APLD operate almost entirely on US soil and unfortunately have a lot of property in rural, power-constrained areas. ~90% and 100% of their revenues come from NA, respectively.
- VNET and GDS are located in China and are heavily dependent on the Chinese mainland, exposing them to political and regulatory volatility.

## 4.5 Market Competition Risk Analysis

### 4.5.1 Why Does It Matter?

Market Competition analysis enables clear assessment of how companies position against industry competitors. Established leaders like EQIX, DLR, and ORCL maintain significantly stronger competitive positions than emerging players such as APLD and CRWV. This advantage stems from their ability to influence pricing trends, establish entry barriers, and leverage scale economies that make it difficult for new entrants to achieve comparable performance levels.

Competitive positioning directly impacts long-term sustainability, as companies with weak market positions face greater vulnerability to pricing pressure, customer acquisition challenges, and potential market share erosion during industry consolidation.

### 4.5.2 Submetrics and Data Sources

**Market Share (%)**

- ***Purpose:*** Companies with larger market share demonstrate stronger competitive positioning, brand recognition, pricing power, and network effects. Market leaders benefit from economies of scale and customer relationships that create defensive moats, while smaller players remain vulnerable to competitive pressure and market consolidation.
- ***Scoring method:*** Sector-Relative Inverse Min-Max Normalization with Log-Scaling to ensure fair comparison within competitive segments while handling wide variation in company sizes.
    - ***Sector Classification***

| SECTOR | SIZE | COMPANIES |
|---|---|---|
| Colocation/Hyperscale Provider | 105B USD | EQIX, DLR , VNET, GDS, IRM, AMT [DC sector] |
| Cloud/Hosting Services | 148.3B USD | APLD, DOCN, ORCL, CRWV |
| Digital Infrastructure Assets Under Management | ~1.3T USD | DBRG |

- ***Data Sources:*** Market share calculated using each company's annualized 2025 revenue divided by their corresponding data center market sector size. Market valuations sourced from industry research reports and company categorizations based on primary business focus.
- ***Note***:
    - DBRG and CRWV operate in highly specialized market segments with limited direct competitors, resulting in favorable market share scores that may not fully reflect competitive risk.
    - CRWV's Specialized GPU-as-a-service business model is very niche and does not face many significant competitors, unless giant hyperscalers like Google built their own infrastructure for the same purpose
    - DBRG holds a decently large market share anyways, so it should be safe to assume that they won't be pressured much by other digital investment managers.

**Avg. Revenue Growth Rate (past 3 fiscal years) (%)**

- ***Purpose***: Revenue growth serves as a critical proxy for competitive momentum and market positioning, as sustained growth typically reflects rising demand for services or superior competitive offerings. However, extreme growth rates—whether exceptionally high or low—may signal underlying risks. Hypergrowth can indicate unsustainable expansion strategies or market bubbles, while stagnation suggests competitive deterioration or market maturity challenges.
- ***Scoring method***: **Bell Curve + Threshold Scoring System** with linear interpolation to accurately assess revenue growth sustainability within industry context. This methodology recognizes that moderate, consistent growth (6%-12%) represents optimal competitive health, while both stagnation and hypergrowth introduce distinct risk factors. However, even companies within this healthy range of YoY revenue growth carry inherent business risk, so we set 30/100 as the minimum risk score for this submetric.
    - **Threshold System:**

| Risk Level | Revenue Growth Rate | Score Range | Risk Rationale |
|---|---|---|---|
| High | <2% | 80-100 | Stagnation/decline risk |
| Moderate-High | 2.01% - 4% | 60-80 | Below-average growth |
| Moderate | 4% - 6% | 45-60 | Steady but unexceptional |
| Low | 6% - 8% | 30-40 | Optimal growth zone |
| Low-Moderate | 8% - 12% | 30-40 | Healthy expansion |
| Moderate | 12% - 18% | 40-50 | Aggressive growth |

| | | | |
|---|---|---|---|
| Moderate-High | 18% - 25% | 50-70 | Potentially unsustainable |
| High | 25% - 50% | 70-100 | High volatility risk |
| Critical | >50% | 100 | Extreme/unsustainable |

- ***Data Sources:*** Three-year average calculated from year-over-year revenue growth rates extracted from annual SEC 10-K filings, providing a comprehensive view of growth consistency and trend sustainability. Refer to **Appendix 4.1** for Raw Data.
- Note: Scoring thresholds calibrated against data center industry benchmarks, where 6%-12% growth typically indicates healthy market share expansion without overextension of operational capabilities or capital resources.

**Capex as % of Rev**

- ***Purpose:*** This submetric evaluates capital allocation efficiency and competitive positioning through investment intensity. High CapEx as a percentage of revenue signals aggressive expansion and creates substantial barriers to entry for competitors attempting to match infrastructure scale. Conversely, excessively low percentages indicate potential stagnation and insufficient investment in scalability/expansion capabilities, which also presents competitive risks.
- ***Calculation Method:***

$$Capex/Rev = \frac{Capital\ Expenditures}{Total\ Revenue} \times 100$$

- ***Scoring method:*** **Bell Curve + Threshold Scoring System** with linear interpolation. The optimal range for this is ~30%-40%, so we built our scoring around that. Having 30%-40% of revenue being used for CapEx still invites a degree of risk, so the minimum score for this submetric is 35/100.
    - **Threshold System:**

| Risk Level | Capex as % of Revenue | Score Range | Risk Rationale |
|---|---|---|---|
| Critical | <5% | 100 | Severe underinvestment/stagnation |
| High | 5% - 10% | 80-100 | Insufficient growth investment |
| Moderate-High | 10% - 15% | 65-80 | Below-optimal investment |
| Moderate | 15% - 20% | 55-65 | Conservative investment |
| Low-Moderate | 20% - 30% | 45-55 | Approaching optimal zone |
| Low | 30% - 40% | 35-45 | Optimal investment zone |

| | | | |
|---|---|---|---|
| Low-Moderate | 40% - 50% | 45-65 | Aggressive but manageable |
| Moderate-High | 50% - 75% | 65-85 | Potentially excessive investment |
| High | 75% - 100% | 85-100 | Unsustainable investment levels |
| Critical | >100% | 100 | Extreme overinvestment risk |

- ***Data Sources****:* CapEx as % of Revenue was also calculated through our historical data , where we did CapEx/Annual Revenue. Refer to **Appendix 4.2** for Raw Data.
- Note: The scoring thresholds were chosen to best model current industry standards.

**Barriers to entry Flag**

- ***Purpose:*** Evaluates how difficult it is for new competition to emerge and challenge established market positions. Leading companies typically maintain strong competitive moats that cement their market leadership and create sustainable advantages against potential entrants.
- ***Scoring method***: **Qualitative Flag Scoring System** consisting of four weighted flag components, with scores ranging from 0 (lowest risk/strongest barriers) to 60 (highest risk/weakest barriers).
- ***Flag Component:***
    - **Infrastructure Control (0 / 10 / 20 points)**
      Measures ownership and control over critical infrastructure including data centers, power systems, fiber networks, and land assets. Companies with proprietary infrastructure and hyperscale construction capabilities maintain significant competitive advantages and operational control.
    - **Platform Stickiness (0 / 10 / 20 points)**
      Assesses customer switching costs and platform dependencies. Evaluates how difficult it is for customers to migrate to alternative providers due to technical integration, service dependencies, or operational complexity. Examples include Equinix's global interconnection ecosystem and Oracle's sovereign cloud architecture.
    - **Strategic Position (0 / 5 / 10 points)**
      Evaluates geographic and market positioning advantages, including privileged access to customer ecosystems, strategic partnerships, and proximity to key demand centers. Overlaps with geographic exposure but focuses specifically on competitive positioning.
    - **Compliance & Regulatory (0 / 5 / 10 points)**
      Measures regulatory complexity and compliance barriers that potential competitors must overcome, including permitting requirements, data sovereignty laws, ESG frameworks, and industry-specific regulations.

- ***Data Sources:*** The Entry Barriers flag contains four qualitative flag components that fill critical thinking gaps not covered in the quantitative submetrics. We scored our companies based on information in their SEC files, investor presentations, and analyst reports.

### 4.5.3 Submetrics Weighting and Scoring Method

Market Competition Risk contributes 15% of the total score for operator companies and 25% of the total score for leasing companies.

| SUB-METRIC | SUB-METRIC WEIGHT (%) | SCORING METHOD |
|---|---|---|
| Market Share | 35 | Relative Scoring by Sector Log Scaled + Inverse Min-Max Normalization |
| Avg Rev Growth Rate Flag | 20 | Bell Curve + Qualitative Thresholds |
| Capex as % of Rev | 20 | Bell Curve + Qualitative Thresholds |
| Entry Barriers Flag | 25 | Based on 0-60 flag total, where 0 is lowest risk and 60 is max risk |

### 4.5.4 Market Competition Risk Raw Data by Company

| Company | Market Share % | Avg YoY Revenue Growth Rate (%) | CapEx/Revenue (%) | Entry Barriers |
|---|---|---|---|---|
| EQIX | 8.5943 | 8.0466 | 43.8387 | 0 |
| DLR | 5.6501 | 7.9095 | 42.6940 | 5 |
| VNET | 1.1792 | 6.2961 | 79.7808 | 30 |
| GDS | 1.4296 | 5.2263 | 37.0646 | 20 |
| AMT | 0.9977 | 10.9854 | 36.2734 | 30 |
| IRM | 0.7215 | 23.3890 | 22.3230 | 15 |
| CRWV | 2.6477 | 420.2518 | 143.3693 | 10 |
| APLD | 0.959 | 232.9077843 | 683.685 | 50 |
| ORCL | 33.1962 | 9.7068 | 57.0961 | 0 |
| DOCN | 0.5899 | 19.8577 | 15.8116 | 60 |
| DBRG (~106B AUM) | 8.1538 | 23.7566 | -19.3951 | 60 |

Scores

| Company | Market Share % | Avg YoY Revenue Growth Rate (%) | CapEx/Revenue (%) | Entry Barriers | Total Score |
|---|---|---|---|---|---|
| EQIX | 0 | 6.0233 | 10.5355 | 0 | 16.5588 |
| DLR | 6.51 | 6.0905 | 10.0776 | 2.08 | 24.7581 |
| VNET | 29.54 | 7.7039 | 17.5737 | 12.50 | 67.9776 |
| GDS | 27.93 | 10.1606 | 8.4129 | 8.33 | 54.8335 |
| AMT | 31.97 | 7.4927 | 8.2547 | 12.5 | 28.474 |
| IRM | 35 | 13.0794 | 10.5354 | 6.25 | 64.8648 |
| CRWV | 7.56 | 20 | 20 | 4.17 | 69.7 |
| APLD | 32.45 | 20 | 20 | 20.83 | 93.45 |
| ORCL | 0 | 6.8534 | 14.1354 | 0 | 20.9888 |
| DOCN | 35 | 11.0615 | 12.6754 | 25 | 83.7369 |
| DBRG (~106B AUM) | 0 | 13.2895 | 20 | 25 | 58.2895 |

### 4.5.5 Market Competition Risk Scores By Company

| Rank | Company | Market Comp. Risk Score |
|---|---|---|
| 1 | **EQIX** | 2.484 |
| 2 | **ORCL** | 3.148 |
| 3 | DLR | 3.714 |
| 4 | AMT | 4.271 |
| 5 | GDS | 8.225 |
| 6 | IRM | 9.730 |
| 7 | VNET | 10.197 |
| 8 | CRWV | 10.455 |
| 9 | APLD | 14.018 |
| 10 | **DBRG** | 14.572 |
| 11 | **DOCN** | 20.934 |

### 4.5.6 Insights and Key Findings

**Market Leaders with Dominant Competitive Positions**

- **EQIX (1.58)** and **ORCL (3.15)** demonstrate exceptional competitive strength through market dominance and zero entry barriers. EQIX's global interconnection leadership across 240+ data centers and ORCL's 33.2% cloud market share with a comprehensive enterprise software ecosystem create substantial competitive moats.

**Established Players with Sustainable Advantages**

- **DLR (3.71)** and **AMT (4.24)** maintain strong competitive positions despite different business models. DLR's focus on hyperscale customers and prime metropolitan locations provides stable competitive advantages, reflected in its low Entry Barriers score of 5. AMT sits in the middle range due to its relatively small data center business (CoreSite) within a larger tower company.

**Structural Competitive Challenges**

- **IRM (9.73)**, **DBRG (14.57**), and **DOCN (20.9342)** face distinct competitive pressures. IRM's 0.72% data center market share (smallest among operators) reflects legacy focus on document storage. DBRG's negative quarter revenue and maximum Entry Barriers score suggest minimal organic investment in competitive digital infrastructure assets, relying instead on acquisition-driven growth strategies that may face increasing competition from larger infrastructure funds. DigitalOcean's maximum competitive risk score reflects acute positioning challenges within the commoditized cloud hosting segment, where differentiation barriers remain minimal against established hyperscale providers and emerging edge computing platforms. The company's limited enterprise penetration and SMB customer concentration expose revenue streams to elevated churn risk during economic downturns or competitive price compression.

## V. Overall Scoring and Classification

Below is the overall scores for each company alongside their classification:

| Company | Overall Risk Score [0-100] | Classification |
|---|---|---|
| ORCL | 15.331 | Solid |
| EQIX | 18.597 | Solid |
| DLR | 20.613 | Solid |
| AMT | 38.441 | Watchlist |
| DOCN | 38.848 | Watchlist |
| GDS | 38.949 | Watchlist |

| | | |
|---|---|---|
| IRM | 39.087 | Watchlist |
| DBRG | 42.761 | Watchlist |
| CRWV | 46.694 | High Risk |
| VNET | 54.204 | High Risk |
| APLD | 73.577 | High Risk |

## Equinix

Equinix, as expected, is one of the most solid/overall best company in our list. It is the number one interconnection services provider in the entire data center industry (19% of its revenue stems solely from interconnection), is matured and healthy in terms of growth/stability, and has minimum red flags to watch for. Specializing in interconnection, it would be extremely hard for any other company to compete with Equinix in that style of service. Being globally diversified means Equinix operates hundreds of data centers, attracting millions of customers. Equinix also stands with the largest market share % stemming solely from data center operations (in our list), further consolidating its place as the top company. In our analysis of each risk sector above, Equinix constantly came out as one of the least risky companies while also growing at a steady rate.

### Digital Realty Trust

The second company we classified as "Solid" is DLR; Digital Realty's enormous global presence and matured structure are what mainly define its stability and success, as it owns and operates over 250 data centers worldwide and holds the second largest active MW capacity within our list of companies (~2760 MW). Having a global footprint this massive clears it from most Power, Geographic, and Market Competition risk. They did not directly disclose customer concentration metrics, but there are clues and inferences pointing clearly to the fact that DLR has a well diversified customer base and good retention rates. The main risk associated with DLR was debt/leverage, where it held a relatively high EBITDA ratio of 6.33x in Q1 2025. However, just three days ago, DLR released its Q2 2025 SEC report, which stated that its new debt/ebitda ratio was 2.93x, marking a significant change.

### CoreWeave

CoreWeave is our first high risk company on our list. It only recently became public earlier this year in March with its IPO, and has been explosively scaling since. While its market share is growing (1.129% annualized) and growth is exceptionally high, it suffers from extremely high CapEx-to-revenue (~143%, capped at risk=100) and high operational burn. CRWV lacks geographic diversity (mostly US based, but working to expand more in APAC and EMEA) and detailed disclosure around power sourcing, which is becoming increasingly important as data centers' needs for power grow. Its business is reliant on a few large AI

customers (Microsoft and OpenAI take up 77% of its revenue), which is incredibly dangerous; CRWV has the most concentrated customer base in our company list. Its stock has been a rollercoaster for the past few months; it rocketed up to >$160, but has been steadily decreasing throughout mid/late July and currently, August. However, as a high-upside but high-volatility early-stage company, alongside being by far the biggest pure-play Specialized AI company, CoreWeave's score reflects both potential and substantial risk.

**VNET Group**

VNET is another one of the high risk companies in this analysis, earning a compiled risk score of ~54.. With a 1.179% colocation/hyperscale market share, VNET is rapidly growing in China, boasting a Revenue Growth Rate of 5.14%, but this comes with substantial structural risks. Financially, VNET is over-leveraged with a high Debt/EBITDA ratio, mirroring CRWV's solvency risks. It allocates 59.62% of its revenue to CapEx, signaling aggressive but potentially unsustainable expansion. Its Power Capacity of 300 MW is small compared to global leaders. VNET's Customer Concentration is significant, with its top client contributing to 40% of its revenue. Coupled with a China-only operational footprint, VNET is exposed to regulatory shifts, political risk, and infrastructure deficiencies. Additionally, only 18% of its power is sourced from renewables, further exacerbating cost and ESG pressures. VNET's reliance on hyperscalers, fragile capital structure, and regional exposure firmly place it at the top of the risk spectrum.

**GDS Holdings**

VNET's co-company in China, GDS, was classified as high risk, as well. Though safer than VNET, with a risk score of 38.9, GDS, like VNET, is heavily reliant on the Chinese colocation market. Holding 1.429% colocation/hyperscale market share, GDS boasts a decent revenue growth rate, fueled by healthy capital deployment (CapEx/Revenue ~35%). However, with a Debt/EBITDA ratio of ~9x, its leverage risk is pronounced. GDS operates over 1600 MW of capacity, but its renewable energy usage is low at 35.9%, and its PUE is 1.28. Its top customer contributes >50% of total revenue, significantly raising concentration risk. Unlike VNET, GDS has attempted to diversify with cross-border partnerships, but its operational exposure remains concentrated within China. The combination of high financial leverage, hyperscaler dependency, low ESG alignment, and geographic risk places GDS in the upper-mid risk tier, placing it as a high risk company.

**Applied Digital Corp.**

The most volatile company of the group, APLD scored high in every risk factor category. It has a finalized risk score of 73.78. It is the smallest data center company on our list, with only two locations in North Dakota. It holds a very small 0.1427% of the cloud/hosting data center market valuation. It has the lowest MW energy capacity, and an unspecified renewable energy %. They are currently centered around building a new HPC data center, reducing the expected time from 24 months to 12-14 months of construction. This makes it highly risky for investors because they are taking a large amount of debit, as its debt-to-EBITDA ratio is -28.22x. It operates only in North Dakota, which makes it severely lacking in geographic diversity. They are dependent on a single customer leading it to have risky customer

concentration data. For all of these reasons, APLD stands out as the riskiest company of our eleven.

**DigitalOcean Holdings**

A company on the lower end of the watchlist, DigitalOcean Holdings has a total risk score of 38.84. DigitalOcean Holdings is a cloud computing platform that provides infrastructure and platform tools for developers, startups, and small to medium-sized businesses. It is a leasing data center holding 0.2245% of market shares. At 6.33x, its debt-ebitda ratio is unideal leading to a semi-high debt-leverage risk. It has one of the most diverse geographic revenue breakdown. Its risk in competition mainly is a result of their inability to compete with larger data center companies. Their target customers are smaller businesses, and use its ability to provide a cheaper alternative as an advantage. It ranks #1 in In IaaS usability.

**DigitalBridge Group**

Another middle-of-the-road business is DigitalBridge Group. DigitalBridge Group is a leading global alternative asset manager focused on investing in digital infrastructure assets. They are another leasing data center, holding 0.1746% market share. Dbrg has one of the best debt-leverage ratios with its low ebitda score and low debt percentage. The business is not that reliant on the top 1 customer, who is only responsible for <10% of the revenue being generated. Keeping it from being a solid company is its geographic exposure and competition risk factor score. DBRG locations are too centralized with little diversity. Their data centers are built at locations with other established data centers, which means there is more competition. Overall while it has good debt-leverage and customer concentration, it is held back by its geographic setting and competition it will face.

**American Tower Corp**

AMT (CoreSite only) is classified as high risk with a comprehensive risk score of 38.44. Through its subsidiary data center exposure via CoreSite, which holds >300 MW of power capacity and a colocation/hyperscale market share of ~0.7%, significantly smaller than its geographic competitors Equinix and IRM. AMT's Debt/EBITDA ratio of 5.8x is standard for REITs. However, customer concentration is severe, with 75% of CoreSite's revenue stemming from its top 4 clients. Energy efficiency is acceptable (PUE of 1.36), with 50% renewable energy sourcing. Geographically, AMT's CoreSite operations are US-heavy, creating regional exposure risks. Despite these concerns, AMTs revenue and expenditure patterns show characteristics of a stable company reaching maturity. AMT's annual growth consistently hovers around 3%, and their capital expenditures remain merely ~15%, demonstrating stability. However, it is important to note that the risk score AMT received is based on CoreSite only, which doesn't reflect AMT's operations as a whole. Beyond its data center operation business, AMT's broader tower infrastructure business offers financial stability, keeping its risk profile more in the moderate range.

**Iron Mountain**

Iron mountain is another major player in the North American market, though more than 30% of its operating revenue is obtained from Europe, Asia, and other international regions.

Having a cumulative risk score of 39.08, IRM resides in the less risky side of the "Watchlist" classification. With 424 MW of capacity and a ~6% colocation/hyperscale market share, IRM operates at a relatively high Debt/EBITDA ratio of 7.87x. It maintains a CapEx-to-Revenue ratio of 29%, reflecting a steady, scalable growth approach. Customer concentration is minimal, with no client exceeding 10% of revenue. Its renewable power usage is at 100%, and PUE efficiency is 1.41, demonstrating strong characteristics for longevity and continuity in the data center operation market. IRM's main risk comes from its US-heavy geographic exposure, but its operational conservatism and diverse customer base position it as a moderate risk, resilient operator.

**Oracle**

Lastly, Oracle with a cumulative risk score of 15.33 safely marks it as the least risky company within the "solid" category, owing to its mature nature, massive $700+ billion market cap, and diverse assets. Oracle's 4100 MW of estimated active power capacity dwarfs all in our list, and its data center segment is integrated into its broader SaaS/IaaS services. Oracle's Debt/EBITDA ratio of 3.39x is conservative, and its CapEx-to-Revenue ratio of ~13% reflects measured infrastructure investments. ORCL's renewable sourcing is high at 86% (pushing for 100% at the end of 2025), and its PUE of 1.37 well placed above the industry average of 1.58. Customer concentration is low, due to its diversified enterprise cloud services. With a global footprint, Oracle faces minimal geographic exposure risks. ORCL's risk profile is low, with defensibility stemming from its Sovereign Cloud offerings, hyperscaler partnerships, and deep enterprise stickiness.

## VI. Conclusion

**Market Leaders: Established Low risk Investments**

Our analysis identifies three companies as clear market leaders with the lowest risk profiles: Oracle (ORCL), Equinix (EQIX), and Digital Realty Trust (DLR). These companies demonstrate the fundamental characteristics of mature, stable data center operators with diversified revenue streams and strong competitive positioning.

Oracle leads with the lowest overall risk score due to its massive scale, conservative debt management (3.39x Debt/EBITDA), and diversified business model that extends well beyond data centers. The company's substantial power capacity (4,100 MW) and high renewable energy usage (86%) provide operational stability and ESG compliance.

Equinix maintains its position as the global interconnection leader, operating over 240 data centers across five continents. The company's unique competitive moat in interconnection services, combined with strong financial metrics and geographic diversification, creates significant barriers to entry that competitors cannot easily replicate.

Digital Realty Trust benefits from its focus on hyperscale customers and strategic metropolitan locations. With 2,760 MW of power capacity and operations across 25+ countries, DLR has built a global infrastructure platform that provides stable, recurring revenue streams.

Iron Mountain, while not in the top tier, demonstrates solid fundamentals with minimal customer concentration risk and strong renewable energy adoption (100%). However, its higher debt/leverage ratio (7.87x) places it slightly below the market leaders.

**Structurally Weak Companies: High risk Investments**

Several companies in our analysis exhibit structural weaknesses that create elevated investment risks. These weaknesses fall into distinct categories based on business model and operational characteristics.

**Geographic Concentration Risk:** VNET Group and GDS Holdings face significant exposure due to their concentration in the Chinese market. This geographic limitation exposes both companies to regulatory changes, political risk, and infrastructure constraints within a single jurisdiction. VNET Group holds a sub-0.33% market share with limited scale compared to Chinese hyperscalers, combined with high leverage (8.9× Debt/EBITDA) and weak interest coverage (2.65×). The company's power capacity risk is elevated relative to peers due to its small MW footprint and PUE of 1.27. GDS Holdings presents the worst debt profile in our analysis with a Debt/EBITDA ratio of approximately 9.0× and coverage ratio of 0.80×, earning the highest debt risk score. Additionally, GDS's limited renewable energy usage (35.9%) raises power risk concerns and regulatory compliance issues.

**Aggressive Growth Model Risk:** CoreWeave and Applied Digital represent high risk growth companies pursuing aggressive expansion strategies. CoreWeave operates in the specialized GPU-as-a-service market with decent market positioning but maintains unsustainable spending patterns, consistently spending more than it generates while scaling rapidly. The company's stock price volatility, inflating from $30 to over $160, reflects market uncertainty about its business model sustainability. Most concerning is CoreWeave's extreme customer concentration, with Microsoft and OpenAI representing approximately 77% of revenue, creating significant dependency risk. Applied Digital holds minimal market share (less than 0.05%) in the wholesale/hyperscale segment while maintaining an unsustainable financial profile with a debt-to-EBITDA ratio of approximately -28×, earning maximum risk scoring. The company faces elevated power risk due to its small MW base, mid-range renewable energy adoption, and minimal transparency in power planning.

**Refinancing and Operational Risk:** DigitalBridge and DigitalOcean, while showing moderate overall risk scores, face specific structural challenges that may understate their true risk profiles. DigitalBridge operates as a pure investment manager without significant operating scale, making traditional market-share calculations irrelevant to its business model. The company faces serious refinancing pressure with 100% of its debt maturing within two years due to bullet note structures, earning maximum risk scoring in debt maturity analysis. DigitalOcean maintains only modest market share (0.22%) in the cloud IaaS segment and faces similar refinancing challenges with bullet-note maturities requiring 100% repayment at once. The company also receives zero transparency scoring on power planning and faces mid-range leverage concerns that compound its refinancing risk.

**Industry-Wide Investment Implications**

Our research reveals several critical trends affecting the entire data center sector that will shape investment opportunities and risks in the coming years.

**AI-Driven Demand and Scaling Challenges:** The rapid growth in AI demand is driving unprecedented scaling efforts across the industry. As AI workloads continue to expand, companies are facing intense pressure to rapidly increase capacity to meet customer requirements. This demand surge creates both significant opportunities and substantial risks. Companies that can effectively utilize leverage to support this growth while maintaining operational discipline will likely outperform those that cannot balance expansion with financial stability. However, our analysis shows that aggressive scaling without proper financial controls can lead to unsustainable debt levels and operational challenges, as evidenced by companies like CoreWeave and Applied Digital.

**Power Infrastructure as Critical Constraint:** Power infrastructure has emerged as the industry's most critical constraint and competitive differentiator. Data center power requirements continue to reach new highs, driven primarily by AI workloads that demand significantly more energy than traditional computing applications. This power demand creates multiple investment implications. Companies with superior power efficiency and renewable energy adoption are positioning themselves for long-term success as regulatory and environmental pressures increase. Improvements in ESG practices and Power Usage Effectiveness (PUE) have become essential for maintaining investor confidence and operational competitiveness, not merely optional sustainability initiatives.

**Hyperscaler Bargaining Power:** Our customer concentration analysis reveals increasing bargaining power among hyperscale customers, creating both opportunities and risks for data center operators. While hyperscaler relationships can provide substantial revenue and long-term contracts, excessive dependence on these clients can create vulnerability to pricing pressure and contract renegotiation risks. Companies with diversified customer bases across multiple market segments demonstrate greater resilience against these concentration risks.

**Geographic and Regulatory Risk Evolution:** The data center industry faces increasing geographic and regulatory complexity, particularly around data sovereignty, environmental regulations, and geopolitical tensions. Companies with diversified geographic footprints and strong regulatory compliance frameworks are better positioned to navigate these evolving challenges and capture opportunities in multiple markets.

## VII. Research Methodology Challenges and Limitations

### Data Collection and Consistency Issues

Our primary challenge in conducting this risk assessment was obtaining consistent submetrics across all eleven companies for each of the five risk categories. Many relevant operational and financial metrics were not uniformly disclosed across company filings, creating gaps in our analytical framework. Even with our finalized risk structure, certain metrics remain incomplete or require estimation.

The Power Risk category exemplified these disclosure challenges. The percentage of renewable energy usage, a critical sustainability metric, was inconsistently reported across companies. Startup companies such as CoreWeave and Applied Digital required estimated values to enable cross-company comparisons, introducing potential analytical uncertainty.

Similarly, Applied Digital's renewable energy percentage required estimation based on limited facility-specific data, as comprehensive corporate-wide figures were not available.

Customer concentration metrics presented equally significant challenges. Most companies did not provide detailed breakdowns of their top 1, 3, 5, or 10 customers in their investor relations materials or SEC filings. This lack of standardized disclosure required extensive estimation based on available fragments of information and logical inference from business model characteristics.

**Methodology Development and Refinement**

The initial phase of metric selection and scoring methodology required substantial iteration over several weeks before data collection commenced. We removed and revised numerous submetrics as we identified inconsistencies in data availability and relevance across different business models. The challenge of developing appropriate scoring mechanisms for each submetric required careful consideration of industry-specific risk factors.

Certain submetrics, particularly within the Market Competition category such as CapEx as percentage of revenue and average year-over-year growth rates, presented two-sided risk profiles where both abnormally high and low values indicated elevated risk. Accommodating these non-linear risk relationships required developing creative scoring approaches that accurately represented real market dynamics rather than simple linear correlations.

**Data Processing and Normalization Challenges**

Collecting three years of historical data from SEC EDGAR filings proved particularly tedious, as companies employ varying reporting formats and disclosure practices. Missing or inconsistent data required inference through mathematical relationships with available figures, introducing potential analytical uncertainty.

Extreme outlier values, such as Applied Digital's debt-to-EBITDA ratio of -25.94, presented scoring challenges that required manual intervention. We ultimately excluded such extreme values from standard normalization processes and assigned maximum risk scores to maintain analytical integrity.

Our initial min-max normalization approach sometimes created disproportionate penalties for companies with industry-average metrics when extreme outliers existed in the dataset. For example, when minimum debt-to-EBITDA ratios were extraordinarily low and maximum ratios extraordinarily high, companies with industry-average ratios received unfairly high risk scores. To address this limitation, we shifted to industry benchmark-based scoring using ranged thresholds, providing more accurate relative risk assessments that better reflect actual industry conditions and investor expectations.

**Impact on Analysis Quality**

Despite these methodological challenges, our systematic approach to data collection, estimation protocols, and scoring refinements ensures that our risk assessments provide meaningful comparative insights across the data center sector. The transparency of our estimation methods and scoring adjustments allows investors to understand the analytical limitations while benefiting from the comprehensive risk framework we developed.

## VIII. Future Research Directions and Framework Enhancements

**Currency Risk Analysis - Currency Trending Issues**
Given the global nature of many data center operations, future research should incorporate currency risk analysis into the geographic exposure framework. Companies like Equinix and Digital Realty Trust operate across multiple currencies, exposing them to foreign exchange fluctuations that can significantly impact financial performance. VNET Group and GDS Holdings, with their focus on the Chinese market, face particular exposure to USD-RMB exchange rate volatility, which could affect their competitiveness and investor returns when measured in dollar terms. Incorporating currency hedging strategies and foreign exchange exposure metrics would provide a more comprehensive view of geographic risk beyond regulatory and operational factors.

**Valuation Metrics Integration**
Our current framework focuses primarily on operational and financial risk factors without incorporating market valuation metrics. Adding price-to-earnings (P/E) ratios and other valuation multiples would enhance the investment decision framework by identifying whether risk-adjusted returns justify current market pricing. This addition would be particularly valuable for comparing companies across different risk tiers and determining whether higher risk companies offer sufficient return premiums to compensate for their elevated risk profiles.

**Strategic Partnership Impact Analysis**
Future research should examine how strategic partnerships affect both risk profiles and financial performance. Many data center companies rely heavily on partnerships with cloud providers, technology vendors, and infrastructure partners. Analyzing financial performance before and after major partnership announcements would provide insights into partnership value creation and risk mitigation. For example, examining how Equinix's partnerships with major cloud providers affect customer retention and revenue stability, or how Applied Digital's partnerships impact its customer concentration risk, would add valuable context to our risk assessments.

**Framework Scalability and Universal Application**
To validate the broader applicability of our five factor framework, future research should expand the analysis to include additional data center companies across different geographic markets and business models. Testing the framework on European operators, emerging market players, and edge computing specialists would determine whether our risk categories and scoring methodologies have universal relevance or require regional adjustments. This expansion would also allow for more robust industry benchmarking and identification of best practices across different market segments.

**Real-Time Risk Monitoring**
Our current analysis provides a snapshot based on available data through early 2025. Developing a methodology for continuous risk monitoring would enhance the framework's practical value for ongoing investment decisions. This could include quarterly updates to key

risk metrics, automated alerts for significant changes in risk profiles, and tracking of how companies' risk scores evolve over time in response to operational changes and market developments.

**ESG Integration and Regulatory Evolution**

As environmental, social, and governance factors become increasingly important in investment decisions, future research should more deeply integrate ESG metrics into each risk category. This includes expanding the power risk analysis to include carbon footprint measurements, social impact assessments for community relations, and governance quality scores. Additionally, as data privacy regulations and environmental compliance requirements continue to evolve globally, the framework should incorporate forward-looking regulatory risk assessments that anticipate future compliance challenges.

These enhancements would strengthen the framework's utility for institutional investors and provide more comprehensive guidance for data center investment decisions in an increasingly complex and rapidly evolving industry landscape.

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## Appendix 3.1 - Raw Data and Estimation for Single Customer Dependency

| Company | Largest Customer Revenue (%) | Notes/ Sources [Primary 2025 10-Q] |
|---|---|---|
| EQIX | 2.8% | No single customer revenues exceeding 10% of total revenues. [2025 Q1 Investor Presentation, Page 14] Top customer contributes 2.8% MRR |
| DLR | 12% | The largest customer's total revenue approximates 12% of total revenue. No other makes up more than 10%. |
| CRWV | 72% | Customer A dominates with 72% of total revenue |
| VNET | Estimated around 10-20% [15%] | The Company has a diversified base of customers covering its services and only a single entity customer generated more than 10% but less than 20% of the Company's total net revenues for the nine months periods ended September 30, 2023 and 2024, |
| GDS | 29.9% | For fiscal 2024, two customers accounted for 29.0% and 14.4% of total net revenue. No other clients accounted for more than 10%. |
| APLD | 93% | APLD's top customer concentration was 93% in fiscal year 2025 according to APLD's 10-K filing. And 4 customers accounting for 100% of the total revenue. |
| DOCN | Estimated < 5% | Top 25 customers made up approximately 9% of revenue in 3 months ended in June 30, 2025. |
| DBRG | Top 1 fund ≈ 22.2% (Assuming equal split of 66.6%) | Three funds aggregating to 66.6% of total management fees for the 2 months ended March 31, 2025. Assumed to be 22.2% for top 1. |
| AMT | 10.9% | No direct data disclosed, estimated as 10.9% |
| IRM | <1% per customer | 2024 10-K report: among more than 240,000 customers - with no single customer |

| | | |
|---|---|---|
| | | accounting for more than approximately 1% of revenue during the year ended December 31, 2024. Assume to be 0.99% for top 1 client |
| ORCL | < 10% (estimated 9.99%) | 2025 10-K: No single customer accounted for 10% or more of our total revenues in fiscal 2025, 2024 or 2023. Assume to be 9.99% for top 1 client |

## AMT Top 1 Client Estimation

### A. CoreSite's Historical Data

1. **2020 (CoreSite SEC EDGAR 10-K):**
    - The largest customer represented 12.9% of annualized rent.
2. **Occupied NRSF and Lease Terms:**
    - Top 1 client occupied approximately 210,404 sq ft in 2020, with a remaining lease term of 82 months. By 2025, approximately 12 months would remain.

### B. AMT Data Center Segment NRSF

1. **AMT Total NRSF (from 10-K and 10-Q filings, post-CoreSite acquisition):**
    - 2021: 3,063 thousand sq ft
    - 2024: 3,343 thousand sq ft
    - 2025 Q2: 3,590 thousand sq ft
2. **CoreSite NRSF (public data):**
    - In 2025: **AMT Edge DC:** 7 small facilities totaling ~4.5MW capacity
        i. Atlanta, Georgia - (360 sqft)
        ii. Austin, Texas - (176 sqft)
        iii. Boulder, Colorado - 0.1MW (360 sqft)
        iv. Denver, Colorado - 0.1MW(360 sqft)
        v. Jacksonville, Florida - (160 sqft)
        vi. Pittsburgh, Pennsylvania - (360 sqft)
        vii. Raleigh, North Carolina - 4MW (4000 SQ.F.).
    - In this case, we can estimate MW capacity for Atlanta/Pittsburgh as 0.1 MW, and Austin/Jacksonville as 0.05MW. Total MW for AMT Edge Data Center is 4.5MW.
    - By 2025, CoreSite operates about 30 data centers with more than 300MW
    - This implies that CoreSite accounts for virtually all of AMT's Data Center NRSF, suggesting a dominant revenue contribution from CoreSite—estimated at **~99%**.

### C. Estimating Top 1 Customer Revenue Share (2025)

1. **Weighting CoreSite within AMT's Data Center segment:**

$$\frac{3{,}063}{3{,}590} \approx 0.853$$

2. **Weighted Top 1 Customer Share:**

$$12.9\% \times 0.853 \approx 11\%$$

3. **Adjusting for CoreSite's ~99% segment dominance:**

$$11.0\% \times 0.99 \approx 10.9\%$$

**→ Estimated Top 1 client revenue share of AMT's Data Center segment in 2025: ~10.9%.**

## D. Key Insights

- The Top 1 client remains significant but **does not meet the typical threshold for a "dominant" client** (often >15–20%).
- Given the long-term lease (~12 months remain), the risk of abrupt loss is mitigated.
- This estimate is logically grounded and uses publicly reported NRSF alongside your data.

# Appendix 3.2 - Raw Data and Estimation for Top 10 Customer Concentration

| Company | Top 10 Customer Revenue (%) | Notes/ Sources [Primary 2025 10-Q] |
|---|---|---|
| EQIX | 16.7% | No single customer revenues exceeding 10% of total revenues. [2025 Q1 Investor Presentation, Page 14] Top 10 customers contributes 16.7% MRR |
| DLR | 39.9% | [2025 10-Q]The largest customer's total revenue approximates 12% of total revenue. No other makes up more than 10%. [2024 10-K] Largest customer's total revenue approximates 12% of our total revenue base. No other individual customer makes up more than approximately 6% of our total revenue. As of December 31, 2024, the 20 largest customers in DLR' portfolio represented approximately 51% of the total annualized recurring revenue generated by our properties. Top three customers represented approximately 23% of the total annualized recurring revenue generated by our properties as of December 31, 2024. -> Assuming from top 10 customers % of the total annualized recurring revenue. |
| CRWV | 98% | [2025 10-Q] Recognized an aggregate of approximately 72% and 33% of our revenue for the three months ended March 31, 2025 and 2024, from our largest customer, Microsoft. None of the other customers represented 10% or more of our revenue for the three months ended March 31, 2025. A substantial portion of our revenue is driven by a limited number of customers. We recognized an aggregate of approximately 83% of our revenue from our top three customers for the three months ended March 31, 2024. Revenue recognized related to customer commitments, including revenue from delivering capacity prior to commitment start dates, represented 98% and 94% of total revenue for the three months ended March 31, 2025 and 2024, respectively. |
| VNET | 22.4% | [6K EX 99.3](iii)Customer Risk—The Company has a diversified base of customers covering its services and only a single entity customer generated more than 10% but less than 20% of the Company's total net revenues for the nine months periods ended September 30, 2023 and 2024, respectively. Certain customers are local subsidiaries of a telecommunication carrier in China, which the Company views as separate customers as it negotiates with, maintain and support each of these entities given that each of them has the separate decision-making authority and services procurement budget. None of these customers on a stand-alone basis contributed more than 1% of the Company's revenues in any given year but in the aggregate, they contributed approximately |

| | | |
|---|---|---|
| | | 6% and 5% of the Company's total revenues for the nine months periods ended September 30, 2023 and 2024,respectively. |
| GDS | 71.7% | [2024 20F]For fiscal 2024, two customers accounted for 29.0% and 14.4% of total net revenue. No other clients accounted for more than 10%. |
| APLD | Estimated 100% | APLD's top customer concentration was 93% in fiscal year 2025 according to APLD's 10-K filing. Limited number of customers |
| DOCN | Estimated < 5% | Top 25 customers made up approximately 9% of revenue in 3 months ended in June 30, 2025. |
| DBRG | ~75% | Three funds aggregating to 66.6% of total management fees for the 3 months ended March 31, 2025. No particular data disclosed for other customer concentration. Estimate to be 75% for top 10. |
| AMT | 34.285% | Based on CoreSite's 2020 baseline where the top 10 clients represented 40.6% of total revenue, we apply the same weighting methodology used for the top 1 client analysis to account for AMT's portfolio evolution since acquisition. Eight of the original top 10 clients have uncertain lease continuation status, with the remaining two likely including public cloud companies and government enterprise data centers (the latter estimated at 1.098% if NRSF remains unchanged). Applying the portfolio scaling factor (0.853) for AMT's NRSF growth from 3,063 to 3,590 thousand sq ft and CoreSite's segment dominance weighting (0.99), the adjusted calculation yields $40.6\% \times 0.853 \times 0.99 = 34.285\%$ **estimated revenue share for AMT's top 10 data center clients in 2025**. |
| IRM | <3.21% | 2024 10-K report: among more than 240,000 customers - with no single customer accounting for more than approximately 1% of revenue during the year ended December 31, 2024.<br>**Estimation: Top 1 customer:** 0.99% (maximum possible under <1% constraint) **Decline factor:** 0.7 between consecutive ranks<br>**Resulting progression:** 0.99% → 0.69% → 0.49% → 0.34% → 0.24% → 0.17% → 0.12% → 0.08% → 0.06% → 0.04%<br>**Top 10 total:** 3.21% of revenue |
| ORCL | <32.4% | 2025 10-K: No single customer accounted for 10% or more of our total revenues in fiscal 2025, 2024 or 2023.<br>**Estimation: Top 1 customer:** 9.99% (maximum possible under <10% constraint)<br>**Decline factor:** 0.7 between consecutive ranks<br>**Resulting progression:** 9.99% → 6.99% → 4.90% → 3.43% → 2.40% → 1.68% → 1.18% → 0.82% → 0.58% → 0.40% |

## VNET Top 10 Customers' Revenue % Estimation

### A. Given data:

- Top 1 customer revenue represents 10-20% of total revenue (disclosed range)
- Telecom subsidiaries aggregate contributed 5% of total revenue in 2024
- All other individual customers contributed <1% of total revenue each

**B. Scenario Analysis**

***Scenario 1: Maximum Telecom Concentration***

- Assumption: Top 2-10 customers (9 positions) are all telecom subsidiaries
- Top 10 range: [10% + 5%, 20% + 5%] = **[15.0%, 25.0%]**

***Scenario 2: Limited Telecom Concentration***

- Assumption: Only positions #2-3 are telecom subsidiaries (2.5% each)
- Positions #4-10: 7 customers at <1% each (assume 0.7% average)
- Top 10 range: [10% + 5% + 7×0.7%, 20% + 5% + 7×0.7%] = **[19.9%, 29.9%]**

**C. Final Estimation**

**Conservative Range:** Combining lower bound of Scenario 1 and upper bound of Scenario 2

- Estimated Range: [15.0%, 29.9%]
- **Midpoint Estimate: 22.4%**

**D. Key Limitations**

- Exact number of telecom subsidiaries among top 10 unknown
- Individual customer rankings beyond top 1 not disclosed
- Revenue distribution within <1% customers estimated based on typical patterns

## GDS Top 10 Customers' Revenue % Estimation

**A. Given data:**

- For fiscal 2024, two customers accounted for 29.0% and 14.4% of total net revenue. No other clients accounted for more than 10% of total net revenue.
- Total area committed of top five customers (%)
    - Customer 1: 33.7%, Customer 2: 14.3%
    - Customer 3: 8.4%, Customer 4: 7.5%, Customer 5: 3.9%

**B. Estimation Methodology**

**Step 1: Revenue-Area Correlation Analysis**

- Customer 1: Revenue-to-area ratio = 0.861 (29.0% ÷ 33.7%)
- Customer 2: Revenue-to-area ratio = 1.007 (14.4% ÷ 14.3%)
- Average ratio = 0.934, indicating reasonable correlation between area and revenue

**Step 2: Top 5 Revenue Estimation** Using area proportions and revenue-to-area ratios while respecting the <10% constraint:

| Rank | Revenue % | Area % | Method |
|---|---|---|---|
| #1 | 29.0% | 33.7% | Disclosed |

| | | | |
|---|---|---|---|
| #2 | 14.4% | 14.3% | Disclosed |
| #3 | 7.8% | 8.4% | Estimated via area ratio |
| #4 | 7.0% | 7.5% | Estimated via area ratio |
| #5 | 3.6% | 3.9% | Estimated via area ratio |

**Top 5 Total: 61.9%**

**Step 3: Customers 6-10 Estimation** Assuming a declining pattern with geometric progression (80% decline factor):

- #6: 2.9%, #7: 2.3%, #8: 1.9%, #9: 1.5%, #10: 1.2%
- **Customers 6-10 Total: 9.8%**

**C. Final Estimation GDS Top 10 Customers: ~71.7% of total revenue**

## Appendix 3.3 - Raw Data and Estimation for Customer Type

| Company | Notes/ Sources |
|---|---|
| EQIX | World's infrastructure provider with 10,000+ customers and 486,100 total interconnections<br>2,000+ networks and ~3,000 cloud and IT companies |
| DLR | Around 5000+ customers around 25+ countries. With 30-40% being hyperscalers (Amazon, Microsoft). And 10-15% enterprise based. |
| CRWV | 1300-1400 customers globally, top customers include top service providers (Azure, AWS). Majority revenue is made up of hyperscalers with a smaller portion of revenue made of leftover small/medium customers. |
| VNET | VNET has approximately 6000+ customers with the top 5 hyperscalers contributing to around 40% of revenue. Top customers include Chinese hyperscalers (Huawei, Alibaba). |
| GDS | Top 2 customers contributed to about 44% of total revenue, mostly consisting of hyperscalers and large scale cloud service providers (as stated on their website). |
| APLD | One top customer (crypto-mining) contributed to over 70% of revenue. Only supports a few key anchor clients and openly states its customer concentration in 10k. |
| DOCN | DOCN serves over 600k customers globally and top 25 customers held only 9% of approximate revenue. Top customers are large enterprises but very diversified. |
| DBRG | DBRG has over 100 clients globally, and no one client is reported to contribute more than 10% of revenue. |
| AMT | Top three customers (At&T, Verizon, T-mobile) contributed to around 44% of total revenue. Little to no customer diversification and has historically served large data providers. |
| IRM | Well diversified customer base consisting mostly of financial servicing companies. With over 225,000 customers globally, no single customer contributes to over 1% of revenue. |
| ORCL | Oracle has customers from over 150+ countries, suggesting broad geographic diversity. However, top clients and revenue are not listed. |

## Appendix 3.4 - Raw Data for Contract Length

| Company | Notes/ Sources |
|---|---|
| EQIX | World's infrastructure provider with 10,000+ customers and 486,100 total interconnections<br>2,000+ networks and ~3,000 cloud and IT companies |
| DLR | Colocation: 2 - 5 years<br>Scale & Hyperscale Powered Based Building: 5 - 10+ years |
| CRWV | Data Center Leases: Initial term of 5 to 15 years, with options to extend up to 10 additional years. |
| VNET | Lease durations generally range from 1 to 9 years, with renewal options available upon expiration. |
| GDS | GDS enters into usage-based colocation and managed services contracts, where the customer pays based on actual usage—such as rack space used. These contracts have remaining durations ranging from 1 to 9 years. |
| APLD | Long-term (HPC: 15 years; Data center hosting: 2.5 years) |
| DOCN | As of June 30, 2025, the aggregate transaction price allocated to the remaining performance obligations was $53,402, which is expected to be recognized as revenue over the remaining life of the contracts. The weighted-average remaining life of these contracts is 1.9 years |
| DBRG | DBRG's deferred investment management fee contracts have an average term of approximately 3.3 years (at March 31, 2025), up slightly from 3.2 years at the end of 2024. |
| AMT | American Tower's ground leases in its data center and communications segment typically span 5 to 10 years, with routine renewal terms and assumptions aligned with the 30-year economic life of its infrastructure—resulting in highly stable, long-duration contractual exposure |
| IRM | IRM customer contract lengths range from 1 to 10 years, with the possibility that:<br>Shorter terms apply to smaller or flexible service agreements.<br>Longer terms are associated with storage-heavy or enterprise-grade service contracts. |
| ORCL | Oracle (ORCL) customers typically sign cloud services contracts that last between 1 to 4 years, and are often billed in advance and renewable at the customer's option. |

## Appendix 4.1 - Raw Data for Average YoY Revenue Growth Rate (%)

| | Revenue | | | | |
|---|---|---|---|---|---|
| Company | 2025 [Latest Quarter] | 2024 | 2023 | 2022 | 2021 |
| EQIX | 2256 | 8748 | 8188.136 | 7263.105 | 6635.537 |
| DLR | 1493.15 | 5554.968 | 5477.061 | 4691.834 | 4427.882 |
| VNET | 309.537 | 1131.488 | 1044.089 | 1024.362 | 971.315 |
| GDS | 375.261 | 1414.118 | 1402.343 | 1352.089 | 1226.922 |
| AMT | 261.9 | 924.8 | 834.7 | 766.6 | 23.2 |
| IRM | 189.401 | 620.028 | 495.026 | 401.125 | 326.898 |
| CRWV | 981.632 | 188.684 [Q1] | | | |
| APLD | 52.921 | 136.6318 | 55.392 | 8.549 | |
| ORCL | 13705 | 44464 | 41086 | 36052 | 34101 |
| DOCN | 218.7 | 780.615 | 692.884 | 576.322 | 428.561 |
| DBRG | -3.207 | 607.028 | 821.383 | 694.771 | 387.83 |

| | YoY Revenue Growth | | | | |
|---|---|---|---|---|---|
| Company | 2025 [Latest Quarter] | 2024 | 2023 | 2022 | Average |
| EQIX | 3.155006859 | 6.837502455 | 12.73602681 | 9.45768217 | 8.046554574 |
| DLR | 7.518171122 | 1.422423449 | 16.73603542 | 5.96113447 | 7.909441114 |
| VNET | 9.426525071 | 8.370838118 | 1.925784049 | 5.46135909 | 6.296126581 |
| GDS | 6.147011777 | 0.839666187 | 3.716767165 | 10.201708 | 5.226288286 |

| | | | | | |
|---|---|---|---|---|---|
| AMT | 13.27854671 | 10.79429735 | 8.883381164 | 3204.31034 | 10.98540841 |
| IRM | 22.18867535 | 25.25160295 | 23.40941103 | 22.7064711 | 23.38904011 |
| CRWV | 420.2518497 | | | | 420.2518497 |
| APLD | 4.12436929 | 146.6634171 | 547.935431 | | 232.9077391 |
| ORCL | 10.92119467 | 8.221778708 | 13.96316432 | 5.72123985 | 9.706844387 |
| DOCN | 12.06548683 | 12.66171538 | 20.22515191 | 34.4784056 | 19.85768994 |
| DBRG | -102.1132468 | -26.0968391 | 18.22355855 | 79.1431813 | 23.75663358 |

## Appendix 4.2- Raw Data for CapEx % of Revenue

| | 2025 [Latest Quarter] | | |
|---|---|---|---|
| Company | Revenue | CapEx | Capex/Rev (%) |
| EQIX | 2256 | 989 | 43.83865248 |
| DLR | 1493.15 | 637.485 | 42.69396913 |
| VNET | 309.537 | 246.951 | 79.78076934 |
| GDS | 375.261 | 139.089 | 37.06460304 |
| AMT | 261.9 | 95 | 36.27338679 |
| IRM | 1711.948 | 382.159 | 22.32304953 |
| CRWV | 981.632 | 1407.359 | 143.3693074 |
| ORCL | 15903 | 9080 | 57.09614538 |
| DOCN | 218.7 | 34.58 | 15.81161408 |
| DBRG | -3.207 | 0.622 | -19.3950733 |
| | | | |
| | 2025 FY | | |
| APLD | 144.193 | 985.826 | 683.685061 |